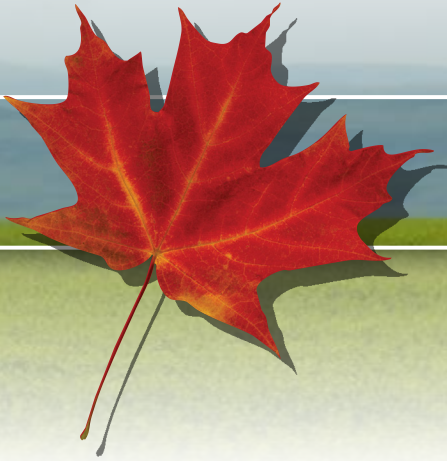




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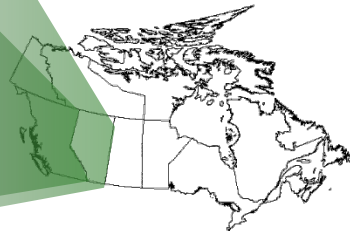
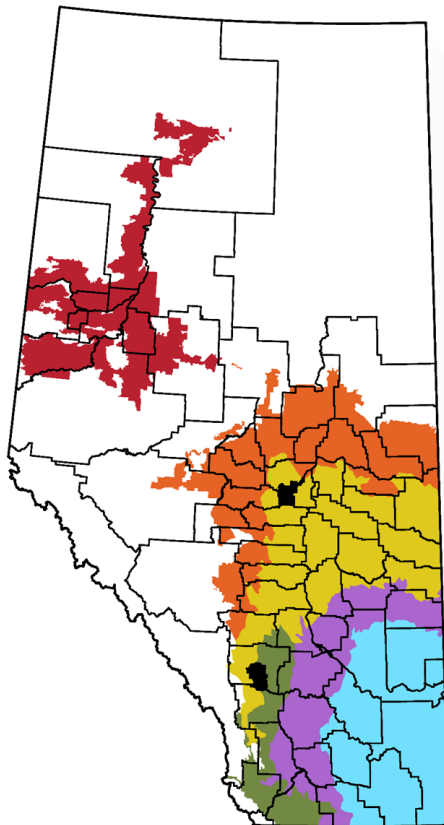
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Alberta Weed Survey

Annual Crops 2017

Julia Y. Leeson
Linda M. Hall
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Weed Survey Series

Alberta Weed Survey of Annual Crops in 2017

by

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PREVIOUSLY PUBLISHED REPORTS IN THE WEED SURVEY SERIES



Number	Title
76-1	Weed survey of cultivated land in Saskatchewan (1976)
77-1	Weed survey of cultivated land in Saskatchewan (1977)
78-1	Report on the 1977 weed survey and questionnaire in Saskatchewan
78-2	Weed survey of cultivated land in Saskatchewan (1978)
78-3	Weed survey of cultivated land in Manitoba (1978)
79-1	Manitoba weed survey questionnaire data (1978)
79-2	Weed survey of cultivated land in Saskatchewan (1979)
79-3	Weed survey of cultivated land in Manitoba (1979)
80-2	Weed survey of grain fields in Prince Edward Island (1978)
80-3	Manitoba weed survey questionnaire data (1979)
82-1	Weed survey of cultivated land in Manitoba (1981)
82-2	Manitoba weed survey questionnaire data (1981)
83-1	Weed survey of Essex and Kent counties (1978 and 1979)
83-2	Essex and Kent counties - weed survey questionnaire data (1978 and 1979)
83-3	The 1979 weed survey of grain fields in Prince Edward Island
83-4	Peace River Region of British Columbia weed survey of cereal and oilseed crops (1978, 1979 and 1980)
83-5	Peace River Region of British Columbia weed survey of forage crops (1978, 1979 and 1980)
83-6	Weed survey of Saskatchewan cereal and oilseed crops from 1976 to 1979
84-1	Weed surveys of Manitoba cereal and oilseed crops from 1978, 1979 and 1981
85-1	Weed surveys of alfalfa seed fields in Manitoba (1983)
85-2	Survey for weeds and their competitive effect in corn and soybean fields of Essex and Kent Counties in Ontario
85-3	Dew's Alberta weed survey (1973-1977)
86-1	Weed survey of Saskatchewan sunflower fields (1985)
86-2	Weed survey of Saskatchewan mustard, lentil and dry pea crops (1985)
86-3	Weed survey of Saskatchewan winter wheat fields (1985)
86-4	Fort Vermilion Area of Alberta weed survey in cereal and oilseed fields (1985)
87-1	Weed survey of Saskatchewan cereal and oilseed crops (1986)
87-2	Weed survey of Saskatchewan winter wheat fields (1986)
87-3	Saskatchewan cereal and oilseed crops weed survey questionnaire (1986)
88-1	Weed survey of cereal and oilseed crops in Manitoba (1986)
88-2	Weed survey of Saskatchewan winter wheat fields (1987)
88-3	Manitoba cereal and oilseed crops weed survey questionnaire (1986)
89-1	Weed survey of Saskatchewan winter wheat fields (1985-1988)
90-1	Weeds of corn, soybean, and winter wheat fields under conventional, conservation, and no-till management systems in southwestern Ontario (1988 and 1989)
96-1	Saskatchewan weed survey of cereal, oilseed and pulse crops (1995)
97-1	Manitoba weed survey comparing zero and conventional tillage crop production systems (1994)
98-1	Manitoba weed survey of cereal and oilseed crops in 1997
98-2	Alberta weed survey of cereal and oilseed crops in 1997
98-3	Saskatchewan weed survey: herbicide resistant wild oat and green foxtail 1996

(Table continued on next page)

Previously Published Reports in the Weed Survey Series

Previously published reports in the Weed Survey Series (*continued*)

Number	Title
99-3	Farm management practices in Manitoba - 1997 weed survey questionnaire results
99-4	Saskatchewan weed survey: herbicide-resistant wild oat 1997
02-1	Alberta weed survey of cereal, oilseed and pulse crops in 2001
02-2	Manitoba weed survey of cereal and oilseed crops in 2002
03-1	Saskatchewan weed survey of cereal, oilseed and pulse crops in 2003
04-1	Alberta weed survey of herbicide-resistant weeds in 2001
04-2	Manitoba weed survey of herbicide-resistant weeds in 2002
05-1	Prairie weed surveys of cereal, oilseed and pulse crops from the 1970s to the 2000s
05-2	Farm management practices in Alberta - 1997 weed survey questionnaire results
05-3	Farm management practices in Alberta - 2001 weed survey questionnaire results
06-1	Saskatchewan weed survey of herbicide-resistant weeds in 2003
06-2	Prairie weed survey of herbicide-resistant wild oat from 2001 to 2003
10-1	Alberta weed survey of irrigated fields in 2009
12-1	Alberta weed survey of dryland fields in 2010
14-1	Alberta weed survey - field management questionnaire
16-1	Saskatchewan weed survey of cereal, oilseed and pulse crops in 2014 and 2015
17-1	Saskatchewan weed survey of herbicide-resistant weeds in 2014-15
17-2	Manitoba weed survey of annual crops in 2016
17-3	Manitoba weed survey of herbicide-resistant weeds in 2016



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Julia Y. Leeson, Linda M. Hall, Chris Neeser, Breanne Tidemann and K. Neil Harker

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History of Weed Survey Activities in Alberta

The first indication of the relative importance of seven serious weeds in Alberta was obtained from reconnaissance surveys in 1930 and 1931¹. In these surveys, estimates of the prevalence and distributions of species were obtained from government officials and weed inspectors through interviews and questionnaires. Groh and Frankton² published the results of their reconnaissance survey in 1949. They listed the frequency of occurrence of weeds in various areas of the province. In a questionnaire survey conducted during the 1960's by Alex³, the extension staff was asked to estimate the density and area infested with 40 species of weeds based on their knowledge of their specific districts. These estimates for municipalities were presented on maps for each species. Although this survey provided information that was of great value at the time, researchers and extension specialists recognized, by the mid-1970's, a need for quantitative data based on weed counts in fields of producers.

In 1973, Dew initiated the first provincial survey in a series to identify the weeds occurring in annual cereal and oilseed crops. The survey was a co-operative endeavour between the Canadian Department of Agriculture (Lacombe Research Station) and the Agricultural Fieldmen of the Alberta Department of Agriculture. Fieldmen were asked to survey one site per township each year. If this goal had been met, the results from more than two thousand observations each year would have been obtained. Unfortunately, this goal was never achieved in any year but the combined results from the five years of surveying provided the first quantitative data on the kinds and numbers of weeds occurring in 3109 fields. These fields were distributed among 58 municipalities in the province but some areas were under represented in the survey. For example, only 17 fields were surveyed in the Fort Vermilion area. The major difference between Dew's survey and subsequent surveys in the series was the time at which weed counts were done. Counts were done after crop emergence and before postemergent herbicide application in fields seeded to wheat (spring or durum), barley, oats, rapeseed, and flax. Weeds were counted in 1.0 square yard quadrats at five representative locations in the field. The data collected from 1973 to 1977 were summarized in a Weed Survey Series Report by Thomas and Wise (1985)⁴.

An intensive weed survey was carried out in the Fort Vermilion area, identified as Improvement District #23, of northern Alberta in 1985 and the results were summarized in a Weed Survey Series Report by Thomas, Wise and Clayton (1986)⁵. The Improvement District was divided into two areas based on the common types of farming operations. One area was characterized by mixed farming where 72 fields were surveyed and the other area was dominated by the production of cereals and oilseeds where 61 fields were surveyed. This survey was meant to serve as an example of the type of project that could be initiated in the rest of the province. Three major changes were made to the survey protocol used previously by Dew. The Fort Vermilion survey applied a stratified random sampling design for determining the location of fields rather than the grid design of Dew. An approximately equal number of fields were randomly located in the two farming operation areas. Weed counts were done after post-emergent herbicide application instead of before application. Instead of the five large quadrats used by Dew, 20 smaller quadrats, which were 0.25 m² in size, were located in an "inverted W-pattern" at a set location in the field.

¹ **Mason, J. M.** 1932. Weed survey of the prairie provinces. National Research Council of Canada. Rep. No. 26, Ottawa, ON. 34 pp.

² **Groh, H. and C. Frankton.** 1949. Canadian weed survey. 7th Report. Canada Department of Agriculture, Ottawa, ON. 144 pp.

³ **Alex, J. F.** 1965. Survey of weeds of cultivated land in the prairie provinces. Exp. Farm, Res. Branch, Canada Department of Agriculture, Regina, SK. 68 pp.

⁴ **Thomas, A. G. and R. F. Wise.** 1985. Dew's Alberta weed survey 1973-1977. Weed Survey Series Publication 85-3, Agriculture Canada, Regina, Saskatchewan. 134 pp.

⁵ **Thomas, A. G., R. F. Wise and G. Clayton.** 1986. Fort Vermilion area of Alberta weed survey in cereal and oilseed fields 1985. Weed Survey Series Publication 86-4, Agriculture Canada, Regina, Saskatchewan. 98 pp.

Introduction – History of Weed Survey Activities in Alberta

Updated information on the distribution and abundance of weeds occurring in Alberta annual crops was obtained by Maurice, O'Donovan and Pickle (1990)⁶ from 1987 to 1989, approximately 10 years after the survey organized by Dew. Different areas of the province were surveyed each year. This second provincial survey in the series incorporated the three major changes introduced in the Fort Vermilion survey. The provincial survey protocol used municipalities as the strata rather than farming operations as the strata. The number of randomly selected fields in a municipality was determined by the relative acreage of crops to be surveyed. Weed data were collected from 1113 fields seeded to spring wheat, winter wheat, barley, oats, fall rye and canola.

The third provincial survey in the series was conducted eight years later in 1997 and summarized in a Weed Survey Series Report by Thomas, Frick and Hall (1998)⁷. The survey protocol was similar to that used in the previous survey, with the exception that ecodistricts rather than municipalities were used as the strata in the sampling procedure. For the first time in the series, the whole province was surveyed in the same year but the target of 800 fields was not achieved. Only 684 fields were surveyed but all major ecoregions were represented. The survey was restricted to spring wheat, durum, barley, oats and canola in order to provide an adequate number of fields for reliable summaries of each crop.

The fourth provincial survey of Alberta was completed in 2001 and summarized in a Weed Survey Series Report by Leeson, Thomas, and Hall (2002)⁸. While the protocol was similar to the previous survey, more fields were included. The survey was part of a project to survey 4000 fields across all Prairie Provinces; therefore, the total number of fields surveyed in Alberta was proportional to the farm area in Alberta relative to Saskatchewan and Manitoba. Of the allocated 1203 fields, 1153 were surveyed. The survey included the major annual cereal, oilseed and pulse crops (spring wheat, durum, barley, oats, canola and field pea).

In 2009, the first separate weed survey of irrigated fields was conducted in Alberta (Leeson et al. 2010)⁹. This survey provided a baseline to enable the detection of future changes in weed populations in irrigated land in Alberta and emphasized unique weed problems facing producers on irrigated land. In this survey irrigation districts were used as strata, rather than ecodistricts. Of the allocated 600 fields, 573 were surveyed. This survey included common irrigated crops: barley, spring wheat, durum, corn, canola, dry beans, potatoes, sugar beets, alfalfa, and grass.

A 2010 dryland Alberta weed survey (Leeson et al. 2012)¹⁰ was conducted in conjunction with the 2009 survey of irrigated land. This survey was similar that in 2001, using ecodistricts as strata, except irrigated fields were excluded. Only 1071 of the allocated 1200 fields were surveyed; however, all major ecoregions were included. Like the 2009 survey of irrigated fields, the 2010 dryland survey included perennials (tame hay) as well as common annual crops (spring wheat, durum, barley, oats, canola, and field pea).

⁶ **Maurice, D. C., J. T. O'Donovan and D. J. Pickle.** 1990. Alberta cereals & oilseeds crop protection survey. Alberta Agriculture (Unpublished report).

⁷ **Thomas, A. G., B. L. Frick and L. M. Hall.** 1998. Alberta weed survey of cereal and oilseed crops in 1997. Weed Survey Series Publication 98-2, Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan. 241 pp. 41 maps.

⁸ **Leeson, J. Y., A. G. Thomas and L. M. Hall.** 2002. Alberta weed survey of cereal, oilseed and pulse crops in 2001. Weed Survey Series Publication 02-1, Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, Saskatchewan. 263 pp. 46 maps.

⁹ **Leeson, J. Y., C. Neeser, N. Kimmel and M. Vadnais.** 2010. Alberta weed survey of irrigated fields in 2009. Weed Survey Series Publication 10-1, Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, Saskatchewan. 271 pp. 50 maps.

¹⁰ **Leeson J.Y., C. Neeser, N. Kimmel and M. Vadnais.** 2012. Alberta weed survey of dryland fields in 2010. Weed Survey Series Publication 12-1. Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, Saskatchewan.

The 2017 Alberta Weed Survey Project

Rationale

Seven years have passed since the fifth survey in Alberta was conducted in 2010. Numerous changes in the agricultural industry since the last survey have presented the need for a new survey with updated information. The area in canola, dry peas, lentil and durum has increased, while the amount of land in summer fallow has further decreased. The Alberta 2017 weed survey is the first Alberta survey to include lentils. The increasing awareness, development and spread of herbicide resistant weeds has potentially altered management practises. The weed survey data can be used to document the changes in the distribution and abundance of weeds that have occurred since the previous provincial surveys in 2009 to 2010, 2001, 1997, 1987 to 1989 and 1973 to 1977. Changes in weed abundance can be identified because all the surveys since 1973 have used a similar method of summarization. Individual weeds or groups of species identified as increasing in abundance can be targeted for attention by various agencies involved in weed science. The trends identified by the weed surveys are important to the research, industry, and extension communities for developing weed management recommendations for producers.

Objective

The objective of the project was to conduct in 2017 the sixth weed survey in Alberta since the series of provincial surveys began in the mid 1970s. The survey would measure the species compositions and population densities of the weed communities in the major annual crops grown in Alberta.

Expected benefits of the provincial weed survey

1. Quantitative field surveys of weed populations are used to reveal the current size, extent, and order of importance of component species in the province, ecoregions, crop districts, and other spatially defined areas of interest.
2. The spatial distributions of the most common species are represented in maps that clearly illustrate areas of high and low abundance in relation to the physical landscape and jurisdictional areas of the province.
3. Tracking the increase or decrease in weed populations and the changes in the composition and structure of weed communities, using the database of survey information from the previous three surveys, will indicate the extent by which various weeds are spreading or being controlled and thus the effectiveness of weed management programs.
4. Crop yield losses due to specific weeds can be estimated and these loss estimates can be used to establish the economic costs.
5. Weed survey data can provide an objective basis for developing ecologically and economically sustainable strategies to manage agricultural weeds. The data are used to set research and education priorities, develop recommendations, and design weed management strategies in the research, extension, and agri-business communities.
6. Targeting of increasingly scarce scientific resources requires objective information on the species compositions and population densities of the weed communities that occur locally, regionally or provincially. Individual species or groups of species can be targeted for attention by various agricultural agencies.
7. Additional benefits of the weed survey will be realized when the results are combined with the information gathered in the farm management questionnaire survey. The questionnaire survey will provide detailed information on what farmers are doing to produce a crop. By combining the field and questionnaire survey data, particular weed management practices that are important determinants of distinctive weed communities can be determined.
8. Relating trends in weed populations and communities to the use of specific agronomic and weed control practices or to cropping systems will identify possible reasons that certain weeds have become more or less of a problem on an ecoregion, crop, or provincial basis.
9. Predicting shifts in weed populations and communities that might occur because of anticipated changes in agronomic practices, weed control management, and agricultural policy will allow agricultural agencies to develop weed management strategies that meet the future needs of farmers.



Study Area

The survey covered 11.1 million hectares of cultivated land of the province of Alberta. Two areas were considered. The first area extended from the border with the United States in the south to approximately 54°N in the north, and from the Saskatchewan border in the east to the foothills of the Rocky Mountains on the west side of the province. The second area included the agricultural region of the Peace River Valley in the northwest quarter of the province (between 115 and 120°W and between 55 and 59°N).

Ecoregions and Ecodistricts

The majority of the fields surveyed (98%) are located in six ecoregions¹¹ (Figure 1). Ecoregions are areas of similar landforms, climate, natural vegetation, soils and land use. The other surveyed fields were distributed amongst six ecoregions in areas adjacent to the more intensively farmed ecoregions. Each ecoregion consists of one or more ecodistricts (Figure 2). Ecodistricts are areas with similar in landform, relief, surficial material, soil, vegetation and land use. Average January temperature, average July temperature, annual precipitation, and growing season length are mapped by ecodistrict based on climatic normal (Figure 3).

The **Peace Lowland** is a unique area associated with the Peace River and its tributaries. Aspen poplar and balsam poplar dominate the native vegetation in the area. The ecoregion is gently undulating or sloping, with clayey lacustrine till and sandy lacustrine deposits. Predominant soils are Gray Luvisols, Dark Gray Luvisols and Chernozems. About 45% of the area is farmland. Sites located in adjacent areas in the Western Boreal and Mid-Boreal Uplands were combined with the sites in the Peace Lowland in the summary tables.

The **Boreal Transition Ecoregion** also has native vegetation dominated by aspen poplar and balsam poplar. The ecoregion is a hummocky to kettled plain, with glacial till and lacustrine deposits underlain by Cretaceous shale. Predominant soils are Gray Luvisols and Dark Gray Chernozems, with local areas of Black Chernozems, peaty Gleysols and Mesisols. More than 70% of the ecoregion is in farmland. Sites located in adjacent areas in the Western Alberta Upland, Mid-Boreal Uplands and Wabasca Lowland were combined with the sites in the Boreal Transition Ecoregion in the summary tables.

The **Aspen Parkland Ecoregion** is a transitional area between the grasslands in the south and the forest ecosystems in the north and has a transitional grassland ecoclimate. Native vegetation is mostly gone, but would have been dominated by aspen poplar and fescue grasslands. The ecoregion is underlain by Cretaceous shale, and is undulating to kettled to hummocky to ridged with glacial till, lacustrine and fluvioglacial deposits. The dominant soil is a Black Chernozem, with pockets of Gleysols. This ecoregion is a highly productive agricultural area.

The **Fescue Grassland Ecoregion** lies in the Rocky Mountain foothills, in the area subject to winter chinooks. It is dominated by rough fescue, needle-and-thread grass and low-growing forbs. The ecoregion is undulating to rolling with glacial till and lacustrine deposits, underlain by sandstone and shale. The dominant soil is a Black Chernozem. Northern portions are almost entirely cultivated; southern portions are cultivated on the more level areas. Sites located in adjacent areas in the Northern Continental Divide were combined with the sites in the Fescue Grassland Ecoregion in the summary tables.

The **Moist Mixed Grassland Ecoregion** is the most northern area of open grassland in the prairies. Native vegetation, where it remains, is dominated by spear grass, wheat grass and deciduous shrubs such as chokecherry and wolf willow. The ecoregion is composed of hummocky to kettled glacial till and level to very gently undulating lacustrine deposits.

¹¹**Ecological Stratification Working Group.** 1995. A National Ecological Framework for Canada. Agriculture and Agri-Food Canada, Research Branch, Centre for Land and Biological Resources Research and Environment Canada, State of the Environment Directorate, Ecozone Analysis Branch, Ottawa/Hull. Report and national map at 1:7 500 000 scale.

Dark Brown Chernozemic soils predominate, with significant areas of Solonchic soils in eastern Alberta. Much of the ecoregion is in agricultural production.

The **Mixed Grassland Ecoregion** is part of the semiarid shortgrass prairie. Native vegetation is dominated by spear grass, blue grama grass, and wheat grass. The ecoregion is composed of dissected to kettled glacial till, undulating to dissected lacustrine sediments and hummocky Eolian deposits. Soils are predominantly Brown Chernozems. Cultivated land covers about half of the ecoregion. Sites located in the Cypress Upland were combined with the sites in the Mixed Grassland Ecoregion in the summary tables.

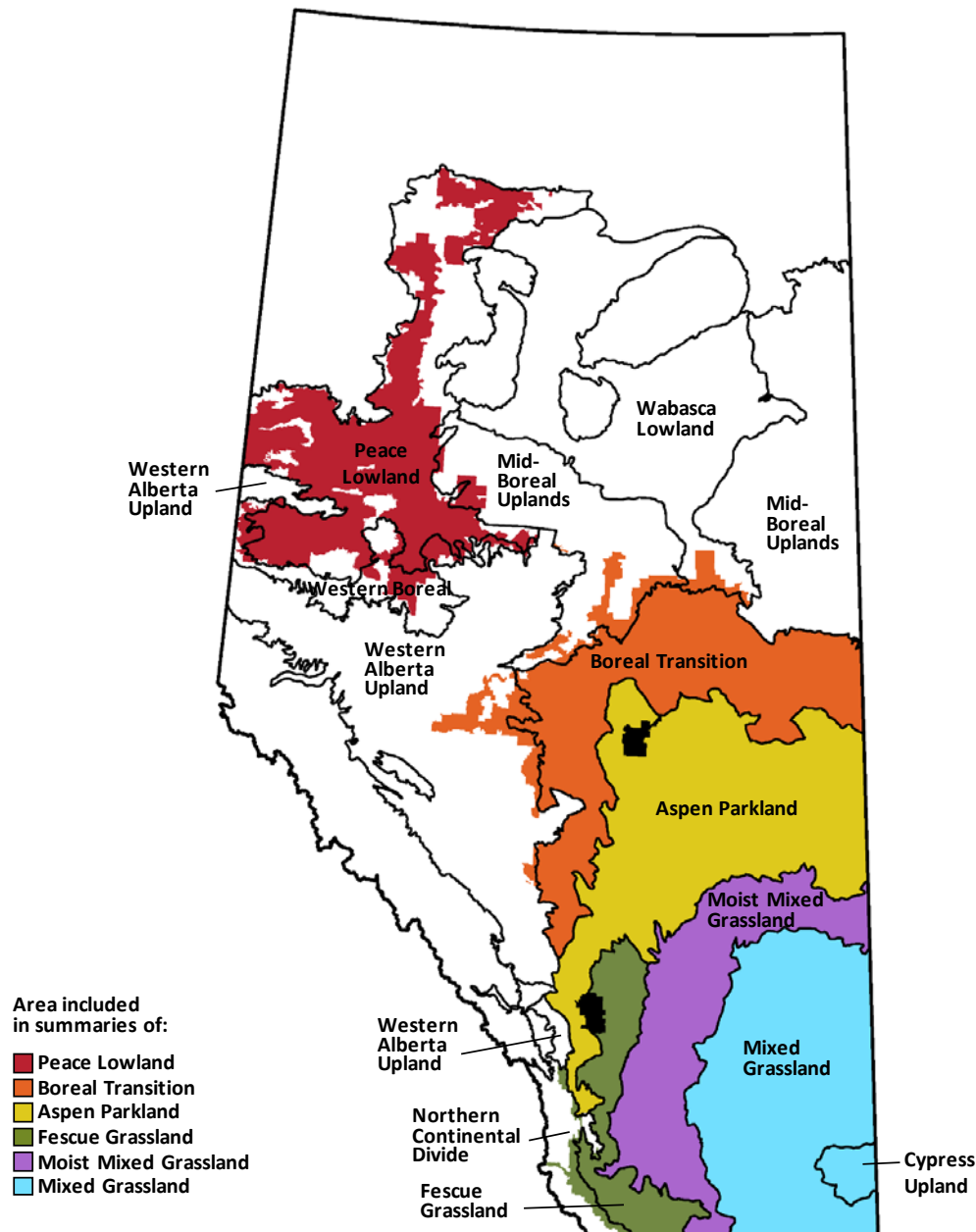


Figure 1. Surveyed agricultural areas in ecoregions included in the weed survey. Ecoregions that are grouped in summaries are shaded with the same colour. Map derived from Canadian Soil Information website¹².

¹²Soil Landscapes of Canada Working Group. 2010. Soil Landscapes of Canada version 3.2. Agriculture and Agri-Food Canada. (digital map and database at 1:1 million scale). [30 January 2012].

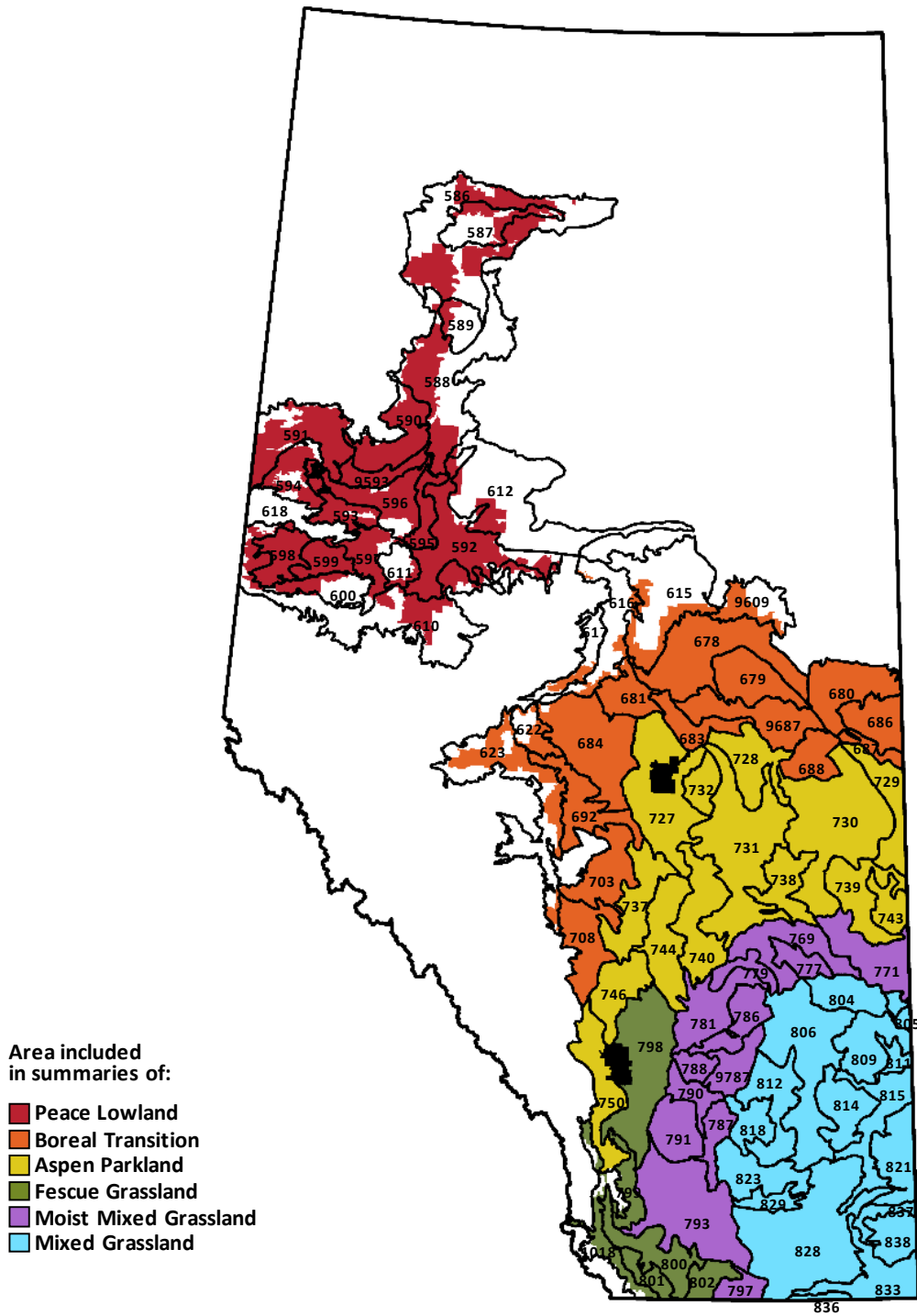


Figure 2. Area surveyed in ecodistricts included in the weed survey. Ecodistricts without any surveyed sites are a lighter shade than those with surveyed sites. Map derived from Canadian Soil Information website¹³.

¹³Soil Landscapes of Canada Working Group. 2010. Soil Landscapes of Canada version 3.2. Agriculture and Agri-Food Canada. (digital map and database at 1:1 million scale). [30 January 2012].

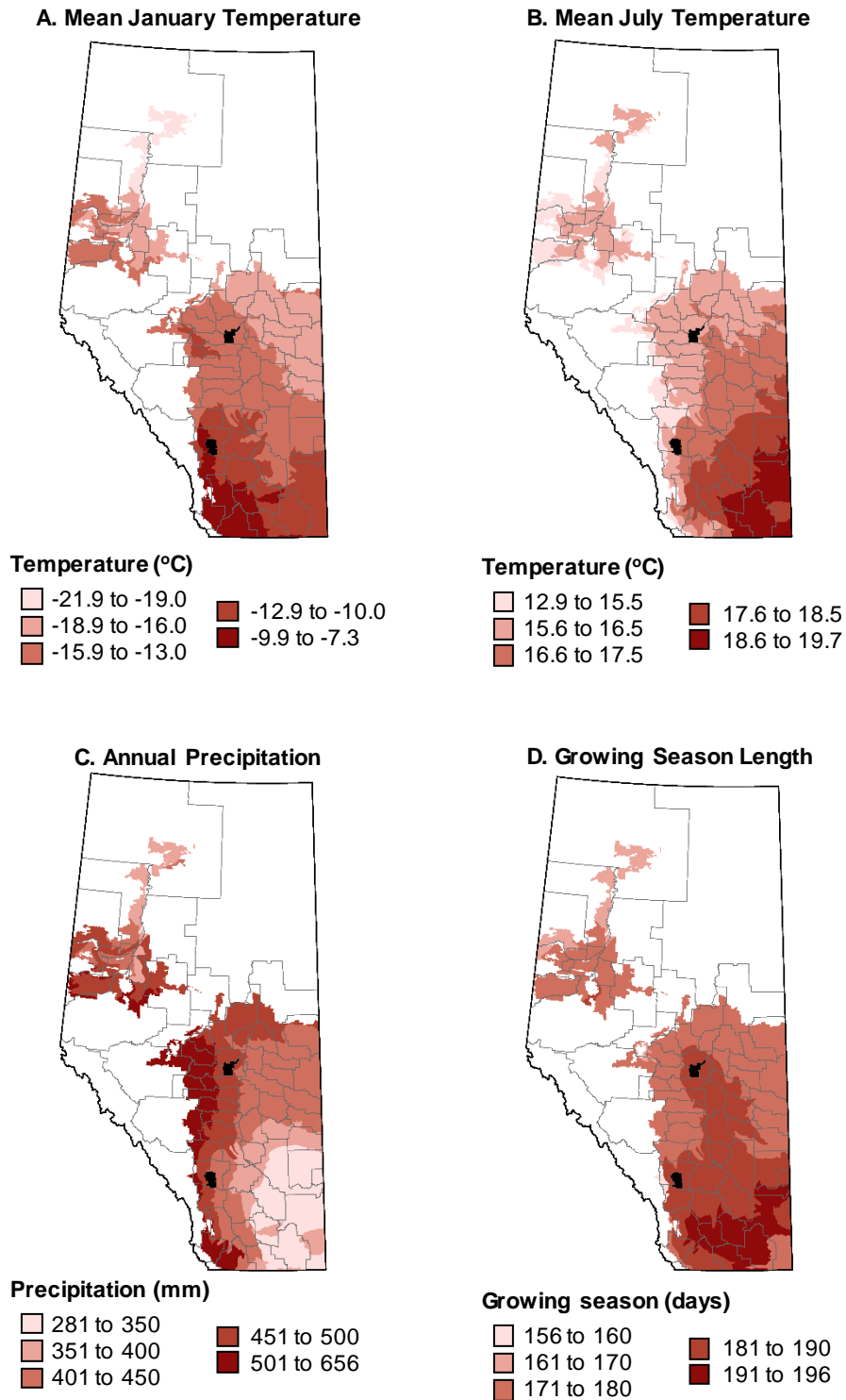


Figure 3. Average January temperature (A), average July temperature (B), annual precipitation (C), and growing season length (D)¹⁴ are mapped by ecodistrict based on climatic normal.¹⁵

¹⁴ Growing season length is the total number of days when mean daily air temperature equals or exceeds 5 degrees Celsius

¹⁵ **Agriculture and Agri-Food Canada.** 1997. Canadian ecodistrict climate normals 1961-1990. [Online] Available: <http://sis.agr.gc.ca/cansis/nsdb/ecostrat/district/climate.html> [25 November 2003].



Crop Selection

The selection of crops to be included in the survey was based on the 2016 seeded area in the province (Table 1)¹⁶. It was assumed that a similar proportion of crops would be grown in the survey year. A minimum of 20 fields was set as the limit for inclusion of a crop in the survey. Based on a survey target of 1200 fields in Alberta, the seven most common annual crops were selected.

Table 1. Area of the crops selected for the survey and the number of fields allocated to each crop

Crop	Seeded area (1,000 ha)	Proportion of area (%)	Expected number of fields
Canola	2,495	31	377
Spring wheat	2,318	29	351
Barley	1,382	17	209
Peas	773	10	117
Durum	446	6	67
Oats	333	4	50
Lentils	188	2	28
Total	7,934	100	1,200

Stratification of Sites

Ecodistricts were used as the strata in a stratified random-sampling procedure. The number of fields in an ecodistrict was allocated in proportion to the seeded area of the selected crops in the ecodistrict, relative to the total area seeded to selected crops in all ecodistricts (Table 2). Hectarage of field crops derived from the 2011 census data of Statistics Canada for each soil landscape complex (a subunit of ecodistrict) was obtained from the Soil Landscapes of Canada Database¹⁷ and summed to obtain hectarage per ecodistrict. To facilitate the organization of the survey, fields allocated to ecodistricts were subsequently allocated to municipalities, counties or special areas (Figure 4) based on proportion of each ecodistrict's area cultivated in each municipal jurisdiction.

¹⁶ **Statistics Canada.** 2018. Table 001-0017 - Estimated areas, yield, production, average farm price and total farm value of principal field crops, in metric and imperial units, annual, CANSIM (database). (accessed: April 24, 2018)

¹⁷ **Agriculture and Agri-Food Canada.** 2013. Production variables by SLC v3.2 from 2011. [Online] Available: http://www.agr.gc.ca/atlas/rest/services/mapservices/aafc_interpolated_census_of_agriculture/MapServer [19 October 2015].

Table 2. Allocation of sites based on ecodistrict area and number of sites actually surveyed in each ecodistrict

Ecoregion	Ecodistrict	Allocated	Surveyed
Peace Lowland		141	143
	586	7	9
	587	4	2
	588	19	21
	589	0	1
	590	8	8
	591	21	25
	592	17	14
	593	10	6
	594	6	8
	595	9	7
	596	11	12
	597	4	3
	598	10	9
	599	8	9
	600	0	2
	9593	7	7
Mid-Boreal Uplands		9	10
	612	1	1
	615	2	3
	616	4	2
	617	1	2
9609	1	2	
Western Boreal		3	4
	610	3	3
	611	0	1
Western Alberta Upland		6	5
	618	1	0
	622	2	2
	623	3	3
Boreal Transition		119	127
	678	14	15
	679	1	0
	680	13	14
	681	13	15
	683	11	16
	684	14	11
	686	1	1
	687	2	3
	688	7	10
	692	7	4
	703	11	12
	708	10	15
	9687	15	11
Aspen Parkland		414	427
	727	69	67
	728	24	21
	729	22	24
	730	62	63
	731	77	79
	732	2	1
	737	25	21
	738	19	17
	739	10	10

(Table continued on next page)

Methodology – Stratification of Sites

Table 2. Allocation of sites based on ecodistrict area and number of sites actually surveyed in each ecodistrict
(continued)

Ecoregion	Ecodistrict	Allocated	Surveyed
Aspen Parkland (continued)	740	23	29
	743	14	16
	744	36	43
	746	25	32
	750	6	4
Moist Mixed Grassland		229	239
	769	17	14
	771	13	14
	777	3	2
	779	4	4
	781	31	32
	786	20	28
	787	9	9
	788	8	8
	790	7	9
	791	27	34
	793	73	70
	797	3	4
	9787	14	11
Fescue Grassland		88	82
	798	60	56
	799	4	1
	800	16	20
	801	4	2
	802	4	3
Mixed Grassland		186	191
	804	7	9
	805	2	3
	806	8	5
	809	10	9
	811	3	4
	812	11	13
	814	2	1
	815	7	7
	818	6	6
	821	14	16
	823	18	20
	828	84	85
	829	6	4
	833	6	6
	836	2	3
Cypress Upland		4	3
	837	3	3
	838	1	0
Northern Continental Divide		1	1
	1018	1	1
Alberta		1200	1232

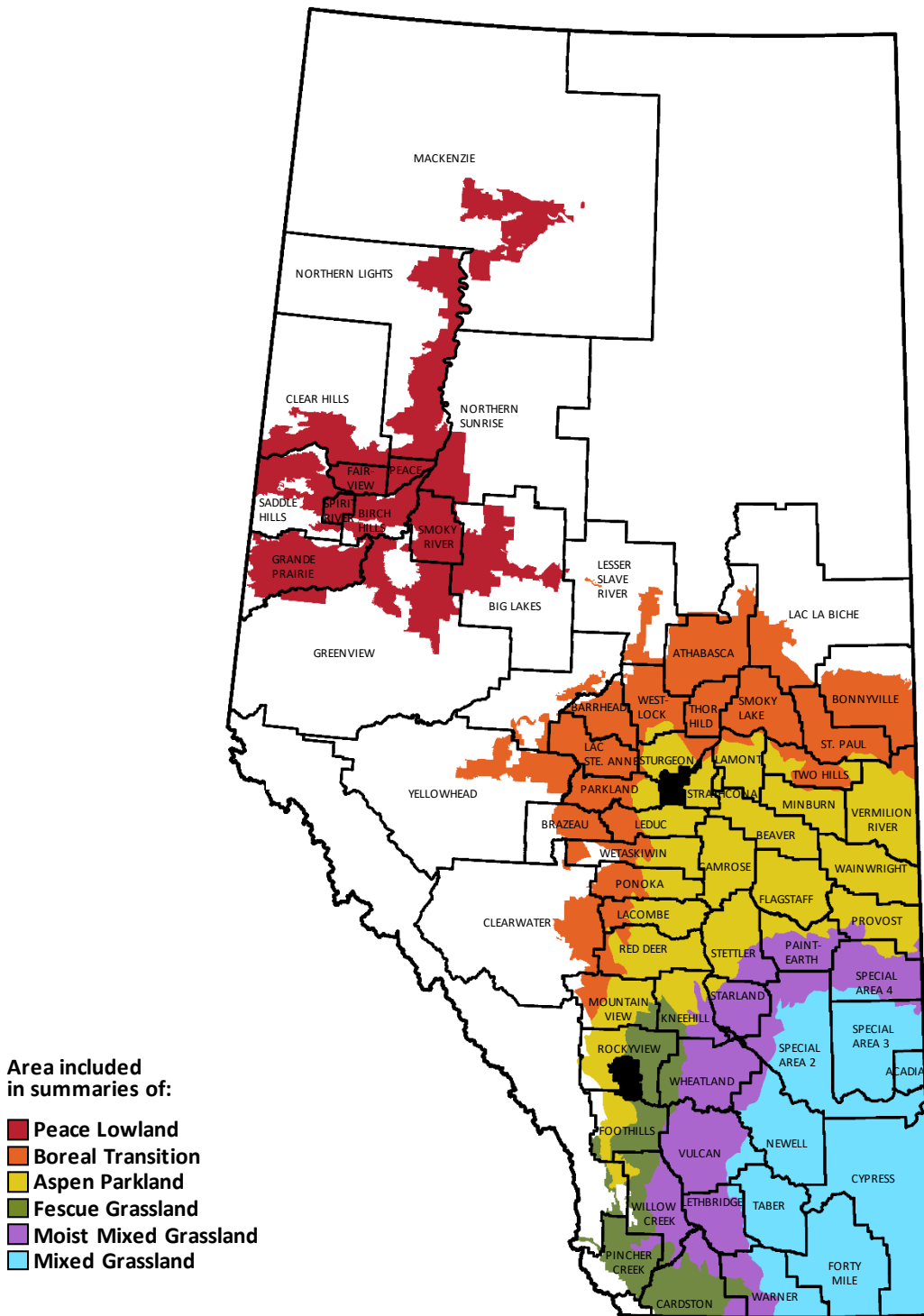


Figure 4. Municipal jurisdictions included in the weed survey.

Random Site Selection

The random selection of sites used the grid established by the Dominion Land Survey System¹⁸ in western Canada. A random sample was selected from all quarter sections (65 ha) that had greater than 16 cultivated hectares within each target ecodistrict and municipality, county or special area. A list that contained ten times the allocated number of sites was developed for each ecodistrict.

Ownership of the land was determined using the Alberta land titles database¹⁹. Sites were qualified, in the order that they were listed, until the required number of fields had been obtained. A site qualified if the person who farmed the land answered yes to all of the following questions.

1. Will you grant permission for a surveyor to count weeds on the selected quarter section during July or early August?
2. Is there a field in the quarter section seeded to a selected crop?
3. Is the identified field accessible by road?
4. Do you agree to complete a questionnaire on management practices used on the identified field in the fall?

If a field in a quarter section did not qualify, an attempt was made to qualify a nearby field. This step was followed only if the land was farmed by the same person as the preselected quarter section.

For each site, the following information was recorded into a database:

- (a) the name, mailing address, and telephone number of the farm operator for the qualified fields,
- (b) a new quarter section if it had been changed from the preselected site,
- (c) the crop seeded in the selected field,

If the list was exhausted without qualifying the required number of fields, an additional list of randomly selected sites was generated.

Field Survey Personnel and Orientation Sessions

The majority of the fields were surveyed by independent contractors (63%) and county weed inspectors or other county staff (31%). Agriculture and Agri-Food Canada staff surveyed the remaining fields (6%). Over 60 people contributed to the weed counts.

Training material was provided to each regional coordinator and they were asked to ensure that their staff understood the material and was competent to correctly carry out the survey. Additionally, a half-day orientation session was held in Brooks on July 12 and St. Albert on July 14 prior to the start of the field survey. Coordinators and/or surveyors were asked to attend one of the sessions. The purposes of the sessions were to explain reasons for conducting a weed survey, how to implement the protocol, how to handle unknown weeds, how to collect samples and how to record the weed data on the field sheets. Much of the session was devoted to weed identification, including a slide show and in field weed identification. Potential identification problems with specific groups of species were highlighted during the session.

¹⁸ **McKercher, R.B. and B. Wolfe.** 1986. Understanding Western Canada's Dominion Land Survey System. Division of Extension and Community Relations, University of Saskatchewan, Saskatoon, SK.

¹⁹ **Government of Alberta.** 2017. SPIN2 Spatial Information System. [Online] Available: <http://www.spin.gov.ab.ca> [24 April 2017]

Timing of Weed Counts

Weeds that had not been controlled in the fields were counted in the summer survey. This time was chosen for several reasons. The weeds in the field were, in part, a result of the agronomic management decisions (e.g., crop rotation; time and type of tillage; rate and placement of fertilizer; selection, rate and effectiveness of herbicide used) made by the farm operator at various times during the crop year. The impact of these agronomic practices on the weed flora was reflected in a summer survey. Counts at this time of the year showed the size and extent of troublesome weed populations. This survey time had additional advantages. Identification was simplified because most of the weeds were mature. In particular, wild oats and other grassy weeds had flowered or produced fruit and were easily recognized. Also, the field crew had more time to work on the survey during the summer than during the period immediately after crop seeding. Weed counts were completed in between July 5, 2017 and September 3, 2017.

Weed Counts in Fields

Once a surveyor arrived at a qualified field, the weeds were enumerated using a set pattern. The surveyor walked 100 paces along the edge of the field, turned at right angles, and walked 100 paces into the field. The inverted W-pattern began at this point (Figure 5). Five locations were sampled along each arm of the pattern, giving a total of 20 locations. Locations were 20 paces apart. The number of individuals of each weed species was determined in a 0.25 m² quadrat (50 cm by 50 cm) at each of the 20 locations. The procedure was modified when necessary to compensate for sloughs, odd-shaped fields and other irregularities.

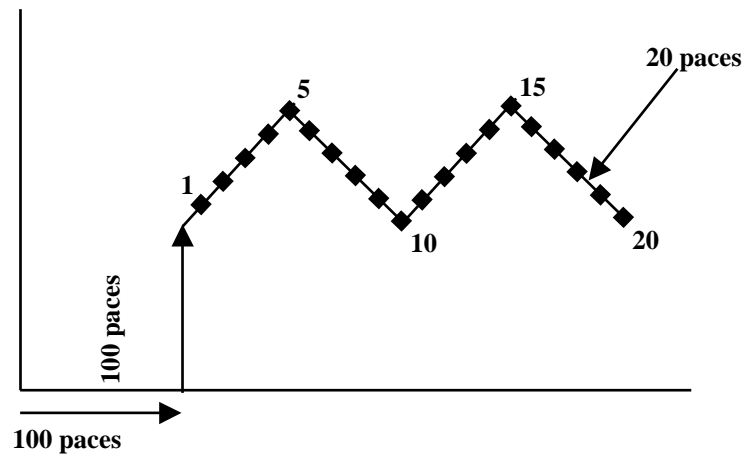


Figure 5. W pattern used for field counts.

For perennial grass species such as quack grass and perennial herbaceous species such as Canada thistle, the number of shoots rather than the number of plants was counted. For annual grasses, such as wild oats, and clumped perennials, such as foxtail barley, a rooted individual was counted as a single plant whatever the number of tillers. Volunteer crop plants were counted as weeds.

Surveyors were asked to collect a specimen of each species they identified in each field for later verification. Also, any plant found in the field that could not be identified, or that the surveyor was unsure of, was collected. All specimens were pressed and submitted for identification. 4582 specimens were examined to ensure the correct identification of the weed species. Species which require mature specimens to distinguish (western barnyard grass and barnyard grass, dock species) were combined in field summary tables; however, mature specimens were identified to species when collected. The common and botanical names of the 233 weeds that occur in this report, including 142 weeds identified in 2017, are listed in Table 3.

Table 3. Common²⁰ and scientific names²¹ of plants that appear in this report

Common Name	Scientific Name
Absinth*	<i>Artemisia absinthium</i> L.
Alfalfa*	<i>Medicago sativa</i> L.
Alsike clover (reported with clover species)*	<i>Trifolium hybridum</i> L.
American dragonhead	<i>Dracocephalum parviflorum</i> Nutt.
American vetch (reported with vetch species)*	<i>Vicia americana</i> Muhl. ex Willd. var. <i>americana</i>
Annual blue grass*	<i>Poa annua</i> L.
Annual brome species (includes downy and Japanese brome)*	<i>Bromus japonicus</i> Houtt. & <i>B. tectorum</i> L.
Annual sow-thistle (reported with spiny annual sow-thistle)*	<i>Sonchus oleraceus</i> L.
Annual spurge species (includes thyme-leaved and ridge-seeded spurge)*	<i>Euphorbia serpillifolia</i> Pers. & <i>E. glyptosperma</i> Engelm.
Argentine canola (reported with canola/rapeseed)*	<i>Brassica napus</i> L.
Aspen poplar (reported with poplar species)	<i>Populus tremuloides</i> Michx.
Aster species*	<i>Aster</i> spp.
Avens species	<i>Geum</i> spp.
Baby's-breath	<i>Gypsophila paniculata</i> L.
Ball mustard*	<i>Neslia paniculata</i> (L.) Desv.
Balsam poplar (reported with poplar species)*	<i>Populus balsamifera</i> L.
Barley*	<i>Hordeum vulgare</i> L.
Barnyard grass (reported with western barnyard grass)	<i>Echinochloa crus-galli</i> (L.) P.Beauv.
Bicknell's geranium (includes other geranium species)*	<i>Geranium bicknellii</i> Britton
Biennial wormwood*	<i>Artemisia biennis</i> Willd.
Bird's-eye speedwell*	<i>Veronica persica</i> Poir.
Black medick*	<i>Medicago lupulina</i> L.
Black nightshade (reported with nightshade species)*	<i>Solanum nigrum</i> L.
Bladder campion	<i>Silene vulgaris</i> (Moench) Garcke
Blue grass species*	<i>Poa</i> spp.
Blue lettuce*	<i>Lactuca tatarica</i> (L.) C.A.Mey.
Bluebur (includes western bluebur)*	<i>Lappula squarrosa</i> (Retz.) Dumort.
Borage*	<i>Borago officinalis</i> L.
Broad-leaved plantain (includes saline plantain)*	<i>Plantago major</i> L.
Bull thistle*	<i>Cirsium vulgare</i> (Savi) Ten.
Canada fleabane*	<i>Erigeron canadensis</i> L.
Canada thistle*	<i>Cirsium arvense</i> (L.) Scop.
Canary grass	<i>Phalaris canariensis</i> L.
Canola/rapeseed (includes Argentine and Polish canola)*	<i>Brassica napus</i> L. and <i>B. rapa</i> L.
Caraway	<i>Carum carvi</i> L.
Cattail*	<i>Typha latifolia</i> L.
Chickpea	<i>Cicer arietinum</i> L.
Chickweed*	<i>Stellaria media</i> (L.) Vill.
Cicer milk-vetch (reported with milk-vetch species)	<i>Astragalus cicer</i> L.
Clasping-leaved pennycress	<i>Noccaea perfoliata</i> (L.) Al-Shehbaz
Cleavers (reported with false cleavers)	<i>Galium aparine</i> L.
Clover species (includes alsike, white and red clover)*	<i>Trifolium</i> spp.
Common burdock	<i>Arctium minus</i> (Hill) Bernh.
Common groundsel*	<i>Senecio vulgaris</i> L.
Common milkweed (reported with showy milkweed)	<i>Asclepias syriaca</i> L.

(Table continued on next page)

²⁰ Darbyshire, S. J., M. Favreau and M. Murray. 2000. Common and Scientific Names of Weeds in Canada. Publication 1397/B, Agriculture and Agri-Food Canada, Ottawa, ON. 132 pp.

²¹ Brouillet, L., F. Coursol, S.J. Meades, M. Favreau, M. Anions, P. Bélisle & P. Desmet. 2010+. VASCAN, the Database of Vascular Plants of Canada. <http://data.canadensys.net/vascan/> (consulted on 2019-02-07).

*Found in 2016 survey

Table 3. Common and scientific names of plants that appear in this report (*continued*)

Common Name	Scientific Name
Common pepper-grass*	<i>Lepidium densiflorum</i> Schrad.
Common yarrow*	<i>Achillea millefolium</i> L.
Corn gromwell*	<i>Buglossoides arvensis</i> (L.) I.M.Johnst.
Corn spurry*	<i>Spergula arvensis</i> L.
Cow cockle*	<i>Gypsophila vaccaria</i> (L.) Sm.
Cream-colored vetchling (reported with vetchling species)	<i>Lathyrus ochroleucus</i> Hook.
Crested wheat grass	<i>Agropyron cristatum</i> (L.) Gaertn.
Curled dock (reported with dock species)	<i>Rumex crispus</i> L.
Dandelion (includes red-seeded dandelion)*	<i>Taraxacum officinale</i> F.H.Wigg.
Dock species (includes curled, field, western and willow-leaved dock)*	<i>Rumex</i> spp.
Dog mustard	<i>Erucastrum gallicum</i> (Willd.) O.E.Schultz
Downy brome (reported with annual brome species)*	<i>Bromus tectorum</i> L.
Drooping woodreed*	<i>Cinna latifolia</i> (Trevir.ex Göpp.) Griseb.
Durum (reported with wheat)*	<i>Triticum durum</i> Desf.
Dwarf raspberry	<i>Rubus pubescens</i> Raf.
Erect knotweed (reported with prostrate knotweed)	<i>Polygonum erectum</i> L.
Fababean*	<i>Vicia faba</i> L.
False cleavers (may include cleavers)*	<i>Galium spurium</i> L.
False ragweed	<i>Cyclachaena xanthiifolia</i> (Nutt.) Fresen.
Fescue species*	<i>Festuca</i> spp.
Field bindweed	<i>Convolvulus arvensis</i> L.
Field dock (reported with dock species)*	<i>Rumex pseudonatronatus</i> (Borbás) Borbás ex Murb.
Field horsetail (includes other horsetail species)*	<i>Equisetum arvense</i> L.
Field mint*	<i>Mentha arvensis</i> L.
Field pea*	<i>Pisum sativum</i> L.
Field violet*	<i>Viola arvensis</i> Murray
Flax*	<i>Linum usitatissimum</i> L.
Flixweed (includes grey and green tansy mustard)*	<i>Descurainia sophia</i> (L.) Webb ex Prantl
Fowl-meadow grass (reported with blue grass species)*	<i>Poa palustris</i> L.
Foxtail barley*	<i>Hordeum jubatum</i> L.
Giant ragweed	<i>Ambrosia trifida</i> L.
Goat's-beard*	<i>Tragopogon dubius</i> Scop.
Golden corydalis (may include other corydalis species)*	<i>Corydalis aurea</i> Willd.
Golden dock*	<i>Rumex fueginus</i> Phil.
Golden-bean	<i>Thermopsis rhombifolia</i> (Nutt. ex Pursh) Richardson
Goldenrod species	<i>Solidago</i> spp.
Green foxtail*	<i>Setaria viridis</i> (L.) P. Beauv.
Green pigweed (reported with redroot pigweed)*	<i>Amaranthus powellii</i> S. Watson
Green tansy mustard (reported with flixweed)	<i>Descurainia pinnata</i> subsp. <i>brachycarpa</i> (Richardson) Detling
Grey tansy mustard (reported with flixweed)	<i>Descurainia incana</i> (Bernh. ex Fisch. & C.A.Mey.) Dorn
Ground-ivy	<i>Glechoma hederacea</i> L.
Hairy nightshade (reported with nightshade species)	<i>Solanum nitidibaccatum</i> Bitter
Hemp dogbane (reported with spreading dogbane)	<i>Apocynum cannabinum</i> L.
Hemp-nettle (includes large-flowered hemp-nettle)*	<i>Galeopsis tetrahit</i> L.
Henbit*	<i>Lamium amplexicaule</i> L.
Indian mustard	<i>Brassica juncea</i> (L.) Czern.
Italian rye grass*	<i>Lolium multiflorum</i> Lam.
Japanese brome (reported with annual brome species)*	<i>Bromus japonicus</i> Houtt.
Kentucky blue grass (reported with blue grass species)*	<i>Poa pratensis</i> L.
Knawel	<i>Scleranthus annuus</i> L.
Kochia*	<i>Bassia scoparia</i> (L.) A.J.Scott

(Table continued on next page)

Methodology – Weed List

Table 3. Common and scientific names of plants that appear in this report (*continued*)

Common Name	Scientific Name
Lamb's-quarters (includes net-seeded lamb's-quarters)*	<i>Chenopodium album</i> L.
Large-flowered hemp-nettle (reported with hemp-nettle)*	<i>Galeopsis speciosa</i> Mill.
Leafy spurge	<i>Euphorbia esula</i> L.
Lentils*	<i>Lens culinaris</i> Medik.
Low bush-cranberry	<i>Viburnum edule</i> (Michx.) Raf.
Low cudweed (includes western marsh cudweed)*	<i>Gnaphalium uliginosum</i> L.
Low larkspur	<i>Delphinium bicolor</i> Nutt.
Marsh hedge-nettle*	<i>Stachys palustris</i> L.
Marsh yellow cress (may include other yellow cress species)*	<i>Rorippa palustris</i> (L.) Besser
Meadow brome*	<i>Bromus riparius</i> Rehmman
Meadow fescue (reported with fescue species)	<i>Lolium pratense</i> (Huds.) Darbysh.
Meadow foxtail	<i>Alopecurus pratensis</i> L.
Meadow rue species	<i>Thalictrum</i> spp.
Milk-vetch species	<i>Astragalus</i> spp.
Mountain rough fescue (reported with fescue species)*	<i>Festuca campestris</i> Rydb.
Mouse-eared chickweed	<i>Cerastium fontanum</i> subsp. <i>vulgare</i> (Hartm.) Greuter & Burdet
Narrow-leaved American vetch (reported with vetch species)*	<i>Vicia americana</i> var. <i>minor</i> Hook.
Narrow-leaved hawk's-beard*	<i>Crepis tectorum</i> L.
Narrow-leaved milk-vetch (reported with milk-vetch species)	<i>Astragalus pectinatus</i> (Hook.) Douglas ex G.Don
Narrow-leaved plantain (reported with slender plantain)	<i>Plantago lanceolata</i> L.
Net-seeded lamb's-quarters (reported with lamb's-quarters)	<i>Chenopodium berlandieri</i> var. <i>zschackei</i> (Murr) Murr ex Graebn.
Night-flowering catchfly*	<i>Silene noctiflora</i> L.
Nightshade species (includes hairy and black nightshade)*	<i>Solanum</i> spp.
Nodding brome (reported with smooth brome)	<i>Bromus porteri</i> (J.M. Coult.) Nash
Nodding thistle	<i>Carduus nutans</i> L.
Northern bedstraw	<i>Galium boreale</i> L.
Northern willowherb (includes tall annual willowherb)*	<i>Epilobium ciliatum</i> Raf.
Nuttall's alkali grass	<i>Puccinellia nuttalliana</i> (Schult.) Hitchc.
Oak-leaved goosefoot*	<i>Oxybasis glauca</i> (L.) S.Fuentes, Uotila & Borsch subsp. <i>glauca</i>
Oats*	<i>Avena sativa</i> L.
Orchard grass*	<i>Dactylis glomerata</i> L.
Pale smartweed*	<i>Persicaria lapathifolia</i> (L.) Delarbre
Palmate coltsfoot	<i>Petasites frigidus</i> var. <i>palmatus</i> (Aiton) Cronquist
Pasture sage (may include other wormwood species)*	<i>Artemisia frigida</i> Willd.
Perennial rye grass	<i>Lolium perenne</i> L.
Perennial sow-thistle*	<i>Sonchus arvensis</i> L.
Persian darnel*	<i>Lolium persicum</i> Boiss. & Hohen. ex Boiss.
Pineappleweed*	<i>Matricaria discoidea</i> DC.
Poison suckleya	<i>Suckleya suckleyana</i> (Torr.) Rydb.
Polish canola (reported with canola/rapeseed)	<i>Brassica rapa</i> L.
Poplar species	<i>Populus</i> spp.
Povertyweed	<i>Iva axillaris</i> Pursh
Prairie rose (reported with rose species)*	<i>Rosa arkansana</i> Porter
Prairie sage*	<i>Artemisia ludoviciana</i> Nutt.
Prickly lettuce*	<i>Lactuca serriola</i> L.
Prickly rose (reported with rose species)*	<i>Rosa acicularis</i> Lindl.
Proso millet	<i>Panicum miliaceum</i> L.
Prostrate knotweed (includes striate and erect knotweed)*	<i>Polygonum aviculare</i> L.
Prostrate pigweed	<i>Amaranthus blitoides</i> S.Watson
Pseudognaphalium species*	<i>Pseudognaphalium</i> sp.
Purple vetchling (reported with vetchling species)	<i>Lathyrus venosus</i> Muhl. ex Willd.

(Table continued on next page)

Table 3. Common and scientific names of plants that appear in this report (*continued*)

Common Name	Scientific Name
Purslane speedwell*	<i>Veronica peregrina</i> L.
Purslane*	<i>Portulaca oleracea</i> L.
Pygmyflower*	<i>Androsace septentrionalis</i> L.
Quack grass*	<i>Elymus repens</i> (L.) Gould
Rayless aster*	<i>Symphotrichum ciliatum</i> (Ledeb.) G.L.Nesom
Red clover (reported with clover species)*	<i>Trifolium pratense</i> L.
Red fescue (reported with fescue species)*	<i>Festuca rubra</i> L.
Red goosefoot*	<i>Oxybasis rubra</i> (L.) S.Fuentes, Uotila & Borsch
Redroot pigweed (includes green pigweed)*	<i>Amaranthus retroflexus</i> L.
Red-seeded dandelion (reported with dandelion)*	<i>Taraxacum erythrospermum</i> Andrz
Redtop	<i>Agrostis gigantea</i> Roth
Ridge-seeded spurge (reported with annual spurge species)*	<i>Euphorbia glyptosperma</i> Engelm.
Rose species (includes prickly and prairie rose)*	<i>Rosa</i> spp.
Rough cinquefoil (includes other cinquefoil species)*	<i>Potentilla norvegica</i> L.
Rough hair grass (includes tufted hair grass)*	<i>Agrostis scabra</i> Willd.
Round-leaved mallow*	<i>Malva pusilla</i> Sm.
Russian knapweed	<i>Rhaponticum repens</i> (L.) Hidalgo
Russian pigweed*	<i>Axyris amaranthoides</i> L.
Russian thistle*	<i>Salsola tragus</i> L.
Rye*	<i>Secale cereale</i> L.
Saline plantain (reported with broad-leaved plantain)*	<i>Plantago eriopoda</i> Torr.
Sandberg's blue grass (reported with blue grass species)*	<i>Poa secunda</i> J. Presl
Scarlet mallow	<i>Sphaeralcea coccinea</i> (Nutt.) Rydb.
Scentless chamomile*	<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.
Scouring-rush (includes variegated scouring-rush)	<i>Equisetum hyemale</i> L.
Sedge species	<i>Carex</i> spp.
Sheep sorrel	<i>Rumex acetosella</i> L.
Shepherd's-purse*	<i>Capsella bursa-pastoris</i> (L.) Medik.
Showy milkweed (may include common milkweed)*	<i>Asclepias speciosa</i> Torr.
Silky lupin	<i>Lupinus sericeus</i> Pursh
Silverweed (reported with rough cinquefoil)	<i>Potentilla anserina</i> L.
Silvery lupin	<i>Lupinus argenteus</i> Pursh
Skeletonweed*	<i>Lygodesmia juncea</i> (Pursh) D.Don ex Hook.
Slender plantain (includes narrow-leaved plantain)	<i>Plantago elongata</i> Pursh
Slender wheat grass (may include other perennial wheat grass species)	<i>Elymus trachycaulus</i> (Link) Gould ex Shinnars
Slough grass*	<i>Beckmannia syzigachne</i> (Steud.) Fernald
Small-flowered geranium (reported with Bicknell's geranium)	<i>Geranium pusillum</i> L.
Small-seeded false flax	<i>Camelina microcarpa</i> Andrz. ex DC.
Smooth brome (includes other perennial brome species)*	<i>Bromus inermis</i> Leyss.
Spear-leaved goosefoot*	<i>Blitum nuttallianum</i> Schult.
Spiny annual sow-thistle (includes annual sow-thistle)*	<i>Sonchus asper</i> (L.) Hill
Spreading dogbane (may include hemp dogbane)	<i>Apocynum androsaemifolium</i> L.
Stinkweed*	<i>Thlaspi arvense</i> L.
Stork's bill*	<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton
Strawberry-blite	<i>Blitum capitatum</i> L. subsp. <i>capitatum</i>
Striate knotweed (reported with prostrate knotweed)	<i>Polygonum achoreum</i> S.F.Blake
Sulfur cinquefoil (reported with rough cinquefoil)	<i>Potentilla recta</i> L.
Sunflower (may include other sunflower species)*	<i>Helianthus annuus</i> L.
Sweet-clover species (includes white and yellow sweet-clover)*	<i>Melilotus officinalis</i> (L.) Lam. & <i>M. albus</i> Medik.
Tall annual willowherb (reported with northern willowherb)*	<i>Epilobium brachycarpum</i> C. Presl
Tall buttercup*	<i>Ranunculus acris</i> L.

(Table continued on next page)

Methodology – Weed List

Table 3. Common and scientific names of plants that appear in this report (*continued*)

Common Name	Scientific Name
Tall fescue (reported with fescue species)	<i>Lolium arundinaceum</i> (Schreb.) Darbysh.
Tansy	<i>Tanacetum vulgare</i> L.
Tartary buckwheat*	<i>Fagopyrum tataricum</i> (L.) Gaertn.
Thyme-leaved sandwort*	<i>Arenaria serpyllifolia</i> L.
Thyme-leaved spurge (reported with annual spurge species)*	<i>Euphorbia serpyllifolia</i> Pers.
Timothy*	<i>Phleum pratense</i> L.
Toad rush*	<i>Juncus bufonius</i> L.
Tufted hair grass (reported with rough hair grass)*	<i>Deschampsia cespitosa</i> (L.) P. Beauv. subsp. <i>cespitosa</i>
Tufted vetch (reported with vetch species)*	<i>Vicia cracca</i> L.
Tumble mustard	<i>Sisymbrium altissimum</i> L.
Tumble pigweed*	<i>Amaranthus albus</i> L.
Two-grooved milk-vetch (reported with milk-vetch species)	<i>Astragalus bisulcatus</i> (Hook.) A.Gray
Variiegated scouring-rush (reported with scouring-rush)*	<i>Equisetum variegatum</i> Schleich. ex F. Weber & D. Mohr
Vetch species (includes tufted and American vetch)*	<i>Vicia</i> spp.
Vetchling species	<i>Lathyrus</i> spp.
Violet species	<i>Viola</i> spp.
Water horsetail (reported with field horsetail)*	<i>Equisetum fluviatile</i> L.
Water mudwort*	<i>Limosella aquatica</i> L.
Water smartweed (includes western bistort)*	<i>Persicaria amphibia</i> var. <i>stipulacea</i> (N. Coleman) H.Hara
Western barnyard grass (may include barnyard grass)*	<i>Echinochloa muricata</i> var. <i>microstachya</i> Wiegand
Western bistort (reported with water smartweed)	<i>Bistorta bistortoides</i> (Pursh) Small
Western bluebur (reported with bluebur)*	<i>Lappula occidentalis</i> (S. Watson) Greene
Western dock (reported with dock species)	<i>Rumex occidentalis</i> S. Watson
Western marsh cudweed (reported with low cudweed)*	<i>Gnaphalium palustre</i> Nutt.
Western sea-blite	<i>Suaeda calceoliformis</i> (Hook.) Moq.
Western snowberry	<i>Symphoricarpos occidentalis</i> Hook.
Wheat (includes durum)*	<i>Triticum aestivum</i> L.
White clover (reported with clover species)*	<i>Trifolium repens</i> L.
White cockle*	<i>Silene latifolia</i> Poir.
White mustard*	<i>Sinapis alba</i> L.
White sweet-clover (reported with sweet-clover species)	<i>Melilotus albus</i> Medik.
Wild buckwheat*	<i>Fallopia convolvulus</i> (L.) Á.Löve
Wild chamomile	<i>Matricaria chamomilla</i> L.
Wild mustard*	<i>Sinapis arvensis</i> L.
Wild oats*	<i>Avena fatua</i> L.
Wild radish	<i>Raphanus raphanistrum</i> L.
Wild red raspberry	<i>Rubus idaeus</i> subsp. <i>strigosus</i> (Michx.) Focke
Wild strawberry	<i>Fragaria virginiana</i> Mill.
Wild tomato	<i>Solanum triflorum</i> Nutt.
Willow species*	<i>Salix</i> spp.
Willow-leaved dock (reported with dock species)	<i>Rumex triangulivalvis</i> (Danser) Rech. f.
Wood whitlow-grass	<i>Draba nemorosa</i> L.
Woodland horsetail (reported with field horsetail)*	<i>Equisetum sylvaticum</i> L.
Wormseed mustard*	<i>Erysimum cheiranthoides</i> L.
Yellow alyssum	<i>Alyssum turkestanicum</i> Regel & Schmalh.
Yellow foxtail	<i>Setaria pumila</i> (Poir.) Roem. & Schult.
Yellow sweet-clover (reported with sweet-clover species)*	<i>Melilotus officinalis</i> (L.) Lam.
Yellow toadflax*	<i>Linaria vulgaris</i> Mill.

Data Analysis

Weed count data on field sheets were numerically coded, entered into computer files, and verified. Data were processed in Microsoft® Excel and summary tables were produced following the standard format used in previous Weed Survey Series Reports.

All data were weighted to account for sites not surveyed. The field weights were calculated by taking the ratio of the expected number of fields in the ecodistrict to the number of fields surveyed in the ecodistrict. To account for ecodistricts without any surveyed sites, weights were multiplied by the ratio of the expected number of fields within the ecoregion to the number of fields surveyed within the ecoregion. Previous survey data presented in this report was weighted to account for sites not surveyed based on contemporary Census of Agriculture data (2011, 2001, 1996, 1986 and 1976). As the irrigated and dryland fields were surveyed separately in 2009 and 2010 respectively, the 2009/10 data presented in this report is also weighted based on irrigated acreage, thus down weighting the results from 2009 to allow a comparison to other surveys.

The median density, mean density, mean number of species per field and percentage of weed free quadrats were calculated for each crop, ecoregion, crop district and municipal jurisdiction based on the weighted data. Standard errors were calculated for the means and percentage of weed free quadrats.

Weed data were summarized in tables using agronomic, ecological, and jurisdictional variables including crop, ecoregion (Figure 1), counties, municipalities and special areas (Figure 4) and crop district (Figure 6). A minimum of ten sites was set to allow meaningful summarization. Where these minima were not reached, a summary table was not provided, but data were retained in other appropriate summaries. For example, a separate summary table for lentils in the Moist Mixed Grassland Ecoregion was not provided; however, the fields were included in the overall summary for Alberta lentils. Geographic areas (ecoregions and municipal jurisdictions) with fewer fields than required were combined with adjacent areas.

The geographic distribution of 35 frequently occurring species is presented in maps produced with ArcMap GIS 10.3.1 from Environmental Systems Research Institute, Inc.. Inverse Distance Weighting was used to estimate frequency of the species by interpolating presence/absence data. The interpolation included all sites within used a fixed radius of 0.2° (approximately 22 km) extended if necessary to include a minimum of ten sites. The sites were given a weight of inverse of the square root of the distance to the interpolated point. The data presented is smoothed using nearest neighbour focal statistics, based on the means within a four cell radius. The maps of volunteer crops (barley, canola and wheat) do not include fields planted to the volunteer crop.

Data were summarized using seven quantitative variables. Details for the calculation of these variables are described elsewhere²².

Frequency. The number of fields in which a particular species occurred, expressed as a percentage of the total number of fields surveyed in groups such as crops or ecoregions, and in the province.

Field uniformity (all fields). The number of quadrats in which a particular species occurred, expressed as a percentage of all the quadrats surveyed in groups such as crops or ecoregions, and in the province (20 per field multiplied by the number of fields).

Field uniformity (occurrence fields). The number of quadrats in which a particular species occurred, expressed as a percentage of the number of quadrats in groups such as crops or ecoregions, and in the province for the occurrence fields only (20 per field multiplied by the number of fields in which the species occurred).

Field density (all fields). A measure of the number of plants of a species counted in a square metre. The density values for each species in a single field are averaged over all fields surveyed in groups such as crops or ecoregions, and in the province.

²²Thomas, A.G. 1985. Weed survey system used in Saskatchewan for cereal and oilseed crops. *Weed Science* 33: 34-43

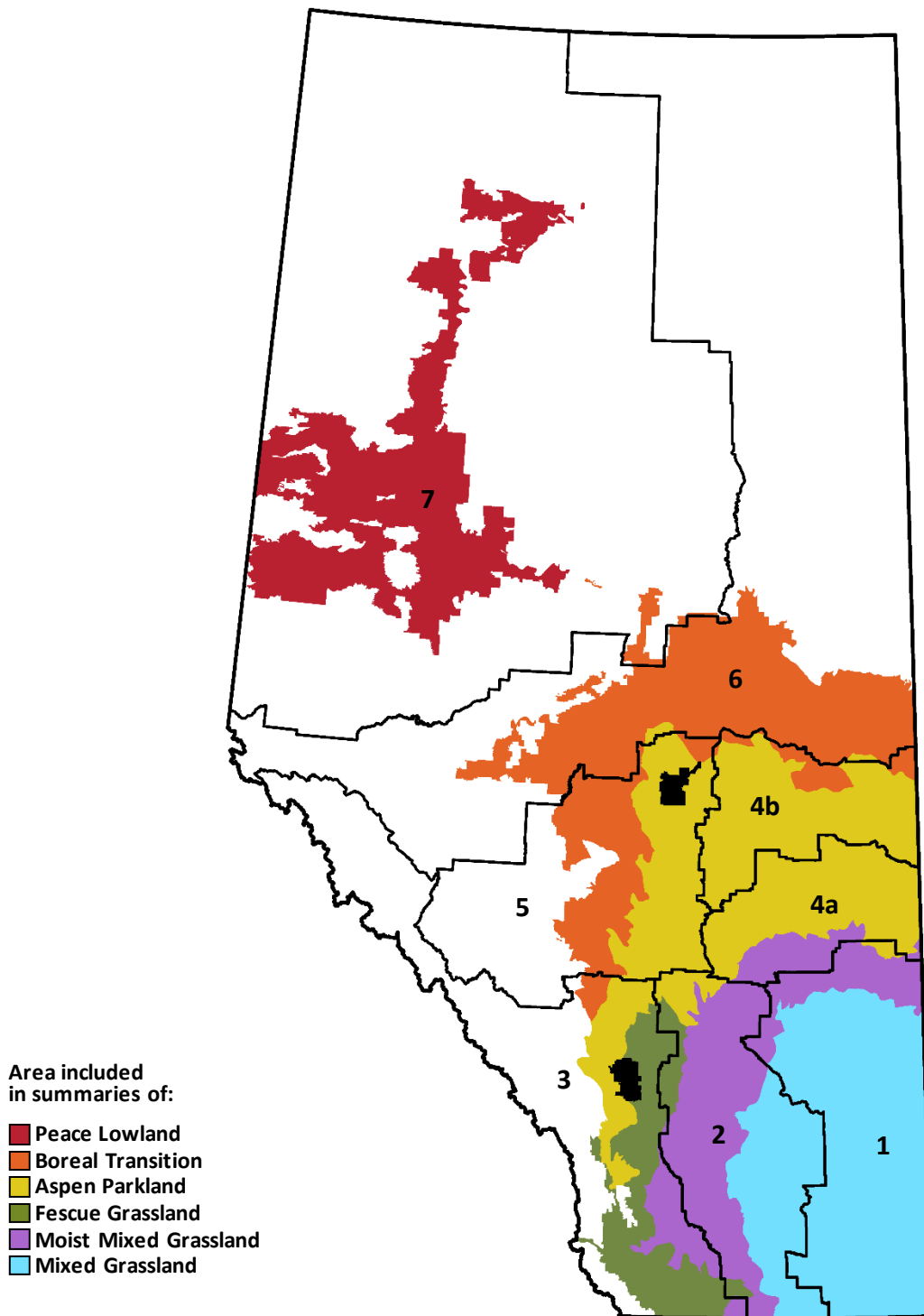


Figure 6. Crop Districts included in the weed survey. Crop Districts correspond to Census Agricultural Regions²³.

²³ Statistics Canada. 2018. 2016 Census - Boundary files. [Online] Available: <https://www12.statcan.gc.ca/census-recensement/2011/geo/bound-limit/bound-limit-2016-eng.cfm> [19 October 2018].

Field density (occurrence fields). A measure of the number of plants of each species counted in a square metre. The density values for each species in a single field are averaged over only the fields in which the weed occurred in groups such as crops or ecoregions, and in the province.

Relative abundance. A combination of the frequency, field uniformity (all fields) and mean field density (all fields) values for each species.

Relative frequency for a species (RF) is the frequency value for a species divided by the sum of frequency values for all species, expressed as a percentage.

Relative field uniformity (all fields) for a species (RU) is the field uniformity value for a species divided by the sum of field uniformity values for all species, expressed as a percentage.

Relative mean field density (all fields) for a species (RD) is the mean field density value for a species divided by the sum of mean field density values for all species, expressed as a percentage.

Relative abundance for a species = $RF + RU + RD$. The total of the relative abundance values for all species equals 300. This measure was used to rank the species in the field survey summary tables. This calculation assumed that the frequency, field uniformity and field density measures were equally important in estimating the abundance of a species. Relative abundance has no units attached to it, but the value for one species can be compared with the value of another species. For example, if green foxtail has a value of 36 and wild buckwheat 18, then green foxtail is twice as abundant as wild buckwheat. Relative abundance does not necessarily relate to the competitive ability of the species. A species may have a high relative abundance value but not be very competitive.

Guide to the Use of the Field Survey Summary Tables

For the purposes of illustration, the meaning of the variables is explained for the species wild buckwheat in the provincial annual crop summary table (Table 5). A **frequency** of 41.7% shows that wild buckwheat occurred at least once in 513 of the 1232 cereal, oilseed and pulse fields surveyed. This variable estimates the geographic extent of the weed.

Field uniformity shows the proportion of quadrats (20 per field) in which the species occurred. In the example, the value for **all field uniformity** means that wild buckwheat occurred in 11.9% of the quadrats surveyed. This variable can be used as an estimate of the area occupied by a weed. The **occurrence field uniformity** value means that wild buckwheat was present in 28.6% of the quadrats when considering only the 513 occurrence fields.

Three density variables are included in the tables. Wild buckwheat had an **occurrence field density** of 3.7 plants per square metre and an **all field density** of 1.6 plants per metre square. The density for fields in which the species occurred is always equal to or higher than the density for all the fields in the summary. The **maximum density** shows that at least one field had a density of 80.4 wild buckwheat plants per square metre.

The final column shows the abundance of each species surveyed relative to each other. Values in this column add up to 300. **Relative abundance** is derived from the values of the frequency, field uniformity (all fields) and density (all fields) variables. The relative abundance variable is used for ranking species such as wild buckwheat and chickweed. Because the all field density values of chickweed are much larger than that for wild buckwheat, chickweed is ranked higher, even though wild buckwheat has a higher frequency and higher all field uniformity. The relative abundance value of 32.7 for chickweed is higher than the value of 30.3 for wild buckwheat.

Limitations, Constraints and Biases

The results in this report provide a ‘snapshot’ of the size and extent of weed populations in agricultural ecoregions of Alberta in 2017. It might be argued that 2017 is not indicative of a typical year as much of the area north of Edmonton received exceptionally high precipitation²⁴. The southern areas of the Peace Region had above normal precipitation. Much of the area south of Edmonton had near normal precipitation, with patches that were either below or above normal precipitation. Differences in precipitation and temperature may favour some weeds over others, or may result in higher or lower weed numbers in some areas than usual for the period as a whole. Consequently, only dramatic or consistent trends in the weed data are considered as important. Minor fluctuations may result from simple year-to-year variation.

The survey protocol has been designed to reduce bias in sampling, and to obtain objective information on the weed flora that remains after control practices have been used by the producer. In the development of the protocol, several constraints were placed on the eligibility of areas and fields for inclusion in the survey. The survey covers the main area of agriculture in the province. Only the major agricultural crops were considered. Other crops may have different weed floras. Fields were only surveyed if they were accessible by road, and if the producers were willing to cooperate. These constraints will have altered the spectrum of fields slightly from a completely random sample.

Occasionally, when the surveyor went to the field the crop did not match the qualified crop for the site. If the farmer was not available to resolve the discrepancy with the surveyor, the field was generally surveyed. Fields that were not planted to the selected crops were excluded from the summaries. The exclusion of fields may have slightly altered the weed spectrum, as areas with excluded fields are underrepresented (Table 2). In seven cases, the field was planted to mixture of the selected cereal crops and in one case the field was planted to mixture of the selected cereal and broad-leaved annual crops. These fields were included in overall summaries, but a separate summary was not made for mixed crops.

For a variety of reasons, some sites on the final list are different from those on the stratified random list developed initially. When surveyors went to the field, they were given a list of preselected and qualified sites. Sometimes mistakes were made, and the legal description given was not in an appropriate crop, sufficiently accessible, or in another way not a legitimate site. In this instance, the surveyor made an alternative selection, usually in the immediate vicinity. Sometimes the alternate selections were in different ecodistricts.

Two ecodistricts (679 and 838) with allocated sites was not surveyed (Figure 7). In each of these ecodistricts, only one site was allocated. Weighting was used to overcome this problem; however, the accuracy of regional summaries is expected to be lowered. Species distribution maps are interpolated for these areas based on surrounding sites.

The proportion of fields surveyed in each of the annual crops was close to that expected based on the seeded acreage in 2017²⁵. However, there were slightly more barley and oat fields and less canola fields than expected. These differences may be expected to slightly impact the overall summaries.

Only a small portion of each field was surveyed. This portion intentionally did not include sloughs, field edges, shelterbelts, etc. It also did not extend into the less accessible areas of the field. This may limit the representation of some species, such as foxtail barley, that are found more commonly near saline sloughs, or smooth brome grass that is often found near field margins. The small area in the field was sufficient to illustrate the distribution of major species and minor species that might be important to agriculture. This level of sampling is not sufficient to give an exhaustive list of the flora, or to illustrate the distribution of rare species.

²⁴ **National Agroclimate Information Service (NAIS)**. 2019. Precipitation compared to historical distribution (Prairie Region) April 1 to August 14, 2017 [Online] Available: <http://www.agr.gc.ca/DW-GS/historical-historiques.aspx?lang=eng&jsEnabled=true> [20 November 2018]

²⁵ **Statistics Canada**. 2018. Table 001-0017 - Estimated areas, yield, production, average farm price and total farm value of principal field crops, in metric and imperial units, annual, CANSIM (database). (accessed: April 24, 2018).

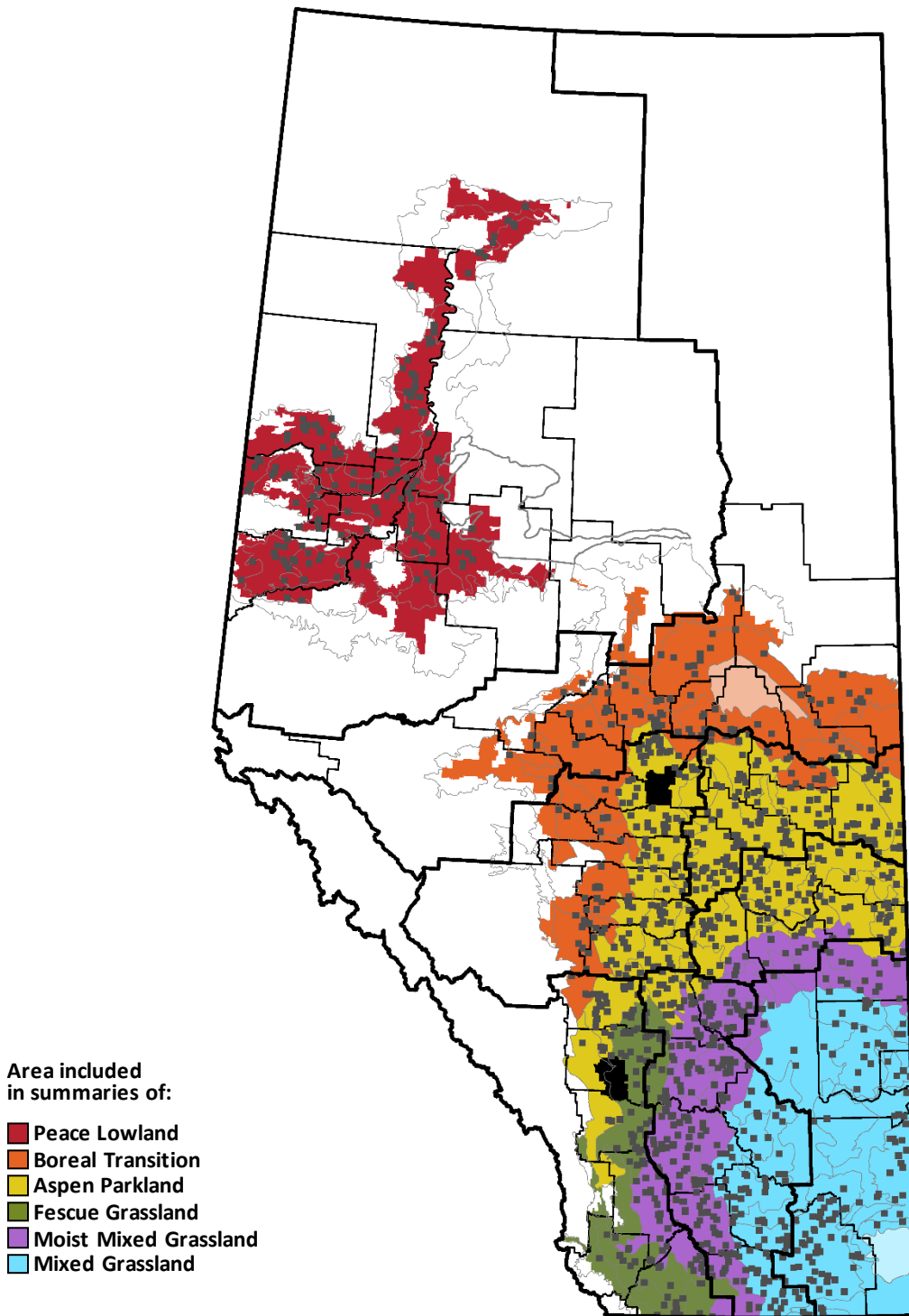


Figure 7. Locations of surveyed sites. Ecodistricts without any surveyed sites are a lighter shade than those with surveyed sites. Grey lines are ecodistrict borders. Thin black lines are municipal jurisdiction boundaries and thick black lines define crop districts. Squares indicate locations of surveyed fields.

Methodology – Limitations

The identification of some weed species is difficult in the field. Surveyors were asked to send in samples to confirm identification. However, in some cases, good samples were not available. Generally, the identification and counts by the field surveyors were used without alteration, if identifiable samples were not available. Species which require mature specimens to identify (e.g. thyme-leaved spurge and ridge-seed spurge, western barnyard grass and barnyard grass, dock species) were combined in field summary tables. Combining these species allowed direct comparison with data from previous surveys.

It can be challenging to identify volunteers within the same crop. Therefore, volunteers are likely underestimated in area summaries and summaries of the same crop.

The weed survey recorded the numbers of individuals of each species. It does not show the vigour, the biomass or the competitive ability of the plants found in the field. The survey shows what was present, not its effect on the crop. In the survey analysis, all species are considered separately. The complex interrelationships among species have not been considered. These will be the subject of later analyses. Relationships between species and farm management practices will be considered in a further publication in this series. The relationships between species and field variables (for instance, distribution patterns in the field) are not considered.


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Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Crop

Table 4. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed crops in Alberta

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Annual crops	1232	25.1	2.0	5.6	3.7	0.1	49.5	1.4
Cereal	723	28.3	2.9	5.4	3.6	0.1	52.2	1.9
Spring wheat	373	17.5	2.8	3.6	3.1	0.1	57.9	2.6
Barley	213	42.2	6.6	8.9	4.3	0.2	44.1	3.4
Durum	67	20.2	8.6	2.0	2.1	0.2	67.5	5.7
Oats	63	43.5	9.0	20.8	5.1	0.5	33.8	6.0
Canola	373	19.9	3.1	6.4	3.9	0.2	45.0	2.6
Pulse	135	21.8	3.6	6.2	4.0	0.3	47.9	4.3
Peas	103	25.9	4.6	8.8	4.2	0.3	43.9	4.9
Lentils	32	7.0	1.8	2.7	3.1	0.5	62.5	8.6

Field Survey Summary Tables – Annual crops in Alberta

Table 5. 2017 Annual crops in Alberta (1232 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	16.0	6.6	41.6	5.3	33.4	1073.2	32.7
2	Wild buckwheat	41.7	11.9	28.6	1.6	3.7	80.4	30.3
3	Lamb's-quarters	21.8	6.7	30.7	2.8	12.9	766.4	24.3
4	Canola/rapeseed	25.9	7.9	30.7	1.4	5.3	177.8	21.0
5	Wild oats	21.4	6.0	28.0	1.9	9.0	186.2	19.9
6	False cleavers	17.5	5.3	30.4	1.1	6.3	165.8	14.8
7	Wheat	13.7	4.4	31.8	0.9	6.9	106.6	12.2
8	Green foxtail	6.6	2.4	36.0	1.9	28.7	592.8	11.8
9	Canada thistle	21.8	3.4	15.5	0.4	2.0	19.6	11.2
10	Dandelion	15.9	3.3	20.8	0.3	2.1	28.0	9.2
11	Spiny annual sow-thistle	13.8	2.8	20.5	0.4	2.9	55.0	8.3
12	Field horsetail	11.0	2.6	23.3	0.6	5.7	56.0	8.2
13	Hemp-nettle	11.2	2.6	23.4	0.6	5.0	136.8	8.0
14	Stinkweed	8.7	2.2	24.8	0.6	6.4	194.8	6.9
15	Kochia	7.9	1.8	22.9	0.6	7.7	255.8	6.5
16	Narrow-leaved hawk's-beard	9.1	1.9	20.3	0.3	3.8	70.8	5.9
17	Shepherd's-purse	8.9	1.8	20.1	0.3	3.5	108.2	5.5
18	Barley	6.0	2.1	35.4	0.3	5.4	38.6	5.2
19	Low cudweed	6.6	1.1	16.7	0.5	7.6	219.2	5.0
20	Pale smartweed	6.8	1.3	18.9	0.3	4.5	91.4	4.4
21	Stork's bill	4.1	0.9	21.7	0.2	3.9	59.2	2.7
22	Foxtail barley	5.3	0.7	12.3	0.1	1.6	13.8	2.5
23	Redroot pigweed	3.0	0.9	28.8	0.2	6.2	33.0	2.4
24	Clover species	3.5	0.9	24.9	0.1	3.3	25.8	2.4
25	Corn spurry	2.0	0.6	30.9	0.3	12.4	83.6	2.2
26	Alfalfa	2.6	0.8	30.1	0.1	5.2	50.6	2.1
27	Annual blue grass	1.5	0.3	21.7	0.3	20.5	150.6	2.0
28	Perennial sow-thistle	3.4	0.6	16.5	0.1	2.2	16.2	1.8
29	Russian thistle	3.1	0.6	18.5	0.1	2.6	25.0	1.8
30	Western barnyard grass	2.8	0.4	16.0	0.1	3.3	45.8	1.6
31	Quack grass	1.8	0.4	21.9	0.2	9.1	71.6	1.6
32	Annual brome species	1.0	0.5	47.0	0.2	20.0	114.8	1.5
33	Rough cinquefoil	1.9	0.5	23.7	0.1	5.8	33.6	1.4
34	Prostrate knotweed	3.3	0.4	12.7	< 0.1	0.8	6.0	1.4
35	Night-flowering catchfly	2.9	0.4	15.2	< 0.1	1.7	11.0	1.4
36	Broad-leaved plantain	2.9	0.4	12.4	< 0.1	1.3	22.0	1.3
37	Oats	1.0	0.4	41.1	0.1	13.5	53.8	1.3
38	Round-leaved mallow	2.4	0.4	17.1	< 0.1	1.9	17.0	1.3
39	Tumble pigweed	2.0	0.3	13.0	< 0.1	1.1	6.2	0.9
40	Pineappleweed	1.8	0.2	10.7	< 0.1	1.1	4.4	0.8
41	Vetch species	1.5	0.2	16.1	< 0.1	1.9	13.8	0.8
42	Common groundsel	1.0	0.3	24.3	< 0.1	3.9	19.2	0.7
43	Oak-leaved goosefoot	0.7	0.2	23.2	0.1	7.6	25.0	0.6
44	White cockle	0.9	0.2	23.2	< 0.1	3.7	31.4	0.6
45	Wild mustard	0.9	0.2	20.3	< 0.1	3.1	31.2	0.6
46	Field pea	1.4	0.1	9.1	< 0.1	0.5	2.4	0.5
47	Yellow toadflax	0.6	0.1	23.2	< 0.1	7.7	26.4	0.5
48	Flax	0.4	0.1	32.2	< 0.1	13.5	65.6	0.4
49	Henbit	0.6	0.1	23.7	< 0.1	2.4	12.0	0.4
50	Scentsless chamomile	0.7	0.1	14.4	< 0.1	2.0	12.2	0.4
51	Annual spurge species	0.6	0.1	18.0	< 0.1	1.7	6.2	0.3
52	Flixweed	0.8	0.1	12.1	< 0.1	0.8	3.0	0.3

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Table 5. 2017 Annual crops in Alberta (1232 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Sweet-clover species	0.7	0.1	15.6	< 0.1	1.0	2.0	0.3
54	Marsh yellow cress	0.8	0.1	8.7	< 0.1	0.9	3.6	0.3
55	Dock species	0.7	0.1	10.0	< 0.1	1.5	4.2	0.3
56	Northern willowherb	0.8	0.1	6.9	< 0.1	0.4	1.0	0.3
57	Fescue species	0.6	0.1	12.6	< 0.1	1.7	4.6	0.3
58	Bluebur	0.5	0.1	14.4	< 0.1	2.3	5.0	0.3
59	Field violet	0.4	0.1	24.4	< 0.1	2.2	4.6	0.3
60	Goat's-beard	0.7	0.1	7.2	< 0.1	0.4	1.0	0.3
61	Prickly lettuce	0.6	0.1	8.9	< 0.1	0.6	1.8	0.2
62	Purslane speedwell	0.6	< 0.1	8.2	< 0.1	0.9	6.8	0.2
63	Rough hair grass	0.6	0.1	9.0	< 0.1	0.7	2.6	0.2
64	Biennial wormwood	0.6	0.1	9.1	< 0.1	0.7	2.4	0.2
65	Bicknell's geranium	0.6	< 0.1	5.4	< 0.1	0.2	0.6	0.2
66	Ball mustard	0.5	< 0.1	9.0	< 0.1	0.7	1.0	0.2
67	Tartary buckwheat	0.1	0.1	68.4	< 0.1	8.6	11.4	0.2
68	White mustard	0.3	0.1	23.1	< 0.1	1.6	2.6	0.2
69	Lentils	0.4	< 0.1	11.1	< 0.1	1.0	2.6	0.2
70	Rose species	0.3	0.1	17.2	< 0.1	1.5	2.0	0.2
71	Nightshade species	0.1	0.1	85.0	< 0.1	7.4	7.4	0.2
72	Willow species	0.4	< 0.1	7.5	< 0.1	0.4	0.6	0.2
73	Bird's-eye speedwell	0.1	0.1	70.0	< 0.1	25.2	25.2	0.2
74	Slough grass	0.3	< 0.1	10.9	< 0.1	1.9	4.0	0.1
75	Rye	0.2	0.1	32.3	< 0.1	2.5	3.4	0.1
76	Spear-leaved goosefoot	0.3	< 0.1	10.3	< 0.1	1.3	5.4	0.1
77	Black medick	0.3	< 0.1	13.3	< 0.1	2.0	6.8	0.1
78	Meadow brome	0.3	< 0.1	8.7	< 0.1	2.7	10.2	0.1
79	Cow cockle	0.3	< 0.1	13.9	< 0.1	1.5	2.8	0.1
80	Sunflower	0.3	< 0.1	10.8	< 0.1	0.6	1.2	0.1
81	Blue grass species	0.3	< 0.1	10.6	< 0.1	1.0	2.8	0.1
82	Golden dock	0.4	< 0.1	5.0	< 0.1	0.2	0.4	0.1
83	Golden corydalis	0.2	< 0.1	15.0	< 0.1	0.8	1.0	0.1
84	Canada fleabane	0.2	< 0.1	13.6	< 0.1	1.5	3.4	0.1
85	Pygmyflower	0.2	< 0.1	13.1	< 0.1	0.8	1.0	0.1
86	Poplar species	0.1	< 0.1	38.5	< 0.1	3.7	6.0	0.1
87	Skeletonweed	0.2	< 0.1	10.0	< 0.1	0.7	0.8	0.1
88	Timothy	0.2	< 0.1	15.4	< 0.1	0.9	2.2	0.1
89	Tall buttercup	0.1	< 0.1	5.0	< 0.1	7.6	14.4	0.1
90	Water mudwort	0.2	< 0.1	8.1	< 0.1	2.9	4.6	0.1
91	Pasture sage	0.2	< 0.1	5.0	< 0.1	0.3	0.4	0.1
92	Toad rush	0.2	< 0.1	11.1	< 0.1	0.8	1.2	0.1
93	Borage	0.1	< 0.1	17.4	< 0.1	1.3	1.8	0.1
94	Rayless aster	0.1	< 0.1	14.8	< 0.1	1.6	2.0	0.1
95	Bull thistle	0.2	< 0.1	14.8	< 0.1	0.7	1.0	0.1
96	Persian darnel	0.2	< 0.1	7.3	< 0.1	0.7	1.2	0.1
97	Purslane	0.1	< 0.1	10.0	< 0.1	1.0	1.0	0.1
98	Common pepper-grass	0.1	< 0.1	8.6	< 0.1	0.4	0.8	0.1
99	Common yarrow	0.1	< 0.1	7.0	< 0.1	0.3	0.4	< 0.1
100	Fababean	0.1	< 0.1	20.0	< 0.1	0.8	0.8	< 0.1
101	Scouring-rush	0.1	< 0.1	5.0	< 0.1	5.2	5.2	< 0.1
102	Marsh hedge-nettle	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
103	Russian pigweed	0.1	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
104	Milkweed species	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1

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Field Survey Summary Tables – Annual crops in Alberta

Table 5. 2017 Annual crops in Alberta (1232 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
105	Blue lettuce	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
106	Corn gromwell	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
107	Cattail	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
108	Sedge species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
109	Italian rye grass	< 0.1	< 0.1	25.0	< 0.1	2.8	2.8	< 0.1
110	Absinth	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
111	Smooth brome	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
112	Water smartweed	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
113	Orchard grass	0.1	< 0.1	15.0	< 0.1	0.8	0.8	< 0.1
114	Red goosefoot	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
115	Field mint	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
116	Wormseed mustard	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
117	Pseudognaphalium species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
118	Prairie sage	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
119	Aster species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
120	Drooping woodreed	< 0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
121	Thyme-leaved sandwort	< 0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Table 6. 2017 Cereal crops in Alberta (723 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	16.5	7.0	42.2	5.7	34.4	712.8	32.5
2	Wild buckwheat	42.8	12.4	29.0	1.7	4.0	80.4	32.0
3	Lamb's-quarters	17.0	6.1	35.7	3.8	22.5	766.4	25.1
4	Canola/rapeseed	26.4	7.8	29.6	1.6	5.9	177.8	21.7
5	Wild oats	19.7	5.6	28.3	2.1	10.6	186.2	19.2
6	Green foxtail	8.5	3.1	36.9	3.1	36.0	592.8	16.7
7	False cleavers	15.8	4.1	26.1	0.9	5.9	165.8	12.4
8	Canada thistle	21.7	3.7	16.9	0.5	2.1	19.6	11.8
9	Dandelion	16.9	3.4	20.2	0.4	2.2	28.0	9.9
10	Spiny annual sow-thistle	14.4	3.0	21.0	0.5	3.1	55.0	9.1
11	Hemp-nettle	11.5	2.7	23.7	0.7	6.1	136.8	8.8
12	Stinkweed	8.0	2.7	34.1	0.9	10.9	194.8	8.4
13	Kochia	8.1	1.8	22.4	0.8	10.2	255.8	7.2
14	Pale smartweed	8.1	1.6	20.1	0.4	5.4	91.4	5.6
15	Narrow-leaved hawk's-beard	9.1	1.9	21.2	0.3	2.8	27.4	5.6
16	Field horsetail	8.6	1.6	18.2	0.3	3.7	37.0	5.3
17	Shepherd's-purse	6.7	1.4	20.6	0.3	4.2	108.2	4.4
18	Low cudweed	5.0	0.7	13.4	0.6	11.7	219.2	4.2
19	Wheat	4.5	1.1	23.5	0.3	6.5	66.8	3.5
20	Foxtail barley	7.0	0.9	12.7	0.1	1.8	13.8	3.4
21	Corn spurry	2.5	0.9	35.2	0.4	15.7	83.6	3.1
22	Redroot pigweed	3.1	1.1	35.5	0.3	8.7	33.0	3.0
23	Alfalfa	3.2	1.0	32.3	0.2	6.7	50.6	2.8
24	Stork's bill	4.5	1.0	22.5	0.1	2.5	10.0	2.8
25	Clover species	3.5	1.0	30.1	0.2	4.4	25.8	2.7
26	Annual blue grass	2.2	0.4	18.4	0.3	15.4	94.2	2.2
27	Oats	1.7	0.7	42.1	0.2	14.1	53.8	2.1
28	Annual brome species	1.2	0.6	50.6	0.3	25.8	114.8	2.1
29	Quack grass	2.2	0.5	23.1	0.2	11.0	71.6	2.0
30	Perennial sow-thistle	3.8	0.6	15.2	0.1	1.6	8.6	1.9
31	Russian thistle	3.2	0.6	18.2	0.1	2.3	9.6	1.8
32	Prostrate knotweed	3.6	0.5	13.1	< 0.1	0.9	6.0	1.7
33	Barley	2.0	0.6	30.8	0.1	4.9	12.6	1.6
34	Round-leaved mallow	2.6	0.5	18.5	0.1	2.1	17.0	1.5
35	Broad-leaved plantain	3.1	0.4	13.5	< 0.1	1.0	4.6	1.4
36	Western barnyard grass	2.4	0.3	12.7	0.1	4.7	45.8	1.4
37	Night-flowering catchfly	2.9	0.4	13.0	< 0.1	1.2	5.8	1.3
38	Common groundsel	1.7	0.3	20.3	< 0.1	2.9	11.8	1.0
39	Tumble pigweed	2.0	0.3	15.9	< 0.1	1.4	6.2	1.0
40	Oak-leaved goosefoot	1.1	0.3	25.3	0.1	8.6	25.0	0.9
41	Rough cinquefoil	1.3	0.3	20.5	0.1	4.7	25.0	0.9
42	Pineappleweed	2.0	0.2	10.7	< 0.1	0.9	2.6	0.9
43	Wild mustard	1.2	0.3	24.4	< 0.1	4.0	31.2	0.8
44	Flax	0.5	0.2	40.8	0.1	17.6	65.6	0.7
45	White cockle	1.0	0.2	21.9	< 0.1	2.4	13.6	0.6
46	Vetch species	1.3	0.2	12.0	< 0.1	0.8	2.0	0.6
47	Field pea	1.3	0.1	10.6	< 0.1	0.6	2.4	0.5
48	Yellow toadflax	0.5	0.1	28.3	0.1	11.4	26.4	0.5
49	Henbit	0.7	0.2	26.9	< 0.1	3.3	12.0	0.5
50	Rough hair grass	1.0	0.1	9.0	< 0.1	0.7	2.6	0.4
51	Field violet	0.6	0.1	24.3	< 0.1	2.4	4.6	0.4
52	Fescue species	0.7	0.1	16.9	< 0.1	2.4	4.6	0.4

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Field Survey Summary Tables – Cereal crops in Alberta

Table 6. 2017 Cereal crops in Alberta (723 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Sweet-clover species	0.8	0.1	12.0	< 0.1	0.6	1.4	0.4
54	Marsh yellow cress	0.7	0.1	12.4	< 0.1	1.4	3.6	0.3
55	Rose species	0.6	0.1	17.2	< 0.1	1.5	2.0	0.3
56	Dock species	0.5	0.1	16.0	< 0.1	1.5	4.2	0.3
57	Scentless chamomile	0.8	< 0.1	5.0	< 0.1	0.3	0.4	0.3
58	Purslane speedwell	0.6	0.1	9.8	< 0.1	1.2	6.8	0.3
59	Biennial wormwood	0.6	0.1	9.2	< 0.1	0.9	2.4	0.3
60	Willow species	0.6	< 0.1	8.0	< 0.1	0.4	0.6	0.2
61	Meadow brome	0.5	< 0.1	8.7	< 0.1	2.7	10.2	0.2
62	Cow cockle	0.5	0.1	13.9	< 0.1	1.5	2.8	0.2
63	Bluebur	0.5	0.1	11.0	< 0.1	0.9	1.2	0.2
64	Bicknell's geranium	0.6	< 0.1	5.7	< 0.1	0.3	0.6	0.2
65	Golden corydalis	0.4	0.1	15.0	< 0.1	0.8	1.0	0.2
66	Canada fleabane	0.4	0.1	13.6	< 0.1	1.5	3.4	0.2
67	Black medick	0.4	0.1	14.5	< 0.1	2.5	6.8	0.2
68	Slough grass	0.4	< 0.1	8.3	< 0.1	1.7	4.0	0.2
69	Annual spurge species	0.4	< 0.1	11.9	< 0.1	0.6	0.8	0.2
70	Poplar species	0.2	0.1	38.5	< 0.1	3.7	6.0	0.2
71	Flixweed	0.3	< 0.1	14.0	< 0.1	1.9	3.0	0.2
72	Skeletonweed	0.4	< 0.1	10.0	< 0.1	0.7	0.8	0.2
73	Timothy	0.3	0.1	15.4	< 0.1	0.9	2.2	0.2
74	Lentils	0.4	< 0.1	6.7	< 0.1	0.7	1.4	0.2
75	Spear-leaved goosefoot	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
76	Water mudwort	0.3	< 0.1	8.1	< 0.1	2.9	4.6	0.1
77	Tall buttercup	0.2	< 0.1	5.0	< 0.1	7.6	14.4	0.1
78	Ball mustard	0.4	< 0.1	8.0	< 0.1	0.4	0.6	0.1
79	Pasture sage	0.4	< 0.1	5.0	< 0.1	0.3	0.4	0.1
80	Toad rush	0.3	< 0.1	11.1	< 0.1	0.8	1.2	0.1
81	Borage	0.3	< 0.1	17.4	< 0.1	1.3	1.8	0.1
82	Rayless aster	0.3	< 0.1	14.8	< 0.1	1.6	2.0	0.1
83	Blue grass species	0.3	< 0.1	12.8	< 0.1	1.4	2.8	0.1
84	Northern willowherb	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
85	Purslane	0.3	< 0.1	10.0	< 0.1	1.0	1.0	0.1
86	White mustard	0.3	< 0.1	7.6	< 0.1	0.7	0.8	0.1
87	Rye	0.1	< 0.1	35.0	< 0.1	3.4	3.4	0.1
88	Common pepper-grass	0.2	< 0.1	8.6	< 0.1	0.4	0.8	0.1
89	Prickly lettuce	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
90	Scouring-rush	0.1	< 0.1	5.0	< 0.1	5.2	5.2	0.1
91	Persian darnel	0.1	< 0.1	10.0	< 0.1	1.2	1.2	0.1
92	Milkweed species	0.1	< 0.1	10.0	< 0.1	0.4	0.4	0.1
93	Common yarrow	0.1	< 0.1	8.2	< 0.1	0.3	0.4	0.1
94	Corn gromwell	0.1	< 0.1	5.0	< 0.1	0.4	0.4	0.1
95	Italian rye grass	0.1	< 0.1	25.0	< 0.1	2.8	2.8	< 0.1
96	Water smartweed	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
97	Orchard grass	0.1	< 0.1	15.0	< 0.1	0.8	0.8	< 0.1
98	Pygmyflower	0.1	< 0.1	5.0	< 0.1	0.8	0.8	< 0.1
99	Prairie sage	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
100	Aster species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
101	Golden dock	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
102	Drooping woodreed	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1

Table 7. 2017 Spring wheat in Alberta (373 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	43.5	11.3	26.0	1.3	3.0	41.0	38.1
2	Chickweed	14.3	5.8	40.4	3.7	25.7	500.6	34.1
3	Canola/rapeseed	30.6	8.0	26.2	1.0	3.2	38.4	27.2
4	Wild oats	20.1	4.5	22.3	1.6	7.9	139.0	22.2
5	Green foxtail	6.1	1.3	21.8	2.4	38.9	592.8	17.5
6	False cleavers	16.8	4.3	25.8	0.7	3.9	29.6	15.6
7	Lamb's-quarters	12.0	3.1	26.3	1.1	9.6	274.0	15.0
8	Canada thistle	21.1	3.7	17.4	0.4	2.0	15.4	14.6
9	Spiny annual sow-thistle	16.9	3.4	20.2	0.5	2.8	53.6	13.2
10	Kochia	5.8	1.9	32.4	1.3	22.3	255.8	12.1
11	Dandelion	12.3	2.2	17.8	0.2	2.0	19.6	8.5
12	Narrow-leaved hawk's-beard	9.5	2.2	23.3	0.3	3.3	27.4	8.1
13	Hemp-nettle	10.1	1.8	17.8	0.3	3.4	26.2	7.9
14	Field horsetail	8.1	1.3	15.9	0.2	2.4	10.6	5.7
15	Foxtail barley	6.8	0.9	13.7	0.1	2.0	13.8	4.4
16	Shepherd's-purse	4.5	0.9	19.1	0.3	6.0	108.2	4.3
17	Low cudweed	6.3	0.7	11.1	0.1	1.6	6.6	3.6
18	Perennial sow-thistle	4.8	0.9	17.9	0.1	1.9	8.6	3.4
19	Annual blue grass	1.6	0.4	25.4	0.3	20.4	93.8	2.9
20	Stork's bill	3.6	0.8	22.6	0.1	2.1	5.0	2.8
21	Stinkweed	3.9	0.6	15.5	0.1	2.1	8.0	2.6
22	Pale smartweed	5.0	0.4	8.6	< 0.1	0.9	3.6	2.5
23	Western barnyard grass	2.9	0.4	12.6	0.2	5.8	45.8	2.4
24	Round-leaved mallow	2.5	0.6	25.2	0.1	3.5	17.0	2.2
25	Oats	0.8	0.4	48.8	0.2	22.7	48.8	1.9
26	Quack grass	0.7	0.2	28.1	0.2	32.9	71.6	1.8
27	Russian thistle	1.9	0.5	25.9	0.1	3.6	9.6	1.7
28	Prostrate knotweed	2.4	0.4	17.0	< 0.1	1.3	6.0	1.5
29	Redroot pigweed	1.9	0.4	18.8	0.1	3.3	15.6	1.5
30	Clover species	2.0	0.3	17.5	< 0.1	2.4	10.8	1.4
31	Night-flowering catchfly	2.2	0.3	14.8	< 0.1	1.4	5.8	1.4
32	Wheat	2.3	0.2	9.5	< 0.1	0.9	2.4	1.2
33	Alfalfa	1.5	0.3	19.3	< 0.1	2.2	11.0	1.1
34	Common groundsel	1.8	0.2	13.1	< 0.1	1.4	4.4	1.0
35	Broad-leaved plantain	1.8	0.3	13.8	< 0.1	0.8	1.6	1.0
36	Yellow toadflax	0.7	0.2	23.8	0.1	12.2	26.4	1.0
37	Oak-leaved goosefoot	0.9	0.1	9.4	0.1	7.5	25.0	0.8
38	Pineappleweed	1.5	0.1	8.7	< 0.1	0.7	2.6	0.8
39	Corn spurry	1.2	0.2	17.2	< 0.1	1.3	6.0	0.7
40	Tumble pigweed	1.4	0.1	8.9	< 0.1	0.4	0.6	0.7
41	Scentless chamomile	1.4	0.1	5.0	< 0.1	0.3	0.4	0.6
42	Rough hair grass	1.0	0.1	12.1	< 0.1	1.0	2.6	0.6
43	Barley	1.0	0.1	13.8	< 0.1	0.7	1.2	0.6
44	Field pea	1.2	0.1	6.1	< 0.1	0.2	0.4	0.5
45	Sweet-clover species	0.9	0.1	13.9	< 0.1	0.7	1.4	0.5
46	Rose species	0.8	0.1	15.0	< 0.1	1.4	2.0	0.5
47	Wild mustard	0.5	0.1	27.4	< 0.1	2.2	4.0	0.4
48	Dock species	0.5	0.1	16.9	< 0.1	2.1	4.2	0.4
49	Poplar species	0.2	0.1	60.0	< 0.1	6.0	6.0	0.4
50	Fescue species	0.4	0.1	27.2	< 0.1	2.7	4.6	0.3
51	Annual spurge species	0.5	0.1	12.9	< 0.1	0.6	0.8	0.3
52	Water mudwort	0.4	< 0.1	10.0	< 0.1	4.6	4.6	0.3

(Table continued on next page)

Field Survey Summary Tables – Spring wheat in Alberta

Table 7. 2017 Spring wheat in Alberta (373 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Willow species	0.5	< 0.1	8.3	< 0.1	0.5	0.6	0.3
54	Purslane speedwell	0.5	< 0.1	8.3	< 0.1	0.3	0.4	0.2
55	Northern willowherb	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
56	Golden corydalis	0.4	0.1	15.0	< 0.1	1.0	1.0	0.2
57	Canada fleabane	0.3	0.1	25.0	< 0.1	3.4	3.4	0.2
58	Toad rush	0.4	0.1	15.0	< 0.1	1.2	1.2	0.2
59	Scouring-rush	0.3	< 0.1	5.0	< 0.1	5.2	5.2	0.2
60	Field violet	0.4	< 0.1	5.0	< 0.1	1.0	1.0	0.2
61	Rough cinquefoil	0.4	< 0.1	5.0	< 0.1	0.3	0.4	0.2
62	Blue grass species	0.4	< 0.1	5.0	< 0.1	0.9	1.0	0.2
63	Slough grass	0.3	< 0.1	10.0	< 0.1	1.0	1.0	0.2
64	Bluebur	0.3	< 0.1	5.0	< 0.1	1.2	1.2	0.1
65	Flixweed	0.3	< 0.1	10.0	< 0.1	1.8	1.8	0.1
66	Milkweed species	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
67	Henbit	0.2	< 0.1	10.0	< 0.1	0.4	0.4	0.1
68	Biennial wormwood	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
69	Corn gromwell	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
70	Vetch species	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
71	Pasture sage	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Lentils	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Black medick	0.2	< 0.1	15.0	< 0.1	0.8	0.8	0.1
74	Water smartweed	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
75	Pygmyflower	0.2	< 0.1	5.0	< 0.1	0.8	0.8	0.1
76	Annual brome species	0.1	< 0.1	15.0	< 0.1	2.0	2.0	0.1
77	Prickly lettuce	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
78	Prairie sage	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
79	Aster species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
80	White cockle	0.1	< 0.1	10.0	< 0.1	0.4	0.4	0.1
81	Cow cockle	0.1	< 0.1	10.0	< 0.1	0.4	0.4	0.1

Table 8. 2017 Barley in Alberta (213 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	27.3	12.7	46.6	12.9	47.3	712.8	48.0
2	Wild buckwheat	46.8	15.9	34.0	2.6	5.6	80.4	31.0
3	Lamb's-quarters	22.4	8.0	35.6	5.1	22.6	704.8	24.2
4	Canola/rapeseed	25.0	8.4	33.6	2.8	11.3	177.8	19.8
5	Wild oats	21.3	6.8	32.0	2.5	11.9	95.4	16.9
6	False cleavers	19.8	5.5	28.1	1.9	9.7	165.8	14.0
7	Dandelion	27.8	6.3	22.6	0.7	2.5	28.0	13.6
8	Hemp-nettle	18.8	5.4	28.5	1.6	8.6	136.8	12.9
9	Green foxtail	11.1	4.0	35.6	2.2	20.2	171.0	11.3
10	Canada thistle	24.5	4.0	16.3	0.5	2.1	19.6	10.4
11	Spiny annual sow-thistle	13.1	3.2	24.3	0.6	4.8	55.0	7.3
12	Wheat	9.6	3.0	31.8	1.0	10.3	66.8	7.2
13	Pale smartweed	10.4	2.1	19.8	0.9	8.8	91.4	6.4
14	Stinkweed	8.0	2.7	34.5	0.7	8.8	34.8	5.9
15	Field horsetail	10.5	1.7	16.3	0.5	5.2	37.0	5.2
16	Shepherd's-purse	9.8	2.1	20.9	0.3	3.2	41.0	4.8
17	Clover species	5.9	1.8	31.1	0.3	5.9	25.8	3.8
18	Annual brome species	2.0	1.1	52.5	1.0	46.9	114.8	3.7
19	Oats	3.7	1.3	35.2	0.4	11.7	53.8	3.0
20	Narrow-leaved hawk's-beard	7.5	1.1	15.1	0.1	1.3	5.6	3.0
21	Kochia	5.9	1.2	20.3	0.2	3.7	11.2	2.9
22	Corn spurry	3.8	1.1	29.6	0.4	11.0	77.6	2.9
23	Annual blue grass	4.0	0.6	15.3	0.6	14.4	94.2	2.9
24	Quack grass	4.8	0.9	18.3	0.3	6.4	32.8	2.6
25	Foxtail barley	7.1	0.8	11.9	0.1	1.2	4.6	2.6
26	Redroot pigweed	3.3	1.2	36.1	0.3	8.7	32.4	2.5
27	Alfalfa	3.0	1.1	35.6	0.1	2.6	5.6	1.8
28	Prostrate knotweed	5.1	0.5	10.6	< 0.1	0.7	2.2	1.7
29	Stork's bill	4.6	0.6	12.2	0.1	1.2	3.8	1.7
30	Night-flowering catchfly	4.4	0.6	12.9	< 0.1	1.1	2.8	1.6
31	Broad-leaved plantain	4.3	0.6	13.2	< 0.1	1.0	2.4	1.6
32	Oak-leaved goosefoot	1.7	0.8	44.2	0.2	11.7	23.6	1.5
33	Round-leaved mallow	3.8	0.5	12.5	< 0.1	0.7	1.4	1.4
34	Common groundsel	1.8	0.7	36.1	0.1	6.6	11.8	1.3
35	Low cudweed	3.4	0.3	8.0	< 0.1	1.3	7.0	1.1
36	Vetch species	2.7	0.5	16.7	< 0.1	1.1	2.0	1.1
37	Perennial sow-thistle	3.1	0.3	10.9	< 0.1	0.8	1.8	1.1
38	Pineappleweed	2.8	0.3	9.4	< 0.1	0.8	2.4	1.0
39	Tumble pigweed	2.7	0.3	11.0	< 0.1	0.7	2.8	0.9
40	White cockle	2.0	0.4	21.9	< 0.1	1.7	3.4	0.9
41	Henbit	1.7	0.5	29.1	< 0.1	2.4	4.8	0.9
42	Field violet	1.5	0.5	33.0	< 0.1	3.0	4.6	0.9
43	Wild mustard	1.9	0.3	15.0	< 0.1	2.3	5.2	0.8
44	Russian thistle	1.3	0.4	30.6	0.1	4.3	8.0	0.8
45	Western barnyard grass	1.4	0.2	15.7	0.1	4.4	7.6	0.7
46	Rough cinquefoil	2.0	0.1	6.8	< 0.1	0.3	0.4	0.6
47	Cow cockle	1.5	0.2	14.6	< 0.1	1.7	2.8	0.6
48	Flax	0.8	0.2	30.0	< 0.1	4.6	4.6	0.5
49	Field pea	0.8	0.3	35.0	< 0.1	2.4	2.4	0.5
50	Marsh yellow cress	1.2	0.1	11.8	< 0.1	1.3	1.6	0.4
51	Meadow brome	1.0	0.1	12.0	< 0.1	5.0	10.2	0.4
52	Ball mustard	1.3	0.1	8.0	< 0.1	0.4	0.6	0.4

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Field Survey Summary Tables – Barley in Alberta

Table 8. 2017 Barley in Alberta (213 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Yellow toadflax	0.5	0.2	40.0	< 0.1	9.2	9.2	0.4
54	Tall buttercup	0.8	< 0.1	5.0	0.1	7.6	14.4	0.4
55	Willow species	1.2	0.1	7.7	< 0.1	0.3	0.6	0.4
56	Bluebur	0.8	0.2	20.0	< 0.1	1.2	1.2	0.3
57	Golden corydalis	0.8	0.1	15.0	< 0.1	0.6	0.6	0.3
58	Biennial wormwood	0.7	0.1	11.3	< 0.1	1.1	2.4	0.3
59	Timothy	0.8	0.1	7.4	< 0.1	0.4	0.4	0.3
60	Rose species	0.4	0.1	25.0	< 0.1	2.0	2.0	0.2
61	Sweet-clover species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
62	Borage	0.5	0.1	15.0	< 0.1	1.8	1.8	0.2
63	Black medick	0.5	0.1	10.0	< 0.1	0.4	0.4	0.2
64	Rayless aster	0.5	0.1	10.5	< 0.1	1.2	1.4	0.2
65	Annual spurge species	0.5	0.1	10.0	< 0.1	0.4	0.4	0.2
66	Skeletonweed	0.5	< 0.1	10.0	< 0.1	0.8	0.8	0.2
67	Rough hair grass	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
68	Purslane speedwell	0.3	< 0.1	15.0	< 0.1	6.8	6.8	0.1
69	Slough grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
70	Blue grass species	0.2	0.1	35.0	< 0.1	2.8	2.8	0.1
71	Italian rye grass	0.3	0.1	25.0	< 0.1	2.8	2.8	0.1
72	Orchard grass	0.3	< 0.1	15.0	< 0.1	0.8	0.8	0.1
73	Toad rush	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
74	Fescue species	0.4	< 0.1	5.0	< 0.1	1.2	1.2	0.1
75	Common yarrow	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
76	Flixweed	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
77	Drooping woodreed	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1

Table 9. 2017 Durum in Alberta (67 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	6.7	3.6	54.4	9.0	134.1	509.4	55.8
2	Wild oats	21.4	8.9	41.8	5.2	24.4	186.2	55.7
3	Kochia	33.1	4.4	13.3	0.7	2.2	22.0	28.7
4	Canada thistle	22.7	3.4	14.8	0.4	2.0	7.0	20.2
5	Wild buckwheat	22.0	3.9	17.5	0.2	1.0	4.2	20.0
6	Canola/rapeseed	6.2	2.8	45.2	1.0	16.0	47.4	14.1
7	Russian thistle	16.9	2.2	13.3	0.2	1.4	4.8	14.1
8	Foxtail barley	14.0	1.6	11.6	0.2	1.2	4.6	11.0
9	Lamb's-quarters	4.2	1.7	40.7	0.7	16.5	42.2	9.3
10	Flax	1.3	1.2	95.0	0.9	65.6	65.6	7.6
11	Spiny annual sow-thistle	5.7	1.6	27.8	0.1	2.0	4.4	6.8
12	Pale smartweed	4.6	0.9	19.6	0.3	6.2	17.8	5.6
13	Narrow-leaved hawk's-beard	5.8	0.9	16.5	0.1	1.9	6.0	5.3
14	Annual brome species	1.6	1.3	80.0	0.3	16.4	16.4	4.8
15	Shepherd's-purse	1.6	0.8	50.0	0.2	13.4	13.4	3.6
16	Dandelion	2.9	0.5	18.7	< 0.1	0.9	1.6	2.7
17	Western barnyard grass	2.8	0.4	15.7	0.1	2.2	4.0	2.6
18	Stinkweed	3.1	0.4	12.6	< 0.1	1.0	1.2	2.5
19	Prostrate knotweed	1.5	0.6	40.0	< 0.1	3.2	3.2	2.3
20	Biennial wormwood	3.1	0.3	10.0	< 0.1	0.9	1.0	2.3
21	Redroot pigweed	2.1	0.5	23.6	< 0.1	1.8	4.6	2.3
22	Barley	3.2	0.2	7.5	< 0.1	0.8	1.2	2.2
23	White mustard	3.2	0.2	7.6	< 0.1	0.7	0.8	2.1
24	Lentils	3.1	0.2	7.6	< 0.1	0.9	1.4	2.1
25	Wheat	3.4	0.2	5.0	< 0.1	0.2	0.2	2.0
26	Tumble pigweed	1.5	0.4	25.0	< 0.1	2.4	2.4	1.7
27	Round-leaved mallow	2.6	0.2	7.5	< 0.1	0.4	0.6	1.7
28	Field pea	2.8	0.1	5.0	< 0.1	0.2	0.2	1.6
29	Black medick	1.3	0.3	20.0	0.1	6.8	6.8	1.6
30	Flixweed	1.3	0.3	25.0	< 0.1	3.0	3.0	1.5
31	Sweet-clover species	1.6	0.2	15.0	< 0.1	0.6	0.6	1.3
32	Slough grass	1.5	0.1	10.0	0.1	4.0	4.0	1.3
33	Low cudweed	1.5	0.1	10.0	< 0.1	1.4	1.4	1.1
34	Prickly lettuce	1.5	0.1	5.0	< 0.1	0.2	0.2	0.9
35	Wild mustard	1.5	0.1	5.0	< 0.1	0.2	0.2	0.9
36	Perennial sow-thistle	1.5	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Oats in Alberta

Table 10. 2017 Oats in Alberta (63 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	38.4	18.2	47.3	6.5	16.9	187.0	34.1
2	Stinkweed	33.3	15.4	46.2	6.2	18.8	194.8	30.7
3	Wild buckwheat	43.5	14.9	34.1	2.7	6.1	49.4	24.2
4	Canola/rapeseed	24.9	10.1	40.5	1.8	7.1	24.6	15.4
5	Green foxtail	13.7	8.1	58.7	3.3	23.7	62.8	15.3
6	Low cudweed	6.2	2.1	34.3	5.2	83.6	219.2	14.5
7	Pale smartweed	21.7	7.5	34.5	1.4	6.4	17.2	12.2
8	Corn spurry	8.5	4.7	55.0	2.7	31.9	83.6	10.9
9	Alfalfa	14.2	5.5	39.0	1.7	12.3	50.6	10.3
10	Chickweed	12.5	3.6	28.7	1.5	12.0	47.8	8.2
11	Wild oats	12.2	5.5	44.9	0.9	7.3	37.0	7.9
12	Barley	11.6	5.2	44.2	0.9	7.8	12.6	7.7
13	Dandelion	20.2	3.8	18.7	0.4	2.2	20.4	7.4
14	Field horsetail	13.9	4.1	29.2	0.6	4.4	35.6	6.8
15	Stork's bill	13.5	4.3	31.8	0.6	4.1	10.0	6.7
16	Narrow-leaved hawk's-beard	15.3	3.7	24.1	0.5	3.5	12.6	6.6
17	Canada thistle	16.4	3.0	18.1	0.6	3.5	15.6	6.4
18	Redroot pigweed	6.8	3.6	52.7	1.1	16.0	33.0	6.2
19	Hemp-nettle	10.0	3.0	30.4	0.8	7.5	48.0	5.6
20	False cleavers	13.1	2.8	21.1	0.5	3.9	18.4	5.5
21	Shepherd's-purse	13.2	2.6	19.5	0.3	2.2	7.0	4.9
22	Spiny annual sow-thistle	12.7	2.1	16.8	0.2	1.2	3.6	4.2
23	Rough cinquefoil	5.5	2.2	40.5	0.6	10.7	25.0	3.9
24	Clover species	6.4	2.9	44.9	0.3	4.0	7.4	3.7
25	Annual brome species	4.5	2.0	45.0	0.3	6.0	6.0	2.8
26	Quack grass	4.8	1.6	32.6	0.3	7.1	9.6	2.7
27	Wild mustard	2.5	1.3	50.7	0.3	11.6	31.2	2.0
28	Broad-leaved plantain	6.9	0.7	10.7	0.1	1.1	4.6	2.0
29	Tumble pigweed	3.3	1.3	40.0	0.2	4.9	6.2	1.9
30	White cockle	3.3	0.8	24.6	0.1	4.2	13.6	1.5
31	Wheat	3.5	0.9	25.3	0.1	2.4	7.4	1.5
32	Prostrate knotweed	5.6	0.5	8.8	< 0.1	0.4	0.8	1.5
33	Bicknell's geranium	6.1	0.3	5.7	< 0.1	0.3	0.6	1.4
34	Pineappleweed	3.9	0.7	17.8	0.1	1.5	2.4	1.4
35	Night-flowering catchfly	4.7	0.4	8.9	< 0.1	0.7	2.2	1.3
36	Kochia	3.4	0.6	17.3	0.1	2.4	9.0	1.2
37	Fescue species	3.5	0.5	14.8	0.1	2.6	3.8	1.2
38	Spear-leaved goosefoot	4.5	0.2	5.0	< 0.1	0.2	0.2	1.0
39	Marsh yellow cress	3.3	0.4	13.0	< 0.1	1.4	3.6	1.0
40	Vetch species	4.1	0.2	6.0	< 0.1	0.4	0.8	1.0
41	Russian thistle	4.0	0.3	6.8	< 0.1	0.3	0.4	1.0
42	Foxtail barley	2.6	0.3	10.0	0.1	4.3	5.0	0.9
43	Dock species	2.6	0.4	15.0	< 0.1	0.8	0.8	0.8
44	Perennial sow-thistle	2.6	0.2	7.6	0.1	2.0	3.0	0.8
45	Purslane	2.6	0.3	10.0	< 0.1	1.0	1.0	0.7
46	Common groundsel	2.3	0.3	14.6	< 0.1	0.8	1.2	0.7
47	Skeletonweed	2.6	0.3	10.0	< 0.1	0.6	0.6	0.7
48	Canada fleabane	2.6	0.2	7.4	< 0.1	0.4	0.6	0.7
49	Henbit	0.9	0.4	40.0	0.1	12.0	12.0	0.7
50	Rough hair grass	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6
51	Purslane speedwell	2.3	0.2	10.0	< 0.1	0.4	0.4	0.6
52	Rye	1.2	0.4	35.0	< 0.1	3.4	3.4	0.6

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Table 10. 2017 Oats in Alberta (63 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Common pepper-grass	2.3	0.2	8.6	< 0.1	0.4	0.8	0.6
54	Pasture sage	2.6	0.1	5.0	< 0.1	0.4	0.4	0.6
55	Annual blue grass	2.1	0.2	7.1	< 0.1	0.5	0.6	0.5
56	Western barnyard grass	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
57	Meadow brome	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
58	Timothy	1.0	0.3	35.0	< 0.1	2.2	2.2	0.4
59	Oats	1.2	0.2	20.0	< 0.1	2.0	2.0	0.4
60	Rayless aster	1.1	0.2	20.0	< 0.1	2.0	2.0	0.4
61	Borage	1.2	0.2	20.0	< 0.1	0.8	0.8	0.4
62	Persian dandelion	1.4	0.1	10.0	< 0.1	1.2	1.2	0.4
63	Oak-leaved goosefoot	1.2	0.2	15.0	< 0.1	1.0	1.0	0.4
64	Bluebur	1.5	0.1	5.0	< 0.1	0.2	0.2	0.3
65	Water mudwort	1.2	0.1	5.0	< 0.1	0.2	0.2	0.3
66	Golden dock	1.0	< 0.1	5.0	< 0.1	0.4	0.4	0.2
67	Poplar species	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
68	Common yarrow	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Canola in Alberta

Table 11. 2017 Canola in Alberta (373 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	17.9	7.0	39.0	5.3	29.6	1073.2	38.5
2	Wild buckwheat	41.9	11.6	27.7	1.3	3.1	28.4	29.0
3	Wheat	27.7	9.5	34.5	2.0	7.1	91.4	26.7
4	False cleavers	23.2	8.3	35.6	1.6	6.8	80.2	22.3
5	Lamb's-quarters	31.4	7.9	25.2	1.1	3.6	41.0	21.8
6	Wild oats	21.9	6.3	28.8	1.6	7.3	96.6	20.1
7	Canola/rapeseed	23.9	7.9	33.0	1.0	4.0	34.2	18.9
8	Field horsetail	15.7	4.3	27.4	1.1	7.0	56.0	13.9
9	Barley	12.2	4.6	37.7	0.7	5.8	38.6	11.4
10	Canada thistle	20.9	2.8	13.2	0.3	1.3	17.0	9.6
11	Dandelion	14.1	3.3	23.3	0.3	2.0	16.8	8.4
12	Low cudweed	11.2	2.2	19.3	0.5	4.6	33.0	7.6
13	Shepherd's-purse	13.6	2.5	18.1	0.3	2.0	10.8	7.3
14	Hemp-nettle	11.7	2.7	22.9	0.3	2.8	21.4	7.3
15	Spiny annual sow-thistle	12.8	2.2	17.1	0.2	1.7	15.4	6.6
16	Stinkweed	10.0	1.2	12.3	0.1	0.9	4.0	4.3
17	Green foxtail	4.5	1.4	32.1	0.3	5.8	18.2	4.0
18	Stork's bill	4.9	1.0	20.3	0.3	6.3	59.2	3.8
19	Narrow-leaved hawk's-beard	5.7	1.2	20.5	0.1	2.6	22.8	3.4
20	Pale smartweed	5.5	0.9	17.0	0.1	2.6	22.6	3.1
21	Kochia	3.4	0.8	22.2	0.1	3.6	26.0	2.3
22	Annual blue grass	0.6	0.3	42.8	0.3	57.4	150.6	2.1
23	Night-flowering catchfly	3.7	0.6	17.4	0.1	2.0	8.0	2.0
24	Redroot pigweed	3.5	0.6	18.5	0.1	2.3	19.0	2.0
25	Perennial sow-thistle	2.6	0.6	23.9	0.1	4.6	16.2	1.9
26	Clover species	3.2	0.5	16.7	< 0.1	1.3	5.4	1.6
27	Alfalfa	2.4	0.6	23.4	< 0.1	1.5	4.4	1.3
28	Round-leaved mallow	2.2	0.4	16.2	< 0.1	1.8	8.2	1.1
29	Rough cinquefoil	1.9	0.4	22.1	< 0.1	2.0	6.0	1.1
30	Tumble pigweed	2.3	0.2	9.4	< 0.1	0.6	1.4	0.9
31	Western barnyard grass	1.7	0.3	17.5	< 0.1	1.7	7.4	0.9
32	Broad-leaved plantain	2.1	0.2	9.6	< 0.1	0.6	3.2	0.8
33	Quack grass	1.4	0.2	17.0	< 0.1	2.7	9.2	0.8
34	Prostrate knotweed	1.8	0.2	13.1	< 0.1	0.7	1.8	0.8
35	Vetch species	1.2	0.3	21.3	< 0.1	3.1	13.8	0.8
36	Northern willowherb	2.1	0.2	7.4	< 0.1	0.4	1.0	0.7
37	Scentless chamomile	0.8	0.3	30.0	< 0.1	4.8	12.2	0.7
38	Annual brome species	0.7	0.3	43.6	< 0.1	4.8	8.0	0.6
39	Tartary buckwheat	0.4	0.3	68.4	< 0.1	8.6	11.4	0.6
40	Field pea	1.8	0.1	6.5	< 0.1	0.3	0.6	0.6
41	Bird's-eye speedwell	0.2	0.2	70.0	0.1	25.2	25.2	0.5
42	Nightshade species	0.3	0.3	85.0	< 0.1	7.4	7.4	0.5
43	Annual spurge species	0.8	0.2	23.4	< 0.1	2.0	3.8	0.5
44	Foxtail barley	1.2	0.1	7.2	< 0.1	0.4	0.6	0.4
45	Marsh yellow cress	1.2	0.1	5.0	< 0.1	0.5	1.8	0.4
46	Yellow toadflax	0.5	0.1	20.8	< 0.1	6.3	13.8	0.4
47	Pineappleweed	0.6	0.1	18.3	< 0.1	2.7	4.4	0.4
48	Corn spurry	1.0	0.1	7.0	< 0.1	0.7	1.0	0.4
49	Henbit	0.7	0.1	18.0	< 0.1	0.8	1.2	0.3
50	Russian thistle	0.7	0.1	16.1	< 0.1	1.1	2.6	0.3
51	White cockle	0.8	0.1	9.8	< 0.1	0.6	0.8	0.3
52	Dock species	0.7	< 0.1	5.0	< 0.1	2.0	2.0	0.3

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Table 11. 2017 Canola in Alberta (373 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Goat's-beard	0.8	0.1	6.7	< 0.1	0.3	0.4	0.3
54	Flixweed	0.6	0.1	13.8	< 0.1	0.6	1.0	0.3
55	Pygmyflower	0.4	0.1	20.0	< 0.1	1.0	1.0	0.2
56	Wild mustard	0.5	< 0.1	7.6	< 0.1	0.3	0.4	0.2
57	Golden dock	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
58	Ball mustard	0.3	0.1	20.0	< 0.1	0.8	0.8	0.1
59	Fababean	0.3	0.1	20.0	< 0.1	0.8	0.8	0.1
60	Fescue species	0.4	< 0.1	5.0	< 0.1	0.6	0.6	0.1
61	Purslane speedwell	0.4	< 0.1	7.0	< 0.1	0.5	0.6	0.1
62	Field violet	0.2	0.1	25.0	< 0.1	1.4	1.4	0.1
63	Slough grass	0.2	< 0.1	20.0	< 0.1	2.6	2.6	0.1
64	Oak-leaved goosefoot	0.3	< 0.1	8.9	< 0.1	0.7	1.6	0.1
65	Marsh hedge-nettle	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
66	Bicknell's geranium	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Blue grass species	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.1
68	Rye	0.2	< 0.1	25.0	< 0.1	2.0	2.0	0.1
69	Russian pigweed	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.1
70	Bull thistle	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
71	Persian darnel	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Blue lettuce	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Flax	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
74	Cattail	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
75	Sedge species	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
76	Absinth	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
77	Smooth brome	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
78	Prickly lettuce	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
79	Lentils	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
80	Red goosefoot	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
81	Field mint	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
82	Willow species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
83	Bluebur	0.2	< 0.1	15.0	< 0.1	0.6	0.6	0.1
84	Wormseed mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Pulse crops in Alberta

Table 12. 2017 Pulse crops in Alberta (135 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	35.2	10.3	29.4	1.5	4.2	60.4	26.6
2	Wild oats	29.8	7.6	25.4	2.0	6.7	77.6	24.7
3	Lamb's-quarters	19.8	6.6	33.3	2.2	11.4	58.6	22.2
4	Canola/rapeseed	28.4	8.1	28.6	1.3	4.5	31.4	21.6
5	Chickweed	6.7	3.6	54.1	3.5	51.7	153.4	21.5
6	Wheat	23.4	7.3	31.1	1.5	6.6	106.6	20.6
7	Narrow-leaved hawk's-beard	19.5	3.5	17.8	1.4	7.4	70.8	15.2
8	Kochia	20.0	4.9	24.4	0.9	4.4	41.8	14.2
9	Canada thistle	24.8	3.6	14.7	0.7	2.7	17.2	13.1
10	Field horsetail	10.3	2.9	28.1	1.0	9.8	48.0	10.3
11	Spiny annual sow-thistle	12.1	3.4	28.4	0.6	5.2	40.8	9.6
12	False cleavers	9.7	3.0	31.4	0.7	6.8	61.4	8.7
13	Barley	9.9	3.2	32.3	0.4	4.2	24.6	7.8
14	Dandelion	15.3	2.6	17.4	0.2	1.5	7.4	7.7
15	Russian thistle	9.6	1.9	19.5	0.3	3.5	25.0	6.0
16	Hemp-nettle	7.7	1.7	22.0	0.4	5.5	43.2	5.7
17	Rough cinquefoil	5.2	1.6	30.0	0.6	11.6	33.6	5.7
18	Shepherd's-purse	6.2	1.7	26.9	0.4	6.9	34.6	5.3
19	Stinkweed	8.9	1.8	20.4	0.2	2.2	14.2	5.1
20	Western barnyard grass	8.1	1.7	20.5	0.2	2.1	7.2	4.6
21	Foxtail barley	7.8	1.0	12.7	0.1	1.1	3.0	3.4
22	Clover species	4.3	1.0	22.6	0.2	3.5	9.6	2.8
23	Corn spurry	2.6	0.9	34.5	0.2	7.4	15.2	2.4
24	Prostrate knotweed	5.9	0.6	10.7	< 0.1	0.6	3.0	2.3
25	Green foxtail	1.9	0.8	40.9	0.2	9.9	24.8	2.1
26	Vetch species	3.3	0.6	19.5	0.1	3.0	8.6	1.9
27	Goat's-beard	4.5	0.3	7.4	< 0.1	0.5	1.0	1.6
28	Broad-leaved plantain	4.1	0.3	8.5	< 0.1	0.7	1.0	1.5
29	Pale smartweed	3.4	0.5	13.6	< 0.1	1.1	3.4	1.5
30	Prickly lettuce	3.7	0.4	11.0	< 0.1	0.8	1.8	1.5
31	Pineappleweed	3.9	0.3	7.1	< 0.1	0.7	1.6	1.4
32	White cockle	0.5	0.5	100.0	0.2	31.4	31.4	1.4
33	Flixweed	3.5	0.4	10.1	< 0.1	0.4	1.4	1.3
34	Perennial sow-thistle	3.6	0.3	8.2	< 0.1	0.5	1.4	1.3
35	Bluebur	1.7	0.3	20.0	0.1	5.0	5.0	1.2
36	Sunflower	2.9	0.3	10.8	< 0.1	0.6	1.2	1.1
37	White mustard	1.4	0.6	40.0	< 0.1	2.6	2.6	1.1
38	Sweet-clover species	1.7	0.4	25.0	< 0.1	2.0	2.0	1.0
39	Low cudweed	1.7	0.3	20.0	< 0.1	1.5	2.2	0.9
40	Round-leaved mallow	2.1	0.2	10.1	< 0.1	0.9	1.4	0.8
41	Annual spurge species	1.4	0.3	18.9	< 0.1	3.0	6.2	0.8
42	Biennial wormwood	1.9	0.2	8.8	< 0.1	0.5	1.0	0.7
43	Quack grass	0.5	0.2	30.0	0.1	17.4	17.4	0.7
44	Yellow toadflax	1.3	0.2	15.0	< 0.1	1.2	1.2	0.6
45	Ball mustard	1.7	0.1	5.0	< 0.1	1.0	1.0	0.6
46	Spear-leaved goosefoot	0.7	0.2	30.0	< 0.1	5.4	5.4	0.5
47	Field pea	1.3	0.1	11.3	< 0.1	1.2	1.8	0.5
48	Lentils	0.7	0.2	30.0	< 0.1	2.6	2.6	0.5
49	Rye	0.7	0.2	35.0	< 0.1	2.0	2.0	0.5
50	Night-flowering catchfly	0.4	0.2	40.0	< 0.1	11.0	11.0	0.5
51	Dock species	1.4	0.1	5.0	< 0.1	0.8	0.8	0.5
52	Purslane speedwell	1.3	0.1	5.0	< 0.1	0.3	0.4	0.4

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Table 12. 2017 Pulse crops in Alberta (135 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Alfalfa	0.4	0.2	45.0	< 0.1	4.4	4.4	0.4
54	Redroot pigweed	0.7	0.1	20.0	< 0.1	1.6	1.6	0.4
55	Golden dock	1.2	0.1	5.0	< 0.1	0.2	0.2	0.4
56	Bull thistle	0.7	0.1	20.0	< 0.1	1.0	1.0	0.4
57	Bicknell's geranium	1.0	0.1	5.0	< 0.1	0.2	0.2	0.3
58	Black medick	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
59	Tumble pigweed	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
60	Fescue species	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
61	Wild mustard	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
62	Oats	0.5	0.1	20.0	< 0.1	0.8	0.8	0.2
63	Annual brome species	0.5	< 0.1	10.0	< 0.1	1.8	1.8	0.2
64	Pseudognaphalium species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
65	Blue grass species	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.1
66	Common yarrow	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Pygmyflower	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Thyme-leaved sandwort	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Peas in Alberta

Table 13. 2017 Peas in Alberta (103 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	40.4	12.4	30.7	1.8	4.6	60.4	28.5
2	Wild oats	31.0	8.5	27.5	2.4	7.9	77.6	24.9
3	Lamb's-quarters	22.9	7.9	34.6	2.8	12.3	58.6	23.8
4	Chickweed	8.6	4.6	54.1	4.4	51.7	153.4	23.6
5	Canola/rapeseed	33.1	9.5	28.8	1.5	4.6	31.4	22.8
6	Wheat	22.4	8.0	36.0	1.9	8.5	106.6	20.2
7	Narrow-leaved hawk's-beard	22.3	4.2	18.7	1.8	8.2	70.8	16.3
8	Canada thistle	25.9	4.0	15.5	0.8	3.0	17.2	12.9
9	Field horsetail	12.6	3.4	27.4	1.3	10.0	48.0	11.1
10	False cleavers	12.4	3.9	31.4	0.8	6.8	61.4	9.9
11	Dandelion	18.0	3.3	18.4	0.3	1.6	7.4	8.5
12	Barley	10.9	3.8	35.2	0.5	4.7	24.6	8.2
13	Spiny annual sow-thistle	10.4	2.6	24.6	0.6	6.1	40.8	7.4
14	Hemp-nettle	9.9	2.2	22.0	0.5	5.5	43.2	6.5
15	Rough cinquefoil	6.6	2.0	30.0	0.8	11.6	33.6	6.4
16	Kochia	9.4	2.3	24.8	0.4	4.1	24.6	6.0
17	Stinkweed	11.3	2.3	20.4	0.3	2.2	14.2	5.8
18	Shepherd's-purse	6.2	2.0	32.2	0.5	8.7	34.6	5.4
19	Western barnyard grass	8.7	1.9	22.1	0.2	2.4	7.2	4.7
20	Foxtail barley	8.3	1.2	14.2	0.1	1.3	3.0	3.5
21	Clover species	5.5	1.2	22.6	0.2	3.5	9.6	3.2
22	Russian thistle	6.7	1.1	16.6	0.1	1.2	3.0	3.0
23	Prostrate knotweed	7.5	0.8	10.7	< 0.1	0.6	3.0	2.7
24	Corn spurry	2.7	1.1	40.5	0.2	8.9	15.2	2.6
25	Green foxtail	2.4	1.0	40.9	0.2	9.9	24.8	2.4
26	Vetch species	4.1	0.8	19.5	0.1	3.0	8.6	2.2
27	Broad-leaved plantain	5.2	0.4	8.5	< 0.1	0.7	1.0	1.8
28	Pineappleweed	5.0	0.4	7.1	< 0.1	0.7	1.6	1.7
29	White cockle	0.6	0.6	100.0	0.2	31.4	31.4	1.6
30	Flixweed	4.4	0.4	10.1	< 0.1	0.4	1.4	1.6
31	Bluebur	2.2	0.4	20.0	0.1	5.0	5.0	1.3
32	Perennial sow-thistle	4.0	0.3	8.0	< 0.1	0.5	1.4	1.3
33	White mustard	1.8	0.7	40.0	< 0.1	2.6	2.6	1.3
34	Pale smartweed	2.5	0.5	19.8	< 0.1	1.6	3.4	1.2
35	Sweet-clover species	2.2	0.5	25.0	< 0.1	2.0	2.0	1.2
36	Sunflower	2.7	0.3	12.9	< 0.1	0.7	1.2	1.0
37	Low cudweed	2.1	0.4	20.0	< 0.1	1.5	2.2	1.0
38	Goat's-beard	2.4	0.3	10.7	< 0.1	0.7	1.0	0.9
39	Quack grass	0.6	0.2	30.0	0.1	17.4	17.4	0.8
40	Prickly lettuce	1.9	0.2	12.5	< 0.1	1.1	1.8	0.8
41	Yellow toadflax	1.7	0.2	15.0	< 0.1	1.2	1.2	0.7
42	Ball mustard	2.2	0.1	5.0	< 0.1	1.0	1.0	0.7
43	Round-leaved mallow	1.7	0.2	10.2	< 0.1	0.6	0.6	0.6
44	Spear-leaved goosefoot	0.8	0.3	30.0	< 0.1	5.4	5.4	0.6
45	Lentils	0.9	0.3	30.0	< 0.1	2.6	2.6	0.6
46	Rye	0.9	0.3	35.0	< 0.1	2.0	2.0	0.6
47	Night-flowering catchfly	0.5	0.2	40.0	0.1	11.0	11.0	0.6
48	Dock species	1.8	0.1	5.0	< 0.1	0.8	0.8	0.6
49	Purslane speedwell	1.7	0.1	5.0	< 0.1	0.3	0.4	0.5
50	Alfalfa	0.5	0.2	45.0	< 0.1	4.4	4.4	0.5
51	Redroot pigweed	0.9	0.2	20.0	< 0.1	1.6	1.6	0.4
52	Golden dock	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4

(Table continued on next page)

Table 13. 2017 Peas in Alberta (103 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Biennial wormwood	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
54	Bull thistle	0.9	0.2	20.0	< 0.1	1.0	1.0	0.4
55	Bicknell's geranium	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
56	Annual spurge species	1.0	0.1	10.0	< 0.1	0.4	0.4	0.3
57	Tumble pigweed	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
58	Black medick	0.9	0.1	10.0	< 0.1	0.4	0.4	0.3
59	Fescue species	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
60	Oats	0.6	0.1	20.0	< 0.1	0.8	0.8	0.3
61	Blue grass species	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
62	Common yarrow	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
63	Pygmyflower	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Lentils in Alberta

Table 14. 2017 Lentils in Alberta (32 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	58.5	14.2	24.2	2.6	4.5	41.8	82.7
2	Russian thistle	20.1	4.6	23.1	1.3	6.3	25.0	33.3
3	Spiny annual sow-thistle	18.3	6.6	36.3	0.6	3.3	5.8	26.9
4	Wild oats	25.4	4.2	16.5	0.4	1.6	5.0	21.7
5	Wheat	26.9	4.4	16.5	0.3	1.0	2.8	20.6
6	Canola/rapeseed	11.1	3.0	26.9	0.4	3.6	10.2	14.8
7	Canada thistle	21.0	2.2	10.7	0.2	1.2	3.0	14.5
8	Wild buckwheat	16.1	2.8	17.2	0.2	1.1	3.0	13.0
9	Lamb's-quarters	8.4	1.7	20.8	0.1	1.7	4.2	7.9
10	Prickly lettuce	10.3	1.0	10.0	0.1	0.5	0.8	6.0
11	Goat's-beard	12.0	0.6	5.0	< 0.1	0.3	0.4	5.5
12	Narrow-leaved hawk's-beard	9.4	0.9	10.0	< 0.1	0.5	0.8	5.4
13	Annual spurge species	2.9	0.9	30.0	0.2	6.2	6.2	5.1
14	Barley	6.6	1.0	15.0	0.1	1.1	1.8	5.0
15	Field horsetail	2.0	0.9	45.0	0.1	6.4	6.4	4.1
16	Field pea	5.8	0.7	11.3	0.1	1.2	1.8	4.1
17	Western barnyard grass	6.2	0.7	12.0	< 0.1	0.5	0.8	3.8
18	Shepherd's-purse	6.2	0.5	7.7	< 0.1	0.4	0.6	3.2
19	Pale smartweed	6.6	0.3	5.0	< 0.1	0.4	0.4	3.1
20	Foxtail barley	5.8	0.3	5.0	< 0.1	0.3	0.4	2.7
21	Biennial wormwood	3.3	0.5	15.0	< 0.1	1.0	1.0	2.5
22	Dandelion	5.3	0.3	5.0	< 0.1	0.2	0.2	2.4
23	Round-leaved mallow	3.3	0.3	10.0	< 0.1	1.4	1.4	2.3
24	Wild mustard	3.3	0.3	10.0	< 0.1	0.4	0.4	1.9
25	Annual brome species	2.2	0.2	10.0	< 0.1	1.8	1.8	1.7
26	Sunflower	3.7	0.2	5.0	< 0.1	0.2	0.2	1.6
27	Pseudognaphalium species	2.9	0.1	5.0	< 0.1	0.2	0.2	1.3
28	Perennial sow-thistle	2.1	0.2	10.0	< 0.1	0.4	0.4	1.2
29	Thyme-leaved sandwort	2.0	0.1	5.0	< 0.1	0.2	0.2	0.9
30	Corn spurry	2.0	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Number of Fields Surveyed by Ecoregion

Table 15. Number of fields surveyed by crop in each ecoregion

	Cereals					Oilseed	Pulses		Mixed annuals
	Spring wheat	Barley	Durum	Oat	Mixed cereal	Canola	Field peas	Lentils	
Peace Lowland	32	17	-	12	-	62	25	-	-
Boreal Transition	29	44	-	16	1	46	4	1	-
Aspen Parkland	155	84	-	20	3	143	21	-	1
Fescue Grassland	30	19	-	3	2	24	5	-	-
Moist Mixed Grassland	82	35	20	7	1	71	22	1	-
Mixed Grassland	45	14	47	5	-	27	26	30	-
Alberta	373	213	67	63	7	373	103	32	1

Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Ecoregion

Table 16. Density, species richness and weed-free quadrats in the surveyed crops in each ecoregion

Area	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Peace Lowland								
Annual crops	148	21.8	2.8	7.7	4.3	0.3	42.6	4.1
Cereal	61	19.2	4.2	4.5	3.8	0.4	49.5	6.4
Spring wheat	32	12.9	5.0	2.5	3.7	0.5	57.0	8.8
Barley	17	36.6	11.1	19.5	5.3	0.9	33.6	11.5
Oats	12	17.9	6.6	4.5	2.8	0.7	47.2	14.4
Canola	62	19.1	3.5	8.0	4.2	0.3	40.4	6.2
Peas	25	37.4	10.0	20.5	5.9	0.8	29.4	9.1
Boreal Transition								
Annual crops	141	39.3	7.1	12.3	4.8	0.3	38.6	4.1
Cereal	90	44.9	10.9	9.7	5.1	0.5	40.9	5.2
Spring wheat	29	12.4	3.3	5.8	3.3	0.5	53.1	9.3
Barley	44	52.2	18.1	9.1	5.7	0.7	37.7	7.3
Oats	16	99.5	33.9	29.0	7.3	1.4	24.3	10.7
Canola	46	29.5	5.4	14.6	4.3	0.4	34.5	7.0
Aspen Parkland								
Annual crops	427	29.3	4.0	6.0	3.9	0.2	46.4	2.4
Cereal	262	31.1	4.8	6.5	3.8	0.2	47.8	3.1
Spring wheat	155	17.2	3.9	4.8	3.3	0.2	54.7	4.0
Barley	84	56.8	12.8	11.7	4.4	0.4	38.5	5.3
Oats	20	39.2	9.8	15.0	5.1	1.0	33.0	10.5
Canola	143	23.3	7.4	5.0	4.0	0.3	45.7	4.2
Peas	21	44.1	14.6	17.1	4.6	0.7	35.0	10.4
Fescue Grassland								
Annual crops	83	31.4	10.4	5.5	3.7	0.3	47.0	5.5
Cereal	54	38.0	15.4	5.2	3.7	0.4	47.6	6.8
Spring wheat	30	15.8	5.1	2.1	3.2	0.4	55.6	9.1
Barley	19	30.2	10.0	5.7	3.6	0.6	43.4	11.4
Canola	24	23.3	9.1	11.3	4.0	0.7	40.1	10.0
Moist Mixed Grassland								
Annual crops	239	19.0	3.8	3.2	3.0	0.2	57.9	3.2
Cereal	145	22.8	6.1	2.8	2.7	0.2	63.5	4.0
Spring wheat	82	20.6	8.2	2.4	2.5	0.2	65.6	5.2
Barley	35	12.8	5.0	1.8	2.8	0.4	67.9	7.9
Durum	20	47.5	26.3	2.7	2.0	0.4	59.4	11.0
Canola	71	11.2	2.0	3.1	3.6	0.4	51.0	5.9
Pulse	23	18.7	6.0	5.6	3.7	0.4	42.0	10.3
Peas	22	17.5	6.2	5.6	3.8	0.4	43.3	10.6
Mixed Grassland								
Annual crops	194	12.6	2.8	2.6	2.8	0.2	62.2	3.5
Cereal	111	17.6	4.8	2.6	2.9	0.2	61.0	4.6
Spring wheat	45	22.3	10.5	1.7	2.7	0.4	61.7	7.2
Barley	14	23.9	14.8	4.9	3.3	0.6	47.5	13.3
Durum	47	7.0	2.1	1.9	2.2	0.3	71.4	6.6
Canola	27	4.6	1.1	1.1	2.5	0.3	64.8	9.2
Pulse	56	6.9	1.3	2.5	2.9	0.3	63.4	6.4
Peas	26	8.5	2.2	2.3	2.8	0.5	61.3	9.6
Lentils	30	5.3	1.3	2.0	3.0	0.5	65.4	8.7

Field Survey Summary Tables – Annual crops in Peace Lowland

Table 17. 2017 Annual crops in Peace Lowland (148 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	36.8	13.9	37.8	4.2	11.5	58.6	41.1
2	Canola/rapeseed	46.1	17.2	37.2	2.7	5.9	34.2	39.5
3	Field horsetail	45.8	11.6	25.4	3.3	7.2	56.0	36.8
4	Wild buckwheat	34.2	8.6	25.2	1.4	4.1	28.4	22.5
5	False cleavers	26.2	6.7	25.5	1.2	4.5	61.4	17.8
6	Wild oats	18.7	4.5	24.3	1.8	9.4	96.6	16.7
7	Stinkweed	20.4	5.2	25.7	1.0	4.8	34.8	14.2
8	Narrow-leaved hawk's-beard	16.2	3.6	22.3	1.2	7.1	70.8	12.5
9	Canada thistle	23.1	3.5	15.2	0.4	1.9	15.4	10.7
10	Dandelion	17.5	4.1	23.8	0.3	1.9	8.4	9.5
11	Wheat	15.3	4.1	27.0	0.4	2.6	11.0	9.2
12	Clover species	10.8	3.5	32.5	0.4	4.0	11.4	7.8
13	Hemp-nettle	12.3	2.3	18.7	0.3	2.7	19.8	6.5
14	Oats	3.3	1.5	46.8	0.6	19.4	48.8	5.1
15	Low cudweed	10.5	1.5	14.1	0.2	2.2	10.0	4.9
16	Rough cinquefoil	3.8	1.2	31.0	0.4	11.2	33.6	3.9
17	Pale smartweed	4.9	1.3	27.3	0.3	5.9	22.6	3.7
18	Chickweed	4.7	1.0	20.9	0.3	6.8	25.0	3.5
19	Spiny annual sow-thistle	5.9	1.1	18.5	0.1	1.7	8.0	2.9
20	Alfalfa	3.4	1.5	42.7	0.1	3.1	8.0	2.7
21	Broad-leaved plantain	6.3	0.6	9.0	< 0.1	0.6	1.0	2.2
22	Foxtail barley	6.0	0.5	8.7	< 0.1	0.8	3.6	2.1
23	Barley	3.1	0.5	17.3	0.1	4.3	23.8	1.9
24	Perennial sow-thistle	4.4	0.6	13.7	< 0.1	1.1	4.4	1.8
25	Shepherd's-purse	3.4	0.5	14.8	0.1	3.1	8.2	1.7
26	Stork's bill	2.0	0.7	36.2	0.1	5.3	10.0	1.6
27	Vetch species	3.0	0.6	18.4	0.1	2.7	8.6	1.6
28	Bluebur	3.1	0.5	16.2	0.1	2.6	5.0	1.6
29	Sweet-clover species	3.1	0.6	18.2	< 0.1	1.2	2.0	1.4
30	Pineappleweed	3.0	0.3	10.0	< 0.1	1.3	4.4	1.2
31	Tartary buckwheat	0.6	0.5	85.0	0.1	11.4	11.4	1.0
32	Bicknell's geranium	3.0	0.1	5.0	< 0.1	0.2	0.2	0.9
33	Corn spurry	2.2	0.2	11.1	< 0.1	0.9	1.0	0.8
34	Fescue species	1.8	0.2	13.4	< 0.1	1.1	4.6	0.7
35	Green foxtail	1.9	0.2	10.5	< 0.1	0.8	1.2	0.7
36	Ball mustard	2.1	0.1	7.1	< 0.1	0.8	1.0	0.7
37	Night-flowering catchfly	1.5	0.3	17.5	< 0.1	1.1	2.0	0.7
38	Purslane speedwell	2.0	0.2	7.6	< 0.1	0.4	0.6	0.7
39	Dock species	1.5	0.1	5.0	< 0.1	2.0	2.0	0.6
40	Marsh yellow cress	1.8	0.1	5.0	< 0.1	0.4	1.2	0.5
41	Yellow toadflax	1.3	0.2	12.1	< 0.1	0.9	1.2	0.5
42	Biennial wormwood	1.2	0.1	9.2	< 0.1	0.8	2.4	0.4
43	Northern willowherb	1.1	0.1	11.9	< 0.1	0.8	1.0	0.4
44	Quack grass	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
45	Golden dock	1.2	0.1	5.0	< 0.1	0.3	0.4	0.4
46	Golden corydalis	0.8	0.1	15.0	< 0.1	1.0	1.0	0.4
47	Timothy	0.4	0.1	35.0	< 0.1	2.2	2.2	0.2
48	Flixweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
49	Wild mustard	0.3	0.1	40.0	< 0.1	2.2	2.2	0.2
50	Marsh hedge-nettle	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2
51	Common groundsel	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Rough hair grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

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Field Survey Summary Tables – Annual crops in Peace Lowland

Table 17. 2017 Annual crops in Peace Lowland (148 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	White cockle	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
54	Blue grass species	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
55	Common yarrow	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Cereal crops in Peace Lowland

Table 18. 2017 Cereal crops in Peace Lowland (61 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	29.2	15.2	51.9	4.6	15.6	54.0	47.1
2	Field horsetail	41.7	8.0	19.2	2.0	4.8	37.0	29.6
3	Wild buckwheat	36.6	10.1	27.5	1.6	4.3	19.6	28.3
4	Canola/rapeseed	21.7	10.1	46.3	1.9	8.9	25.2	26.1
5	Stinkweed	18.9	7.1	37.4	1.9	10.1	34.8	22.2
6	Oats	7.1	3.5	49.8	1.5	21.5	48.8	13.4
7	Clover species	14.0	5.8	41.7	0.7	5.0	11.4	13.4
8	Narrow-leaved hawk's-beard	21.5	4.6	21.6	0.5	2.4	11.6	13.2
9	Canada thistle	20.9	3.8	18.0	0.5	2.6	15.4	12.2
10	Dandelion	19.9	4.2	21.2	0.4	1.8	8.4	11.4
11	Wild oats	11.7	2.5	21.5	1.0	8.6	40.4	10.9
12	False cleavers	20.0	2.7	13.7	0.3	1.4	16.8	9.6
13	Hemp-nettle	12.6	2.5	19.5	0.4	3.4	19.8	8.1
14	Pale smartweed	9.1	2.0	22.5	0.3	3.1	7.6	6.0
15	Spiny annual sow-thistle	9.5	2.2	23.0	0.2	2.4	8.0	5.9
16	Alfalfa	5.1	2.7	54.0	0.2	4.3	8.0	5.3
17	Perennial sow-thistle	6.3	1.2	19.6	0.1	1.7	4.4	3.5
18	Stork's bill	3.1	1.4	45.6	0.2	7.4	10.0	3.4
19	Chickweed	4.0	0.8	21.2	0.3	7.2	25.0	3.4
20	Foxtail barley	9.3	0.6	6.0	0.1	0.6	3.6	3.3
21	Broad-leaved plantain	8.2	0.8	9.3	< 0.1	0.5	0.8	3.2
22	Low cudweed	7.2	0.4	5.0	< 0.1	0.2	0.2	2.3
23	Sweet-clover species	4.6	0.6	13.9	< 0.1	0.7	1.4	2.0
24	Green foxtail	4.6	0.5	10.5	< 0.1	0.8	1.2	1.9
25	Bluebur	3.6	0.5	13.4	< 0.1	1.2	1.2	1.7
26	Shepherd's-purse	3.8	0.3	7.6	0.1	1.4	1.4	1.6
27	Bicknell's geranium	3.5	0.2	5.0	< 0.1	0.2	0.2	1.2
28	Vetch species	2.5	0.3	11.4	< 0.1	1.0	1.4	1.1
29	Golden corydalis	2.0	0.3	15.0	< 0.1	1.0	1.0	1.0
30	Ball mustard	2.1	0.2	10.0	< 0.1	0.6	0.6	0.8
31	Corn spurry	1.5	0.3	20.0	< 0.1	1.0	1.0	0.8
32	Fescue species	0.7	0.4	55.0	< 0.1	4.6	4.6	0.8
33	Purslane speedwell	1.8	0.2	10.0	< 0.1	0.4	0.4	0.7
34	Timothy	0.9	0.3	35.0	< 0.1	2.2	2.2	0.7
35	Wild mustard	0.8	0.3	40.0	< 0.1	2.2	2.2	0.6
36	Pineappleweed	1.6	0.1	5.0	< 0.1	0.2	0.2	0.5
37	Common groundsel	1.5	0.1	5.0	< 0.1	0.2	0.2	0.5
38	Biennial wormwood	0.8	0.2	20.0	< 0.1	2.4	2.4	0.5
39	Rough cinquefoil	1.2	0.1	5.0	< 0.1	0.4	0.4	0.4
40	Rough hair grass	1.2	0.1	5.0	< 0.1	0.2	0.2	0.4
41	Golden dock	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3
42	Yellow toadflax	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	White cockle	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
44	Quack grass	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
45	Wheat	0.1	< 0.1	30.0	< 0.1	2.4	2.4	0.1

Field Survey Summary Tables – Spring wheat in Peace Lowland

Table 19. 2017 Spring wheat in Peace Lowland (32 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	27.2	12.7	46.9	2.5	9.3	26.2	44.0
2	Field horsetail	41.6	7.3	17.6	1.3	3.1	10.6	31.2
3	Wild buckwheat	41.8	7.9	18.8	1.1	2.6	19.6	30.1
4	Canola/rapeseed	13.6	6.3	46.7	1.4	10.1	25.2	22.7
5	Narrow-leaved hawk's-beard	24.8	5.8	23.2	0.7	2.9	11.6	20.0
6	Canada thistle	24.0	5.3	22.0	0.8	3.3	15.4	19.7
7	Oats	3.4	3.1	90.0	1.7	48.8	48.8	18.0
8	Dandelion	19.0	3.9	20.7	0.4	2.0	7.6	13.4
9	Hemp-nettle	14.3	2.6	17.9	0.6	4.3	19.8	12.0
10	Stinkweed	11.5	2.0	17.6	0.5	4.0	8.0	9.4
11	Clover species	9.3	2.7	28.8	0.4	4.5	10.8	9.3
12	False cleavers	20.1	1.5	7.7	0.1	0.7	2.0	8.5
13	Chickweed	7.5	1.6	21.2	0.5	7.2	25.0	8.4
14	Perennial sow-thistle	9.8	2.2	22.8	0.2	1.9	4.4	7.1
15	Wild oats	13.7	1.1	7.8	0.1	0.7	1.0	5.9
16	Broad-leaved plantain	11.7	1.3	10.8	0.1	0.6	0.8	5.4
17	Foxtail barley	14.7	0.8	5.7	< 0.1	0.3	0.6	5.4
18	Sweet-clover species	8.7	1.2	13.9	0.1	0.7	1.4	4.5
19	Spiny annual sow-thistle	5.6	0.8	15.0	< 0.1	0.6	0.6	2.9
20	Green foxtail	4.8	0.7	15.0	0.1	1.2	1.2	2.7
21	Low cudweed	6.7	0.3	5.0	< 0.1	0.2	0.2	2.4
22	Pale smartweed	6.7	0.3	5.0	< 0.1	0.2	0.2	2.4
23	Golden corydalis	3.9	0.6	15.0	< 0.1	1.0	1.0	2.1
24	Fescue species	1.4	0.7	55.0	0.1	4.6	4.6	1.8
25	Corn spurry	2.8	0.6	20.0	< 0.1	1.0	1.0	1.7
26	Shepherd's-purse	3.4	0.2	5.0	< 0.1	1.4	1.4	1.5
27	Wild mustard	1.5	0.6	40.0	< 0.1	2.2	2.2	1.5
28	Purslane speedwell	3.4	0.3	10.0	< 0.1	0.4	0.4	1.5
29	Bluebur	3.1	0.2	5.0	< 0.1	1.2	1.2	1.3
30	Pineappleweed	3.0	0.1	5.0	< 0.1	0.2	0.2	1.0
31	Common groundsel	2.8	0.1	5.0	< 0.1	0.2	0.2	1.0
32	Yellow toadflax	1.7	0.1	5.0	< 0.1	0.2	0.2	0.6
33	White cockle	1.4	0.1	10.0	< 0.1	0.4	0.4	0.6

Table 20. 2017 Barley in Peace Lowland (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	44.7	22.1	49.4	7.7	17.2	54.0	43.8
2	Wild buckwheat	47.5	21.7	45.6	3.4	7.2	15.8	32.4
3	Stinkweed	18.4	17.0	92.1	5.8	31.7	34.8	30.5
4	Field horsetail	50.7	8.3	16.3	5.2	10.2	37.0	29.0
5	Wild oats	21.0	9.2	43.8	4.5	21.4	40.4	22.3
6	Oats	24.9	9.0	36.0	3.0	12.1	37.6	18.8
7	Clover species	22.1	11.9	53.8	1.5	6.6	11.4	15.9
8	Dandelion	38.6	9.3	24.2	0.7	1.7	8.4	15.2
9	Narrow-leaved hawk's-beard	35.7	7.2	20.2	0.7	1.8	5.6	13.2
10	False cleavers	29.4	7.3	24.8	0.9	3.1	16.8	12.8
11	Canola/rapeseed	18.1	7.4	40.6	0.7	4.1	8.2	10.2
12	Hemp-nettle	23.7	5.2	22.0	0.5	2.1	4.4	9.2
13	Canada thistle	31.2	3.1	9.9	0.3	1.0	3.8	8.7
14	Spiny annual sow-thistle	13.4	4.7	35.1	0.8	5.9	8.0	7.8
15	Low cudweed	17.4	0.9	5.0	< 0.1	0.2	0.2	3.9
16	Bluebur	9.7	1.9	20.0	0.1	1.2	1.2	3.4
17	Shepherd's-purse	9.7	1.0	10.0	0.1	1.4	1.4	2.8
18	Ball mustard	9.7	1.0	10.0	0.1	0.6	0.6	2.6
19	Vetch species	7.6	1.1	15.0	0.1	1.4	1.4	2.5
20	Green foxtail	9.7	0.5	5.0	< 0.1	0.4	0.4	2.2
21	Foxtail barley	7.6	0.6	7.5	0.2	2.1	3.6	2.2
22	Broad-leaved plantain	9.7	0.5	5.0	< 0.1	0.2	0.2	2.2
23	Pale smartweed	9.7	0.5	5.0	< 0.1	0.2	0.2	2.2
24	Biennial wormwood	3.8	0.8	20.0	0.1	2.4	2.4	1.5
25	Perennial sow-thistle	5.5	0.3	5.0	< 0.1	0.6	0.6	1.3
26	Rough cinquefoil	5.5	0.3	5.0	< 0.1	0.4	0.4	1.3
27	Quack grass	3.8	0.2	5.0	< 0.1	0.2	0.2	0.9
28	Stork's bill	3.8	0.2	5.0	< 0.1	0.2	0.2	0.9
29	Wheat	0.5	0.2	30.0	< 0.1	2.4	2.4	0.2
30	Alfalfa	0.5	0.1	10.0	< 0.1	0.4	0.4	0.1

Field Survey Summary Tables – Oats in Peace Lowland

Table 21. 2017 Oats in Peace Lowland (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	41.2	19.8	48.2	4.0	9.8	24.6	57.9
2	Lamb's-quarters	20.8	14.4	69.6	6.2	29.7	49.4	56.9
3	Stinkweed	34.3	9.3	27.2	1.6	4.8	17.4	31.2
4	Field horsetail	34.5	9.1	26.3	0.9	2.5	3.8	26.6
5	Alfalfa	19.0	10.5	55.0	0.8	4.4	8.0	22.4
6	Wild buckwheat	17.3	5.2	30.0	1.2	6.8	13.4	18.2
7	Pale smartweed	13.5	6.8	50.0	1.0	7.6	7.6	17.6
8	Clover species	17.0	7.3	43.1	0.7	3.9	7.4	17.4
9	Stork's bill	8.7	5.2	60.0	0.9	10.0	10.0	13.3
10	Spiny annual sow-thistle	14.1	2.8	20.0	0.2	1.2	1.2	8.9
11	False cleavers	12.1	1.5	12.1	0.1	0.6	0.8	6.3
12	Bicknell's geranium	13.5	0.7	5.0	< 0.1	0.2	0.2	5.7
13	Canada thistle	6.5	1.3	19.7	0.2	3.2	3.8	4.8
14	Dandelion	6.5	0.7	10.3	< 0.1	0.4	0.6	3.2
15	Timothy	3.5	1.2	35.0	0.1	2.2	2.2	2.9
16	Rough hair grass	4.4	0.2	5.0	< 0.1	0.2	0.2	1.9
17	Narrow-leaved hawk's-beard	3.5	0.3	10.0	< 0.1	0.4	0.4	1.7
18	Golden dock	3.5	0.2	5.0	< 0.1	0.4	0.4	1.5
19	Vetch species	3.5	0.2	5.0	< 0.1	0.4	0.4	1.5

Table 22. 2017 Canola in Peace Lowland (62 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	67.8	23.4	34.5	3.2	4.8	34.2	55.5
2	Field horsetail	52.9	15.6	29.5	4.4	8.4	56.0	50.7
3	Lamb's-quarters	41.5	10.3	24.7	2.0	4.7	41.0	30.0
4	False cleavers	34.1	10.5	30.8	1.8	5.4	30.0	27.8
5	Wild oats	20.0	5.1	25.4	2.4	12.1	96.6	22.3
6	Wheat	29.6	8.1	27.5	0.8	2.6	11.0	18.9
7	Wild buckwheat	27.1	6.1	22.5	1.1	4.1	28.4	18.1
8	Low cudweed	17.1	3.0	17.8	0.5	3.0	10.0	9.7
9	Canada thistle	22.0	2.7	12.0	0.2	1.0	4.2	9.0
10	Stinkweed	18.4	3.1	16.6	0.2	1.3	4.0	8.5
11	Dandelion	12.2	3.4	27.7	0.2	2.0	4.0	7.4
12	Hemp-nettle	10.2	2.3	23.0	0.3	2.6	7.6	6.0
13	Chickweed	7.0	1.4	20.7	0.5	6.6	18.6	5.5
14	Barley	6.4	1.2	18.2	0.3	4.8	23.8	4.2
15	Clover species	8.1	1.4	17.5	0.1	1.3	3.4	3.8
16	Pale smartweed	2.6	1.1	43.4	0.4	15.3	22.6	3.7
17	Tartary buckwheat	1.4	1.2	85.0	0.2	11.4	11.4	2.3
18	Alfalfa	3.0	0.7	24.7	< 0.1	1.3	2.4	1.6
19	Narrow-leaved hawk's-beard	3.7	0.5	13.8	< 0.1	1.2	3.2	1.6
20	Night-flowering catchfly	3.4	0.6	17.5	< 0.1	1.1	2.0	1.6
21	Dock species	3.5	0.2	5.0	0.1	2.0	2.0	1.4
22	Corn spurry	3.6	0.3	7.6	< 0.1	0.8	1.0	1.3
23	Marsh yellow cress	4.1	0.2	5.0	< 0.1	0.4	1.2	1.3
24	Pineappleweed	1.7	0.4	25.0	0.1	4.4	4.4	1.2
25	Northern willowherb	2.5	0.3	11.9	< 0.1	0.8	1.0	1.0
26	Stork's bill	1.7	0.3	20.0	< 0.1	1.6	1.6	0.9
27	Quack grass	2.4	0.1	5.0	< 0.1	0.2	0.2	0.7
28	Rough cinquefoil	1.5	0.3	20.0	< 0.1	0.8	0.8	0.7
29	Fescue species	1.9	0.1	5.0	< 0.1	0.6	0.6	0.6
30	Spiny annual sow-thistle	1.5	0.2	12.5	< 0.1	0.5	0.6	0.6
31	Marsh hedge-nettle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.5
32	Bicknell's geranium	1.7	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Broad-leaved plantain	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
34	Bluebur	0.8	0.1	15.0	< 0.1	0.6	0.6	0.3
35	Purslane speedwell	0.8	0.1	10.0	< 0.1	0.6	0.6	0.3
36	Shepherd's-purse	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Peas in Peace Lowland

Table 23. 2017 Peas in Peace Lowland (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	44.4	21.6	48.6	10.2	22.9	58.6	50.0
2	Canola/rapeseed	50.3	18.6	36.9	3.5	7.0	31.4	31.2
3	Narrow-leaved hawk's-beard	39.2	10.1	25.7	6.4	16.2	70.8	30.8
4	Field horsetail	36.3	10.2	28.1	3.5	9.8	43.6	22.9
5	Wild buckwheat	48.5	12.1	24.8	1.7	3.5	9.2	21.4
6	Wild oats	35.0	8.8	25.2	2.0	5.6	22.2	17.5
7	Rough cinquefoil	18.3	7.0	38.4	2.9	15.6	33.6	15.8
8	False cleavers	20.5	6.4	31.3	1.7	8.4	61.4	12.7
9	Stinkweed	30.7	6.5	21.3	0.6	2.1	9.2	11.6
10	Canada thistle	32.7	5.4	16.5	0.8	2.4	6.2	11.5
11	Dandelion	26.5	6.3	23.7	0.6	2.3	7.4	10.6
12	Wheat	15.3	3.7	23.9	0.4	2.4	5.4	6.2
13	Clover species	10.1	3.3	32.4	0.6	6.4	9.6	5.8
14	Vetch species	13.6	3.0	22.1	0.5	3.5	8.6	5.8
15	Shepherd's-purse	10.1	2.5	24.7	0.6	5.5	8.2	5.0
16	Hemp-nettle	18.0	1.8	9.8	0.2	1.3	2.8	4.9
17	Foxtail barley	14.4	2.0	13.7	0.2	1.3	3.0	4.4
18	Broad-leaved plantain	16.6	1.5	9.3	0.1	0.8	1.0	4.3
19	Bluebur	8.4	1.7	20.0	0.4	5.0	5.0	3.8
20	Sweet-clover species	8.4	2.1	25.0	0.2	2.0	2.0	3.4
21	Perennial sow-thistle	12.3	0.6	5.0	< 0.1	0.3	0.4	2.6
22	Pineappleweed	11.1	0.6	5.0	< 0.1	0.4	0.6	2.4
23	Spiny annual sow-thistle	8.8	0.7	7.6	< 0.1	0.3	0.6	2.0
24	Yellow toadflax	6.5	1.0	15.0	0.1	1.2	1.2	2.0
25	Ball mustard	8.4	0.4	5.0	0.1	1.0	1.0	2.0
26	Purslane speedwell	6.6	0.3	5.0	< 0.1	0.3	0.4	1.4
27	Golden dock	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Flixweed	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
29	Biennial wormwood	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
30	Bicknell's geranium	5.2	0.3	5.0	< 0.1	0.2	0.2	1.1
31	Fescue species	4.3	0.2	5.0	< 0.1	0.2	0.2	0.9
32	Oats	2.3	0.5	20.0	< 0.1	0.8	0.8	0.8
33	Barley	2.3	0.2	10.0	< 0.1	0.6	0.6	0.6
34	Blue grass species	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
35	Common yarrow	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Annual crops in Boreal Transition

Table 24. 2017 Annual crops in Boreal Transition (141 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	34.7	16.3	47.0	8.5	24.4	140.0	40.8
2	Wild buckwheat	49.7	17.7	35.7	3.1	6.3	80.4	31.5
3	Lamb's-quarters	29.0	10.3	35.4	6.3	21.6	704.8	29.6
4	Dandelion	31.5	8.8	28.0	1.2	3.7	28.0	16.1
5	Canola/rapeseed	24.6	9.1	37.0	1.0	4.2	16.6	14.5
6	Wheat	10.9	5.6	51.2	2.5	22.9	91.4	12.8
7	Hemp-nettle	24.3	6.3	26.0	1.1	4.6	48.0	12.6
8	Field horsetail	22.2	6.1	27.7	1.1	5.1	48.0	12.0
9	Low cudweed	11.4	2.3	20.1	3.1	27.3	219.2	12.0
10	Stinkweed	12.1	4.1	33.6	2.1	17.4	194.8	10.9
11	Wild oats	19.1	4.8	25.0	0.9	4.5	41.4	9.7
12	False cleavers	18.3	3.7	20.5	0.5	2.9	44.6	7.9
13	Corn spurry	6.3	3.2	50.2	1.5	23.3	77.6	7.4
14	Canada thistle	13.2	2.4	18.3	0.4	3.0	19.6	5.5
15	Clover species	9.8	2.2	22.7	0.4	4.5	25.8	4.8
16	Narrow-leaved hawk's-beard	10.8	2.3	20.9	0.3	2.6	12.6	4.7
17	Shepherd's-purse	11.0	1.9	17.6	0.4	3.3	41.0	4.6
18	Spiny annual sow-thistle	10.9	2.0	18.1	0.3	2.6	25.0	4.4
19	Annual blue grass	5.0	1.5	29.7	0.9	17.7	94.2	4.4
20	Broad-leaved plantain	12.0	1.8	14.7	0.1	1.1	4.6	4.1
21	Rough cinquefoil	6.7	2.1	31.1	0.4	6.3	25.0	4.0
22	Pale smartweed	9.3	1.7	18.0	0.2	2.1	17.2	3.7
23	Quack grass	5.6	1.6	28.0	0.5	9.6	17.4	3.7
24	Alfalfa	6.9	1.8	26.4	0.2	3.1	29.8	3.4
25	White cockle	5.6	1.6	29.5	0.3	5.2	31.4	3.1
26	Night-flowering catchfly	8.1	1.0	12.5	0.1	1.5	11.0	2.7
27	Oak-leaved goosefoot	4.2	1.2	29.3	0.3	7.3	23.6	2.6
28	Barley	2.5	1.4	57.5	0.2	6.7	10.6	2.0
29	Oats	1.8	0.8	44.2	0.3	17.5	53.8	1.7
30	Wild mustard	2.2	0.8	38.8	0.2	9.7	31.2	1.6
31	Vetch species	4.4	0.6	14.4	< 0.1	0.9	2.0	1.5
32	Western barnyard grass	3.7	0.5	13.0	0.1	2.6	7.6	1.4
33	Green foxtail	3.8	0.4	10.9	0.1	2.2	12.6	1.3
34	Perennial sow-thistle	4.2	0.5	10.7	< 0.1	0.8	1.2	1.3
35	Stork's bill	3.5	0.5	15.4	0.1	1.5	5.2	1.3
36	Field violet	2.8	0.6	19.8	0.1	1.9	4.6	1.1
37	Marsh yellow cress	3.4	0.4	11.0	< 0.1	1.4	3.6	1.1
38	Redroot pigweed	1.7	0.4	25.0	0.1	6.3	19.0	0.9
39	Henbit	1.7	0.4	25.7	0.1	4.6	12.0	0.9
40	Northern willowherb	3.3	0.2	5.0	< 0.1	0.2	0.2	0.8
41	Prostrate knotweed	2.7	0.2	8.1	< 0.1	0.6	1.0	0.8
42	Pineappleweed	2.6	0.1	5.0	< 0.1	0.2	0.2	0.7
43	Foxtail barley	2.0	0.2	9.2	< 0.1	1.2	4.6	0.6
44	Field pea	1.2	0.4	35.0	< 0.1	2.4	2.4	0.6
45	Purslane speedwell	1.7	0.2	11.3	< 0.1	2.0	6.8	0.6
46	Pygmyflower	1.7	0.3	16.1	< 0.1	0.8	1.0	0.6
47	Fescue species	1.3	0.3	20.0	< 0.1	3.8	3.8	0.6
48	Willow species	1.5	0.1	8.2	< 0.1	0.5	0.6	0.4
49	Water mudwort	1.1	0.1	10.0	< 0.1	4.6	4.6	0.4
50	Rayless aster	1.1	0.2	18.0	< 0.1	1.8	2.0	0.4
51	Golden corydalis	1.2	0.2	15.0	< 0.1	0.6	0.6	0.4
52	Flixweed	1.5	0.1	5.0	< 0.1	0.3	0.4	0.4

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Field Survey Summary Tables – Annual crops in Boreal Transition

Table 24. 2017 Annual crops in Boreal Transition (141 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Toad rush	1.1	0.2	15.0	< 0.1	1.2	1.2	0.4
54	Meadow brome	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
55	Tumble pigweed	1.2	0.1	5.0	< 0.1	0.4	0.4	0.3
56	Sweet-clover species	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
57	Tartary buckwheat	0.4	0.1	35.0	< 0.1	3.0	3.0	0.2
58	Rye	0.5	0.1	25.0	< 0.1	2.0	2.0	0.2
59	Common yarrow	0.8	0.1	8.2	< 0.1	0.3	0.4	0.2
60	Blue grass species	0.4	0.1	35.0	< 0.1	2.8	2.8	0.2
61	Orchard grass	0.5	0.1	15.0	< 0.1	0.8	0.8	0.2
62	Tall buttercup	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
63	Wormseed mustard	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
64	Bicknell's geranium	0.5	< 0.1	10.0	< 0.1	0.6	0.6	0.1
65	Drooping woodreed	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.1
66	Thyme-leaved sandwort	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Poplar species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Cereal crops in Boreal Transition

Table 25. 2017 Cereal crops in Boreal Transition (90 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	27.4	11.3	41.4	9.6	35.0	704.8	35.0
2	Chickweed	32.3	14.0	43.3	6.4	19.9	140.0	30.9
3	Wild buckwheat	47.5	15.9	33.4	3.1	6.6	80.4	28.0
4	Dandelion	33.7	10.1	30.1	1.5	4.4	28.0	17.4
5	Stinkweed	16.0	5.9	36.8	3.3	20.7	194.8	14.8
6	Low cudweed	12.1	2.2	18.1	4.8	39.4	219.2	14.6
7	Hemp-nettle	26.4	7.3	27.8	1.5	5.8	48.0	13.9
8	Canola/rapeseed	25.8	8.4	32.6	0.9	3.7	11.6	13.4
9	Corn spurry	8.8	4.6	52.9	2.3	26.7	77.6	10.3
10	Field horsetail	20.7	4.8	23.0	0.7	3.3	35.6	9.1
11	Wild oats	13.8	3.9	28.5	0.7	5.2	41.4	7.2
12	Canada thistle	14.8	3.5	23.3	0.6	4.2	19.6	6.8
13	Annual blue grass	7.5	2.4	32.0	1.5	19.3	94.2	6.5
14	Clover species	12.9	3.1	23.9	0.6	5.0	25.8	6.3
15	False cleavers	16.6	2.6	15.6	0.3	1.6	7.8	5.8
16	Broad-leaved plantain	13.9	2.6	18.6	0.2	1.5	4.6	5.1
17	Wheat	4.7	2.5	53.8	1.0	21.9	51.2	5.1
18	Spiny annual sow-thistle	10.8	2.5	22.7	0.4	3.6	25.0	4.8
19	Narrow-leaved hawk's-beard	10.5	2.5	24.2	0.4	3.7	12.6	4.8
20	Pale smartweed	12.7	2.1	16.5	0.3	2.2	17.2	4.7
21	Quack grass	7.4	2.0	27.5	0.7	9.5	15.0	4.5
22	Oak-leaved goosefoot	6.0	2.0	32.9	0.5	8.4	23.6	3.7
23	Shepherd's-purse	7.4	1.7	22.8	0.4	6.1	41.0	3.7
24	Rough cinquefoil	5.5	1.9	34.6	0.5	9.5	25.0	3.7
25	Night-flowering catchfly	9.5	1.0	10.1	0.1	0.9	2.2	2.8
26	White cockle	5.6	1.5	27.0	0.2	3.4	13.6	2.7
27	Alfalfa	5.9	1.3	21.8	0.2	3.9	29.8	2.6
28	Oats	2.9	1.3	44.2	0.5	17.5	53.8	2.6
29	Wild mustard	3.5	1.4	38.8	0.3	9.7	31.2	2.5
30	Western barnyard grass	6.0	0.8	13.0	0.2	2.6	7.6	2.1
31	Vetch species	5.5	0.9	17.2	0.1	1.0	2.0	1.9
32	Green foxtail	5.3	0.6	11.9	0.1	2.5	12.6	1.8
33	Field violet	4.5	0.9	19.8	0.1	1.9	4.6	1.8
34	Stork's bill	4.0	0.8	19.8	0.1	2.0	5.2	1.6
35	Marsh yellow cress	4.8	0.6	11.8	0.1	1.3	3.6	1.5
36	Perennial sow-thistle	5.0	0.6	11.0	< 0.1	0.9	1.2	1.5
37	Henbit	2.8	0.7	25.7	0.1	4.6	12.0	1.4
38	Prostrate knotweed	4.3	0.4	8.1	< 0.1	0.6	1.0	1.2
39	Pineappleweed	4.3	0.2	5.0	< 0.1	0.2	0.2	1.0
40	Field pea	1.9	0.7	35.0	< 0.1	2.4	2.4	1.0
41	Foxtail barley	3.3	0.3	9.2	< 0.1	1.2	4.6	1.0
42	Purslane speedwell	2.8	0.3	11.3	0.1	2.0	6.8	0.9
43	Fescue species	2.1	0.4	20.0	0.1	3.8	3.8	0.9
44	Willow species	2.5	0.2	8.2	< 0.1	0.5	0.6	0.7
45	Water mudwort	1.7	0.2	10.0	0.1	4.6	4.6	0.6
46	Rayless aster	1.7	0.3	18.0	< 0.1	1.8	2.0	0.6
47	Golden corydalis	1.9	0.3	15.0	< 0.1	0.6	0.6	0.6
48	Toad rush	1.7	0.3	15.0	< 0.1	1.2	1.2	0.6
49	Redroot pigweed	1.4	0.2	17.5	< 0.1	2.6	3.2	0.5
50	Meadow brome	2.1	0.1	5.0	< 0.1	0.2	0.2	0.5
51	Tumble pigweed	2.0	0.1	5.0	< 0.1	0.4	0.4	0.5
52	Northern willowherb	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4

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Field Survey Summary Tables – Cereal crops in Boreal Transition

Table 25. 2017 Cereal crops in Boreal Transition (90 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Sweet-clover species	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4
54	Common yarrow	1.3	0.1	8.2	< 0.1	0.3	0.4	0.3
55	Blue grass species	0.6	0.2	35.0	< 0.1	2.8	2.8	0.3
56	Orchard grass	0.8	0.1	15.0	< 0.1	0.8	0.8	0.3
57	Barley	0.7	0.1	20.0	< 0.1	1.0	1.0	0.3
58	Tall buttercup	1.0	0.1	5.0	< 0.1	0.4	0.4	0.3
59	Bicknell's geranium	0.7	0.1	10.0	< 0.1	0.6	0.6	0.2
60	Flixweed	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.2
61	Drooping woodreed	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.2
62	Poplar species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Spring wheat in Boreal Transition

Table 26. 2017 Spring wheat in Boreal Transition (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	24.1	10.9	45.4	3.3	13.8	38.4	49.2
2	Wild buckwheat	36.6	9.1	24.8	0.8	2.3	9.2	30.5
3	Canola/rapeseed	31.3	8.8	28.1	1.0	3.2	9.6	30.0
4	Wild oats	14.1	4.7	33.0	1.4	9.9	41.4	22.0
5	Dandelion	18.7	4.8	25.6	0.8	4.3	15.4	18.9
6	Annual blue grass	9.2	3.9	42.5	1.3	14.3	22.6	18.8
7	Hemp-nettle	24.5	4.5	18.4	0.6	2.5	12.0	18.6
8	Field horsetail	19.2	4.0	21.0	0.5	2.5	8.6	15.3
9	False cleavers	14.4	2.7	18.7	0.3	2.3	7.6	10.7
10	Quack grass	5.5	1.7	30.0	0.6	10.0	10.0	8.4
11	Canada thistle	12.0	1.8	14.6	0.2	1.9	2.0	7.9
12	Spiny annual sow-thistle	11.9	1.5	12.3	0.1	0.8	1.6	6.4
13	Green foxtail	11.9	1.2	10.4	0.1	0.6	1.4	5.9
14	Low cudweed	11.3	0.6	5.0	0.2	1.8	3.0	5.8
15	Lamb's-quarters	5.5	1.4	24.9	0.2	2.8	3.0	4.9
16	Wheat	5.3	1.1	20.0	0.1	2.4	2.4	4.1
17	Broad-leaved plantain	4.6	1.4	30.0	0.1	1.6	1.6	3.9
18	Water mudwort	4.6	0.5	10.0	0.2	4.6	4.6	3.7
19	Perennial sow-thistle	6.5	0.8	12.1	0.1	1.0	1.2	3.6
20	Corn spurry	2.2	1.2	55.0	0.1	6.0	6.0	3.3
21	Night-flowering catchfly	7.3	0.6	8.1	< 0.1	0.4	0.4	3.3
22	Stork's bill	4.6	0.9	20.0	0.1	1.2	1.2	3.1
23	Oats	2.8	0.7	25.0	0.1	4.8	4.8	2.9
24	Toad rush	4.6	0.7	15.0	0.1	1.2	1.2	2.8
25	Western barnyard grass	5.5	0.6	10.0	< 0.1	0.4	0.4	2.6
26	Field violet	4.6	0.2	5.0	< 0.1	1.0	1.0	2.1
27	Willow species	4.6	0.2	5.0	< 0.1	0.4	0.4	1.9
28	Oak-leaved goosefoot	4.6	0.2	5.0	< 0.1	0.2	0.2	1.8
29	Narrow-leaved hawk's-beard	4.6	0.2	5.0	< 0.1	0.2	0.2	1.8
30	Northern willowherb	4.6	0.2	5.0	< 0.1	0.2	0.2	1.8
31	Clover species	2.8	0.3	10.0	< 0.1	0.4	0.4	1.3
32	Alfalfa	2.8	0.1	5.0	< 0.1	0.2	0.2	1.1
33	Prostrate knotweed	2.2	0.1	5.0	< 0.1	0.2	0.2	0.8
34	Pineappleweed	2.2	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Barley in Boreal Transition

Table 27. 2017 Barley in Boreal Transition (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	30.7	12.9	42.1	14.9	48.5	704.8	42.2
2	Chickweed	37.1	20.0	53.8	10.4	27.9	140.0	39.1
3	Wild buckwheat	54.0	18.7	34.7	4.6	8.5	80.4	30.2
4	Dandelion	48.2	15.1	31.4	2.3	4.8	28.0	22.5
5	Hemp-nettle	32.1	8.8	27.6	1.7	5.4	40.4	14.6
6	Canola/rapeseed	25.2	8.2	32.7	0.9	3.5	10.8	11.3
7	Clover species	23.0	4.9	21.5	1.3	5.5	25.8	9.6
8	Canada thistle	19.5	5.0	25.8	1.0	5.1	19.6	8.5
9	Wheat	6.0	4.7	78.6	2.2	36.1	51.2	8.2
10	Corn spurry	9.3	3.5	37.7	1.9	20.4	77.6	7.5
11	Field horsetail	21.3	4.1	19.3	0.4	1.6	3.6	7.0
12	Stinkweed	17.1	3.8	22.1	0.8	4.4	19.6	6.9
13	False cleavers	22.3	3.4	15.2	0.3	1.4	7.8	6.7
14	Wild oats	17.2	4.4	25.9	0.4	2.4	8.0	6.6
15	Annual blue grass	7.3	1.9	26.4	2.1	29.1	94.2	6.6
16	Oak-leaved goosefoot	9.4	4.2	44.2	1.1	11.7	23.6	6.4
17	Shepherd's-purse	12.9	3.5	26.9	1.0	7.5	41.0	6.4
18	Spiny annual sow-thistle	8.9	3.3	37.0	0.7	8.2	25.0	5.0
19	Pale smartweed	15.7	1.5	9.7	0.1	0.7	1.8	3.9
20	Broad-leaved plantain	11.6	2.2	19.3	0.2	1.6	2.4	3.8
21	Quack grass	7.3	1.8	24.4	0.7	9.6	15.0	3.7
22	Oats	1.8	1.8	100.0	1.0	53.8	53.8	3.3
23	Field violet	6.3	1.8	28.8	0.2	2.5	4.6	2.5
24	White cockle	6.0	1.8	29.6	0.1	2.4	3.4	2.5
25	Vetch species	6.0	1.7	28.5	0.1	1.8	2.0	2.3
26	Night-flowering catchfly	8.5	0.9	11.1	0.1	1.2	2.0	2.3
27	Low cudweed	7.6	0.8	10.2	0.2	2.6	7.0	2.2
28	Narrow-leaved hawk's-beard	8.0	1.0	12.1	< 0.1	0.6	1.4	2.1
29	Western barnyard grass	4.2	1.0	25.0	0.3	7.6	7.6	2.0
30	Wild mustard	4.2	1.3	30.0	0.2	5.2	5.2	2.0
31	Foxtail barley	7.3	0.7	9.2	0.1	1.2	4.6	1.9
32	Field pea	4.2	1.5	35.0	0.1	2.4	2.4	1.9
33	Pineappleweed	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6
34	Prostrate knotweed	6.0	0.6	10.0	< 0.1	0.8	1.0	1.5
35	Henbit	4.4	0.9	20.0	0.1	1.6	1.6	1.5
36	Perennial sow-thistle	5.7	0.6	10.0	< 0.1	0.7	0.8	1.5
37	Golden corydalis	4.2	0.6	15.0	< 0.1	0.6	0.6	1.2
38	Alfalfa	1.8	0.9	50.0	0.1	5.6	5.6	1.1
39	Marsh yellow cress	4.2	0.4	10.0	0.1	1.2	1.2	1.1
40	Green foxtail	1.8	0.4	20.0	0.2	12.6	12.6	1.0
41	Tumble pigweed	4.4	0.2	5.0	< 0.1	0.4	0.4	1.0
42	Rough cinquefoil	3.6	0.3	7.5	< 0.1	0.4	0.4	0.8
43	Sweet-clover species	3.8	0.2	5.0	< 0.1	0.2	0.2	0.8
44	Stork's bill	3.1	0.3	10.0	< 0.1	1.0	1.0	0.8
45	Purslane speedwell	1.6	0.2	15.0	0.1	6.8	6.8	0.6
46	Blue grass species	1.3	0.5	35.0	< 0.1	2.8	2.8	0.6
47	Orchard grass	1.8	0.3	15.0	< 0.1	0.8	0.8	0.5
48	Willow species	1.8	0.3	15.0	< 0.1	0.6	0.6	0.5
49	Tall buttercup	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
50	Rayless aster	1.5	0.2	15.0	< 0.1	1.4	1.4	0.5
51	Common yarrow	1.8	0.2	10.0	< 0.1	0.4	0.4	0.4
52	Flixweed	1.5	0.1	5.0	< 0.1	0.4	0.4	0.3

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Table 27. 2017 Barley in Boreal Transition (44 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Drooping woodreed	1.5	0.1	5.0	< 0.1	0.4	0.4	0.3

Field Survey Summary Tables – Oats in Boreal Transition

Table 28. 2017 Oats in Boreal Transition (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	68.4	29.8	43.5	16.7	24.4	187.0	39.3
2	Low cudweed	26.7	9.8	36.5	27.6	103.1	219.2	35.7
3	Stinkweed	49.1	24.9	50.7	17.7	36.0	194.8	35.5
4	Wild buckwheat	56.7	24.0	42.3	4.5	8.0	44.4	22.9
5	Corn spurry	22.6	15.6	69.2	8.6	38.2	63.4	18.7
6	Narrow-leaved hawk's-beard	30.8	12.0	39.1	2.1	6.9	12.6	11.7
7	Rough cinquefoil	23.4	10.7	45.7	3.1	13.3	25.0	11.1
8	Chickweed	39.2	5.3	13.5	3.0	7.7	22.0	10.7
9	Pale smartweed	33.8	8.5	25.0	1.4	4.2	17.2	9.8
10	Hemp-nettle	16.4	9.9	60.6	3.0	18.5	48.0	9.7
11	Field horsetail	23.7	8.4	35.5	2.1	8.6	35.6	9.0
12	Broad-leaved plantain	36.8	3.9	10.7	0.4	1.1	4.6	7.2
13	Canola/rapeseed	16.5	8.4	51.1	1.0	6.1	11.6	7.0
14	Dandelion	24.9	5.5	22.1	0.4	1.7	2.6	6.3
15	Alfalfa	19.5	4.0	20.4	1.0	5.2	29.8	5.4
16	White cockle	17.6	4.3	24.6	0.7	4.2	13.6	5.1
17	Wild mustard	9.7	4.8	49.0	1.5	14.9	31.2	4.9
18	Quack grass	12.3	3.7	30.0	1.1	8.8	8.8	4.4
19	Marsh yellow cress	17.6	2.3	13.0	0.2	1.4	3.6	3.7
20	Clover species	9.1	4.5	49.6	0.4	4.3	4.4	3.7
21	Night-flowering catchfly	17.3	1.9	10.7	0.2	0.9	2.2	3.3
22	Fescue species	12.3	2.5	20.0	0.5	3.8	3.8	3.2
23	Spiny annual sow-thistle	14.2	2.5	17.9	0.2	1.2	2.6	3.2
24	Vetch species	16.7	1.1	6.3	0.1	0.4	0.8	2.8
25	Purslane speedwell	12.3	1.2	10.0	< 0.1	0.4	0.4	2.3
26	Henbit	4.8	1.9	40.0	0.6	12.0	12.0	2.1
27	Redroot pigweed	8.3	1.5	17.5	0.2	2.6	3.2	2.0
28	Western barnyard grass	12.3	0.6	5.0	< 0.1	0.2	0.2	2.0
29	Meadow brome	12.3	0.6	5.0	< 0.1	0.2	0.2	2.0
30	Canada thistle	4.4	2.0	45.0	0.4	9.4	9.4	1.9
31	Stork's bill	5.3	1.9	35.0	0.3	5.2	5.2	1.8
32	Shepherd's-purse	9.1	0.7	7.3	< 0.1	0.5	0.8	1.6
33	Oats	6.2	1.2	20.0	0.1	2.0	2.0	1.5
34	Rayless aster	6.1	1.2	20.0	0.1	2.0	2.0	1.5
35	Wild oats	4.8	1.2	25.0	< 0.1	1.0	1.0	1.2
36	False cleavers	7.0	0.4	5.0	< 0.1	0.2	0.2	1.1
37	Barley	4.2	0.8	20.0	< 0.1	1.0	1.0	1.0
38	Annual blue grass	4.8	0.5	10.0	< 0.1	0.4	0.4	0.9
39	Bicknell's geranium	4.4	0.4	10.0	< 0.1	0.6	0.6	0.8
40	Prostrate knotweed	4.8	0.2	5.0	< 0.1	0.2	0.2	0.8
41	Poplar species	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
42	Common yarrow	2.8	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 29. 2017 Canola in Boreal Transition (46 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	41.5	21.5	51.8	12.6	30.4	117.8	69.8
2	Wild buckwheat	52.4	19.6	37.3	2.5	4.7	25.8	36.2
3	Wheat	21.2	11.1	52.5	5.2	24.6	91.4	31.5
4	Lamb's-quarters	31.5	8.2	25.9	1.0	3.3	21.0	17.3
5	Canola/rapeseed	22.0	10.3	46.8	1.1	5.0	16.6	17.1
6	Field horsetail	22.6	6.9	30.8	1.2	5.3	20.4	14.9
7	False cleavers	22.7	6.0	26.6	1.0	4.6	44.6	13.6
8	Wild oats	22.7	5.5	24.1	1.1	4.8	18.4	13.3
9	Dandelion	25.3	6.1	24.3	0.6	2.4	7.6	12.9
10	Hemp-nettle	21.3	4.2	19.7	0.4	2.0	11.2	9.7
11	Shepherd's-purse	18.1	2.5	14.0	0.2	1.4	3.6	7.1
12	Low cudweed	11.1	2.6	23.7	0.5	4.6	7.2	6.4
13	Barley	5.8	3.8	65.2	0.5	7.9	10.6	5.9
14	Rough cinquefoil	9.3	2.6	27.4	0.3	2.9	6.0	5.1
15	Alfalfa	8.0	2.3	29.4	0.2	2.1	4.4	4.3
16	Spiny annual sow-thistle	11.9	1.3	11.0	0.1	1.0	3.0	4.2
17	Narrow-leaved hawk's-beard	9.7	1.8	18.5	0.1	1.3	2.6	4.1
18	Canada thistle	10.3	0.7	6.7	0.1	0.5	1.6	3.1
19	Broad-leaved plantain	9.6	0.5	5.0	< 0.1	0.2	0.2	2.7
20	Redroot pigweed	2.4	0.8	32.6	0.2	9.9	19.0	2.0
21	Night-flowering catchfly	5.2	0.7	13.5	0.1	1.2	3.0	2.0
22	Northern willowherb	6.2	0.3	5.0	< 0.1	0.2	0.2	1.7
23	Pale smartweed	2.9	1.0	35.0	0.1	2.0	2.0	1.7
24	Stinkweed	5.2	0.4	8.4	< 0.1	0.7	1.8	1.7
25	White cockle	4.4	0.5	12.3	< 0.1	0.7	0.8	1.6
26	Pygmyflower	3.4	0.7	20.0	< 0.1	1.0	1.0	1.5
27	Clover species	2.6	0.5	19.7	0.1	3.3	5.4	1.3
28	Perennial sow-thistle	3.2	0.3	10.0	< 0.1	0.4	0.4	1.0
29	Flixweed	3.0	0.1	5.0	< 0.1	0.3	0.4	0.8
30	Stork's bill	2.9	0.1	5.0	< 0.1	0.2	0.2	0.8
31	Quack grass	1.4	0.4	30.0	< 0.1	2.6	2.6	0.8
32	Tartary buckwheat	1.2	0.4	35.0	< 0.1	3.0	3.0	0.7
33	Rye	1.4	0.4	25.0	< 0.1	2.0	2.0	0.7
34	Wormseed mustard	1.8	0.1	5.0	< 0.1	0.2	0.2	0.5
35	Green foxtail	1.5	0.1	5.0	< 0.1	0.4	0.4	0.4
36	Oak-leaved goosefoot	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
37	Marsh yellow cress	1.2	0.1	5.0	< 0.1	1.8	1.8	0.4
38	Vetch species	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
39	Annual blue grass	1.2	0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Annual crops in Aspen Parkland

Table 30. 2017 Annual crops in Aspen Parkland (427 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	29.8	11.9	40.0	11.3	37.8	1073.2	58.1
2	Wild buckwheat	49.3	15.6	31.7	1.9	3.9	56.8	35.0
3	Canola/rapeseed	30.6	8.7	28.4	1.7	5.5	177.8	22.4
4	False cleavers	26.1	7.8	30.1	1.8	6.9	165.8	20.7
5	Wild oats	22.0	6.2	28.1	2.3	10.7	139.0	19.9
6	Lamb's-quarters	19.8	5.4	27.3	1.2	6.2	265.0	14.7
7	Green foxtail	10.7	4.5	42.1	1.9	18.2	171.0	13.9
8	Hemp-nettle	16.4	3.9	23.6	1.0	6.2	136.8	11.5
9	Canada thistle	21.4	3.5	16.4	0.3	1.5	11.4	10.1
10	Wheat	13.4	3.6	27.1	0.8	6.1	66.8	9.9
11	Spiny annual sow-thistle	16.9	3.3	19.5	0.4	2.4	40.8	9.0
12	Shepherd's-purse	14.3	3.0	21.4	0.4	2.8	34.6	8.1
13	Dandelion	15.7	2.8	17.7	0.2	1.6	19.6	7.7
14	Pale smartweed	9.9	1.9	18.9	0.5	5.4	91.4	6.2
15	Low cudweed	10.3	1.8	17.0	0.4	3.8	33.0	5.7
16	Barley	6.1	2.2	35.8	0.3	4.8	36.6	4.8
17	Stork's bill	7.4	1.7	22.7	0.4	4.8	59.2	4.8
18	Narrow-leaved hawk's-beard	6.6	1.2	18.1	0.2	2.5	22.8	3.4
19	Annual blue grass	2.8	0.5	17.3	0.6	22.1	150.6	3.3
20	Stinkweed	4.4	0.8	17.5	0.1	2.5	14.4	2.3
21	Corn spurry	2.5	0.6	26.1	0.3	10.3	83.6	2.1
22	Night-flowering catchfly	4.1	0.7	17.6	0.1	1.8	8.0	2.1
23	Foxtail barley	3.9	0.7	18.2	0.1	2.5	13.8	2.0
24	Field horsetail	4.7	0.5	10.4	0.1	1.5	9.2	1.9
25	Common groundsel	2.3	0.6	28.1	0.1	4.8	19.2	1.6
26	Quack grass	2.3	0.5	23.9	0.1	6.3	32.8	1.6
27	Perennial sow-thistle	2.2	0.6	25.1	0.1	3.7	15.6	1.4
28	Redroot pigweed	2.1	0.5	25.7	0.1	3.4	16.6	1.3
29	Pineappleweed	2.9	0.4	12.6	< 0.1	1.3	2.6	1.3
30	Western barnyard grass	2.0	0.3	13.1	0.1	3.6	15.0	1.0
31	Broad-leaved plantain	2.1	0.3	12.8	0.1	2.5	22.0	1.0
32	Scentless chamomile	2.0	0.3	14.4	< 0.1	2.0	12.2	0.9
33	Clover species	2.2	0.2	11.4	< 0.1	0.6	2.6	0.9
34	Prostrate knotweed	2.0	0.2	9.5	< 0.1	0.5	1.4	0.7
35	Henbit	1.3	0.3	22.9	< 0.1	1.5	4.8	0.7
36	Rough cinquefoil	1.4	0.1	10.4	< 0.1	0.8	3.2	0.5
37	Bird's-eye speedwell	0.2	0.2	70.0	0.1	25.2	25.2	0.4
38	Rough hair grass	1.2	0.1	6.6	< 0.1	0.4	0.8	0.4
39	Vetch species	1.2	0.1	6.2	< 0.1	0.4	0.6	0.4
40	Alfalfa	0.8	0.1	11.5	< 0.1	0.9	1.8	0.3
41	Yellow toadflax	0.4	0.1	20.8	< 0.1	6.3	13.8	0.3
42	Flax	0.4	0.1	30.0	< 0.1	4.6	4.6	0.3
43	Field violet	0.4	0.1	34.5	< 0.1	2.9	4.6	0.3
44	White cockle	0.7	0.1	9.9	< 0.1	0.6	1.2	0.2
45	Northern willowherb	0.7	< 0.1	6.9	< 0.1	0.4	0.8	0.2
46	Field pea	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	Poplar species	0.2	0.1	60.0	< 0.1	6.0	6.0	0.2
48	Fescue species	0.6	< 0.1	6.7	< 0.1	1.1	1.6	0.2
49	Slough grass	0.4	0.1	14.4	< 0.1	1.7	2.6	0.2
50	Borage	0.4	0.1	17.4	< 0.1	1.3	1.8	0.2
51	Ball mustard	0.5	0.1	12.5	< 0.1	0.5	0.8	0.2
52	Willow species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

(Table continued on next page)

Field Survey Summary Tables – Annual crops in Aspen Parkland

Table 30. 2017 Annual crops in Aspen Parkland (427 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Black medick	0.5	< 0.1	10.0	< 0.1	0.4	0.4	0.2
54	Oak-leaved goosefoot	0.4	< 0.1	9.5	< 0.1	0.6	1.0	0.2
55	Meadow brome	0.2	< 0.1	20.0	< 0.1	10.2	10.2	0.2
56	Blue grass species	0.5	< 0.1	7.8	< 0.1	0.7	0.8	0.2
57	Tall buttercup	0.2	< 0.1	5.0	< 0.1	14.4	14.4	0.2
58	Marsh yellow cress	0.4	< 0.1	10.0	< 0.1	0.9	1.6	0.2
59	Spear-leaved goosefoot	0.2	0.1	30.0	< 0.1	5.4	5.4	0.1
60	Rye	0.2	0.1	35.0	< 0.1	3.4	3.4	0.1
61	Oats	0.4	< 0.1	7.6	< 0.1	0.3	0.4	0.1
62	Timothy	0.4	< 0.1	7.4	< 0.1	0.4	0.4	0.1
63	Tumble pigweed	0.4	< 0.1	5.0	< 0.1	0.3	0.4	0.1
64	Kochia	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Rose species	0.2	0.1	25.0	< 0.1	2.0	2.0	0.1
66	Wild mustard	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
67	Biennial wormwood	0.2	< 0.1	5.0	< 0.1	0.4	0.4	0.1
68	Corn gromwell	0.2	< 0.1	5.0	< 0.1	0.4	0.4	0.1
69	Golden dock	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
70	Bluebur	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
71	Bicknell's geranium	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Dock species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Canada fleabane	0.2	< 0.1	10.0	< 0.1	0.6	0.6	0.1
74	Absinth	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
75	Annual brome species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
76	Round-leaved mallow	0.2	< 0.1	5.0	< 0.1	0.6	0.6	0.1
77	Purslane speedwell	0.2	< 0.1	5.0	< 0.1	0.4	0.4	0.1
78	Red goosefoot	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
79	Toad rush	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
80	Water mudwort	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
81	Field mint	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
82	Pygmyflower	0.2	< 0.1	5.0	< 0.1	0.8	0.8	0.1

Field Survey Summary Tables – Cereal crops in Aspen Parkland

Table 31. 2017 Cereal crops in Aspen Parkland (262 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	29.3	12.4	42.4	11.6	39.6	712.8	58.2
2	Wild buckwheat	50.3	15.9	31.6	2.2	4.3	56.8	36.9
3	Canola/rapeseed	37.5	10.7	28.5	2.3	6.0	177.8	28.3
4	Wild oats	22.4	6.1	27.2	2.9	12.9	139.0	21.5
5	Green foxtail	13.0	6.0	46.2	2.9	22.3	171.0	19.1
6	False cleavers	24.4	6.1	24.8	1.7	7.0	165.8	18.3
7	Lamb's-quarters	13.8	4.1	30.1	1.5	10.7	265.0	12.7
8	Hemp-nettle	17.1	3.9	22.8	1.2	7.0	136.8	12.5
9	Canada thistle	22.0	3.9	17.6	0.4	1.7	11.4	11.0
10	Spiny annual sow-thistle	18.3	3.5	19.1	0.3	1.8	12.8	9.6
11	Pale smartweed	10.6	2.3	21.9	0.8	7.6	91.4	7.8
12	Dandelion	15.6	2.5	16.1	0.2	1.5	19.6	7.5
13	Shepherd's-purse	9.5	1.7	18.2	0.2	1.6	4.6	4.8
14	Wheat	5.2	1.2	22.9	0.4	7.7	66.8	3.9
15	Stork's bill	6.1	1.4	23.3	0.1	2.3	6.0	3.6
16	Low cudweed	7.0	1.0	13.9	0.1	1.8	6.6	3.3
17	Foxtail barley	5.3	1.0	19.7	0.2	2.9	13.8	3.0
18	Annual blue grass	3.6	0.3	9.8	0.5	12.9	93.8	2.8
19	Narrow-leaved hawk's-beard	5.8	0.9	15.3	0.1	1.2	4.4	2.7
20	Stinkweed	4.0	1.0	25.7	0.2	4.0	14.4	2.6
21	Corn spurry	2.9	0.8	26.3	0.3	11.5	83.6	2.6
22	Common groundsel	3.5	0.8	23.2	0.1	3.6	11.8	2.1
23	Night-flowering catchfly	4.5	0.7	15.5	0.1	1.4	5.8	2.1
24	Quack grass	2.7	0.6	22.5	0.2	6.3	32.8	1.9
25	Barley	2.2	0.9	40.1	0.1	5.2	12.4	1.9
26	Field horsetail	4.3	0.5	10.6	0.1	1.6	9.2	1.9
27	Redroot pigweed	2.2	0.6	29.4	0.1	4.2	16.6	1.6
28	Perennial sow-thistle	2.9	0.5	18.7	0.1	2.3	8.6	1.5
29	Pineappleweed	3.2	0.5	13.9	< 0.1	1.4	2.6	1.5
30	Western barnyard grass	2.0	0.3	13.4	0.1	5.3	15.0	1.1
31	Prostrate knotweed	2.8	0.3	9.4	< 0.1	0.5	1.4	1.0
32	Scentless chamomile	2.0	0.1	5.0	< 0.1	0.3	0.4	0.7
33	Rough hair grass	1.9	0.1	6.6	< 0.1	0.4	0.8	0.7
34	Henbit	1.0	0.3	27.8	< 0.1	2.2	4.8	0.6
35	Broad-leaved plantain	1.7	0.1	7.0	< 0.1	0.3	0.6	0.6
36	Alfalfa	1.4	0.2	11.5	< 0.1	0.9	1.8	0.6
37	Rough cinquefoil	1.3	0.1	9.6	< 0.1	0.4	0.8	0.5
38	Flax	0.6	0.2	30.0	< 0.1	4.6	4.6	0.4
39	Poplar species	0.3	0.2	60.0	< 0.1	6.0	6.0	0.4
40	Fescue species	0.9	0.1	6.7	< 0.1	1.1	1.6	0.3
41	Borage	0.7	0.1	17.4	< 0.1	1.3	1.8	0.3
42	White cockle	0.7	0.1	12.8	< 0.1	0.7	1.2	0.3
43	Oak-leaved goosefoot	0.7	0.1	9.5	< 0.1	0.6	1.0	0.3
44	Meadow brome	0.3	0.1	20.0	< 0.1	10.2	10.2	0.3
45	Field pea	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
46	Clover species	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
47	Field violet	0.3	0.1	45.0	< 0.1	4.6	4.6	0.3
48	Tall buttercup	0.3	< 0.1	5.0	< 0.1	14.4	14.4	0.3
49	Rye	0.3	0.1	35.0	< 0.1	3.4	3.4	0.2
50	Vetch species	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Oats	0.7	0.1	7.6	< 0.1	0.3	0.4	0.2
52	Timothy	0.6	< 0.1	7.4	< 0.1	0.4	0.4	0.2

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Field Survey Summary Tables – Cereal crops in Aspen Parkland

Table 31. 2017 Cereal crops in Aspen Parkland (262 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Tumble pigweed	0.7	< 0.1	5.0	< 0.1	0.3	0.4	0.2
54	Kochia	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
55	Willow species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
56	Rose species	0.3	0.1	25.0	< 0.1	2.0	2.0	0.2
57	Slough grass	0.4	< 0.1	10.0	< 0.1	1.0	1.0	0.2
58	Black medick	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2
59	Marsh yellow cress	0.3	< 0.1	15.0	< 0.1	1.6	1.6	0.2
60	Wild mustard	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
61	Biennial wormwood	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.1
62	Corn gromwell	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.1
63	Bluebur	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
64	Bicknell's geranium	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Ball mustard	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
66	Dock species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Canada fleabane	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.1
68	Northern willowherb	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
69	Annual brome species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
70	Blue grass species	0.3	< 0.1	5.0	< 0.1	0.8	0.8	0.1
71	Toad rush	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Water mudwort	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Pygmyflower	0.3	< 0.1	5.0	< 0.1	0.8	0.8	0.1

Field Survey Summary Tables – Spring wheat in Aspen Parkland

Table 32. 2017 Spring wheat in Aspen Parkland (155 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	23.3	9.8	42.2	7.4	31.6	500.6	63.6
2	Wild buckwheat	51.3	14.7	28.5	1.7	3.3	41.0	45.7
3	Canola/rapeseed	41.3	10.7	25.8	1.3	3.2	38.4	35.0
4	Wild oats	22.7	5.2	22.8	2.4	10.7	139.0	28.1
5	False cleavers	24.2	4.9	20.4	0.7	2.8	21.0	18.2
6	Spiny annual sow-thistle	20.2	4.6	22.8	0.5	2.3	12.8	15.2
7	Canada thistle	20.8	3.5	16.6	0.3	1.5	11.4	12.8
8	Hemp-nettle	13.4	2.4	18.1	0.5	3.6	26.2	10.2
9	Low cudweed	10.2	1.4	13.6	0.2	1.8	6.6	6.1
10	Dandelion	9.6	1.3	13.3	0.2	1.6	19.6	5.6
11	Green foxtail	5.5	1.1	19.9	0.4	6.5	53.0	5.2
12	Shepherd's-purse	8.6	1.2	13.6	0.1	1.1	3.6	4.8
13	Lamb's-quarters	8.2	1.1	13.2	0.1	1.3	3.0	4.6
14	Foxtail barley	5.9	1.2	21.2	0.2	3.2	13.8	4.6
15	Stork's bill	5.6	1.4	25.5	0.1	2.4	5.0	4.5
16	Annual blue grass	2.0	0.2	11.0	0.5	25.5	93.8	3.9
17	Pale smartweed	7.9	0.6	8.2	0.1	0.8	3.6	3.7
18	Narrow-leaved hawk's-beard	6.5	0.9	13.7	0.1	0.9	2.6	3.5
19	Perennial sow-thistle	3.8	0.8	21.8	0.1	2.8	8.6	2.9
20	Western barnyard grass	2.7	0.4	15.1	0.2	6.3	15.0	2.4
21	Field horsetail	4.7	0.5	9.7	0.1	1.1	4.2	2.3
22	Night-flowering catchfly	3.2	0.6	19.5	0.1	2.0	5.8	2.2
23	Common groundsel	3.4	0.5	14.7	0.1	1.6	4.4	2.1
24	Scentsless chamomile	3.4	0.2	5.0	< 0.1	0.3	0.4	1.3
25	Pineappleweed	2.5	0.3	10.4	< 0.1	1.0	2.6	1.3
26	Wheat	1.9	0.2	8.5	< 0.1	0.8	1.6	0.9
27	Rough hair grass	1.8	0.1	7.7	< 0.1	0.5	0.8	0.8
28	Poplar species	0.5	0.3	60.0	< 0.1	6.0	6.0	0.8
29	Stinkweed	1.3	0.2	17.2	< 0.1	0.7	1.0	0.7
30	Corn spurry	1.6	0.1	6.7	< 0.1	0.3	0.4	0.7
31	Alfalfa	1.2	0.1	10.5	< 0.1	0.6	1.0	0.6
32	Field pea	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Clover species	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
34	Redroot pigweed	0.7	0.1	15.0	< 0.1	0.8	0.8	0.4
35	Slough grass	0.7	0.1	10.0	< 0.1	1.0	1.0	0.3
36	Barley	0.5	0.1	15.0	< 0.1	1.2	1.2	0.3
37	Fescue species	0.5	0.1	10.0	< 0.1	1.6	1.6	0.3
38	Henbit	0.6	0.1	10.0	< 0.1	0.4	0.4	0.3
39	Oats	0.6	0.1	10.0	< 0.1	0.4	0.4	0.3
40	Biennial wormwood	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.3
41	Corn gromwell	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.3
42	Vetch species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	Oak-leaved goosefoot	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
44	Dock species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
45	Blue grass species	0.5	< 0.1	5.0	< 0.1	0.8	0.8	0.2
46	Prostrate knotweed	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	Broad-leaved plantain	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Northern willowherb	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
49	Tumble pigweed	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
50	Pygmyflower	0.5	< 0.1	5.0	< 0.1	0.8	0.8	0.2
51	Kochia	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Rough cinquefoil	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2

Table 33. 2017 Barley in Aspen Parkland (84 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	43.7	18.5	42.3	22.5	51.3	712.8	64.3
2	Wild buckwheat	47.1	17.2	36.6	2.6	5.5	56.8	29.1
3	Canola/rapeseed	33.4	11.2	33.6	4.4	13.1	177.8	24.3
4	Green foxtail	19.8	8.8	44.5	5.2	26.5	171.0	20.8
5	False cleavers	25.7	8.1	31.4	3.8	14.7	165.8	18.9
6	Wild oats	22.2	7.5	33.7	4.0	18.0	95.4	18.1
7	Lamb's-quarters	20.1	7.4	36.8	4.0	19.7	265.0	17.5
8	Hemp-nettle	23.2	6.9	29.7	2.8	12.1	136.8	15.7
9	Dandelion	27.5	5.1	18.7	0.4	1.5	8.8	11.1
10	Canada thistle	26.9	4.8	17.8	0.5	1.7	8.0	10.7
11	Pale smartweed	13.8	4.0	29.1	2.1	15.2	91.4	10.1
12	Wheat	11.0	3.4	31.3	1.3	11.5	66.8	7.5
13	Shepherd's-purse	12.5	2.6	20.6	0.3	2.1	4.6	5.4
14	Spiny annual sow-thistle	13.7	1.6	11.9	0.1	1.1	2.6	4.7
15	Quack grass	6.6	1.2	18.4	0.4	6.6	32.8	3.2
16	Annual blue grass	6.5	0.6	9.8	0.5	7.3	29.8	2.8
17	Common groundsel	4.5	1.6	36.1	0.3	6.6	11.8	2.8
18	Stinkweed	6.9	1.2	17.3	0.1	2.1	7.2	2.8
19	Redroot pigweed	3.5	1.6	46.0	0.3	7.9	16.6	2.5
20	Corn spurry	5.1	1.2	23.2	0.2	3.7	10.0	2.4
21	Night-flowering catchfly	6.8	0.9	13.8	0.1	1.1	2.8	2.4
22	Field horsetail	4.9	0.6	12.5	0.1	2.7	9.2	1.8
23	Foxtail barley	4.5	0.8	18.1	0.1	1.8	3.4	1.8
24	Stork's bill	4.8	0.7	15.0	0.1	1.5	3.8	1.8
25	Pineappleweed	3.5	0.5	13.6	0.1	1.5	2.4	1.3
26	Henbit	2.1	0.8	37.4	0.1	3.2	4.8	1.2
27	Narrow-leaved hawk's-beard	2.6	0.6	22.9	0.1	2.2	2.6	1.2
28	Prostrate knotweed	3.2	0.4	13.5	< 0.1	0.8	1.4	1.1
29	Flax	2.0	0.6	30.0	0.1	4.6	4.6	1.1
30	Broad-leaved plantain	3.4	0.3	8.4	< 0.1	0.4	0.6	1.0
31	White cockle	2.2	0.3	12.8	< 0.1	0.7	1.2	0.8
32	Rough cinquefoil	2.3	0.2	7.1	< 0.1	0.3	0.4	0.7
33	Field violet	1.0	0.4	45.0	< 0.1	4.6	4.6	0.6
34	Meadow brome	1.1	0.2	20.0	0.1	10.2	10.2	0.6
35	Timothy	2.0	0.1	7.4	< 0.1	0.4	0.4	0.6
36	Willow species	2.1	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Tall buttercup	1.1	0.1	5.0	0.2	14.4	14.4	0.5
38	Rose species	1.1	0.3	25.0	< 0.1	2.0	2.0	0.5
39	Low cudweed	1.5	0.2	10.0	< 0.1	0.8	0.8	0.5
40	Alfalfa	1.1	0.2	20.0	< 0.1	1.8	1.8	0.4
41	Borage	1.1	0.2	15.0	< 0.1	1.8	1.8	0.4
42	Black medick	1.3	0.1	10.0	< 0.1	0.4	0.4	0.4
43	Wild mustard	1.5	0.1	5.0	< 0.1	0.4	0.4	0.4
44	Marsh yellow cress	1.1	0.2	15.0	< 0.1	1.6	1.6	0.4
45	Rough hair grass	1.3	0.1	5.0	< 0.1	0.4	0.4	0.4
46	Ball mustard	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
47	Vetch species	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
48	Annual brome species	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Perennial sow-thistle	1.0	0.1	10.0	< 0.1	0.4	0.4	0.3
50	Oats	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
51	Tumble pigweed	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
52	Toad rush	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3

(Table continued on next page)

Field Survey Summary Tables – Barley in Aspen Parkland

Table 33. 2017 Barley in Aspen Parkland (84 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Western barnyard grass	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
54	Fescue species	1.0	< 0.1	5.0	< 0.1	1.2	1.2	0.3

Table 34. 2017 Oats in Aspen Parkland (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	39.6	27.8	70.2	11.5	29.1	62.8	53.7
2	Wild buckwheat	48.1	18.9	39.4	4.1	8.5	49.4	31.2
3	Lamb's-quarters	34.9	16.1	46.2	2.5	7.2	16.8	22.9
4	Chickweed	18.4	9.2	50.2	3.3	18.0	47.8	17.6
5	Canola/rapeseed	28.2	9.9	35.2	1.6	5.6	9.6	15.5
6	Barley	24.7	11.0	44.5	1.5	5.9	12.4	15.1
7	Wild oats	19.4	8.6	44.6	2.3	11.9	37.0	14.9
8	False cleavers	24.7	7.9	31.9	1.7	6.9	18.4	13.9
9	Pale smartweed	20.2	9.1	44.8	1.6	8.0	14.8	13.5
10	Corn spurry	4.3	4.3	100.0	3.6	83.6	83.6	12.6
11	Stinkweed	14.7	7.0	47.7	1.5	10.0	14.4	10.8
12	Hemp-nettle	24.7	4.2	17.2	0.7	2.7	5.2	9.0
13	Stork's bill	16.3	4.5	27.4	0.5	3.2	6.0	7.2
14	Canada thistle	14.9	4.0	26.8	0.5	3.5	6.4	6.7
15	Spiny annual sow-thistle	19.3	2.2	11.6	0.2	1.0	1.8	5.6
16	Dandelion	17.8	2.2	12.3	0.1	0.7	2.4	5.1
17	Quack grass	8.8	3.1	35.0	0.5	5.5	9.6	4.8
18	Narrow-leaved hawk's-beard	13.6	2.1	15.7	0.3	1.8	4.4	4.6
19	Prostrate knotweed	14.1	1.2	8.5	< 0.1	0.3	0.4	3.6
20	Shepherd's-purse	5.4	3.0	55.0	0.2	4.4	4.4	3.4
21	Pineappleweed	8.6	1.9	22.5	0.2	2.2	2.4	3.3
22	Rye	4.4	1.5	35.0	0.1	3.4	3.4	2.2
23	Wheat	8.6	0.4	5.0	< 0.1	0.2	0.2	2.0
24	Low cudweed	4.3	1.1	25.0	0.2	3.6	3.6	1.9
25	Foxtail barley	4.4	0.4	10.0	0.2	3.6	3.6	1.5
26	Borage	4.3	0.9	20.0	< 0.1	0.8	0.8	1.4
27	Oak-leaved goosefoot	4.4	0.7	15.0	< 0.1	1.0	1.0	1.4
28	Rough cinquefoil	4.0	0.8	20.0	< 0.1	0.8	0.8	1.3
29	Bluebur	5.3	0.3	5.0	< 0.1	0.2	0.2	1.2
30	Night-flowering catchfly	5.3	0.3	5.0	< 0.1	0.2	0.2	1.2
31	Bicknell's geranium	5.3	0.3	5.0	< 0.1	0.2	0.2	1.2
32	Rough hair grass	5.3	0.3	5.0	< 0.1	0.2	0.2	1.2
33	Canada fleabane	4.4	0.4	10.0	< 0.1	0.6	0.6	1.2
34	Perennial sow-thistle	4.4	0.2	5.0	< 0.1	0.8	0.8	1.1
35	Annual blue grass	4.3	0.2	5.0	< 0.1	0.6	0.6	1.0
36	Alfalfa	4.3	0.2	5.0	< 0.1	0.4	0.4	1.0
37	Fescue species	4.3	0.2	5.0	< 0.1	0.4	0.4	1.0
38	Kochia	4.4	0.2	5.0	< 0.1	0.2	0.2	1.0
39	Redroot pigweed	4.4	0.2	5.0	< 0.1	0.2	0.2	1.0
40	Water mudwort	4.3	0.2	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Canola in Aspen Parkland

Table 35. 2017 Canola in Aspen Parkland (143 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	28.5	9.3	32.6	9.1	32.0	1073.2	55.8
2	Wild buckwheat	47.2	14.8	31.5	1.5	3.2	25.0	33.4
3	False cleavers	28.6	10.7	37.4	1.9	6.8	49.0	26.3
4	Wheat	28.1	8.1	28.8	1.6	5.8	66.2	22.2
5	Lamb's-quarters	30.4	7.9	26.2	0.9	3.0	19.0	19.6
6	Wild oats	20.7	5.6	27.0	1.2	5.6	47.6	15.9
7	Shepherd's-purse	22.1	4.7	21.2	0.5	2.3	10.8	12.4
8	Low cudweed	16.5	3.2	19.2	0.9	5.4	33.0	11.2
9	Barley	12.9	4.6	35.5	0.6	4.9	36.6	10.6
10	Canola/rapeseed	16.0	4.0	24.9	0.3	2.0	6.2	9.4
11	Hemp-nettle	14.2	3.5	24.3	0.5	3.6	21.4	9.3
12	Stork's bill	10.7	2.4	22.2	0.8	7.4	59.2	8.5
13	Dandelion	14.9	3.0	20.2	0.3	1.8	16.8	8.0
14	Canada thistle	17.9	2.5	13.8	0.2	1.2	7.2	7.9
15	Spiny annual sow-thistle	14.4	2.2	15.3	0.2	1.3	13.8	6.7
16	Green foxtail	8.1	2.4	30.0	0.5	5.8	18.2	6.5
17	Annual blue grass	1.2	0.7	55.0	0.9	75.8	150.6	4.8
18	Narrow-leaved hawk's-beard	7.1	1.5	20.9	0.3	3.7	22.8	4.4
19	Pale smartweed	9.5	1.1	11.2	0.1	0.8	4.0	3.8
20	Night-flowering catchfly	4.2	0.9	21.7	0.1	2.7	8.0	2.5
21	Field horsetail	4.5	0.5	11.1	0.1	1.3	4.0	1.9
22	Stinkweed	5.0	0.4	7.1	< 0.1	0.6	1.4	1.8
23	Scentless chamomile	2.2	0.7	30.0	0.1	4.8	12.2	1.7
24	Clover species	3.2	0.5	15.0	< 0.1	0.9	2.6	1.4
25	Bird's-eye speedwell	0.6	0.5	70.0	0.2	25.2	25.2	1.3
26	Perennial sow-thistle	0.7	0.6	75.0	0.1	15.6	15.6	1.3
27	Redroot pigweed	2.1	0.4	18.5	< 0.1	2.0	6.0	1.1
28	Yellow toadflax	1.3	0.3	20.8	0.1	6.3	13.8	1.0
29	Quack grass	1.2	0.4	29.0	0.1	5.5	9.2	1.0
30	Broad-leaved plantain	1.9	0.4	18.7	< 0.1	1.4	3.2	0.9
31	Western barnyard grass	2.2	0.3	12.6	< 0.1	0.9	1.8	0.9
32	Henbit	1.9	0.3	18.0	< 0.1	0.8	1.2	0.9
33	Vetch species	2.1	0.1	7.0	< 0.1	0.5	0.6	0.7
34	Northern willowherb	1.3	0.1	7.8	< 0.1	0.5	0.8	0.5
35	Rough cinquefoil	1.2	0.1	10.0	< 0.1	0.5	0.6	0.4
36	Foxtail barley	1.2	0.1	5.0	< 0.1	0.4	0.6	0.4
37	Ball mustard	0.7	0.1	20.0	< 0.1	0.8	0.8	0.4
38	Field violet	0.6	0.2	25.0	< 0.1	1.4	1.4	0.3
39	Slough grass	0.6	0.1	20.0	< 0.1	2.6	2.6	0.3
40	Pineappleweed	0.7	0.1	10.0	< 0.1	0.6	0.6	0.3
41	Blue grass species	0.7	0.1	10.0	< 0.1	0.6	0.6	0.3
42	White cockle	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.2
43	Golden dock	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
44	Absinth	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
45	Purslane speedwell	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
46	Red goosefoot	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	Marsh yellow cress	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Corn spurry	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
49	Field pea	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	Field mint	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Willow species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 36. 2017 Peas in Aspen Parkland (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	42.3	22.9	54.1	21.9	51.7	153.4	75.4
2	Wild buckwheat	53.4	18.2	34.1	2.4	4.4	27.4	30.1
3	Canola/rapeseed	43.0	13.0	30.3	2.0	4.8	20.4	23.4
4	Wild oats	26.1	11.5	44.1	4.0	15.2	40.8	23.0
5	False cleavers	30.0	10.8	36.0	1.9	6.5	28.4	18.7
6	Spiny annual sow-thistle	13.3	8.2	61.4	2.9	21.7	40.8	15.3
7	Hemp-nettle	22.7	6.4	28.3	2.2	9.7	43.2	14.6
8	Canada thistle	35.6	6.0	16.8	0.5	1.5	4.0	13.2
9	Shepherd's-purse	17.8	6.7	37.5	1.9	11.0	34.6	13.1
10	Lamb's-quarters	23.7	4.1	17.4	0.3	1.4	3.4	8.9
11	Wheat	17.9	4.4	24.5	0.6	3.6	10.6	8.5
12	Dandelion	19.2	4.0	20.8	0.3	1.6	6.2	7.8
13	Corn spurry	10.1	3.5	34.4	1.0	9.8	15.2	7.0
14	Narrow-leaved hawk's-beard	13.6	3.2	23.3	0.7	4.8	10.2	6.7
15	Barley	9.8	2.6	26.1	0.2	2.2	3.8	4.5
16	Low cudweed	10.5	2.1	20.0	0.2	1.5	2.2	4.1
17	Pineappleweed	10.5	1.0	10.0	0.1	1.2	1.6	3.3
18	Pale smartweed	5.2	2.1	40.0	0.2	3.4	3.4	3.1
19	Field horsetail	10.1	0.7	7.1	0.1	1.4	3.2	3.0
20	Clover species	8.4	1.0	12.4	0.1	0.7	0.8	2.7
21	Spear-leaved goosefoot	4.2	1.3	30.0	0.2	5.4	5.4	2.3
22	Foxtail barley	5.2	1.0	20.0	0.1	1.2	1.2	2.0
23	Prostrate knotweed	5.2	0.5	10.0	< 0.1	0.4	0.4	1.6
24	Rough cinquefoil	3.9	0.6	15.0	0.1	3.2	3.2	1.5
25	Perennial sow-thistle	3.9	0.8	20.0	0.1	1.4	1.4	1.5
26	Black medick	4.5	0.5	10.0	< 0.1	0.4	0.4	1.4
27	Broad-leaved plantain	4.5	0.2	5.0	< 0.1	0.2	0.2	1.2
28	Round-leaved mallow	4.1	0.2	5.0	< 0.1	0.6	0.6	1.1
29	Stinkweed	4.2	0.2	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables – Annual crops in Fescue Grassland

Table 37. 2017 Annual crops in Fescue Grassland (83 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	14.5	5.4	37.5	10.9	74.7	766.4	43.9
2	Wild buckwheat	49.4	11.5	23.2	1.4	2.7	32.0	28.9
3	Wild oats	34.9	12.5	36.0	2.2	6.3	55.4	28.7
4	False cleavers	23.8	11.6	48.7	3.0	12.5	80.2	27.2
5	Chickweed	9.9	5.7	58.0	3.7	37.4	128.2	20.1
6	Barley	15.2	7.4	48.4	1.3	8.6	38.6	15.5
7	Spiny annual sow-thistle	24.4	5.5	22.4	0.8	3.3	55.0	14.5
8	Wheat	17.0	6.1	35.7	0.8	4.6	26.4	13.0
9	Canada thistle	27.7	4.2	15.2	0.4	1.6	12.2	13.0
10	Stinkweed	8.7	4.7	54.1	1.7	20.0	100.2	12.6
11	Canola/rapeseed	21.7	4.0	18.5	0.4	1.8	13.4	11.1
12	Shepherd's-purse	20.6	3.2	15.6	0.3	1.5	7.4	9.7
13	Annual brome species	6.8	2.9	42.1	0.9	13.9	48.0	7.7
14	Kochia	5.3	1.8	35.0	1.3	25.5	88.8	7.5
15	Prostrate knotweed	14.9	2.6	17.7	0.2	1.1	6.0	7.1
16	Hemp-nettle	7.9	3.0	37.5	0.4	5.2	18.4	6.3
17	Dandelion	13.2	2.2	16.5	0.2	1.3	6.2	6.2
18	Foxtail barley	7.9	0.5	6.7	< 0.1	0.4	0.8	2.8
19	Perennial sow-thistle	2.6	0.9	35.0	0.3	11.0	16.2	2.5
20	Yellow toadflax	2.6	1.1	40.0	0.2	8.0	9.2	2.4
21	Narrow-leaved hawk's-beard	4.0	0.9	21.7	0.1	3.1	8.4	2.3
22	Oats	1.3	1.2	90.0	0.2	14.6	14.6	2.1
23	Oak-leaved goosefoot	1.3	0.3	20.0	0.3	25.0	25.0	1.7
24	Field pea	4.0	0.3	6.7	< 0.1	0.3	0.4	1.4
25	Spear-leaved goosefoot	4.1	0.2	5.0	< 0.1	0.2	0.2	1.4
26	Night-flowering catchfly	2.6	0.3	12.5	0.1	3.1	5.8	1.3
27	Tumble pigweed	3.3	0.2	5.0	< 0.1	0.4	0.6	1.1
28	Clover species	1.3	0.6	45.0	< 0.1	3.2	3.2	1.1
29	Alfalfa	2.0	0.3	13.0	< 0.1	0.8	2.0	0.8
30	Wild mustard	0.7	0.4	55.0	< 0.1	3.2	3.2	0.6
31	Round-leaved mallow	1.4	0.2	15.0	< 0.1	0.8	1.2	0.6
32	Quack grass	1.3	0.1	10.0	< 0.1	2.6	2.6	0.6
33	Field horsetail	1.3	0.1	10.0	< 0.1	2.4	2.4	0.6
34	Flax	1.3	0.2	15.0	< 0.1	0.6	0.6	0.6
35	Western barnyard grass	1.3	0.1	5.0	< 0.1	0.8	0.8	0.5
36	Stork's bill	1.3	0.1	5.0	< 0.1	0.4	0.4	0.4
37	Green foxtail	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
38	Slough grass	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
39	Redroot pigweed	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
40	Italian rye grass	0.7	0.2	25.0	< 0.1	2.8	2.8	0.4
41	Biennial wormwood	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
42	Cow cockle	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3

Field Survey Summary Tables – Cereal crops in Fescue Grassland

Table 38. 2017 Cereal crops in Fescue Grassland (54 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	12.1	3.6	29.6	15.5	127.8	766.4	47.5
2	Wild buckwheat	57.1	13.3	23.4	1.7	3.0	32.0	33.0
3	Wild oats	38.0	13.4	35.1	2.2	5.7	55.4	29.1
4	False cleavers	25.1	13.2	52.6	2.7	10.7	31.4	26.8
5	Chickweed	13.1	6.8	52.3	4.8	37.1	128.2	23.0
6	Spiny annual sow-thistle	24.1	7.2	29.9	1.2	4.8	55.0	16.6
7	Stinkweed	10.3	6.8	66.7	2.6	25.7	100.2	16.4
8	Canada thistle	28.1	4.9	17.4	0.6	2.0	12.2	13.9
9	Canola/rapeseed	25.1	5.4	21.6	0.6	2.3	13.4	13.6
10	Annual brome species	9.3	3.7	39.5	1.4	14.6	48.0	9.7
11	Shepherd's-purse	16.3	3.2	19.8	0.3	1.7	5.6	8.3
12	Kochia	4.0	2.0	50.0	1.9	46.6	88.8	8.0
13	Dandelion	14.1	2.2	15.7	0.2	1.4	6.2	6.5
14	Prostrate knotweed	11.7	2.5	21.0	0.2	1.5	6.0	6.0
15	Hemp-nettle	6.0	2.3	38.3	0.4	7.4	18.4	5.1
16	Wheat	8.0	1.3	16.3	0.1	1.5	4.6	3.8
17	Foxtail barley	10.0	0.7	7.0	< 0.1	0.4	0.8	3.5
18	Yellow toadflax	4.0	1.6	40.0	0.3	8.0	9.2	3.5
19	Narrow-leaved hawk's-beard	6.0	1.3	21.7	0.2	3.1	8.4	3.4
20	Oats	2.0	1.8	90.0	0.3	14.6	14.6	3.1
21	Oak-leaved goosefoot	2.0	0.4	20.0	0.5	25.0	25.0	2.3
22	Spear-leaved goosefoot	6.3	0.3	5.0	< 0.1	0.2	0.2	2.0
23	Barley	4.0	0.7	17.5	< 0.1	0.7	1.2	1.8
24	Clover species	2.0	0.9	45.0	0.1	3.2	3.2	1.6
25	Field pea	4.0	0.3	7.5	< 0.1	0.3	0.4	1.4
26	Tumble pigweed	3.0	0.2	5.0	< 0.1	0.2	0.2	1.0
27	Wild mustard	1.0	0.6	55.0	< 0.1	3.2	3.2	0.9
28	Round-leaved mallow	2.1	0.3	15.0	< 0.1	0.8	1.2	0.9
29	Alfalfa	2.0	0.3	14.6	< 0.1	1.1	2.0	0.9
30	Flax	2.0	0.3	15.0	< 0.1	0.6	0.6	0.9
31	Field horsetail	2.0	0.2	10.0	< 0.1	2.4	2.4	0.9
32	Western barnyard grass	2.0	0.1	5.0	< 0.1	0.8	0.8	0.7
33	Night-flowering catchfly	2.0	0.1	5.0	< 0.1	0.4	0.4	0.7
34	Stork's bill	2.0	0.1	5.0	< 0.1	0.4	0.4	0.7
35	Green foxtail	2.0	0.1	5.0	< 0.1	0.2	0.2	0.7
36	Slough grass	2.0	0.1	5.0	< 0.1	0.2	0.2	0.7
37	Italian rye grass	1.0	0.3	25.0	< 0.1	2.8	2.8	0.6
38	Biennial wormwood	1.6	0.1	5.0	< 0.1	0.2	0.2	0.5
39	Cow cockle	1.0	0.1	10.0	< 0.1	0.4	0.4	0.4

Field Survey Summary Tables – Spring wheat in Fescue Grassland

Table 39. 2017 Spring wheat in Fescue Grassland (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	False cleavers	27.5	16.6	60.4	3.2	11.8	29.6	49.8
2	Wild buckwheat	56.6	10.7	18.9	1.3	2.3	32.0	39.3
3	Kochia	3.7	3.1	85.0	3.2	88.8	88.8	25.7
4	Chickweed	9.2	5.1	56.0	2.5	26.8	48.4	24.9
5	Canola/rapeseed	38.4	7.1	18.6	0.5	1.4	5.2	24.3
6	Canada thistle	30.5	7.2	23.7	0.8	2.7	12.2	23.8
7	Wild oats	28.6	6.1	21.4	0.7	2.4	12.6	20.9
8	Spiny annual sow-thistle	21.9	6.0	27.5	0.7	3.3	7.0	19.0
9	Dandelion	12.8	2.5	19.2	0.3	2.1	6.2	8.8
10	Lamb's-quarters	16.5	2.1	12.8	0.1	0.6	1.0	8.3
11	Oak-leaved goosefoot	3.7	0.7	20.0	0.9	25.0	25.0	7.9
12	Prostrate knotweed	7.3	2.7	37.5	0.2	3.1	6.0	7.1
13	Narrow-leaved hawk's-beard	7.3	2.2	30.0	0.3	4.5	8.4	7.1
14	Shepherd's-purse	3.7	2.0	55.0	0.2	5.6	5.6	4.9
15	Yellow toadflax	3.7	1.5	40.0	0.2	6.8	6.8	4.5
16	Barley	7.3	1.3	17.5	0.1	0.7	1.2	4.2
17	Foxtail barley	7.3	0.7	10.0	< 0.1	0.5	0.8	3.4
18	Hemp-nettle	3.7	0.7	20.0	0.1	2.6	2.6	2.7
19	Stinkweed	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1
20	Wheat	3.7	0.4	10.0	< 0.1	0.8	0.8	1.8
21	Field pea	3.7	0.4	10.0	< 0.1	0.4	0.4	1.7
22	Western barnyard grass	3.7	0.2	5.0	< 0.1	0.8	0.8	1.6
23	Night-flowering catchfly	3.7	0.2	5.0	< 0.1	0.4	0.4	1.5
24	Green foxtail	3.7	0.2	5.0	< 0.1	0.2	0.2	1.4
25	Tumble pigweed	3.7	0.2	5.0	< 0.1	0.2	0.2	1.4
26	Annual brome species	1.9	0.3	15.0	< 0.1	2.0	2.0	1.2
27	Cow cockle	1.9	0.2	10.0	< 0.1	0.4	0.4	0.9

Table 40. 2017 Barley in Fescue Grassland (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	24.4	12.2	50.0	10.6	43.6	128.2	54.0
2	Wild oats	48.9	18.9	38.8	4.6	9.5	55.4	47.5
3	Wild buckwheat	47.9	16.7	34.9	2.6	5.5	32.0	38.4
4	Spiny annual sow-thistle	33.7	10.8	32.0	2.2	6.6	55.0	27.2
5	False cleavers	24.4	11.6	47.5	2.7	11.2	31.4	27.2
6	Annual brome species	6.1	2.1	35.0	2.9	48.0	48.0	13.5
7	Hemp-nettle	12.2	5.8	47.5	1.2	9.8	18.4	13.0
8	Wheat	18.3	3.4	18.3	0.3	1.7	4.6	9.4
9	Shepherd's-purse	18.3	3.4	18.3	0.3	1.7	2.6	9.4
10	Canola/rapeseed	6.1	4.3	70.0	0.8	13.4	13.4	8.6
11	Prostrate knotweed	20.3	2.4	11.9	0.1	0.7	2.2	8.5
12	Canada thistle	15.3	1.8	12.0	0.3	1.8	3.6	7.0
13	Foxtail barley	18.3	0.9	5.0	0.1	0.4	0.6	6.3
14	Yellow toadflax	6.1	2.4	40.0	0.6	9.2	9.2	6.0
15	Dandelion	9.2	1.2	13.4	0.1	0.9	1.4	4.1
16	Kochia	6.1	0.9	15.0	0.3	4.4	4.4	3.5
17	Round-leaved mallow	6.3	0.9	15.0	0.1	0.8	1.2	2.8
18	Field horsetail	6.1	0.6	10.0	0.1	2.4	2.4	2.8
19	Stork's bill	6.1	0.3	5.0	< 0.1	0.4	0.4	2.1
20	Slough grass	6.1	0.3	5.0	< 0.1	0.2	0.2	2.0
21	Narrow-leaved hawk's-beard	6.1	0.3	5.0	< 0.1	0.2	0.2	2.0
22	Italian rye grass	3.1	0.8	25.0	0.1	2.8	2.8	1.9
23	Biennial wormwood	4.9	0.2	5.0	< 0.1	0.2	0.2	1.7
24	Alfalfa	3.1	0.2	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables – Canola in Fescue Grassland

Table 41. 2017 Canola in Fescue Grassland (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barley	42.5	25.1	59.0	4.8	11.3	38.6	52.1
2	False cleavers	27.4	10.9	39.6	4.5	16.4	80.2	35.2
3	Wild oats	37.4	14.2	38.1	2.9	7.8	23.4	33.8
4	Lamb's-quarters	24.9	11.7	47.0	2.6	10.6	28.4	27.3
5	Wheat	29.8	13.2	44.2	1.9	6.4	26.4	26.7
6	Wild buckwheat	39.8	9.7	24.4	0.8	2.1	11.8	21.6
7	Shepherd's-purse	37.4	4.1	11.0	0.5	1.2	7.4	14.7
8	Chickweed	5.0	4.7	95.0	1.9	39.2	39.2	13.5
9	Canada thistle	29.8	3.5	11.7	0.3	0.9	3.0	11.5
10	Hemp-nettle	14.9	5.5	36.7	0.4	2.9	5.8	10.2
11	Perennial sow-thistle	9.9	3.5	35.0	1.1	11.0	16.2	10.1
12	Spiny annual sow-thistle	19.9	1.7	8.8	0.1	0.5	0.6	6.8
13	Dandelion	14.9	2.7	18.3	0.1	0.9	2.0	6.6
14	Kochia	9.9	2.0	20.0	0.4	4.4	8.6	6.0
15	Prostrate knotweed	12.5	2.4	19.0	0.1	0.9	1.8	5.6
16	Night-flowering catchfly	5.0	1.0	20.0	0.3	5.8	5.8	3.3
17	Annual brome species	2.6	1.7	65.0	0.2	8.0	8.0	2.9
18	Stinkweed	7.5	0.9	11.6	0.1	0.7	1.0	2.9
19	Quack grass	5.0	0.5	10.0	0.1	2.6	2.6	2.2
20	Tumble pigweed	5.0	0.2	5.0	< 0.1	0.6	0.6	1.6
21	Foxtail barley	5.0	0.2	5.0	< 0.1	0.2	0.2	1.5
22	Redroot pigweed	5.0	0.2	5.0	< 0.1	0.2	0.2	1.5
23	Field pea	5.0	0.2	5.0	< 0.1	0.2	0.2	1.5
24	Alfalfa	2.6	0.3	10.0	< 0.1	0.4	0.4	0.9

Field Survey Summary Tables – Annual crops in Moist Mixed Grassland

Table 42. 2017 Annual crops in Moist Mixed Grassland (239 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	7.5	2.8	37.5	6.1	81.0	592.8	38.6
2	Wild oats	23.8	7.1	30.0	2.6	11.0	186.2	32.5
3	Wild buckwheat	37.8	8.8	23.3	0.8	2.1	15.4	30.1
4	Wheat	15.3	5.2	34.1	1.2	8.1	106.6	19.5
5	Kochia	11.3	3.3	29.0	1.8	15.8	255.8	18.2
6	Canola/rapeseed	17.3	4.2	24.4	1.1	6.2	89.6	17.8
7	Canada thistle	25.3	3.8	15.0	0.5	1.9	17.0	16.7
8	Lamb's-quarters	19.0	4.0	21.2	0.8	4.1	42.2	16.5
9	Spiny annual sow-thistle	15.6	3.4	21.7	0.7	4.2	53.6	13.8
10	Dandelion	14.2	2.2	15.4	0.2	1.1	8.0	8.8
11	Barley	8.4	2.7	31.6	0.4	4.2	24.6	8.7
12	Stinkweed	10.0	1.8	17.5	0.2	1.8	10.8	6.9
13	False cleavers	4.9	2.2	44.6	0.3	5.7	14.0	6.4
14	Redroot pigweed	5.2	1.6	31.6	0.4	7.9	33.0	6.3
15	Annual brome species	1.8	1.1	60.5	0.6	35.8	114.8	5.5
16	Narrow-leaved hawk's-beard	7.2	1.3	18.1	0.1	2.0	7.8	5.2
17	Round-leaved mallow	6.5	1.2	18.2	0.2	2.6	17.0	4.8
18	Pale smartweed	5.4	0.9	16.6	0.2	3.4	16.6	4.2
19	Prostrate knotweed	6.9	0.7	10.2	< 0.1	0.7	3.0	3.6
20	Foxtail barley	4.6	0.6	12.8	0.1	1.5	8.0	2.8
21	Western barnyard grass	4.4	0.6	14.1	0.1	1.5	7.4	2.7
22	Chickweed	1.4	0.7	46.0	0.2	15.3	38.0	2.6
23	Shepherd's-purse	2.8	0.5	18.1	0.1	3.5	13.4	2.2
24	Tumble pigweed	4.5	0.3	6.9	< 0.1	0.4	1.4	2.1
25	Stork's bill	2.8	0.5	19.2	0.1	1.9	4.2	2.0
26	Perennial sow-thistle	3.1	0.5	14.5	< 0.1	1.2	1.8	1.9
27	Alfalfa	2.1	0.6	27.1	< 0.1	1.7	3.8	1.7
28	Russian thistle	2.6	0.3	13.4	< 0.1	1.6	8.0	1.6
29	Annual spurge species	2.3	0.4	19.3	< 0.1	1.4	3.8	1.6
30	Hemp-nettle	2.8	0.3	10.1	< 0.1	1.5	6.8	1.6
31	Field pea	2.3	0.2	6.8	< 0.1	0.3	0.6	1.1
32	Rose species	1.3	0.2	15.0	< 0.1	1.4	2.0	0.8
33	Flixweed	1.3	0.2	11.9	< 0.1	0.5	1.0	0.7
34	Wild mustard	1.5	0.1	7.8	< 0.1	0.8	4.0	0.7
35	Corn spurry	0.9	0.2	17.9	< 0.1	2.9	4.4	0.7
36	Goat's-beard	1.3	0.1	6.7	< 0.1	0.3	0.4	0.6
37	Cow cockle	0.8	0.1	9.6	< 0.1	1.2	1.8	0.5
38	Field horsetail	0.9	0.1	7.5	< 0.1	0.6	0.6	0.4
39	Night-flowering catchfly	0.9	0.1	7.3	< 0.1	0.3	0.4	0.4
40	Canada fleabane	0.4	0.1	25.0	< 0.1	3.4	3.4	0.4
41	Rough hair grass	0.4	0.1	25.0	< 0.1	2.6	2.6	0.4
42	Lentils	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	Common groundsel	0.5	0.1	20.0	< 0.1	1.2	1.2	0.3
44	Fababean	0.4	0.1	20.0	< 0.1	0.8	0.8	0.3
45	Scouring-rush	0.4	< 0.1	5.0	< 0.1	5.2	5.2	0.3
46	Sweet-clover species	0.4	0.1	15.0	< 0.1	0.6	0.6	0.3
47	Pineappleweed	0.5	< 0.1	10.0	< 0.1	0.4	0.4	0.2
48	White mustard	0.4	< 0.1	10.0	< 0.1	0.8	0.8	0.2
49	Sunflower	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.2
50	Biennial wormwood	0.4	< 0.1	10.0	< 0.1	0.8	0.8	0.2
51	Russian pigweed	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.2
52	Prickly lettuce	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2

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Field Survey Summary Tables – Annual crops in Moist Mixed Grassland

Table 42. 2017 Annual crops in Moist Mixed Grassland (239 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Milkweed species	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2
54	Bull thistle	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2
55	Skeletonweed	0.4	< 0.1	10.0	< 0.1	0.8	0.8	0.2
56	Quack grass	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2
57	Rough cinquefoil	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
58	Persian darnel	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
59	Blue lettuce	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
60	Northern willowherb	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
61	Flax	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
62	Cattail	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.2
63	Golden dock	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
64	Common pepper-grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
65	Pasture sage	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
66	Sedge species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
67	Vetch species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
68	Meadow brome	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.2
69	Oak-leaved goosefoot	0.2	< 0.1	15.0	< 0.1	1.6	1.6	0.1
70	Low cudweed	0.2	< 0.1	10.0	< 0.1	2.6	2.6	0.1
71	Rayless aster	0.2	< 0.1	5.0	< 0.1	1.0	1.0	0.1
72	Blue grass species	0.2	< 0.1	5.0	< 0.1	1.0	1.0	0.1

Field Survey Summary Tables – Cereal crops in Moist Mixed Grassland

Table 43. 2017 Cereal crops in Moist Mixed Grassland (145 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	9.0	3.5	38.4	9.6	107.1	592.8	52.0
2	Wild buckwheat	32.4	8.1	25.2	0.8	2.5	15.4	30.3
3	Wild oats	19.4	5.1	26.5	2.6	13.3	186.2	27.9
4	Canola/rapeseed	21.3	5.4	25.2	1.6	7.5	89.6	24.6
5	Lamb's-quarters	16.9	4.8	28.6	1.1	6.5	42.2	19.9
6	Kochia	13.4	2.9	21.6	2.2	16.4	255.8	19.9
7	Canada thistle	21.8	3.5	15.9	0.4	2.0	7.0	16.3
8	Spiny annual sow-thistle	13.8	2.6	19.0	0.7	5.2	53.6	13.1
9	Dandelion	14.8	2.0	13.7	0.1	0.9	4.8	9.7
10	Redroot pigweed	5.1	1.8	35.6	0.6	11.4	33.0	7.7
11	Stinkweed	7.3	1.8	24.6	0.2	3.0	10.8	6.9
12	Annual brome species	1.4	1.2	82.8	1.0	67.7	114.8	6.9
13	Narrow-leaved hawk's-beard	7.1	1.4	20.2	0.2	2.8	7.8	6.1
14	Pale smartweed	7.4	1.2	15.9	0.3	3.5	16.6	6.1
15	Round-leaved mallow	7.0	1.3	19.0	0.2	2.6	17.0	5.8
16	False cleavers	4.4	1.6	37.3	0.2	5.1	14.0	5.5
17	Foxtail barley	6.1	0.7	11.8	0.1	1.5	8.0	4.0
18	Stork's bill	4.2	0.9	20.2	0.1	2.0	4.2	3.5
19	Prostrate knotweed	5.7	0.6	9.9	< 0.1	0.7	2.2	3.3
20	Perennial sow-thistle	3.6	0.5	15.2	< 0.1	1.2	1.8	2.5
21	Russian thistle	2.8	0.5	17.4	0.1	2.3	8.0	2.2
22	Alfalfa	2.1	0.7	31.7	< 0.1	2.0	3.8	2.2
23	Wheat	4.3	0.3	5.8	< 0.1	0.3	0.6	2.1
24	Shepherd's-purse	2.2	0.4	19.5	0.1	4.5	13.4	2.0
25	Hemp-nettle	2.4	0.2	10.1	0.1	2.4	6.8	1.6
26	Rose species	2.1	0.3	15.0	< 0.1	1.4	2.0	1.5
27	Tumble pigweed	2.7	0.2	6.3	< 0.1	0.3	0.4	1.4
28	Western barnyard grass	2.5	0.2	6.5	< 0.1	0.7	1.6	1.3
29	Corn spurry	1.5	0.3	17.9	< 0.1	2.9	4.4	1.2
30	Chickweed	1.4	0.2	17.9	< 0.1	3.1	5.8	1.1
31	Annual spurge species	1.4	0.2	12.6	< 0.1	0.6	0.8	0.9
32	Cow cockle	1.4	0.1	9.6	< 0.1	1.2	1.8	0.8
33	Barley	1.4	0.1	7.6	< 0.1	0.3	0.4	0.7
34	Canada fleabane	0.7	0.2	25.0	< 0.1	3.4	3.4	0.7
35	Rough hair grass	0.7	0.2	25.0	< 0.1	2.6	2.6	0.7
36	Wild mustard	1.0	0.1	8.1	< 0.1	1.4	4.0	0.6
37	Common groundsel	0.7	0.1	20.0	< 0.1	1.2	1.2	0.6
38	Field pea	1.0	0.1	5.0	< 0.1	0.2	0.2	0.5
39	Scouring-rush	0.7	< 0.1	5.0	< 0.1	5.2	5.2	0.5
40	Sweet-clover species	0.7	0.1	15.0	< 0.1	0.6	0.6	0.5
41	Pineappleweed	0.7	0.1	10.0	< 0.1	0.4	0.4	0.4
42	White mustard	0.7	0.1	10.0	< 0.1	0.8	0.8	0.4
43	Biennial wormwood	0.7	0.1	10.0	< 0.1	0.8	0.8	0.4
44	Milkweed species	0.7	0.1	10.0	< 0.1	0.4	0.4	0.4
45	Quack grass	0.7	0.1	10.0	< 0.1	0.4	0.4	0.4
46	Skeletonweed	0.6	0.1	10.0	< 0.1	0.8	0.8	0.4
47	Common pepper-grass	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
48	Pasture sage	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
49	Vetch species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
50	Field horsetail	0.7	< 0.1	5.0	< 0.1	0.6	0.6	0.3
51	Meadow brome	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.3
52	Lentils	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3

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Field Survey Summary Tables – Cereal crops in Moist Mixed Grassland

Table 43. 2017 Cereal crops in Moist Mixed Grassland (145 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Low cudweed	0.3	< 0.1	10.0	< 0.1	2.6	2.6	0.2
54	Rayless aster	0.3	< 0.1	5.0	< 0.1	1.0	1.0	0.2
55	Blue grass species	0.3	< 0.1	5.0	< 0.1	1.0	1.0	0.2

Field Survey Summary Tables – Spring wheat in Moist Mixed Grassland

Table 44. 2017 Spring wheat in Moist Mixed Grassland (82 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	7.2	3.0	41.5	10.2	142.0	592.8	58.3
2	Wild buckwheat	31.8	9.3	29.1	1.1	3.3	15.4	36.0
3	Kochia	10.4	3.3	31.7	3.6	35.0	255.8	28.3
4	Wild oats	19.6	4.0	20.2	1.3	6.4	68.2	21.7
5	Canola/rapeseed	23.5	5.0	21.3	0.5	2.1	9.2	21.6
6	Spiny annual sow-thistle	18.5	2.8	15.0	0.8	4.4	53.6	16.8
7	Canada thistle	18.5	3.6	19.3	0.4	2.2	6.8	16.4
8	Lamb's-quarters	14.3	3.7	25.6	0.5	3.4	11.4	15.3
9	Narrow-leaved hawk's-beard	8.7	2.3	26.4	0.3	3.8	7.8	9.5
10	False cleavers	4.7	2.7	57.7	0.4	8.2	14.0	9.1
11	Round-leaved mallow	8.9	2.0	22.5	0.3	3.3	17.0	8.9
12	Dandelion	11.6	1.4	11.9	0.1	0.6	1.2	7.7
13	Redroot pigweed	5.2	1.1	20.3	0.2	4.5	15.6	5.3
14	Prostrate knotweed	6.5	0.8	12.7	0.1	0.9	2.2	4.5
15	Foxtail barley	5.7	0.4	7.3	0.1	2.1	8.0	3.7
16	Stinkweed	5.3	0.7	12.2	< 0.1	0.8	1.8	3.6
17	Perennial sow-thistle	5.0	0.6	12.5	0.1	1.0	1.6	3.4
18	Pale smartweed	4.2	0.5	12.9	0.1	1.7	2.8	3.1
19	Rose species	3.8	0.6	15.0	0.1	1.4	2.0	2.9
20	Stork's bill	3.6	0.6	15.2	0.1	1.7	4.2	2.8
21	Hemp-nettle	3.1	0.4	12.2	0.1	3.3	6.8	2.5
22	Western barnyard grass	3.9	0.3	6.7	< 0.1	0.5	1.0	2.2
23	Chickweed	2.4	0.4	17.9	0.1	3.1	5.8	2.2
24	Wheat	3.8	0.2	5.0	< 0.1	0.3	0.6	2.0
25	Tumble pigweed	2.4	0.2	7.6	< 0.1	0.3	0.4	1.4
26	Canada fleabane	1.2	0.3	25.0	< 0.1	3.4	3.4	1.3
27	Rough hair grass	1.2	0.3	25.0	< 0.1	2.6	2.6	1.3
28	Annual spurge species	1.3	0.2	15.0	< 0.1	0.8	0.8	1.0
29	Field pea	1.8	0.1	5.0	< 0.1	0.2	0.2	0.9
30	Scouring-rush	1.2	0.1	5.0	0.1	5.2	5.2	0.9
31	Russian thistle	1.2	0.1	10.0	< 0.1	0.8	0.8	0.8
32	Milkweed species	1.2	0.1	10.0	< 0.1	0.4	0.4	0.8
33	Pasture sage	1.3	0.1	5.0	< 0.1	0.2	0.2	0.7
34	Field horsetail	1.2	0.1	5.0	< 0.1	0.6	0.6	0.7
35	Lentils	1.2	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Barley	1.2	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Wild mustard	0.5	0.1	15.0	< 0.1	4.0	4.0	0.5
38	Low cudweed	0.5	0.1	10.0	< 0.1	2.6	2.6	0.4
39	Blue grass species	0.5	< 0.1	5.0	< 0.1	1.0	1.0	0.3

Field Survey Summary Tables – Barley in Moist Mixed Grassland

Table 45. 2017 Barley in Moist Mixed Grassland (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	24.8	7.5	30.3	4.2	16.7	89.6	58.6
2	Annual brome species	6.0	4.9	82.8	4.0	67.7	114.8	45.4
3	Wild buckwheat	36.3	5.6	15.3	0.5	1.4	4.8	29.0
4	Spiny annual sow-thistle	11.2	3.7	32.8	1.1	9.8	24.8	20.8
5	Canada thistle	27.0	3.1	11.6	0.4	1.6	6.4	20.0
6	Dandelion	22.0	3.2	14.5	0.3	1.2	4.8	16.9
7	Wild oats	14.5	2.0	13.7	0.2	1.5	3.8	11.3
8	Lamb's-quarters	18.9	0.9	5.0	0.1	0.3	0.6	9.3
9	Kochia	11.2	1.6	14.0	0.2	1.9	3.4	9.1
10	Alfalfa	5.7	2.2	38.0	0.1	2.3	3.8	7.8
11	Green foxtail	8.8	1.2	13.3	0.2	1.7	2.6	6.9
12	Russian thistle	2.9	1.3	45.0	0.2	8.0	8.0	5.8
13	Round-leaved mallow	8.3	0.8	10.1	0.1	0.9	1.4	5.4
14	Stinkweed	2.9	1.2	40.0	0.2	6.8	6.8	5.2
15	Narrow-leaved hawk's-beard	9.2	0.6	6.6	0.1	0.7	1.2	5.1
16	Foxtail barley	3.3	1.1	35.0	0.1	2.0	2.0	4.2
17	Pale smartweed	6.0	0.5	7.6	0.1	2.1	2.2	4.1
18	Cow cockle	5.7	0.5	9.6	0.1	1.2	1.8	3.8
19	Perennial sow-thistle	3.3	0.8	25.0	0.1	1.8	1.8	3.4
20	Stork's bill	2.9	0.7	25.0	0.1	3.0	3.0	3.3
21	Wheat	6.1	0.5	7.4	< 0.1	0.3	0.4	3.3
22	Tumble pigweed	5.9	0.3	5.0	< 0.1	0.2	0.2	2.8
23	Prostrate knotweed	5.6	0.3	5.0	< 0.1	0.3	0.4	2.7
24	False cleavers	4.1	0.2	5.0	< 0.1	0.4	0.4	2.0
25	Annual spurge species	2.9	0.3	10.0	< 0.1	0.4	0.4	1.8
26	Skeletonweed	2.6	0.3	10.0	< 0.1	0.8	0.8	1.7
27	Quack grass	2.8	0.3	10.0	< 0.1	0.4	0.4	1.7
28	Vetch species	3.0	0.2	5.0	< 0.1	0.2	0.2	1.5
29	Meadow brome	2.9	0.1	5.0	< 0.1	0.4	0.4	1.5
30	Hemp-nettle	2.9	0.1	5.0	< 0.1	0.2	0.2	1.4
31	Wild mustard	2.9	0.1	5.0	< 0.1	0.2	0.2	1.4
32	Redroot pigweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.4
33	Western barnyard grass	1.3	0.1	5.0	< 0.1	1.6	1.6	0.8
34	Rayless aster	1.3	0.1	5.0	< 0.1	1.0	1.0	0.7

Field Survey Summary Tables – Durum in Moist Mixed Grassland

Table 46. 2017 Durum in Moist Mixed Grassland (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	15.3	10.5	68.8	27.6	181.2	509.4	83.8
2	Wild oats	35.2	17.5	49.7	13.1	37.3	186.2	75.3
3	Kochia	29.5	3.4	11.6	0.5	1.6	5.8	21.6
4	Wild buckwheat	20.2	5.3	26.3	0.3	1.5	2.0	19.8
5	Canada thistle	24.9	3.2	13.0	0.4	1.7	7.0	18.9
6	Canola/rapeseed	10.0	5.0	50.0	2.4	24.0	47.4	18.7
7	Lamb's-quarters	5.0	4.5	90.0	2.1	42.2	42.2	14.7
8	Foxtail barley	15.0	1.5	10.0	0.1	0.5	1.0	10.3
9	Shepherd's-purse	5.0	2.5	50.0	0.7	13.4	13.4	8.2
10	Spiny annual sow-thistle	5.0	1.3	25.0	0.1	1.0	1.0	4.8
11	Sweet-clover species	5.0	0.7	15.0	< 0.1	0.6	0.6	3.8
12	Stinkweed	4.9	0.7	15.0	0.1	1.2	1.2	3.8
13	White mustard	5.0	0.5	10.0	< 0.1	0.8	0.8	3.4
14	Barley	5.0	0.5	10.0	< 0.1	0.4	0.4	3.4
15	Biennial wormwood	4.9	0.5	10.0	< 0.1	0.8	0.8	3.4
16	Wheat	5.2	0.3	5.0	< 0.1	0.2	0.2	3.1
17	Pale smartweed	5.0	0.3	5.0	< 0.1	0.2	0.2	3.0

Field Survey Summary Tables – Canola in Moist Mixed Grassland

Table 47. 2017 Canola in Moist Mixed Grassland (71 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	32.3	12.8	39.8	2.3	7.1	35.6	45.2
2	Wild oats	25.2	9.4	37.5	2.1	8.3	34.0	37.2
3	Wild buckwheat	46.4	9.4	20.3	0.8	1.6	7.8	31.2
4	Canada thistle	36.6	5.5	14.9	0.7	2.0	17.0	23.5
5	Spiny annual sow-thistle	21.3	5.6	26.2	0.7	3.3	15.4	19.1
6	Barley	16.5	4.5	27.2	0.5	3.3	17.6	15.0
7	Lamb's-quarters	25.9	3.1	12.1	0.3	1.1	10.8	13.7
8	False cleavers	6.2	4.1	65.9	0.5	7.9	12.4	11.1
9	Kochia	6.1	2.6	43.0	0.5	8.1	26.0	9.3
10	Chickweed	2.1	1.8	85.4	0.7	32.4	38.0	8.8
11	Dandelion	10.5	2.8	26.7	0.3	2.5	8.0	8.7
12	Stinkweed	16.0	1.9	12.0	0.1	0.9	3.8	8.2
13	Green foxtail	6.0	2.3	37.4	0.4	6.2	11.8	7.8
14	Redroot pigweed	7.0	1.8	25.3	0.2	2.5	6.4	5.7
15	Round-leaved mallow	7.5	1.2	16.5	0.2	2.5	8.2	5.3
16	Shepherd's-purse	5.1	0.9	16.8	0.1	2.6	5.8	3.7
17	Western barnyard grass	4.7	1.1	22.6	0.1	2.5	7.4	3.6
18	Tumble pigweed	8.1	0.6	7.7	< 0.1	0.5	1.4	3.4
19	Annual brome species	3.1	1.2	38.1	0.1	4.0	7.6	3.4
20	Narrow-leaved hawk's-beard	4.7	1.2	24.7	0.1	1.5	2.6	3.3
21	Prostrate knotweed	6.4	0.6	9.7	< 0.1	0.6	1.8	2.9
22	Annual spurge species	3.2	1.0	30.0	0.1	2.6	3.8	2.8
23	Canola/rapeseed	4.9	0.7	14.9	< 0.1	0.9	1.4	2.6
24	Field pea	5.9	0.4	7.5	< 0.1	0.3	0.6	2.4
25	Pale smartweed	3.0	0.6	20.0	0.1	2.9	5.4	2.3
26	Hemp-nettle	4.5	0.4	10.0	< 0.1	0.4	0.8	2.0
27	Goat's-beard	4.7	0.3	6.7	< 0.1	0.3	0.4	1.8
28	Perennial sow-thistle	3.2	0.4	12.7	< 0.1	1.2	1.6	1.8
29	Alfalfa	2.8	0.5	19.7	< 0.1	1.2	2.2	1.7
30	Night-flowering catchfly	3.0	0.2	7.3	< 0.1	0.3	0.4	1.2
31	Wild mustard	2.9	0.2	7.6	< 0.1	0.3	0.4	1.2
32	Flixweed	1.6	0.4	25.0	< 0.1	1.0	1.0	1.1
33	Fababean	1.6	0.3	20.0	< 0.1	0.8	0.8	0.9
34	Foxtail barley	1.5	0.2	15.0	< 0.1	0.6	0.6	0.8
35	Field horsetail	1.5	0.1	10.0	< 0.1	0.6	0.6	0.7
36	Russian pigweed	1.5	0.1	10.0	< 0.1	0.6	0.6	0.7
37	Bull thistle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.7
38	Persian darnel	1.7	0.1	5.0	< 0.1	0.2	0.2	0.6
39	Blue lettuce	1.7	0.1	5.0	< 0.1	0.2	0.2	0.6
40	Northern willowherb	1.7	0.1	5.0	< 0.1	0.2	0.2	0.6
41	Cattail	1.6	0.1	5.0	< 0.1	0.4	0.4	0.6
42	Flax	1.6	0.1	5.0	< 0.1	0.2	0.2	0.6
43	Golden dock	1.6	0.1	5.0	< 0.1	0.2	0.2	0.6
44	Sedge species	1.6	0.1	5.0	< 0.1	0.2	0.2	0.6
45	Lentils	1.4	0.1	5.0	< 0.1	0.2	0.2	0.5
46	Oak-leaved goosefoot	0.7	0.1	15.0	< 0.1	1.6	1.6	0.4
47	Stork's bill	0.7	< 0.1	5.0	< 0.1	1.0	1.0	0.3

Field Survey Summary Tables – Pulse crops in Moist Mixed Grassland

Table 48. 2017 Pulse crops in Moist Mixed Grassland (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	35.4	14.6	41.1	6.1	17.1	106.6	59.3
2	Wild oats	48.4	13.1	27.1	4.6	9.5	77.6	53.4
3	Barley	30.2	13.9	46.1	2.1	6.9	24.6	36.0
4	Wild buckwheat	46.6	11.2	24.0	0.9	1.9	10.6	30.7
5	Kochia	14.0	7.9	57.0	3.1	22.2	41.8	29.9
6	Canola/rapeseed	29.0	7.4	25.7	0.8	2.7	5.2	20.9
7	Western barnyard grass	15.8	2.3	14.4	0.2	1.4	2.6	8.2
8	Dandelion	21.3	1.3	6.2	0.1	0.4	1.0	7.7
9	Prostrate knotweed	16.2	1.9	11.5	0.1	0.8	3.0	7.3
10	Narrow-leaved hawk's-beard	16.2	1.0	6.3	< 0.1	0.3	0.6	5.8
11	Canada thistle	13.8	0.9	6.5	0.1	1.0	5.2	5.5
12	Spiny annual sow-thistle	9.9	1.7	17.2	0.1	1.3	2.0	5.4
13	Lamb's-quarters	11.2	1.4	12.7	0.1	0.9	2.6	5.3
14	Stinkweed	9.5	1.0	10.0	< 0.1	0.5	0.6	4.0
15	Flixweed	9.4	0.5	5.0	< 0.1	0.2	0.2	3.2
16	Russian thistle	8.7	0.4	5.0	< 0.1	0.2	0.2	3.0
17	Foxtail barley	4.6	0.9	20.0	0.1	2.0	2.0	2.8
18	Sunflower	4.6	0.5	10.0	< 0.1	0.6	0.6	1.9
19	Prickly lettuce	4.6	0.5	10.0	< 0.1	0.4	0.4	1.9
20	Annual spurge species	4.6	0.5	10.0	< 0.1	0.4	0.4	1.9
21	Rough cinquefoil	5.1	0.3	5.0	< 0.1	0.2	0.2	1.7
22	Tumble pigweed	5.1	0.3	5.0	< 0.1	0.2	0.2	1.7
23	False cleavers	4.8	0.2	5.0	< 0.1	0.2	0.2	1.6
24	Green foxtail	2.0	0.2	10.0	< 0.1	0.8	0.8	0.9

Field Survey Summary Tables – Peas in Moist Mixed Grassland

Table 49. 2017 Peas in Moist Mixed Grassland (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	37.1	15.3	41.1	6.3	17.1	106.6	64.3
2	Wild oats	45.9	13.3	28.9	4.8	10.5	77.6	55.5
3	Barley	31.7	14.6	46.1	2.2	6.9	24.6	38.4
4	Wild buckwheat	48.8	11.7	24.0	0.9	1.9	10.6	32.3
5	Canola/rapeseed	30.4	7.8	25.7	0.8	2.7	5.2	22.1
6	Kochia	9.8	4.2	43.2	1.2	12.6	24.6	14.8
7	Western barnyard grass	16.6	2.4	14.4	0.2	1.4	2.6	8.6
8	Dandelion	22.3	1.4	6.2	0.1	0.4	1.0	8.0
9	Prostrate knotweed	17.0	2.0	11.5	0.1	0.8	3.0	7.6
10	Narrow-leaved hawk's-beard	17.0	1.1	6.3	< 0.1	0.3	0.6	6.0
11	Canada thistle	14.5	0.9	6.5	0.1	1.0	5.2	5.7
12	Spiny annual sow-thistle	10.4	1.8	17.2	0.1	1.3	2.0	5.6
13	Lamb's-quarters	11.8	1.5	12.7	0.1	0.9	2.6	5.5
14	Stinkweed	10.0	1.0	10.0	0.1	0.5	0.6	4.1
15	Flixweed	9.8	0.5	5.0	< 0.1	0.2	0.2	3.3
16	Russian thistle	9.2	0.5	5.0	< 0.1	0.2	0.2	3.1
17	Foxtail barley	4.8	1.0	20.0	0.1	2.0	2.0	3.0
18	Sunflower	4.8	0.5	10.0	< 0.1	0.6	0.6	2.0
19	Prickly lettuce	4.8	0.5	10.0	< 0.1	0.4	0.4	2.0
20	Annual spurge species	4.8	0.5	10.0	< 0.1	0.4	0.4	2.0
21	Rough cinquefoil	5.4	0.3	5.0	< 0.1	0.2	0.2	1.8
22	Tumble pigweed	5.4	0.3	5.0	< 0.1	0.2	0.2	1.8
23	False cleavers	5.0	0.3	5.0	< 0.1	0.2	0.2	1.7
24	Green foxtail	2.1	0.2	10.0	< 0.1	0.8	0.8	0.9

Field Survey Summary Tables – Annual crops in Mixed Grassland

Table 50. 2017 Annual crops in Mixed Grassland (194 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	37.1	7.5	20.1	1.3	3.5	84.2	35.6
2	Lamb's-quarters	12.7	3.9	30.4	1.9	14.8	274.0	25.7
3	Wild buckwheat	26.4	6.2	23.6	0.7	2.5	22.2	24.8
4	Wild oats	15.7	3.6	23.2	0.7	4.8	54.0	17.4
5	Russian thistle	18.5	3.6	19.5	0.5	2.8	25.0	16.5
6	Canada thistle	20.5	2.7	13.2	0.6	2.9	17.2	16.5
7	Wheat	11.3	3.6	31.5	0.4	3.1	9.2	12.7
8	Narrow-leaved hawk's-beard	11.8	2.5	21.6	0.4	3.3	27.4	11.4
9	Redroot pigweed	7.0	2.2	31.1	0.5	6.9	32.4	9.8
10	Chickweed	1.4	0.6	42.8	1.0	72.3	208.0	9.2
11	Alfalfa	4.2	1.6	38.7	0.6	14.9	50.6	9.1
12	Spiny annual sow-thistle	9.1	2.2	23.8	0.2	2.7	12.6	8.7
13	Canola/rapeseed	7.2	2.2	30.9	0.3	3.5	10.8	8.2
14	Foxtail barley	10.4	1.1	10.9	0.2	1.6	9.6	6.9
15	Dandelion	6.7	1.6	24.3	0.2	3.0	20.4	6.6
16	Shepherd's-purse	2.5	0.9	37.1	0.5	21.5	108.2	6.6
17	Western barnyard grass	5.5	1.3	23.3	0.3	5.7	45.8	6.6
18	Round-leaved mallow	7.3	1.2	16.7	0.1	1.2	11.0	5.3
19	Barley	4.0	1.1	27.8	0.2	5.8	12.6	5.0
20	Green foxtail	4.1	1.1	25.9	0.2	4.7	24.8	4.7
21	Tumble pigweed	4.5	1.2	27.4	0.1	2.5	6.2	4.5
22	Quack grass	0.6	0.1	25.0	0.4	71.6	71.6	3.6
23	Perennial sow-thistle	5.4	0.6	10.9	0.1	1.1	3.0	3.3
24	Flax	0.5	0.4	95.0	0.3	65.6	65.6	3.3
25	Pale smartweed	3.7	0.5	14.1	0.1	3.3	17.8	3.1
26	Stinkweed	3.2	0.4	13.9	0.1	1.7	7.0	2.3
27	Prickly lettuce	3.8	0.3	8.7	< 0.1	0.6	1.8	2.0
28	Annual brome species	0.9	0.5	53.3	0.1	10.8	16.4	1.9
29	Dock species	2.7	0.4	14.2	< 0.1	1.5	4.2	1.9
30	Nightshade species	0.8	0.7	85.0	0.1	7.4	7.4	1.8
31	Goat's-beard	3.4	0.3	7.4	< 0.1	0.5	1.0	1.7
32	White mustard	1.6	0.4	27.9	< 0.1	1.9	2.6	1.5
33	Yellow toadflax	0.6	0.1	20.0	0.1	26.4	26.4	1.5
34	Vetch species	0.5	0.4	80.0	0.1	13.8	13.8	1.5
35	Flixweed	1.6	0.3	21.3	< 0.1	2.0	3.0	1.3
36	Field pea	2.5	0.2	7.4	< 0.1	0.6	1.8	1.3
37	Stork's bill	1.8	0.2	13.6	< 0.1	1.5	2.4	1.3
38	Lentils	1.7	0.3	15.1	< 0.1	1.5	2.6	1.2
39	Annual spurge species	1.4	0.2	15.1	< 0.1	2.4	6.2	1.1
40	Oats	1.1	0.3	25.0	< 0.1	1.8	1.8	1.0
41	Wild mustard	1.5	0.2	12.8	< 0.1	0.6	1.2	0.9
42	Sunflower	1.6	0.2	11.1	< 0.1	0.6	1.2	0.9
43	Black medick	0.9	0.2	17.7	< 0.1	4.1	6.8	0.8
44	Biennial wormwood	1.1	0.1	12.5	< 0.1	1.0	1.0	0.7
45	Prostrate knotweed	0.5	0.2	40.0	< 0.1	3.2	3.2	0.7
46	Purslane	1.1	0.1	10.0	< 0.1	1.0	1.0	0.6
47	Skeletonweed	1.1	0.1	10.0	< 0.1	0.6	0.6	0.6
48	Rye	0.5	0.2	35.0	< 0.1	2.0	2.0	0.6
49	Cow cockle	0.5	0.1	25.0	< 0.1	2.8	2.8	0.5
50	Low cudweed	1.0	0.1	7.8	< 0.1	0.9	1.4	0.5
51	Pasture sage	1.1	0.1	5.0	< 0.1	0.4	0.4	0.5
52	Slough grass	0.5	0.1	10.0	< 0.1	4.0	4.0	0.4

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Field Survey Summary Tables – Annual crops in Mixed Grassland

Table 50. 2017 Annual crops in Mixed Grassland (194 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	False cleavers	0.4	0.1	25.0	< 0.1	2.8	2.8	0.4
54	Bull thistle	0.5	0.1	20.0	< 0.1	1.0	1.0	0.4
55	Persian darnel	0.6	0.1	10.0	< 0.1	1.2	1.2	0.3
56	Willow species	0.4	0.1	15.0	< 0.1	0.6	0.6	0.3
57	Canada fleabane	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3
58	Smooth brome	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
59	Water smartweed	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
60	Common pepper-grass	0.3	0.1	15.0	< 0.1	0.8	0.8	0.2
61	Pseudognaphalium species	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
62	Prairie sage	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
63	Aster species	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
64	Rough cinquefoil	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
65	Purslane speedwell	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
66	Clover species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
67	Common groundsel	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Cereal crops in Mixed Grassland

Table 51. 2017 Cereal crops in Mixed Grassland (111 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	35.0	7.7	22.1	1.8	5.0	84.2	34.1
2	Wild buckwheat	31.3	7.7	24.5	0.8	2.5	22.2	27.1
3	Lamb's-quarters	10.8	3.2	29.9	3.0	27.6	274.0	25.6
4	Wild oats	14.4	4.5	31.0	1.1	7.6	54.0	18.1
5	Canada thistle	23.3	2.8	12.0	0.5	2.3	15.6	15.4
6	Russian thistle	19.1	3.5	18.4	0.4	2.3	9.6	14.5
7	Alfalfa	6.8	2.8	41.8	1.1	16.3	50.6	13.0
8	Narrow-leaved hawk's-beard	12.2	3.2	26.6	0.6	4.8	27.4	12.5
9	Redroot pigweed	7.7	3.3	42.7	0.8	10.5	32.4	12.4
10	Chickweed	2.4	1.0	42.8	1.7	72.3	208.0	12.2
11	Canola/rapeseed	8.5	2.8	32.3	0.3	3.8	10.8	9.0
12	Dandelion	9.0	2.5	27.3	0.3	3.7	20.4	8.8
13	Foxtail barley	13.0	1.6	12.3	0.3	2.0	9.6	8.5
14	Shepherd's-purse	2.6	1.5	57.1	0.9	35.9	108.2	8.4
15	Spiny annual sow-thistle	6.7	1.4	21.2	0.2	3.4	12.6	5.8
16	Barley	3.8	1.4	37.3	0.4	9.6	12.6	5.6
17	Tumble pigweed	5.4	1.8	33.1	0.2	3.2	6.2	5.6
18	Round-leaved mallow	7.5	1.4	18.2	0.1	1.5	11.0	5.3
19	Quack grass	1.0	0.2	25.0	0.7	71.6	71.6	4.7
20	Flax	0.8	0.8	95.0	0.5	65.6	65.6	4.5
21	Wheat	4.5	1.4	31.1	0.1	3.1	8.0	4.5
22	Western barnyard grass	2.5	0.6	22.9	0.4	15.1	45.8	3.9
23	Perennial sow-thistle	5.7	0.6	9.7	0.1	1.4	3.0	3.3
24	Stinkweed	3.9	0.7	17.9	0.1	2.3	7.0	3.0
25	Annual brome species	1.0	0.8	80.0	0.2	16.4	16.4	2.5
26	Pale smartweed	1.9	0.5	27.5	0.2	9.5	17.8	2.5
27	Green foxtail	4.5	0.4	10.1	< 0.1	0.8	1.4	2.4
28	Dock species	2.8	0.6	20.2	0.1	2.0	4.2	2.2
29	Yellow toadflax	1.0	0.2	20.0	0.3	26.4	26.4	2.1
30	Stork's bill	3.2	0.4	13.6	< 0.1	1.5	2.4	2.1
31	Oats	1.8	0.5	25.0	< 0.1	1.8	1.8	1.5
32	Flixweed	1.8	0.3	16.8	< 0.1	2.3	3.0	1.3
33	Black medick	1.5	0.3	17.7	0.1	4.1	6.8	1.3
34	Prostrate knotweed	0.9	0.4	40.0	< 0.1	3.2	3.2	1.1
35	Wild mustard	1.8	0.3	14.3	< 0.1	0.7	1.2	1.1
36	Purslane	1.8	0.2	10.0	< 0.1	1.0	1.0	1.0
37	Lentils	1.9	0.1	7.6	< 0.1	0.9	1.4	1.0
38	Skeletonweed	1.8	0.2	10.0	< 0.1	0.6	0.6	1.0
39	Low cudweed	1.7	0.1	7.8	< 0.1	0.9	1.4	0.9
40	Cow cockle	0.9	0.2	25.0	< 0.1	2.8	2.8	0.8
41	Pasture sage	1.8	0.1	5.0	< 0.1	0.4	0.4	0.8
42	Prickly lettuce	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8
43	Field pea	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8
44	Slough grass	0.9	0.1	10.0	< 0.1	4.0	4.0	0.7
45	False cleavers	0.7	0.2	25.0	< 0.1	2.8	2.8	0.7
46	Persian darnel	1.0	0.1	10.0	< 0.1	1.2	1.2	0.6
47	Biennial wormwood	0.9	0.1	10.0	< 0.1	1.0	1.0	0.5
48	White mustard	1.0	< 0.1	5.0	< 0.1	0.6	0.6	0.5
49	Canada fleabane	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.4
50	Willow species	0.7	0.1	15.0	< 0.1	0.6	0.6	0.4
51	Annual spurge species	0.8	0.1	10.0	< 0.1	0.4	0.4	0.4
52	Water smartweed	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.4

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Field Survey Summary Tables – Cereal crops in Mixed Grassland

Table 51. 2017 Cereal crops in Mixed Grassland (111 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Common pepper-grass	0.6	0.1	15.0	< 0.1	0.8	0.8	0.4
54	Prairie sage	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
55	Aster species	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
56	Rough cinquefoil	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
57	Purslane speedwell	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
58	Clover species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
59	Common groundsel	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Spring wheat in Mixed Grassland

Table 52. 2017 Spring wheat in Mixed Grassland (45 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	8.6	2.9	33.4	7.1	83.2	274.0	39.5
2	Kochia	31.0	9.4	30.4	2.7	8.8	84.2	38.0
3	Wild buckwheat	32.6	7.4	22.7	0.7	2.0	11.6	26.2
4	Narrow-leaved hawk's-beard	13.6	5.6	41.2	1.2	9.1	27.4	19.0
5	Wild oats	15.3	4.9	32.0	1.1	7.2	32.0	18.0
6	Russian thistle	16.2	4.6	28.5	0.7	4.0	9.6	15.9
7	Canada thistle	25.7	2.0	7.7	0.4	1.6	8.2	14.3
8	Canola/rapeseed	10.9	4.7	43.5	0.4	4.0	10.8	13.2
9	Shepherd's-purse	2.0	2.0	100.0	2.1	108.2	108.2	13.2
10	Dandelion	12.5	3.7	30.0	0.3	2.8	5.8	11.8
11	Quack grass	2.6	0.6	25.0	1.9	71.6	71.6	10.3
12	Spiny annual sow-thistle	11.0	1.8	16.4	0.4	4.0	12.6	8.7
13	Alfalfa	8.1	2.3	28.8	0.3	3.7	11.0	7.9
14	Foxtail barley	10.5	1.8	16.9	0.3	2.5	9.6	7.7
15	Round-leaved mallow	5.6	1.9	34.4	0.2	4.1	11.0	6.1
16	Western barnyard grass	2.0	0.8	40.0	0.9	45.8	45.8	5.9
17	Stinkweed	6.3	1.4	23.0	0.2	3.2	7.0	5.4
18	Yellow toadflax	2.6	0.5	20.0	0.7	26.4	26.4	4.8
19	Perennial sow-thistle	6.4	0.9	14.1	0.1	1.8	2.8	4.2
20	Redroot pigweed	5.1	0.9	17.7	0.1	2.1	5.4	3.7
21	Tumble pigweed	4.4	0.7	15.0	< 0.1	0.6	0.6	2.7
22	Green foxtail	5.2	0.4	7.5	< 0.1	0.8	1.0	2.7
23	Dock species	2.6	0.8	30.0	0.1	4.2	4.2	2.6
24	Chickweed	4.1	0.5	12.6	< 0.1	0.7	1.0	2.4
25	Wild mustard	2.2	0.5	25.0	< 0.1	1.2	1.2	1.7
26	False cleavers	2.0	0.5	25.0	0.1	2.8	2.8	1.7
27	Flixweed	2.6	0.3	10.0	< 0.1	1.8	1.8	1.6
28	Black medick	1.8	0.3	15.0	< 0.1	0.8	0.8	1.2
29	Willow species	1.8	0.3	15.0	< 0.1	0.6	0.6	1.1
30	Annual spurge species	2.1	0.2	10.0	< 0.1	0.4	0.4	1.1
31	Water smartweed	2.5	0.1	5.0	< 0.1	0.2	0.2	1.1
32	Prickly lettuce	2.2	0.1	5.0	< 0.1	0.2	0.2	1.0
33	Prairie sage	2.1	0.1	5.0	< 0.1	0.2	0.2	1.0
34	Aster species	2.1	0.1	5.0	< 0.1	0.2	0.2	1.0
35	Low cudweed	2.0	0.1	5.0	< 0.1	0.2	0.2	0.9
36	Rough cinquefoil	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8
37	Purslane speedwell	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8
38	Clover species	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Barley in Mixed Grassland

Table 53. 2017 Barley in Mixed Grassland (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	6.1	6.1	100.0	12.6	208.0	208.0	61.4
2	Wild buckwheat	49.8	19.0	38.2	2.4	4.7	22.2	46.5
3	Kochia	50.3	12.4	24.8	2.3	4.7	11.2	39.2
4	Lamb's-quarters	25.1	9.7	38.8	1.5	5.9	12.6	24.8
5	Redroot pigweed	19.6	7.3	37.2	2.5	12.9	32.4	24.7
6	Wheat	19.6	5.8	29.7	0.6	2.9	8.0	14.9
7	Round-leaved mallow	27.2	3.7	13.7	0.1	0.5	0.6	13.1
8	Alfalfa	13.6	6.1	45.0	0.4	2.8	2.8	12.6
9	Canada thistle	20.7	2.4	11.7	0.2	0.9	1.2	9.8
10	Oats	13.6	3.4	25.0	0.2	1.8	1.8	9.0
11	Wild oats	10.0	3.5	35.0	0.3	2.8	2.8	8.2
12	Russian thistle	11.4	2.4	21.1	0.2	1.9	2.0	7.1
13	Foxtail barley	17.2	0.9	5.0	0.1	0.7	0.8	6.7
14	Tumble pigweed	6.9	2.8	40.0	0.2	2.8	2.8	6.0
15	Cow cockle	6.9	1.7	25.0	0.2	2.8	2.8	4.9
16	Perennial sow-thistle	10.0	0.5	5.0	< 0.1	0.2	0.2	3.7
17	Stork's bill	10.0	0.5	5.0	< 0.1	0.2	0.2	3.7
18	Canola/rapeseed	5.1	0.3	5.0	< 0.1	0.2	0.2	1.9
19	Green foxtail	4.5	0.2	5.0	< 0.1	0.2	0.2	1.7

Table 54. 2017 Durum in Mixed Grassland (47 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	34.8	4.9	14.1	0.8	2.4	22.0	40.3
2	Wild oats	14.8	4.8	32.6	1.4	9.7	54.0	39.5
3	Canada thistle	21.7	3.4	15.7	0.5	2.1	6.8	25.0
4	Russian thistle	25.1	3.3	13.3	0.4	1.4	4.8	25.0
5	Flax	1.9	1.8	95.0	1.3	65.6	65.6	23.6
6	Wild buckwheat	22.9	3.2	13.9	0.2	0.8	4.2	21.2
7	Foxtail barley	13.5	1.7	12.5	0.2	1.7	4.6	13.6
8	Annual brome species	2.3	1.9	80.0	0.4	16.4	16.4	11.4
9	Pale smartweed	4.4	1.2	27.5	0.4	9.5	17.8	11.1
10	Canola/rapeseed	4.4	1.8	39.9	0.3	7.3	9.2	11.1
11	Narrow-leaved hawk's-beard	8.5	1.4	16.5	0.2	1.9	6.0	9.7
12	Spiny annual sow-thistle	6.1	1.8	28.9	0.1	2.4	4.4	9.3
13	Western barnyard grass	4.1	0.7	15.7	0.1	2.2	4.0	4.9
14	Dandelion	4.3	0.8	18.7	< 0.1	0.9	1.6	4.6
15	Prostrate knotweed	2.2	0.9	40.0	0.1	3.2	3.2	4.3
16	Redroot pigweed	3.1	0.7	23.6	0.1	1.8	4.6	4.1
17	Black medick	1.9	0.4	20.0	0.1	6.8	6.8	3.8
18	Lentils	4.6	0.3	7.6	< 0.1	0.9	1.4	3.5
19	Tumble pigweed	2.2	0.6	25.0	0.1	2.4	2.4	3.2
20	Lamb's-quarters	3.9	0.4	10.0	< 0.1	0.5	0.6	3.0
21	Flixweed	1.9	0.5	25.0	0.1	3.0	3.0	2.9
22	Slough grass	2.2	0.2	10.0	0.1	4.0	4.0	2.8
23	Round-leaved mallow	3.9	0.3	7.5	< 0.1	0.4	0.6	2.7
24	Field pea	4.1	0.2	5.0	< 0.1	0.2	0.2	2.5
25	Green foxtail	2.6	0.4	13.9	< 0.1	0.7	1.4	2.4
26	Low cudweed	2.2	0.2	10.0	< 0.1	1.4	1.4	2.0
27	Biennial wormwood	2.2	0.2	10.0	< 0.1	1.0	1.0	1.9
28	Stinkweed	2.2	0.2	10.0	< 0.1	0.8	0.8	1.8
29	Barley	2.3	0.1	5.0	< 0.1	1.2	1.2	1.8
30	White mustard	2.3	0.1	5.0	< 0.1	0.6	0.6	1.5
31	Wheat	2.5	0.1	5.0	< 0.1	0.2	0.2	1.5
32	Prickly lettuce	2.2	0.1	5.0	< 0.1	0.2	0.2	1.3
33	Wild mustard	2.2	0.1	5.0	< 0.1	0.2	0.2	1.3
34	Perennial sow-thistle	2.2	0.1	5.0	< 0.1	0.2	0.2	1.3

Field Survey Summary Tables – Canola in Mixed Grassland

Table 55. 2017 Canola in Mixed Grassland (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	25.3	9.7	38.3	0.9	3.5	10.2	47.7
2	Wheat	16.5	7.7	46.7	0.8	4.8	9.2	38.4
3	Kochia	29.6	3.1	10.6	0.2	0.7	2.4	22.4
4	Nightshade species	5.7	4.8	85.0	0.4	7.4	7.4	20.7
5	Vetch species	3.9	3.2	80.0	0.5	13.8	13.8	19.4
6	Wild buckwheat	27.3	2.6	9.4	0.1	0.4	1.0	18.3
7	Round-leaved mallow	14.8	2.3	15.8	0.1	0.7	1.4	12.6
8	Green foxtail	3.3	2.0	60.0	0.3	8.6	8.6	11.4
9	Perennial sow-thistle	13.1	1.7	13.3	0.1	0.8	1.4	10.8
10	Russian thistle	11.3	1.8	16.1	0.1	1.1	2.6	10.8
11	Canola/rapeseed	3.4	2.1	60.0	0.2	7.2	7.2	10.7
12	Redroot pigweed	14.8	1.3	8.8	0.1	0.4	0.8	9.8
13	Spiny annual sow-thistle	13.1	1.3	10.0	0.1	0.6	0.8	9.3
14	Tumble pigweed	10.2	1.5	14.9	0.1	0.9	1.4	9.1
15	Pale smartweed	7.4	1.1	14.3	0.1	1.5	3.0	7.4
16	Narrow-leaved hawk's-beard	3.4	1.2	35.0	0.2	4.8	4.8	7.2
17	Wild oats	11.3	0.6	5.0	< 0.1	0.4	0.6	6.5
18	Dandelion	3.4	1.0	30.0	< 0.1	1.4	1.4	4.4
19	Stinkweed	7.4	0.4	5.0	< 0.1	0.2	0.2	4.0
20	Canada thistle	3.4	0.7	20.0	< 0.1	1.4	1.4	3.7
21	Barley	2.0	0.8	40.0	0.1	2.8	2.8	3.6
22	Foxtail barley	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
23	Smooth brome	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
24	Prickly lettuce	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
25	Field pea	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
26	Annual spurge species	3.3	0.2	5.0	< 0.1	0.4	0.4	1.9
27	Alfalfa	2.5	0.1	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Pulse crops in Mixed Grassland

Table 56. 2017 Pulse crops in Mixed Grassland (56 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	44.7	9.0	20.1	0.9	2.0	6.6	44.0
2	Canada thistle	22.9	3.5	15.1	1.0	4.3	17.2	28.6
3	Russian thistle	20.6	4.6	22.2	0.9	4.1	25.0	27.6
4	Wheat	22.1	5.8	26.4	0.6	2.6	8.6	26.2
5	Wild buckwheat	16.4	5.1	31.3	0.7	4.4	14.8	25.1
6	Wild oats	20.1	3.4	17.1	0.4	2.0	5.0	18.9
7	Spiny annual sow-thistle	11.8	4.0	33.8	0.4	3.0	5.8	16.3
8	Western barnyard grass	13.9	3.3	23.5	0.3	2.5	7.2	15.5
9	Lamb's-quarters	10.7	2.4	22.8	0.2	2.3	8.0	11.6
10	Green foxtail	3.8	1.8	48.0	0.5	12.0	24.8	11.2
11	Narrow-leaved hawk's-beard	14.7	1.8	12.2	0.1	0.9	2.2	10.2
12	Goat's-beard	11.4	0.9	7.4	0.1	0.5	1.0	6.2
13	Canola/rapeseed	6.5	1.3	20.3	0.1	1.7	5.6	6.2
14	White mustard	3.6	1.4	40.0	0.1	2.6	2.6	5.1
15	Prickly lettuce	7.5	0.8	11.3	0.1	0.9	1.8	5.0
16	Foxtail barley	8.3	0.7	8.3	0.1	0.7	2.2	5.0
17	Barley	5.2	0.6	12.0	< 0.1	0.8	1.8	3.5
18	Sunflower	5.4	0.6	11.1	< 0.1	0.6	1.2	3.3
19	Annual spurge species	1.6	0.5	30.0	0.1	6.2	6.2	2.8
20	Pale smartweed	5.4	0.3	5.0	< 0.1	0.3	0.4	2.6
21	Round-leaved mallow	3.6	0.5	12.5	< 0.1	1.0	1.4	2.6
22	Lentils	1.9	0.6	30.0	< 0.1	2.6	2.6	2.4
23	Field pea	3.2	0.4	11.3	< 0.1	1.2	1.8	2.3
24	Rye	1.8	0.6	35.0	< 0.1	2.0	2.0	2.3
25	Flixweed	1.8	0.5	30.0	< 0.1	1.4	1.4	2.0
26	Dock species	3.6	0.2	5.0	< 0.1	0.8	0.8	2.0
27	Dandelion	3.7	0.3	7.6	< 0.1	0.3	0.4	1.9
28	Shepherd's-purse	3.4	0.3	7.7	< 0.1	0.4	0.6	1.8
29	Redroot pigweed	1.8	0.4	20.0	< 0.1	1.6	1.6	1.7
30	Bull thistle	1.8	0.4	20.0	< 0.1	1.0	1.0	1.5
31	Biennial wormwood	1.8	0.3	15.0	< 0.1	1.0	1.0	1.4
32	Wild mustard	1.8	0.2	10.0	< 0.1	0.4	0.4	1.0
33	Annual brome species	1.2	0.1	10.0	< 0.1	1.8	1.8	0.9
34	Pseudognaphalium species	1.6	0.1	5.0	< 0.1	0.2	0.2	0.7
35	Perennial sow-thistle	1.2	0.1	10.0	< 0.1	0.4	0.4	0.7

Field Survey Summary Tables – Peas in Mixed Grassland

Table 57. 2017 Peas in Mixed Grassland (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canada thistle	25.9	4.8	18.7	1.8	6.9	17.2	37.9
2	Wild buckwheat	17.9	8.7	48.5	1.3	7.4	14.8	35.8
3	Wheat	17.5	7.3	41.5	0.9	5.1	8.6	28.2
4	Kochia	30.5	6.0	19.7	0.5	1.8	6.6	26.8
5	Western barnyard grass	21.6	5.9	27.2	0.7	3.1	7.2	24.8
6	Green foxtail	7.9	3.8	48.0	0.9	12.0	24.8	19.9
7	Russian thistle	19.9	4.2	21.2	0.3	1.6	3.0	17.6
8	Wild oats	19.1	3.0	15.6	0.4	2.3	3.6	16.7
9	Narrow-leaved hawk's-beard	19.8	2.6	13.4	0.2	1.1	2.2	13.9
10	Lamb's-quarters	12.6	3.1	24.3	0.4	2.8	8.0	13.5
11	White mustard	7.3	2.9	40.0	0.2	2.6	2.6	9.5
12	Foxtail barley	10.6	1.1	10.3	0.1	1.0	2.2	6.7
13	Goat's-beard	10.0	1.1	10.7	0.1	0.7	1.0	6.1
14	Sunflower	7.0	1.0	14.7	0.1	0.8	1.2	4.7
15	Lentils	3.9	1.2	30.0	0.1	2.6	2.6	4.4
16	Rye	3.7	1.3	35.0	0.1	2.0	2.0	4.3
17	Dock species	7.3	0.4	5.0	0.1	0.8	0.8	3.9
18	Flixweed	3.7	1.1	30.0	0.1	1.4	1.4	3.7
19	Redroot pigweed	3.7	0.7	20.0	0.1	1.6	1.6	3.2
20	Prickly lettuce	3.9	0.6	15.0	0.1	1.8	1.8	3.2
21	Spiny annual sow-thistle	3.7	0.7	20.0	< 0.1	1.2	1.2	3.0
22	Bull thistle	3.7	0.7	20.0	< 0.1	1.0	1.0	3.0
23	Round-leaved mallow	3.7	0.6	15.0	< 0.1	0.6	0.6	2.5
24	Dandelion	3.9	0.4	10.0	< 0.1	0.4	0.4	2.2
25	Pale smartweed	3.7	0.2	5.0	< 0.1	0.2	0.2	1.7
26	Barley	3.2	0.2	5.0	< 0.1	0.2	0.2	1.5
27	Canola/rapeseed	3.2	0.2	5.0	< 0.1	0.2	0.2	1.5

Table 58. 2017 Lentils in Mixed Grassland (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	58.2	11.8	20.2	1.2	2.0	6.2	65.2
2	Russian thistle	21.3	4.9	23.1	1.4	6.3	25.0	42.3
3	Spiny annual sow-thistle	19.4	7.0	36.3	0.6	3.3	5.8	32.6
4	Wheat	26.4	4.5	17.0	0.3	1.0	2.8	22.6
5	Wild oats	21.0	3.9	18.3	0.4	1.8	5.0	21.9
6	Canada thistle	20.2	2.2	10.8	0.3	1.2	3.0	15.8
7	Canola/rapeseed	9.6	2.4	25.1	0.2	2.2	5.6	12.0
8	Wild buckwheat	15.0	1.8	11.9	0.1	0.9	3.0	11.0
9	Lamb's-quarters	8.9	1.8	20.8	0.1	1.7	4.2	9.4
10	Prickly lettuce	10.9	1.1	10.0	0.1	0.5	0.8	6.9
11	Annual spurge species	3.1	0.9	30.0	0.2	6.2	6.2	6.4
12	Goat's-beard	12.8	0.6	5.0	< 0.1	0.3	0.4	6.2
13	Narrow-leaved hawk's-beard	10.0	1.0	10.0	< 0.1	0.5	0.8	6.2
14	Barley	7.0	1.1	15.0	0.1	1.1	1.8	5.9
15	Field pea	6.2	0.7	11.3	0.1	1.2	1.8	4.8
16	Western barnyard grass	6.6	0.8	12.0	< 0.1	0.5	0.8	4.3
17	Shepherd's-purse	6.6	0.5	7.7	< 0.1	0.4	0.6	3.7
18	Pale smartweed	7.0	0.4	5.0	< 0.1	0.4	0.4	3.6
19	Foxtail barley	6.2	0.3	5.0	< 0.1	0.3	0.4	3.0
20	Biennial wormwood	3.5	0.5	15.0	< 0.1	1.0	1.0	2.9
21	Round-leaved mallow	3.5	0.4	10.0	< 0.1	1.4	1.4	2.8
22	Wild mustard	3.5	0.4	10.0	< 0.1	0.4	0.4	2.1
23	Annual brome species	2.3	0.2	10.0	< 0.1	1.8	1.8	2.0
24	Sunflower	3.9	0.2	5.0	< 0.1	0.2	0.2	1.8
25	Dandelion	3.5	0.2	5.0	< 0.1	0.2	0.2	1.6
26	Pseudognaphalium species	3.1	0.2	5.0	< 0.1	0.2	0.2	1.4
27	Perennial sow-thistle	2.3	0.2	10.0	< 0.1	0.4	0.4	1.4

Field Survey Summary Tables – Number of Fields Surveyed by Crop District

Table 59. Number of fields surveyed by crop in each crop district

	Cereals					Oilseed	Pulses		Mixed annuals
	Spring wheat	Barley	Durum	Oat	Mixed cereal	Canola	Field peas	Lentils	
Crop District 1	29	7	30	7	-	16	21	23	-
Crop District 2	98	41	33	2	-	81	28	7	-
Crop District 3	39	32	4	3	3	41	8	1	-
Crop District 4A	49	15	-	12	2	42	6	-	-
Crop District 4B	66	20	-	6	-	61	7	-	-
Crop District 5	37	56	-	9	2	40	5	-	1
Crop District 6	22	25	-	11	-	30	3	1	-
Crop District 7	33	17	-	13	-	62	25	-	-

Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Crop District

Table 60. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed crops in each crop district

Area	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Crop District 1								
Annual crops	133	16.5	3.7	4.9	3.5	0.2	55.5	4.3
Cereal crops	73	23.4	6.5	5.1	3.7	0.3	53.7	5.8
Spring wheat	29	35.5	15.7	4.8	4.0	0.5	55.1	9.2
Durum	30	9.4	3.1	2.6	2.4	0.3	66.3	8.6
Canola	16	7.4	1.7	4.7	3.3	0.6	53.7	12.5
Pulse crops	44	7.7	1.4	3.0	3.3	0.3	59.1	7.4
Peas	21	10.6	2.5	4.1	3.3	0.5	54.0	10.9
Lentils	23	4.7	1.1	2.7	3.3	0.4	64.3	10.0
Crop District 2								
Annual crops	290	15.4	3.2	1.9	2.6	0.1	61.0	2.9
Cereal crops	174	18.9	5.1	1.9	2.4	0.2	65.6	3.6
Spring wheat	98	15.7	6.6	0.8	2.2	0.2	66.9	4.8
Barley	41	21.8	7.3	3.1	3.0	0.4	59.2	7.7
Durum	33	25.9	16.2	1.9	2.1	0.3	67.9	8.1
Canola	81	9.3	1.8	1.8	3.1	0.3	52.2	5.6
Pulse crops	35	12.5	4.2	2.2	2.7	0.4	58.1	8.3
Peas	28	13.7	5.1	3.1	2.9	0.4	55.5	9.4
Crop District 3								
Annual crops	131	29.9	7.3	5.0	3.4	0.3	49.5	4.4
Cereal crops	81	37.8	11.3	4.8	3.5	0.3	50.5	5.6
Spring wheat	39	18.6	7.5	2.2	2.7	0.3	57.2	7.9
Barley	32	28.4	7.7	5.1	3.7	0.6	50.5	8.8
Canola	41	17.1	5.6	5.5	3.4	0.4	47.1	7.8
Crop District 4A								
Annual crops	126	14.9	2.5	4.2	3.2	0.3	56.7	4.4
Cereal crops	78	19.2	3.8	5.2	3.3	0.3	54.8	5.6
Spring wheat	49	14.0	4.3	4.5	3.2	0.4	62.2	6.9
Barley	15	18.2	8.4	4.3	2.3	0.5	55.2	12.8
Oats	12	40.9	11.3	24.6	5.3	1.2	25.0	12.5
Canola	42	5.5	1.3	2.3	3.0	0.4	62.3	7.5
Crop District 4B								
Annual crops	160	27.9	7.5	7.1	3.8	0.2	46.6	3.9
Cereal crops	92	23.0	7.3	6.3	3.5	0.2	47.6	5.2
Spring wheat	66	11.5	1.9	5.4	3.3	0.3	51.6	6.2
Barley	20	63.4	31.6	8.4	4.1	0.6	35.9	10.7
Canola	61	35.6	16.3	6.3	4.1	0.4	47.6	6.4
Crop District 5								
Annual crops	150	55.5	9.4	12.7	5.4	0.3	35.9	3.9
Cereal crops	104	64.7	13.0	12.5	5.5	0.4	38.6	4.8
Spring wheat	37	34.6	15.5	6.1	3.9	0.5	50.3	8.2
Barley	56	76.6	19.5	15.5	5.9	0.5	32.2	6.2
Canola	40	22.1	5.6	13.0	4.9	0.5	32.2	7.4
Crop District 6								
Annual crops	92	28.6	4.2	12.4	4.6	0.3	36.7	5.0
Cereal crops	58	23.0	5.4	6.4	4.1	0.5	45.2	6.5
Spring wheat	22	12.8	4.0	5.0	3.5	0.5	50.7	10.7
Barley	25	27.7	9.3	5.1	4.6	0.9	45.7	10.0
Oats	11	37.6	17.3	13.0	4.6	0.9	30.0	13.8
Canola	30	39.5	7.2	20.8	5.4	0.5	21.3	7.5

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Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Crop District

Table 60. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed crops in each crop district (*continued*)

Area	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Crop District 7								
Annual crops	150	22.0	2.8	7.9	4.3	0.3	42.4	4.0
Cereal crops	63	19.8	4.2	4.5	3.9	0.4	48.9	6.3
Spring wheat	33	12.8	4.9	2.5	3.7	0.5	56.6	8.6
Barley	17	36.6	11.1	19.5	5.3	0.9	33.6	11.5
Oats	13	20.5	7.5	4.5	3.0	0.8	45.8	13.8
Canola	62	19.1	3.5	8.0	4.2	0.3	40.4	6.2
Peas	25	37.4	10.0	20.5	5.9	0.8	29.4	9.1

Field Survey Summary Tables – Annual crops in Crop District 1

Table 61. 2017 Annual crops in Crop District 1 (133 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	16.0	4.3	26.8	2.9	17.9	274.0	27.8
2	Kochia	34.5	7.3	21.1	1.1	3.2	22.0	26.5
3	Wild buckwheat	32.8	7.7	23.6	0.8	2.4	14.8	24.6
4	Canada thistle	25.7	4.1	15.9	1.0	3.8	17.2	18.8
5	Green foxtail	9.1	2.7	30.2	2.0	22.2	119.8	18.6
6	Narrow-leaved hawk's-beard	22.7	5.3	23.4	0.8	3.4	27.4	18.4
7	Wild oats	18.5	4.2	23.0	1.1	5.7	54.0	17.4
8	Wheat	15.9	4.3	27.2	0.4	2.8	9.2	13.1
9	Russian thistle	19.6	3.4	17.5	0.4	2.3	11.2	13.0
10	Spiny annual sow-thistle	9.4	2.1	22.0	0.6	6.0	53.6	8.9
11	Alfalfa	4.3	1.6	38.2	0.8	18.8	50.6	8.4
12	Redroot pigweed	5.8	2.4	40.8	0.5	9.1	32.4	8.1
13	Foxtail barley	12.6	1.5	12.0	0.2	1.8	9.6	7.0
14	Dandelion	10.3	1.7	16.2	0.2	2.1	20.4	6.6
15	Barley	6.6	1.8	26.8	0.3	5.3	12.6	6.4
16	Canola/rapeseed	9.2	1.7	19.0	0.2	2.3	7.2	6.3
17	Western barnyard grass	6.5	1.6	23.9	0.2	2.7	7.2	5.0
18	Stinkweed	7.2	1.3	18.3	0.1	1.8	7.0	4.7
19	Tumble pigweed	4.5	1.5	33.1	0.1	3.2	6.2	4.2
20	Quack grass	0.8	0.2	25.0	0.6	71.6	71.6	4.0
21	Flax	0.7	0.6	95.0	0.4	65.6	65.6	3.7
22	Perennial sow-thistle	5.3	0.7	13.1	0.1	1.5	3.0	3.0
23	Stork's bill	4.0	0.8	21.0	0.1	2.5	4.2	2.9
24	Pale smartweed	3.2	0.5	16.4	0.2	5.9	17.8	2.7
25	Shepherd's-purse	2.5	0.7	26.4	0.1	4.6	7.0	2.4
26	White mustard	3.1	0.7	23.1	0.1	1.6	2.6	2.2
27	Annual brome species	1.3	0.7	53.3	0.1	10.8	16.4	2.2
28	Dock species	3.8	0.5	14.2	0.1	1.5	4.2	2.2
29	Goat's-beard	4.2	0.3	7.8	< 0.1	0.5	1.0	1.8
30	Yellow toadflax	0.8	0.2	20.0	0.2	26.4	26.4	1.7
31	Vetch species	0.8	0.6	80.0	0.1	13.8	13.8	1.7
32	Hemp-nettle	2.5	0.4	15.1	0.1	2.9	6.8	1.7
33	Round-leaved mallow	3.4	0.4	12.2	< 0.1	0.8	1.4	1.7
34	Flixweed	2.2	0.5	21.3	< 0.1	2.0	3.0	1.6
35	Lentils	2.4	0.4	15.1	< 0.1	1.5	2.6	1.4
36	Field pea	2.9	0.2	7.9	< 0.1	0.7	1.8	1.3
37	Annual spurge species	2.0	0.3	15.1	< 0.1	2.4	6.2	1.2
38	Prickly lettuce	2.4	0.2	10.1	< 0.1	0.9	1.8	1.2
39	Oats	1.5	0.4	25.0	< 0.1	1.8	1.8	1.1
40	Prostrate knotweed	2.2	0.3	11.9	< 0.1	0.7	1.2	1.1
41	Wild mustard	2.2	0.3	12.8	< 0.1	0.6	1.2	1.1
42	Sunflower	2.3	0.3	11.1	< 0.1	0.6	1.2	1.1
43	Canada fleabane	1.6	0.2	15.2	< 0.1	1.8	3.4	1.0
44	Corn spurry	0.9	0.3	30.0	< 0.1	4.4	4.4	0.9
45	Pasture sage	2.4	0.1	5.0	< 0.1	0.3	0.4	0.9
46	Bull thistle	1.6	0.2	14.8	< 0.1	0.7	1.0	0.8
47	Biennial wormwood	1.5	0.2	12.5	< 0.1	1.0	1.0	0.8
48	Purslane	1.5	0.2	10.0	< 0.1	1.0	1.0	0.7
49	Skeletonweed	1.5	0.2	10.0	< 0.1	0.6	0.6	0.7
50	Rough hair grass	0.8	0.2	25.0	< 0.1	2.6	2.6	0.7
51	Cow cockle	0.8	0.2	25.0	< 0.1	2.8	2.8	0.6
52	Common pepper-grass	1.4	0.1	8.6	< 0.1	0.4	0.8	0.6

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Field Survey Summary Tables – Annual crops in Crop District 1

Table 61. 2017 Annual crops in Crop District 1 (133 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Slough grass	0.8	0.1	10.0	< 0.1	4.0	4.0	0.5
54	Sweet-clover species	0.8	0.1	15.0	< 0.1	0.6	0.6	0.4
55	Persian darnel	0.8	0.1	10.0	< 0.1	1.2	1.2	0.4
56	Low cudweed	0.8	0.1	10.0	< 0.1	1.4	1.4	0.4
57	Russian pigweed	0.8	0.1	10.0	< 0.1	0.6	0.6	0.4
58	Rose species	0.8	< 0.1	5.0	< 0.1	1.0	1.0	0.3
59	Smooth brome	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
60	Pseudognaphalium species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
61	Prairie sage	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
62	Aster species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
63	Oak-leaved goosefoot	0.4	0.1	15.0	< 0.1	1.6	1.6	0.2
64	Common groundsel	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
65	False cleavers	0.4	< 0.1	10.0	< 0.1	1.0	1.0	0.2

Field Survey Summary Tables – Cereal crops in Crop District 1

Table 62. 2017 Cereal crops in Crop District 1 (73 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	14.0	4.7	33.8	4.8	34.3	274.0	30.3
2	Wild buckwheat	39.4	8.3	21.0	0.7	1.8	6.2	24.1
3	Kochia	32.4	7.3	22.4	1.4	4.4	22.0	24.0
4	Narrow-leaved hawk's-beard	26.6	7.1	26.7	1.2	4.4	27.4	21.2
5	Green foxtail	11.5	2.7	23.9	3.1	27.4	119.8	20.0
6	Wild oats	15.8	4.8	30.2	1.5	9.5	54.0	16.7
7	Canada thistle	26.0	4.2	16.1	0.9	3.4	15.6	16.1
8	Russian thistle	20.9	3.9	18.6	0.5	2.5	9.6	12.8
9	Alfalfa	6.8	2.9	42.5	1.4	21.2	50.6	11.6
10	Redroot pigweed	6.8	3.7	54.6	0.9	13.4	32.4	10.4
11	Spiny annual sow-thistle	9.2	2.2	24.4	0.9	9.4	53.6	9.0
12	Dandelion	15.1	2.3	15.5	0.4	2.4	20.4	8.6
13	Foxtail barley	14.8	2.1	14.3	0.4	2.4	9.6	8.2
14	Barley	5.5	2.1	37.3	0.5	9.6	12.6	6.3
15	Tumble pigweed	6.9	2.4	34.5	0.2	3.5	6.2	5.9
16	Canola/rapeseed	10.2	1.4	13.6	0.2	2.0	5.8	5.4
17	Stinkweed	8.5	1.7	20.1	0.2	2.0	7.0	5.2
18	Quack grass	1.4	0.4	25.0	1.0	71.6	71.6	5.2
19	Flax	1.2	1.1	95.0	0.8	65.6	65.6	5.0
20	Stork's bill	7.1	1.5	21.0	0.2	2.5	4.2	4.6
21	Wheat	6.8	1.1	16.0	0.1	1.7	7.4	3.7
22	Pale smartweed	2.9	0.8	27.0	0.3	11.1	17.8	3.2
23	Perennial sow-thistle	5.8	0.8	14.4	0.1	1.9	3.0	3.1
24	Shepherd's-purse	2.7	1.1	40.0	0.2	7.0	7.0	2.9
25	Annual brome species	1.4	1.1	80.0	0.2	16.4	16.4	2.8
26	Dock species	4.1	0.8	20.2	0.1	2.0	4.2	2.5
27	Yellow toadflax	1.4	0.3	20.0	0.4	26.4	26.4	2.3
28	Hemp-nettle	3.0	0.4	12.7	0.1	3.9	6.8	1.8
29	Oats	2.7	0.7	25.0	< 0.1	1.8	1.8	1.8
30	Canada fleabane	2.9	0.4	15.2	0.1	1.8	3.4	1.6
31	Prostrate knotweed	3.3	0.4	13.3	< 0.1	0.8	1.2	1.6
32	Flixweed	2.6	0.4	16.8	0.1	2.3	3.0	1.5
33	Pasture sage	4.2	0.2	5.0	< 0.1	0.3	0.4	1.5
34	Western barnyard grass	2.5	0.4	15.7	0.1	2.2	4.0	1.4
35	Corn spurry	1.7	0.5	30.0	0.1	4.4	4.4	1.4
36	Wild mustard	2.5	0.4	14.3	< 0.1	0.7	1.2	1.2
37	Purslane	2.7	0.3	10.0	< 0.1	1.0	1.0	1.2
38	White mustard	2.9	0.2	7.6	< 0.1	0.7	0.8	1.2
39	Lentils	2.8	0.2	7.6	< 0.1	0.9	1.4	1.1
40	Skeletonweed	2.7	0.3	10.0	< 0.1	0.6	0.6	1.1
41	Round-leaved mallow	2.6	0.3	10.0	< 0.1	0.5	0.6	1.1
42	Rough hair grass	1.5	0.4	25.0	< 0.1	2.6	2.6	1.0
43	Common pepper-grass	2.4	0.2	8.6	< 0.1	0.4	0.8	1.0
44	Cow cockle	1.4	0.3	25.0	< 0.1	2.8	2.8	1.0
45	Field pea	2.7	0.1	5.0	< 0.1	0.2	0.2	0.9
46	Slough grass	1.4	0.1	10.0	0.1	4.0	4.0	0.8
47	Sweet-clover species	1.5	0.2	15.0	< 0.1	0.6	0.6	0.7
48	Persian darnel	1.4	0.1	10.0	< 0.1	1.2	1.2	0.6
49	Low cudweed	1.4	0.1	10.0	< 0.1	1.4	1.4	0.6
50	Biennial wormwood	1.4	0.1	10.0	< 0.1	1.0	1.0	0.6
51	Rose species	1.5	0.1	5.0	< 0.1	1.0	1.0	0.6
52	Annual spurge species	1.2	0.1	10.0	< 0.1	0.4	0.4	0.5

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Field Survey Summary Tables – Cereal crops in Crop District 1

Table 62. 2017 Cereal crops in Crop District 1 (73 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Prairie sage	1.2	0.1	5.0	< 0.1	0.2	0.2	0.4
54	Aster species	1.2	0.1	5.0	< 0.1	0.2	0.2	0.4
55	Common groundsel	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Table 63. 2017 Spring wheat in Crop District 1 (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	16.5	5.8	35.4	10.7	65.1	274.0	41.3
2	Narrow-leaved hawk's-beard	39.2	14.0	35.6	2.6	6.7	27.4	33.7
3	Green foxtail	15.2	4.8	31.7	8.0	52.7	119.8	32.0
4	Kochia	29.8	9.8	33.0	2.0	6.7	20.6	24.7
5	Wild buckwheat	45.9	7.7	16.7	0.6	1.3	3.6	22.3
6	Canada thistle	34.0	4.9	14.4	0.9	2.6	8.2	16.8
7	Russian thistle	20.4	6.5	31.8	0.9	4.5	9.6	15.4
8	Spiny annual sow-thistle	16.4	4.3	26.5	2.2	13.3	53.6	15.3
9	Wild oats	17.2	4.3	24.8	1.6	9.2	32.0	13.9
10	Quack grass	3.7	0.9	25.0	2.7	71.6	71.6	9.5
11	Canola/rapeseed	15.9	2.2	13.7	0.2	1.5	3.8	7.2
12	Foxtail barley	13.1	2.4	18.5	0.4	2.8	9.6	7.2
13	Stinkweed	12.4	2.7	21.7	0.3	2.5	7.0	7.2
14	Dandelion	18.9	1.7	9.2	0.1	0.5	1.8	7.1
15	Perennial sow-thistle	11.6	1.8	15.8	0.2	1.5	2.8	5.6
16	Yellow toadflax	3.7	0.7	20.0	1.0	26.4	26.4	4.6
17	Stork's bill	7.7	1.5	20.0	0.2	2.4	4.2	4.3
18	Hemp-nettle	8.0	1.0	12.7	0.3	3.9	6.8	4.1
19	Prostrate knotweed	8.7	1.2	13.3	0.1	0.8	1.2	3.7
20	Dock species	3.7	1.1	30.0	0.2	4.2	4.2	2.7
21	Canada fleabane	3.9	1.0	25.0	0.1	3.4	3.4	2.5
22	Rough hair grass	3.9	1.0	25.0	0.1	2.6	2.6	2.4
23	Redroot pigweed	6.7	0.3	5.0	< 0.1	0.2	0.2	2.1
24	Wild mustard	3.1	0.8	25.0	< 0.1	1.2	1.2	1.8
25	Flixweed	3.7	0.4	10.0	0.1	1.8	1.8	1.6
26	Tumble pigweed	3.9	0.4	10.0	< 0.1	0.4	0.4	1.5
27	Rose species	3.9	0.2	5.0	< 0.1	1.0	1.0	1.3
28	Pasture sage	4.1	0.2	5.0	< 0.1	0.2	0.2	1.3
29	Field pea	4.1	0.2	5.0	< 0.1	0.2	0.2	1.3
30	Wheat	3.9	0.2	5.0	< 0.1	0.6	0.6	1.3
31	Alfalfa	3.7	0.2	5.0	< 0.1	0.6	0.6	1.2
32	Annual spurge species	3.0	0.3	10.0	< 0.1	0.4	0.4	1.2
33	Prairie sage	3.0	0.2	5.0	< 0.1	0.2	0.2	1.0
34	Aster species	3.0	0.2	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Durum in Crop District 1

Table 64. 2017 Durum in Crop District 1 (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	19.9	7.6	38.3	2.2	11.1	54.0	48.8
2	Kochia	34.5	4.6	13.5	1.0	2.9	22.0	35.2
3	Flax	3.0	2.9	95.0	2.0	65.6	65.6	28.7
4	Wild buckwheat	25.9	4.3	16.6	0.3	1.0	4.2	23.0
5	Canada thistle	20.1	3.8	18.8	0.6	2.8	6.8	22.6
6	Russian thistle	23.1	2.4	10.3	0.3	1.5	4.4	18.5
7	Foxtail barley	17.7	2.5	13.9	0.3	1.9	4.6	16.4
8	Annual brome species	3.7	2.9	80.0	0.6	16.4	16.4	14.4
9	Narrow-leaved hawk's-beard	13.3	2.2	16.5	0.3	1.9	6.0	13.0
10	Pale smartweed	3.5	1.2	35.0	0.6	17.8	17.8	10.7
11	Western barnyard grass	6.5	1.0	15.7	0.1	2.2	4.0	6.5
12	Dandelion	6.8	1.3	18.7	0.1	0.9	1.6	6.3
13	Canola/rapeseed	3.8	0.8	20.0	0.2	5.8	5.8	5.7
14	Lentils	7.1	0.5	7.6	0.1	0.9	1.4	4.8
15	White mustard	7.4	0.6	7.6	0.1	0.7	0.8	4.8
16	Tumble pigweed	3.5	0.9	25.0	0.1	2.4	2.4	4.2
17	Flixweed	3.0	0.8	25.0	0.1	3.0	3.0	3.9
18	Redroot pigweed	1.8	1.0	55.0	0.1	4.6	4.6	3.8
19	Slough grass	3.5	0.3	10.0	0.1	4.0	4.0	3.7
20	Sweet-clover species	3.8	0.6	15.0	< 0.1	0.6	0.6	3.0
21	Low cudweed	3.5	0.3	10.0	< 0.1	1.4	1.4	2.7
22	Biennial wormwood	3.5	0.3	10.0	< 0.1	1.0	1.0	2.6
23	Stinkweed	3.5	0.3	10.0	< 0.1	0.8	0.8	2.5
24	Barley	3.7	0.2	5.0	< 0.1	1.2	1.2	2.4
25	Lamb's-quarters	3.0	0.3	10.0	< 0.1	0.6	0.6	2.1
26	Round-leaved mallow	3.0	0.3	10.0	< 0.1	0.6	0.6	2.1
27	Wheat	3.8	0.2	5.0	< 0.1	0.2	0.2	2.1
28	Green foxtail	1.8	0.4	25.0	< 0.1	1.4	1.4	2.0
29	Wild mustard	3.5	0.2	5.0	< 0.1	0.2	0.2	1.9
30	Field pea	3.0	0.2	5.0	< 0.1	0.2	0.2	1.6

Table 65. 2017 Canola in Crop District 1 (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	26.0	11.7	44.9	1.3	5.1	9.2	41.9
2	Wild buckwheat	40.3	8.9	22.0	0.8	2.0	6.4	35.2
3	Lamb's-quarters	37.0	5.9	15.9	0.4	1.2	4.0	25.2
4	Vetch species	7.1	5.7	80.0	1.0	13.8	13.8	23.3
5	Narrow-leaved hawk's-beard	13.9	5.3	37.8	0.5	3.6	4.8	18.2
6	Stinkweed	22.8	3.4	14.8	0.3	1.4	3.8	15.7
7	Wild oats	13.9	3.0	21.6	0.4	2.9	4.8	13.9
8	Green foxtail	6.0	3.6	60.0	0.5	8.6	8.6	13.9
9	Canola/rapeseed	6.2	3.7	60.0	0.4	7.2	7.2	13.0
10	Barley	11.8	3.1	26.2	0.3	2.5	2.8	11.9
11	Canada thistle	9.6	1.9	20.0	0.3	3.1	6.2	9.6
12	Perennial sow-thistle	14.3	1.6	11.5	0.2	1.1	1.4	8.6
13	Dandelion	9.6	2.5	26.4	0.2	1.7	2.2	8.6
14	Kochia	17.4	1.2	6.8	< 0.1	0.3	0.4	7.5
15	Redroot pigweed	11.6	1.3	11.5	0.1	0.8	1.6	6.5
16	Hemp-nettle	7.7	1.5	20.0	0.1	0.8	0.8	5.3
17	Tumble pigweed	6.0	1.5	25.0	0.1	1.4	1.4	5.0
18	Russian pigweed	7.7	0.8	10.0	< 0.1	0.6	0.6	4.0
19	Spiny annual sow-thistle	7.1	0.7	10.0	0.1	0.8	0.8	3.9
20	Bull thistle	7.7	0.8	10.0	< 0.1	0.4	0.4	3.8
21	Russian thistle	7.1	0.7	10.0	< 0.1	0.6	0.6	3.7
22	Shepherd's-purse	3.4	0.3	10.0	0.1	3.0	3.0	2.9
23	Foxtail barley	7.1	0.4	5.0	< 0.1	0.2	0.2	2.8
24	Smooth brome	7.1	0.4	5.0	< 0.1	0.2	0.2	2.8
25	Annual spurge species	6.0	0.3	5.0	< 0.1	0.4	0.4	2.6
26	Oak-leaved goosefoot	3.4	0.5	15.0	0.1	1.6	1.6	2.5
27	Round-leaved mallow	3.4	0.7	20.0	< 0.1	1.0	1.0	2.5
28	False cleavers	3.4	0.3	10.0	< 0.1	1.0	1.0	2.0
29	Alfalfa	4.6	0.2	5.0	< 0.1	0.2	0.2	1.8
30	Prostrate knotweed	3.4	0.2	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Pulse crops in Crop District 1

Table 66. 2017 Pulse crops in Crop District 1 (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	43.7	9.3	21.2	0.9	2.1	6.6	40.0
2	Canada thistle	30.4	4.6	15.1	1.3	4.4	17.2	34.0
3	Wheat	28.2	7.5	26.4	0.7	2.6	8.6	29.9
4	Wild buckwheat	19.1	6.5	33.8	0.9	4.8	14.8	28.0
5	Wild oats	24.4	3.7	15.3	0.5	2.0	5.0	19.7
6	Russian thistle	21.6	3.5	16.4	0.5	2.2	11.2	18.3
7	Western barnyard grass	15.4	4.0	26.2	0.4	2.8	7.2	16.7
8	Green foxtail	6.0	2.4	40.9	0.6	9.9	24.8	13.5
9	Lamb's-quarters	12.4	3.0	24.0	0.3	2.7	8.0	12.9
10	Narrow-leaved hawk's-beard	18.8	2.3	12.2	0.2	0.9	2.2	11.6
11	Spiny annual sow-thistle	10.5	2.2	21.1	0.2	2.1	4.2	9.6
12	Canola/rapeseed	8.3	1.7	20.3	0.1	1.7	5.6	7.1
13	Goat's-beard	12.6	1.0	7.8	0.1	0.5	1.0	6.2
14	White mustard	4.5	1.8	40.0	0.1	2.6	2.6	5.8
15	Foxtail barley	10.6	0.9	8.3	0.1	0.7	2.2	5.6
16	Prickly lettuce	7.3	0.7	10.1	0.1	0.9	1.8	4.3
17	Barley	6.6	0.8	12.0	0.1	0.8	1.8	4.0
18	Sunflower	6.9	0.8	11.1	< 0.1	0.6	1.2	3.8
19	Annual spurge species	2.0	0.6	30.0	0.1	6.2	6.2	3.2
20	Round-leaved mallow	4.6	0.6	12.5	< 0.1	1.0	1.4	2.9
21	Lentils	2.4	0.7	30.0	0.1	2.6	2.6	2.7
22	Field pea	4.1	0.5	11.3	< 0.1	1.2	1.8	2.6
23	Flixweed	2.3	0.7	30.0	< 0.1	1.4	1.4	2.2
24	Dock species	4.5	0.2	5.0	< 0.1	0.8	0.8	2.2
25	Pale smartweed	4.6	0.2	5.0	< 0.1	0.3	0.4	2.0
26	Redroot pigweed	2.3	0.5	20.0	< 0.1	1.6	1.6	1.9
27	Bull thistle	2.3	0.5	20.0	< 0.1	1.0	1.0	1.7
28	Biennial wormwood	2.3	0.3	15.0	< 0.1	1.0	1.0	1.6
29	Dandelion	2.4	0.2	10.0	< 0.1	0.4	0.4	1.2
30	Wild mustard	2.3	0.2	10.0	< 0.1	0.4	0.4	1.2
31	Annual brome species	1.5	0.2	10.0	< 0.1	1.8	1.8	1.0
32	Shepherd's-purse	2.0	0.1	5.0	< 0.1	0.2	0.2	0.8
33	Pseudognaphalium species	2.0	0.1	5.0	< 0.1	0.2	0.2	0.8
34	Perennial sow-thistle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.8

Table 67. 2017 Peas in Crop District 1 (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canada thistle	34.3	6.3	18.5	2.3	6.8	17.2	40.6
2	Wild buckwheat	18.6	10.6	57.0	1.6	8.9	14.8	34.8
3	Wheat	21.7	9.0	41.5	1.1	5.1	8.6	28.6
4	Western barnyard grass	26.8	7.3	27.2	0.8	3.1	7.2	25.3
5	Kochia	28.5	6.8	23.7	0.6	2.3	6.6	23.5
6	Green foxtail	12.0	4.9	40.9	1.2	9.9	24.8	21.2
7	Wild oats	25.9	4.0	15.5	0.6	2.2	3.6	18.4
8	Russian thistle	20.0	4.8	23.8	0.4	1.9	3.0	15.7
9	Lamb's-quarters	17.8	4.0	22.5	0.5	2.8	8.0	15.3
10	Narrow-leaved hawk's-beard	24.5	3.3	13.4	0.3	1.1	2.2	14.2
11	White mustard	9.1	3.6	40.0	0.2	2.6	2.6	9.7
12	Foxtail barley	13.2	1.4	10.3	0.1	1.0	2.2	6.9
13	Goat's-beard	12.4	1.3	10.7	0.1	0.7	1.0	6.2
14	Sunflower	8.7	1.3	14.7	0.1	0.8	1.2	4.9
15	Lentils	4.8	1.4	30.0	0.1	2.6	2.6	4.5
16	Dock species	9.1	0.5	5.0	0.1	0.8	0.8	4.0
17	Flixweed	4.6	1.4	30.0	0.1	1.4	1.4	3.8
18	Redroot pigweed	4.6	0.9	20.0	0.1	1.6	1.6	3.3
19	Prickly lettuce	4.9	0.7	15.0	0.1	1.8	1.8	3.2
20	Spiny annual sow-thistle	4.6	0.9	20.0	0.1	1.2	1.2	3.1
21	Bull thistle	4.6	0.9	20.0	< 0.1	1.0	1.0	3.0
22	Round-leaved mallow	4.6	0.7	15.0	< 0.1	0.6	0.6	2.6
23	Dandelion	4.8	0.5	10.0	< 0.1	0.4	0.4	2.3
24	Pale smartweed	4.6	0.2	5.0	< 0.1	0.2	0.2	1.8
25	Barley	3.9	0.2	5.0	< 0.1	0.2	0.2	1.5
26	Canola/rapeseed	3.9	0.2	5.0	< 0.1	0.2	0.2	1.5

Field Survey Summary Tables – Lentils in Crop District 1

Table 68. 2017 Lentils in Crop District 1 (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	58.9	11.7	20.0	1.2	2.0	6.2	67.5
2	Wheat	34.8	5.9	17.0	0.3	1.0	2.8	30.1
3	Russian thistle	23.1	2.3	10.0	0.6	2.4	11.2	23.6
4	Wild oats	23.0	3.5	15.0	0.4	1.7	5.0	22.7
5	Canada thistle	26.5	2.9	10.8	0.3	1.2	3.0	21.1
6	Spiny annual sow-thistle	16.3	3.5	21.4	0.4	2.4	4.2	20.5
7	Canola/rapeseed	12.7	3.2	25.1	0.3	2.2	5.6	16.3
8	Wild buckwheat	19.7	2.3	11.9	0.2	0.9	3.0	14.6
9	Lamb's-quarters	7.0	2.0	27.9	0.2	2.5	4.2	9.9
10	Annual spurge species	4.0	1.2	30.0	0.2	6.2	6.2	9.0
11	Narrow-leaved hawk's-beard	13.2	1.3	10.0	0.1	0.5	0.8	8.0
12	Barley	9.2	1.4	15.0	0.1	1.1	1.8	7.9
13	Field pea	8.1	0.9	11.3	0.1	1.2	1.8	6.5
14	Goat's-beard	12.7	0.6	5.0	< 0.1	0.3	0.4	6.1
15	Prickly lettuce	9.7	0.7	7.6	0.1	0.5	0.8	5.6
16	Foxtail barley	8.1	0.4	5.0	< 0.1	0.3	0.4	3.9
17	Biennial wormwood	4.6	0.7	15.0	< 0.1	1.0	1.0	3.8
18	Round-leaved mallow	4.6	0.5	10.0	0.1	1.4	1.4	3.7
19	Western barnyard grass	4.0	0.8	20.0	< 0.1	0.8	0.8	3.6
20	Wild mustard	4.6	0.5	10.0	< 0.1	0.4	0.4	2.8
21	Annual brome species	3.0	0.3	10.0	0.1	1.8	1.8	2.7
22	Sunflower	5.1	0.3	5.0	< 0.1	0.2	0.2	2.3
23	Pale smartweed	4.6	0.2	5.0	< 0.1	0.4	0.4	2.3
24	Shepherd's-purse	4.0	0.2	5.0	< 0.1	0.2	0.2	1.8
25	Pseudognaphalium species	4.0	0.2	5.0	< 0.1	0.2	0.2	1.8
26	Perennial sow-thistle	3.0	0.3	10.0	< 0.1	0.4	0.4	1.8

Field Survey Summary Tables – Annual crops in Crop District 2

Table 69. 2017 Annual crops in Crop District 2 (290 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	3.9	1.6	41.9	4.4	113.5	592.8	32.7
2	Wild buckwheat	33.6	7.9	23.7	0.8	2.3	22.2	31.5
3	Wild oats	19.9	6.2	31.3	1.6	7.9	77.6	28.5
4	Wheat	13.2	4.9	37.3	1.2	8.8	106.6	21.2
5	Canola/rapeseed	14.6	4.2	29.0	1.0	6.7	89.6	19.3
6	Kochia	16.8	3.5	20.6	1.0	5.8	88.8	18.8
7	Lamb's-quarters	16.3	3.5	21.4	0.5	2.9	42.2	15.3
8	Spiny annual sow-thistle	14.5	3.7	25.6	0.5	3.4	24.8	15.2
9	Canada thistle	20.3	2.7	13.2	0.3	1.5	17.0	14.4
10	Chickweed	2.8	1.2	44.5	1.3	45.9	208.0	11.6
11	False cleavers	5.4	2.4	45.2	0.4	6.9	31.4	8.7
12	Dandelion	11.0	1.8	16.4	0.1	1.3	8.0	8.2
13	Barley	6.1	1.9	31.0	0.3	4.4	24.6	7.3
14	Round-leaved mallow	8.4	1.6	18.8	0.2	2.2	17.0	7.1
15	Shepherd's-purse	3.4	0.9	27.5	0.4	11.3	108.2	5.4
16	Redroot pigweed	5.4	1.0	19.0	0.2	3.3	15.6	5.0
17	Russian thistle	4.8	1.0	21.5	0.2	3.4	25.0	4.7
18	Annual brome species	0.8	0.6	82.8	0.5	67.7	114.8	4.7
19	Foxtail barley	5.9	0.6	9.9	0.1	1.1	8.0	3.7
20	Stinkweed	5.5	0.6	10.1	< 0.1	0.6	1.8	3.3
21	Narrow-leaved hawk's-beard	4.3	0.6	13.8	0.1	1.6	8.4	3.1
22	Western barnyard grass	3.6	0.4	9.9	0.1	4.1	45.8	3.0
23	Prostrate knotweed	4.5	0.5	11.3	< 0.1	0.8	3.2	2.8
24	Tumble pigweed	3.9	0.3	8.6	< 0.1	0.5	1.4	2.2
25	Pale smartweed	3.3	0.4	11.3	< 0.1	1.4	3.0	2.2
26	Perennial sow-thistle	3.3	0.4	12.3	< 0.1	0.9	1.8	2.2
27	Alfalfa	1.8	0.5	28.3	0.1	2.8	11.0	1.9
28	Annual spurge species	1.6	0.3	21.5	< 0.1	1.6	3.8	1.3
29	Field pea	2.3	0.2	6.6	< 0.1	0.3	0.6	1.2
30	Nightshade species	0.5	0.4	85.0	< 0.1	7.4	7.4	1.1
31	Prickly lettuce	1.7	0.1	8.1	< 0.1	0.3	0.6	0.9
32	Oak-leaved goosefoot	0.4	0.1	20.0	0.1	25.0	25.0	0.9
33	Goat's-beard	1.5	0.1	6.4	< 0.1	0.3	0.4	0.7
34	Flixweed	1.2	0.1	11.9	< 0.1	0.5	1.0	0.7
35	Stork's bill	1.4	0.1	5.0	< 0.1	0.3	1.0	0.7
36	Hemp-nettle	1.2	0.1	5.7	< 0.1	0.3	0.8	0.6
37	Wild mustard	0.9	0.1	9.0	< 0.1	1.0	4.0	0.5
38	Black medick	0.5	0.1	17.7	< 0.1	4.1	6.8	0.5
39	Field horsetail	0.7	0.1	10.0	< 0.1	1.5	2.4	0.5
40	Cow cockle	0.7	0.1	9.6	< 0.1	1.2	1.8	0.4
41	Night-flowering catchfly	0.7	0.1	7.3	< 0.1	0.3	0.4	0.4
42	Rye	0.3	0.1	35.0	< 0.1	2.0	2.0	0.4
43	Rough cinquefoil	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
44	Fababean	0.4	0.1	20.0	< 0.1	0.8	0.8	0.3
45	Rose species	0.4	0.1	15.0	< 0.1	2.0	2.0	0.3
46	Henbit	0.3	0.1	20.0	< 0.1	1.6	1.6	0.3
47	Low cudweed	0.4	< 0.1	6.9	< 0.1	1.1	2.6	0.2
48	Sunflower	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.2
49	Biennial wormwood	0.4	< 0.1	10.0	< 0.1	0.8	0.8	0.2
50	Skeletonweed	0.3	< 0.1	10.0	< 0.1	0.8	0.8	0.2
51	Quack grass	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.2
52	Persian darnel	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2

(Table continued on next page)

Field Survey Summary Tables – Annual crops in Crop District 2

Table 69. 2017 Annual crops in Crop District 2 (290 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Blue lettuce	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
54	Northern willowherb	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
55	Flax	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
56	Cattail	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.2
57	Sedge species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
58	Vetch species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
59	Meadow brome	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.2
60	Slough grass	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
61	Willow species	0.3	< 0.1	15.0	< 0.1	0.6	0.6	0.2
62	Water smartweed	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.2
63	Lentils	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.2
64	Purslane speedwell	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Clover species	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
66	Rayless aster	0.2	< 0.1	5.0	< 0.1	1.0	1.0	0.1
67	Blue grass species	0.2	< 0.1	5.0	< 0.1	1.0	1.0	0.1

Field Survey Summary Tables – Cereal crops in Crop District 2

Table 70. 2017 Cereal crops in Crop District 2 (174 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	5.2	2.1	41.2	7.2	138.6	592.8	44.8
2	Wild buckwheat	29.5	8.0	27.0	0.9	2.9	22.2	32.8
3	Canola/rapeseed	18.4	5.7	31.2	1.5	8.2	89.6	27.1
4	Wild oats	18.5	4.9	26.3	1.2	6.2	68.2	23.6
5	Kochia	18.7	3.7	20.0	1.4	7.3	88.8	22.5
6	Canada thistle	19.9	2.5	12.7	0.3	1.3	7.0	14.8
7	Lamb's-quarters	13.0	3.1	24.0	0.6	4.3	42.2	14.6
8	Spiny annual sow-thistle	13.5	3.0	22.6	0.5	3.6	24.8	14.3
9	Chickweed	3.8	1.3	35.4	1.9	48.9	208.0	14.2
10	Round-leaved mallow	9.6	1.9	19.7	0.2	2.3	17.0	9.0
11	Dandelion	10.3	1.7	16.4	0.1	1.2	5.8	8.3
12	False cleavers	4.9	2.0	41.1	0.4	8.3	31.4	8.2
13	Annual brome species	1.3	1.0	82.8	0.8	67.7	114.8	7.1
14	Foxtail barley	8.7	0.8	9.5	0.1	1.1	8.0	5.8
15	Shepherd's-purse	2.3	0.9	38.1	0.6	25.2	108.2	5.8
16	Redroot pigweed	5.6	1.0	18.5	0.2	4.1	15.6	5.6
17	Russian thistle	5.3	0.9	17.7	0.1	1.9	8.0	4.6
18	Narrow-leaved hawk's-beard	4.4	0.7	15.2	0.1	2.2	8.4	3.7
19	Wheat	4.3	0.7	15.6	0.1	1.2	8.0	3.4
20	Prostrate knotweed	4.2	0.5	12.9	< 0.1	1.0	3.2	3.1
21	Western barnyard grass	2.7	0.3	12.0	0.2	8.1	45.8	2.9
22	Pale smartweed	3.9	0.4	11.4	0.1	1.5	2.8	2.8
23	Perennial sow-thistle	3.5	0.4	11.4	< 0.1	0.8	1.8	2.4
24	Alfalfa	1.8	0.6	33.7	0.1	3.8	11.0	2.4
25	Stinkweed	2.1	0.3	13.6	< 0.1	1.1	1.8	1.6
26	Tumble pigweed	2.2	0.2	9.5	< 0.1	0.4	0.6	1.4
27	Oak-leaved goosefoot	0.6	0.1	20.0	0.2	25.0	25.0	1.3
28	Stork's bill	2.0	0.1	5.0	< 0.1	0.3	0.4	1.1
29	Black medick	0.9	0.2	17.7	< 0.1	4.1	6.8	0.9
30	Annual spurge species	1.3	0.2	12.6	< 0.1	0.6	0.8	0.9
31	Cow cockle	1.2	0.1	9.6	< 0.1	1.2	1.8	0.8
32	Hemp-nettle	1.4	0.1	6.0	< 0.1	0.3	0.8	0.8
33	Prickly lettuce	1.1	0.1	5.0	< 0.1	0.2	0.2	0.6
34	Rose species	0.6	0.1	15.0	< 0.1	2.0	2.0	0.5
35	Henbit	0.5	0.1	20.0	< 0.1	1.6	1.6	0.5
36	Field horsetail	0.6	0.1	10.0	< 0.1	2.4	2.4	0.5
37	Field pea	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.4
38	Low cudweed	0.7	< 0.1	6.9	< 0.1	1.1	2.6	0.4
39	Biennial wormwood	0.6	0.1	10.0	< 0.1	0.8	0.8	0.4
40	Quack grass	0.6	0.1	10.0	< 0.1	0.4	0.4	0.4
41	Skeletonweed	0.6	0.1	10.0	< 0.1	0.8	0.8	0.4
42	Vetch species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	Meadow brome	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.3
44	Slough grass	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3
45	Willow species	0.4	0.1	15.0	< 0.1	0.6	0.6	0.3
46	Barley	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3
47	Water smartweed	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3
48	Wild mustard	0.3	< 0.1	15.0	< 0.1	4.0	4.0	0.3
49	Rough cinquefoil	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	Purslane speedwell	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Clover species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Rayless aster	0.3	< 0.1	5.0	< 0.1	1.0	1.0	0.2

(Table continued on next page)

Field Survey Summary Tables – Cereal crops in Crop District 2

Table 70. 2017 Cereal crops in Crop District 2 (174 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Blue grass species	0.3	< 0.1	5.0	< 0.1	1.0	1.0	0.2

Field Survey Summary Tables – Spring wheat in Crop District 2

Table 71. 2017 Spring wheat in Crop District 2 (98 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	4.2	1.4	34.5	6.8	162.6	592.8	48.3
2	Wild buckwheat	31.7	9.3	29.4	1.1	3.3	15.4	40.2
3	Canola/rapeseed	21.9	5.8	26.6	0.5	2.4	10.8	25.2
4	Kochia	12.3	3.3	27.0	1.9	15.5	88.8	24.6
5	Wild oats	17.5	4.1	23.7	1.1	6.1	68.2	23.3
6	Canada thistle	17.3	2.4	13.7	0.2	1.4	6.8	14.2
7	Spiny annual sow-thistle	14.9	2.3	15.5	0.3	2.3	12.6	13.6
8	Lamb's-quarters	12.7	2.8	22.3	0.3	2.3	11.2	13.4
9	Round-leaved mallow	10.2	2.6	25.2	0.4	3.5	17.0	12.2
10	Dandelion	11.2	2.3	20.7	0.2	1.6	5.8	10.9
11	False cleavers	6.1	2.7	44.9	0.4	6.1	14.0	10.8
12	Shepherd's-purse	0.8	0.8	100.0	0.9	108.2	108.2	7.5
13	Redroot pigweed	4.8	1.2	25.2	0.2	5.1	15.6	6.3
14	Western barnyard grass	4.3	0.6	12.8	0.4	8.9	45.8	5.5
15	Narrow-leaved hawk's-beard	4.3	1.0	23.4	0.2	3.5	8.4	5.0
16	Foxtail barley	6.5	0.5	7.5	0.1	1.7	8.0	4.7
17	Chickweed	4.8	0.6	13.3	0.1	1.7	5.8	4.0
18	Alfalfa	2.2	0.9	40.0	0.1	5.2	11.0	3.6
19	Prostrate knotweed	4.4	0.5	10.4	< 0.1	0.9	2.2	3.2
20	Pale smartweed	3.7	0.5	12.9	0.1	1.7	2.8	3.1
21	Oak-leaved goosefoot	1.1	0.2	20.0	0.3	25.0	25.0	2.7
22	Stinkweed	2.7	0.3	13.0	< 0.1	1.1	1.8	2.1
23	Tumble pigweed	2.8	0.3	11.3	< 0.1	0.5	0.6	2.0
24	Perennial sow-thistle	2.6	0.3	11.0	< 0.1	1.0	1.8	1.9
25	Wheat	2.3	0.2	7.4	< 0.1	0.5	0.8	1.4
26	Russian thistle	1.9	0.1	7.7	< 0.1	0.9	1.6	1.3
27	Rose species	1.1	0.2	15.0	< 0.1	2.0	2.0	1.0
28	Annual spurge species	1.2	0.2	15.0	< 0.1	0.8	0.8	1.0
29	Low cudweed	1.3	0.1	6.9	< 0.1	1.1	2.6	0.8
30	Black medick	0.7	0.1	15.0	< 0.1	0.8	0.8	0.6
31	Willow species	0.7	0.1	15.0	< 0.1	0.6	0.6	0.6
32	Stork's bill	1.0	0.1	5.0	< 0.1	0.2	0.2	0.6
33	Barley	1.0	0.1	5.0	< 0.1	0.2	0.2	0.6
34	Water smartweed	1.0	0.1	5.0	< 0.1	0.2	0.2	0.6
35	Prickly lettuce	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.5
36	Wild mustard	0.5	0.1	15.0	< 0.1	4.0	4.0	0.5
37	Rough cinquefoil	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.4
38	Purslane speedwell	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.4
39	Clover species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.4
40	Hemp-nettle	0.5	< 0.1	10.0	< 0.1	0.8	0.8	0.3
41	Blue grass species	0.5	< 0.1	5.0	< 0.1	1.0	1.0	0.3
42	Field pea	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Barley in Crop District 2

Table 72. 2017 Barley in Crop District 2 (41 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	4.7	4.2	88.9	7.7	163.7	208.0	44.3
2	Canola/rapeseed	18.5	6.5	35.2	3.7	19.8	89.6	34.0
3	Wild buckwheat	32.5	8.3	25.7	1.0	3.1	22.2	29.3
4	Annual brome species	5.3	4.4	82.8	3.6	67.7	114.8	25.7
5	Kochia	20.8	4.1	19.7	0.8	3.7	11.2	17.4
6	Spiny annual sow-thistle	12.6	4.8	38.4	1.1	8.5	24.8	17.1
7	Lamb's-quarters	20.1	3.9	19.6	0.6	2.8	12.6	15.8
8	Wild oats	19.0	4.4	23.2	0.4	2.0	4.6	15.4
9	Canada thistle	18.2	2.2	12.1	0.2	1.2	3.6	10.8
10	False cleavers	6.2	2.0	32.3	0.8	13.4	31.4	9.3
11	Dandelion	16.9	1.7	9.8	0.1	0.6	1.6	8.9
12	Round-leaved mallow	14.3	1.8	12.4	0.1	0.7	1.4	8.2
13	Wheat	10.1	2.3	22.9	0.2	1.9	8.0	8.1
14	Redroot pigweed	10.1	1.4	13.6	0.4	3.8	10.0	7.4
15	Foxtail barley	11.2	1.4	12.8	0.1	0.9	2.0	6.6
16	Russian thistle	4.1	1.4	33.8	0.2	5.7	8.0	4.8
17	Perennial sow-thistle	6.3	0.9	14.1	0.1	0.9	1.8	3.9
18	Narrow-leaved hawk's-beard	8.2	0.4	5.0	0.1	0.6	1.2	3.7
19	Shepherd's-purse	5.2	0.5	10.0	0.1	1.2	2.2	2.9
20	Cow cockle	5.1	0.5	9.6	0.1	1.2	1.8	2.8
21	Stork's bill	6.1	0.3	5.0	< 0.1	0.3	0.4	2.6
22	Prostrate knotweed	4.9	0.2	5.0	< 0.1	0.3	0.4	2.1
23	Hemp-nettle	4.9	0.2	5.0	< 0.1	0.2	0.2	2.1
24	Alfalfa	2.4	0.5	20.0	< 0.1	0.8	0.8	1.7
25	Henbit	2.3	0.5	20.0	< 0.1	1.6	1.6	1.7
26	Field horsetail	2.6	0.3	10.0	0.1	2.4	2.4	1.6
27	Pale smartweed	2.6	0.1	5.0	0.1	2.2	2.2	1.4
28	Annual spurge species	2.6	0.3	10.0	< 0.1	0.4	0.4	1.3
29	Quack grass	2.4	0.2	10.0	< 0.1	0.4	0.4	1.3
30	Skeletonweed	2.3	0.2	10.0	< 0.1	0.8	0.8	1.3
31	Vetch species	2.7	0.1	5.0	< 0.1	0.2	0.2	1.2
32	Green foxtail	2.6	0.1	5.0	< 0.1	0.4	0.4	1.1
33	Meadow brome	2.6	0.1	5.0	< 0.1	0.4	0.4	1.1
34	Slough grass	2.6	0.1	5.0	< 0.1	0.2	0.2	1.1
35	Tumble pigweed	2.6	0.1	5.0	< 0.1	0.2	0.2	1.1
36	Western barnyard grass	1.2	0.1	5.0	< 0.1	1.6	1.6	0.6
37	Rayless aster	1.2	0.1	5.0	< 0.1	1.0	1.0	0.5

Table 73. 2017 Durum in Crop District 2 (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	11.8	6.9	58.3	17.8	151.5	509.4	88.7
2	Wild oats	22.2	8.0	35.9	2.5	11.1	57.4	36.7
3	Kochia	36.1	4.8	13.2	0.6	1.6	6.4	29.3
4	Canada thistle	27.9	3.4	12.2	0.4	1.4	7.0	22.0
5	Canola/rapeseed	9.1	4.9	54.3	1.8	19.8	47.4	21.6
6	Wild buckwheat	21.5	4.0	18.5	0.2	1.0	2.0	19.5
7	Lamb's-quarters	5.8	3.2	54.3	1.4	23.6	42.2	14.7
8	Spiny annual sow-thistle	11.4	3.2	27.8	0.2	2.0	4.4	12.9
9	Russian thistle	13.8	2.4	17.5	0.2	1.3	4.8	12.3
10	Foxtail barley	12.7	1.1	8.8	0.1	0.4	1.0	8.6
11	Shepherd's-purse	3.2	1.6	50.0	0.4	13.4	13.4	6.6
12	Pale smartweed	6.2	0.8	12.2	< 0.1	0.7	1.2	4.7
13	Prostrate knotweed	3.0	1.2	40.0	0.1	3.2	3.2	4.3
14	Black medick	2.6	0.5	20.0	0.2	6.8	6.8	3.0
15	Stinkweed	3.2	0.5	15.0	< 0.1	1.2	1.2	2.6
16	Biennial wormwood	3.2	0.3	10.0	< 0.1	0.8	0.8	2.3
17	Wheat	3.4	0.2	5.0	< 0.1	0.2	0.2	2.0
18	Prickly lettuce	3.0	0.1	5.0	< 0.1	0.2	0.2	1.7
19	Perennial sow-thistle	3.0	0.1	5.0	< 0.1	0.2	0.2	1.7
20	Field pea	3.0	0.1	5.0	< 0.1	0.2	0.2	1.7
21	Round-leaved mallow	2.6	0.1	5.0	< 0.1	0.2	0.2	1.5
22	Redroot pigweed	2.6	0.1	5.0	< 0.1	0.2	0.2	1.5

Field Survey Summary Tables – Canola in Crop District 2

Table 74. 2017 Canola in Crop District 2 (81 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	28.0	12.1	43.1	2.3	8.3	35.6	51.0
2	Wild oats	19.4	7.8	40.4	1.8	9.1	34.0	36.3
3	Wild buckwheat	42.4	8.1	19.1	0.6	1.4	7.8	31.4
4	Lamb's-quarters	26.6	5.3	20.0	0.5	1.8	10.8	21.1
5	Canada thistle	26.5	4.0	15.0	0.5	2.0	17.0	19.8
6	Spiny annual sow-thistle	17.7	4.8	27.0	0.6	3.3	15.4	18.8
7	False cleavers	7.5	4.4	58.5	0.5	6.2	12.4	13.6
8	Barley	11.9	2.7	22.5	0.4	3.0	17.6	11.4
9	Chickweed	1.8	1.6	85.4	0.6	32.4	38.0	9.2
10	Dandelion	9.8	2.4	24.1	0.2	2.2	8.0	8.8
11	Kochia	10.3	2.0	19.8	0.1	1.4	5.4	7.8
12	Round-leaved mallow	9.3	1.6	16.9	0.2	2.0	8.2	7.2
13	Stinkweed	12.4	1.1	8.8	0.1	0.5	1.0	6.1
14	Redroot pigweed	7.5	1.5	19.8	0.1	1.9	6.4	6.0
15	Shepherd's-purse	6.0	1.3	22.3	0.1	2.0	5.8	5.1
16	Green foxtail	2.6	1.2	44.5	0.2	6.2	9.0	4.2
17	Tumble pigweed	8.0	0.7	8.8	< 0.1	0.6	1.4	4.1
18	Nightshade species	1.8	1.5	85.0	0.1	7.4	7.4	4.1
19	Annual spurge species	2.9	0.9	30.0	0.1	2.6	3.8	2.9
20	Field pea	6.4	0.5	7.0	< 0.1	0.3	0.6	2.9
21	Perennial sow-thistle	4.5	0.6	13.9	< 0.1	0.9	1.6	2.8
22	Canola/rapeseed	4.3	0.6	14.9	< 0.1	0.9	1.4	2.7
23	Narrow-leaved hawk's-beard	2.8	0.5	17.5	< 0.1	1.0	1.4	1.9
24	Goat's-beard	4.1	0.3	6.7	< 0.1	0.3	0.4	1.8
25	Alfalfa	2.5	0.5	19.7	< 0.1	1.2	2.2	1.8
26	Russian thistle	2.3	0.4	19.3	< 0.1	1.4	2.6	1.7
27	Prostrate knotweed	3.8	0.2	5.0	< 0.1	0.3	0.8	1.6
28	Pale smartweed	2.3	0.3	14.3	< 0.1	1.5	3.0	1.6
29	Night-flowering catchfly	2.7	0.2	7.3	< 0.1	0.3	0.4	1.2
30	Wild mustard	2.6	0.2	7.6	< 0.1	0.3	0.4	1.2
31	Western barnyard grass	2.8	0.1	5.0	< 0.1	0.2	0.2	1.2
32	Flixweed	1.4	0.4	25.0	< 0.1	1.0	1.0	1.1
33	Fababean	1.4	0.3	20.0	< 0.1	0.8	0.8	1.0
34	Field horsetail	1.3	0.1	10.0	< 0.1	0.6	0.6	0.7
35	Persian darnel	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Blue lettuce	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Northern willowherb	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
38	Cattail	1.4	0.1	5.0	< 0.1	0.4	0.4	0.6
39	Flax	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
40	Sedge species	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
41	Hemp-nettle	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
42	Prickly lettuce	1.2	0.1	5.0	< 0.1	0.2	0.2	0.5
43	Lentils	1.2	0.1	5.0	< 0.1	0.2	0.2	0.5
44	Foxtail barley	1.2	0.1	5.0	< 0.1	0.2	0.2	0.5
45	Stork's bill	0.6	< 0.1	5.0	< 0.1	1.0	1.0	0.3

Field Survey Summary Tables – Pulse crops in Crop District 2

Table 75. 2017 Pulse crops in Crop District 2 (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	23.7	9.7	41.1	4.0	17.1	106.6	56.5
2	Wild oats	27.7	9.1	32.9	3.1	11.2	77.6	49.4
3	Barley	20.2	9.3	46.1	1.4	6.9	24.6	33.3
4	Wild buckwheat	33.3	7.6	22.7	0.6	1.8	10.6	29.0
5	Kochia	22.6	5.4	23.8	1.0	4.6	24.6	25.1
6	Canola/rapeseed	19.4	5.0	25.7	0.5	2.7	5.2	19.2
7	Spiny annual sow-thistle	12.2	4.7	38.1	0.4	2.9	5.8	14.7
8	Russian thistle	8.6	3.0	34.4	0.8	8.9	25.0	13.9
9	Dandelion	17.1	1.0	6.0	0.1	0.4	1.0	8.3
10	Western barnyard grass	10.3	1.0	10.1	0.1	1.2	2.6	6.4
11	Lamb's-quarters	9.0	1.1	12.3	< 0.1	0.5	0.8	5.4
12	Prostrate knotweed	7.7	1.1	14.1	0.1	0.9	3.0	5.1
13	Narrow-leaved hawk's-beard	7.7	0.5	6.8	< 0.1	0.3	0.6	3.8
14	Canada thistle	7.9	0.4	5.0	< 0.1	0.2	0.4	3.6
15	Stinkweed	6.4	0.6	10.0	< 0.1	0.5	0.6	3.6
16	Prickly lettuce	5.9	0.7	12.4	< 0.1	0.5	0.6	3.5
17	Rye	2.8	1.0	35.0	0.1	2.0	2.0	3.0
18	Flixweed	6.3	0.3	5.0	< 0.1	0.2	0.2	2.9
19	Foxtail barley	3.1	0.6	20.0	0.1	2.0	2.0	2.6
20	Sunflower	3.1	0.3	10.0	< 0.1	0.6	0.6	1.8
21	Shepherd's-purse	2.8	0.3	10.0	< 0.1	0.6	0.6	1.6
22	Rough cinquefoil	3.4	0.2	5.0	< 0.1	0.2	0.2	1.6
23	Tumble pigweed	3.4	0.2	5.0	< 0.1	0.2	0.2	1.6
24	False cleavers	3.2	0.2	5.0	< 0.1	0.2	0.2	1.5
25	Pale smartweed	2.8	0.1	5.0	< 0.1	0.4	0.4	1.3
26	Goat's-beard	2.5	0.1	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables – Peas in Crop District 2

Table 76. 2017 Peas in Crop District 2 (28 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	29.3	12.0	41.1	5.0	17.1	106.6	65.3
2	Wild oats	30.8	10.0	32.6	3.8	12.2	77.6	53.6
3	Barley	25.0	11.5	46.1	1.7	6.9	24.6	39.0
4	Wild buckwheat	41.3	9.4	22.7	0.7	1.8	10.6	34.3
5	Canola/rapeseed	24.0	6.2	25.7	0.7	2.7	5.2	22.6
6	Kochia	14.7	3.9	26.3	1.0	6.8	24.6	18.4
7	Dandelion	17.6	1.1	6.2	0.1	0.4	1.0	8.3
8	Prostrate knotweed	9.6	1.4	14.1	0.1	0.9	3.0	6.1
9	Western barnyard grass	9.3	1.1	12.0	0.2	1.6	2.6	6.1
10	Spiny annual sow-thistle	8.2	1.4	17.2	0.1	1.3	2.0	5.8
11	Narrow-leaved hawk's-beard	9.6	0.6	6.8	< 0.1	0.3	0.6	4.5
12	Lamb's-quarters	7.6	1.0	13.3	< 0.1	0.5	0.8	4.5
13	Canada thistle	9.7	0.5	5.0	< 0.1	0.2	0.4	4.3
14	Stinkweed	7.9	0.8	10.0	< 0.1	0.5	0.6	4.3
15	Rye	3.5	1.2	35.0	0.1	2.0	2.0	3.6
16	Russian thistle	6.9	0.5	7.5	< 0.1	0.4	0.6	3.4
17	Flixweed	7.7	0.4	5.0	< 0.1	0.2	0.2	3.4
18	Foxtail barley	3.8	0.8	20.0	0.1	2.0	2.0	3.0
19	Sunflower	3.8	0.4	10.0	< 0.1	0.6	0.6	2.1
20	Prickly lettuce	3.8	0.4	10.0	< 0.1	0.4	0.4	2.0
21	Rough cinquefoil	4.2	0.2	5.0	< 0.1	0.2	0.2	1.9
22	Tumble pigweed	4.2	0.2	5.0	< 0.1	0.2	0.2	1.9
23	False cleavers	3.9	0.2	5.0	< 0.1	0.2	0.2	1.7

Field Survey Summary Tables – Annual crops in Crop District 3

Table 77. 2017 Annual crops in Crop District 3 (131 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	33.9	12.4	36.7	4.7	13.9	186.2	38.2
2	Lamb's-quarters	12.9	6.2	48.0	7.5	58.2	766.4	35.0
3	Wild buckwheat	41.0	9.9	24.2	1.1	2.6	32.0	25.6
4	Chickweed	12.9	7.0	54.1	3.9	30.0	121.8	23.8
5	False cleavers	19.2	8.6	44.6	1.9	9.9	80.2	20.6
6	Barley	14.7	7.1	48.1	1.1	7.2	38.6	14.9
7	Kochia	5.9	3.2	53.6	2.9	48.6	255.8	14.6
8	Stinkweed	11.0	4.8	43.7	1.3	12.3	100.2	12.5
9	Canada thistle	25.2	3.8	14.9	0.4	1.6	12.2	12.5
10	Canola/rapeseed	19.3	4.4	22.5	0.5	2.6	21.4	11.7
11	Dandelion	14.9	3.6	24.0	0.3	2.2	12.8	9.1
12	Hemp-nettle	10.6	3.5	32.9	0.6	5.5	40.4	8.6
13	Spiny annual sow-thistle	15.6	2.5	15.7	0.4	2.8	55.0	8.5
14	Wheat	11.9	3.8	32.0	0.3	2.9	7.0	8.5
15	Shepherd's-purse	13.7	2.9	21.0	0.2	1.8	7.4	7.7
16	Prostrate knotweed	14.7	2.4	16.4	0.1	1.0	6.0	7.2
17	Annual brome species	6.1	2.5	41.0	0.7	11.1	48.0	6.6
18	Redroot pigweed	2.6	1.6	62.1	0.4	15.4	29.4	3.7
19	Oats	1.4	1.3	93.9	0.4	29.8	53.8	3.1
20	Foxtail barley	5.8	0.9	16.0	0.1	1.2	7.6	2.9
21	Perennial sow-thistle	2.4	0.7	28.0	0.2	8.0	16.2	2.0
22	Western barnyard grass	2.5	0.7	28.3	0.1	3.1	7.4	1.7
23	Green foxtail	2.6	0.6	22.1	0.1	4.2	11.8	1.7
24	Yellow toadflax	1.7	0.7	40.0	0.1	8.0	9.2	1.6
25	Night-flowering catchfly	2.6	0.4	16.9	0.1	2.6	5.8	1.4
26	Alfalfa	2.1	0.6	29.8	< 0.1	2.0	3.8	1.4
27	Tumble pigweed	3.8	0.2	5.0	< 0.1	0.3	0.6	1.4
28	Clover species	1.9	0.5	25.5	< 0.1	1.9	3.2	1.2
29	Quack grass	1.5	0.4	25.3	0.1	4.5	7.0	1.1
30	Pale smartweed	1.7	0.3	20.0	< 0.1	2.9	5.4	1.0
31	Field pea	2.6	0.2	6.7	< 0.1	0.3	0.4	0.9
32	Spear-leaved goosefoot	2.7	0.1	5.0	< 0.1	0.2	0.2	0.9
33	Round-leaved mallow	1.7	0.2	12.5	< 0.1	0.8	1.2	0.8
34	Narrow-leaved hawk's-beard	2.0	0.1	6.3	< 0.1	0.3	0.4	0.7
35	Wild mustard	1.3	0.3	22.0	< 0.1	1.2	3.2	0.7
36	Field violet	0.7	0.3	45.0	< 0.1	4.6	4.6	0.6
37	Rough cinquefoil	1.2	0.1	10.0	< 0.1	0.4	0.4	0.5
38	Scouring-rush	0.8	< 0.1	5.0	< 0.1	5.2	5.2	0.4
39	Flax	0.9	0.1	15.0	< 0.1	0.6	0.6	0.4
40	Black medick	0.9	0.1	10.0	< 0.1	0.4	0.4	0.4
41	Milkweed species	0.8	0.1	10.0	< 0.1	0.4	0.4	0.3
42	Annual spurge species	0.8	0.1	10.0	< 0.1	0.4	0.4	0.3
43	Vetch species	0.5	0.1	25.0	< 0.1	1.2	1.2	0.3
44	Field horsetail	0.8	< 0.1	5.0	< 0.1	0.6	0.6	0.3
45	Russian thistle	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
46	Lentils	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
47	Broad-leaved plantain	0.5	0.1	20.0	< 0.1	1.0	1.0	0.3
48	Italian rye grass	0.4	0.1	25.0	< 0.1	2.8	2.8	0.3
49	Timothy	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
50	Fescue species	0.7	< 0.1	5.0	< 0.1	1.2	1.2	0.3
51	Orchard grass	0.5	0.1	15.0	< 0.1	0.8	0.8	0.3
52	Biennial wormwood	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2

(Table continued on next page)

Field Survey Summary Tables – Annual crops in Crop District 3

Table 77. 2017 Annual crops in Crop District 3 (131 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Stork's bill	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
54	Cow cockle	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2

Field Survey Summary Tables – Cereal crops in Crop District 3

Table 78. 2017 Cereal crops in Crop District 3 (81 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	15.3	6.8	44.6	11.3	74.3	766.4	40.9
2	Wild oats	35.3	14.6	41.3	6.3	17.8	186.2	40.6
3	Wild buckwheat	47.9	11.6	24.2	1.3	2.8	32.0	28.3
4	Chickweed	15.4	8.0	51.9	4.4	28.7	121.8	23.7
5	False cleavers	20.6	10.4	50.8	1.8	8.8	29.6	20.6
6	Stinkweed	15.6	7.5	48.0	2.2	13.8	100.2	17.3
7	Canola/rapeseed	24.3	6.2	25.4	0.8	3.1	21.4	14.9
8	Kochia	4.1	2.3	56.8	3.6	88.4	255.8	12.9
9	Canada thistle	24.5	4.0	16.4	0.5	1.9	12.2	12.1
10	Dandelion	17.5	4.5	25.8	0.5	2.7	12.8	10.6
11	Hemp-nettle	9.6	3.7	38.9	0.8	8.2	40.4	8.4
12	Spiny annual sow-thistle	13.5	2.9	21.2	0.6	4.7	55.0	8.3
13	Shepherd's-purse	10.8	3.2	30.0	0.2	2.3	5.6	6.8
14	Annual brome species	6.4	2.5	39.5	0.9	14.6	48.0	6.7
15	Prostrate knotweed	12.0	2.3	18.8	0.2	1.3	6.0	6.0
16	Redroot pigweed	2.8	2.5	89.6	0.6	22.8	29.4	4.9
17	Oats	2.2	2.1	93.9	0.7	29.8	53.8	4.4
18	Barley	5.6	1.4	25.5	0.1	2.4	7.4	3.3
19	Foxtail barley	6.6	1.2	18.5	0.1	1.6	7.6	3.3
20	Yellow toadflax	2.7	1.1	40.0	0.2	8.0	9.2	2.4
21	Wheat	4.1	0.8	18.3	0.1	1.7	4.6	2.1
22	Alfalfa	2.7	0.9	34.9	0.1	2.4	3.8	1.9
23	Spear-leaved goosefoot	4.3	0.2	5.0	< 0.1	0.2	0.2	1.5
24	Clover species	2.2	0.7	29.5	< 0.1	2.0	3.2	1.4
25	Night-flowering catchfly	2.8	0.4	15.3	< 0.1	1.0	1.6	1.3
26	Tumble pigweed	3.4	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Wild mustard	2.1	0.5	22.0	< 0.1	1.2	3.2	1.1
28	Field pea	2.7	0.2	7.5	< 0.1	0.3	0.4	1.0
29	Quack grass	1.1	0.5	45.0	0.1	7.0	7.0	1.0
30	Field violet	1.1	0.5	45.0	< 0.1	4.6	4.6	0.9
31	Rough cinquefoil	1.9	0.2	10.0	< 0.1	0.4	0.4	0.8
32	Narrow-leaved hawk's-beard	1.9	0.1	7.2	< 0.1	0.3	0.4	0.7
33	Scouring-rush	1.4	0.1	5.0	0.1	5.2	5.2	0.6
34	Round-leaved mallow	1.4	0.2	15.0	< 0.1	0.8	1.2	0.6
35	Flax	1.4	0.2	15.0	< 0.1	0.6	0.6	0.6
36	Black medick	1.5	0.1	10.0	< 0.1	0.4	0.4	0.6
37	Milkweed species	1.4	0.1	10.0	< 0.1	0.4	0.4	0.5
38	Western barnyard grass	1.4	0.1	5.0	< 0.1	0.8	0.8	0.5
39	Field horsetail	1.4	0.1	5.0	< 0.1	0.6	0.6	0.5
40	Vetch species	0.9	0.2	25.0	< 0.1	1.2	1.2	0.5
41	Green foxtail	1.4	0.1	5.0	< 0.1	0.2	0.2	0.5
42	Lentils	1.4	0.1	5.0	< 0.1	0.2	0.2	0.5
43	Broad-leaved plantain	0.9	0.2	20.0	< 0.1	1.0	1.0	0.4
44	Italian rye grass	0.7	0.2	25.0	< 0.1	2.8	2.8	0.4
45	Perennial sow-thistle	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
46	Timothy	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
47	Fescue species	1.1	0.1	5.0	< 0.1	1.2	1.2	0.4
48	Orchard grass	0.9	0.1	15.0	< 0.1	0.8	0.8	0.4
49	Biennial wormwood	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
50	Stork's bill	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
51	Cow cockle	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3

Field Survey Summary Tables – Spring wheat in Crop District 3

Table 79. 2017 Spring wheat in Crop District 3 (39 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	5.7	4.1	72.8	7.4	131.2	255.8	47.9
2	False cleavers	20.9	12.8	61.4	2.5	12.1	29.6	39.5
3	Wild buckwheat	43.2	8.8	20.5	1.1	2.5	32.0	34.1
4	Chickweed	9.4	6.3	66.4	3.6	38.2	75.0	31.8
5	Canola/rapeseed	31.9	7.3	22.8	0.7	2.1	7.6	25.6
6	Wild oats	29.1	6.9	23.8	0.7	2.5	12.6	24.4
7	Canada thistle	23.9	6.2	26.2	0.8	3.2	12.2	21.8
8	Spiny annual sow-thistle	19.6	3.3	16.7	0.4	2.0	7.0	14.0
9	Dandelion	9.4	2.0	21.5	0.2	2.2	6.2	7.4
10	Lamb's-quarters	12.3	1.6	13.2	0.1	0.6	1.0	7.2
11	Foxtail barley	8.0	2.2	28.2	0.2	2.5	7.6	7.2
12	Prostrate knotweed	2.9	2.0	70.0	0.2	6.0	6.0	4.8
13	Shepherd's-purse	2.9	1.6	55.0	0.2	5.6	5.6	4.2
14	Barley	5.7	1.0	17.5	< 0.1	0.7	1.2	3.8
15	Yellow toadflax	2.9	1.1	40.0	0.2	6.8	6.8	3.7
16	Stinkweed	7.1	0.4	5.0	< 0.1	0.2	0.2	3.2
17	Hemp-nettle	2.9	0.6	20.0	0.1	2.6	2.6	2.3
18	Scouring-rush	2.9	0.1	5.0	0.1	5.2	5.2	2.1
19	Field pea	2.9	0.3	10.0	< 0.1	0.4	0.4	1.5
20	Milkweed species	2.9	0.3	10.0	< 0.1	0.4	0.4	1.5
21	Western barnyard grass	2.9	0.1	5.0	< 0.1	0.8	0.8	1.4
22	Field horsetail	2.9	0.1	5.0	< 0.1	0.6	0.6	1.3
23	Night-flowering catchfly	2.9	0.1	5.0	< 0.1	0.4	0.4	1.3
24	Green foxtail	2.9	0.1	5.0	< 0.1	0.2	0.2	1.3
25	Tumble pigweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.3
26	Lentils	2.9	0.1	5.0	< 0.1	0.2	0.2	1.3
27	Wheat	2.9	0.1	5.0	< 0.1	0.2	0.2	1.3
28	Annual brome species	1.5	0.2	15.0	< 0.1	2.0	2.0	1.0
29	Narrow-leaved hawk's-beard	2.2	0.1	5.0	< 0.1	0.2	0.2	1.0
30	Cow cockle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.8

Table 80. 2017 Barley in Crop District 3 (32 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	38.8	16.5	42.7	7.2	18.5	79.8	50.0
2	Chickweed	25.6	9.8	38.3	5.4	21.2	121.8	34.5
3	Wild buckwheat	50.8	15.1	29.6	1.9	3.8	32.0	33.5
4	Hemp-nettle	18.5	8.6	46.7	1.9	10.2	40.4	19.1
5	Dandelion	24.4	8.7	35.6	1.0	3.9	12.8	17.4
6	False cleavers	21.0	8.7	41.6	1.2	5.7	15.2	17.4
7	Canola/rapeseed	17.2	7.0	40.5	1.2	7.0	21.4	14.9
8	Lamb's-quarters	12.1	6.3	51.9	1.2	10.1	31.0	13.0
9	Canada thistle	23.7	2.2	9.3	0.2	1.0	3.6	9.1
10	Spiny annual sow-thistle	9.4	2.8	30.3	1.1	11.9	55.0	8.9
11	Annual brome species	3.7	1.3	35.0	1.8	48.0	48.0	8.4
12	Stinkweed	11.8	3.8	31.9	0.6	4.7	7.2	8.4
13	Prostrate knotweed	19.3	2.7	13.8	0.1	0.8	2.2	8.0
14	Oats	2.3	2.3	100.0	1.3	53.8	53.8	7.1
15	Redroot pigweed	4.0	3.2	80.0	0.7	16.6	16.6	6.2
16	Shepherd's-purse	6.1	2.6	42.7	0.2	2.8	3.0	4.5
17	Wheat	7.5	1.9	25.0	0.2	2.5	4.6	4.3
18	Alfalfa	5.6	2.1	38.0	0.1	2.6	3.8	3.9
19	Yellow toadflax	3.7	1.5	40.0	0.3	9.2	9.2	3.5
20	Quack grass	2.9	1.3	45.0	0.2	7.0	7.0	2.6
21	Foxtail barley	7.5	0.4	5.0	< 0.1	0.3	0.4	2.4
22	Field violet	2.9	1.3	45.0	0.1	4.6	4.6	2.4
23	Night-flowering catchfly	4.0	1.0	25.0	0.1	1.6	1.6	2.2
24	Rough cinquefoil	5.2	0.5	10.0	< 0.1	0.4	0.4	1.9
25	Round-leaved mallow	3.8	0.6	15.0	< 0.1	0.8	1.2	1.6
26	Black medick	4.0	0.4	10.0	< 0.1	0.4	0.4	1.5
27	Vetch species	2.3	0.6	25.0	< 0.1	1.2	1.2	1.2
28	Wild mustard	3.7	0.2	5.0	< 0.1	0.2	0.2	1.2
29	Tumble pigweed	3.7	0.2	5.0	< 0.1	0.2	0.2	1.2
30	Broad-leaved plantain	2.3	0.5	20.0	< 0.1	1.0	1.0	1.1
31	Italian rye grass	1.9	0.5	25.0	0.1	2.8	2.8	1.1
32	Perennial sow-thistle	2.9	0.3	10.0	< 0.1	0.4	0.4	1.1
33	Timothy	2.9	0.3	10.0	< 0.1	0.4	0.4	1.1
34	Fescue species	2.9	0.1	5.0	< 0.1	1.2	1.2	1.0
35	Orchard grass	2.3	0.4	15.0	< 0.1	0.8	0.8	1.0
36	Biennial wormwood	3.0	0.2	5.0	< 0.1	0.2	0.2	1.0
37	Stork's bill	2.9	0.1	5.0	< 0.1	0.2	0.2	0.9
38	Narrow-leaved hawk's-beard	2.3	0.2	10.0	< 0.1	0.4	0.4	0.9
39	Clover species	2.3	0.1	5.0	< 0.1	0.2	0.2	0.7

Field Survey Summary Tables – Canola in Crop District 3

Table 81. 2017 Canola in Crop District 3 (41 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barley	32.0	19.0	59.6	3.1	9.8	38.6	47.2
2	Wild oats	34.8	11.0	31.6	2.8	8.0	47.6	37.8
3	False cleavers	21.9	7.1	32.6	2.6	12.1	80.2	29.2
4	Wild buckwheat	32.2	8.9	27.6	0.8	2.4	11.8	23.0
5	Lamb's-quarters	11.5	6.6	57.5	1.5	13.3	28.4	19.1
6	Wheat	20.1	7.0	35.0	0.5	2.5	7.0	16.0
7	Chickweed	9.1	4.6	50.5	1.3	13.7	39.2	14.8
8	Canada thistle	28.8	3.6	12.5	0.4	1.3	4.6	14.3
9	Kochia	8.6	3.4	40.0	1.0	11.6	26.0	11.9
10	Shepherd's-purse	23.8	3.0	12.5	0.3	1.3	7.4	11.8
11	Hemp-nettle	15.6	3.9	25.2	0.3	2.0	5.8	10.5
12	Spiny annual sow-thistle	17.2	1.7	10.0	0.1	0.7	1.8	7.5
13	Dandelion	13.7	2.6	19.3	0.1	0.9	2.0	7.5
14	Annual brome species	7.3	3.2	43.6	0.4	4.8	8.0	7.5
15	Perennial sow-thistle	5.7	2.0	35.0	0.6	11.0	16.2	7.5
16	Prostrate knotweed	10.1	2.1	20.7	0.1	1.2	1.8	5.8
17	Green foxtail	5.8	1.8	30.5	0.4	6.2	11.8	5.7
18	Western barnyard grass	2.9	1.7	60.0	0.2	7.4	7.4	3.8
19	Pale smartweed	5.7	1.1	20.0	0.2	2.9	5.4	3.8
20	Night-flowering catchfly	2.9	0.6	20.0	0.2	5.8	5.8	2.4
21	Foxtail barley	5.7	0.6	10.0	< 0.1	0.4	0.6	2.4
22	Tumble pigweed	5.7	0.3	5.0	< 0.1	0.4	0.6	2.1
23	Stinkweed	4.3	0.5	11.6	< 0.1	0.7	1.0	2.0
24	Quack grass	2.9	0.3	10.0	0.1	2.6	2.6	1.6
25	Round-leaved mallow	2.9	0.3	10.0	< 0.1	0.8	0.8	1.3
26	Redroot pigweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.0
27	Field pea	2.9	0.1	5.0	< 0.1	0.2	0.2	1.0
28	Clover species	1.8	0.3	15.0	< 0.1	1.4	1.4	1.0
29	Alfalfa	1.5	0.1	10.0	< 0.1	0.4	0.4	0.6

Field Survey Summary Tables – Annual crops in Crop District 4A

Table 82. 2017 Annual crops in Crop District 4A (126 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	44.7	13.3	29.6	1.6	3.6	49.4	42.8
2	Green foxtail	17.3	8.0	46.2	3.9	22.5	106.6	42.6
3	Wild oats	29.6	7.2	24.2	3.1	10.5	139.0	39.9
4	Lamb's-quarters	24.7	5.6	22.7	0.7	2.8	16.8	19.9
5	Canada thistle	24.0	5.2	21.6	0.5	2.0	11.4	17.8
6	False cleavers	13.8	4.2	30.3	0.8	6.1	28.4	15.6
7	Canola/rapeseed	15.7	3.0	19.4	0.4	2.5	15.0	11.7
8	Stork's bill	13.0	2.7	21.1	0.3	2.5	8.4	10.0
9	Spiny annual sow-thistle	13.1	2.7	20.5	0.3	2.2	13.8	9.7
10	Hemp-nettle	9.0	1.9	21.4	0.5	5.2	26.2	8.6
11	Wheat	8.7	2.2	24.8	0.4	4.1	20.2	8.1
12	Shepherd's-purse	13.8	2.0	14.7	0.1	1.0	2.4	8.0
13	Chickweed	6.3	1.9	30.5	0.3	5.5	19.8	6.8
14	Pale smartweed	9.6	1.1	11.7	0.2	2.4	16.6	6.1
15	Redroot pigweed	4.6	1.3	28.4	0.3	7.2	33.0	5.5
16	Narrow-leaved hawk's-beard	7.1	1.3	18.9	0.1	1.4	5.2	4.7
17	Stinkweed	5.4	1.0	19.2	0.2	3.9	11.8	4.5
18	Low cudweed	7.8	0.6	7.9	0.1	1.5	4.2	4.0
19	Foxtail barley	6.6	0.8	12.0	0.1	1.6	3.6	3.8
20	Perennial sow-thistle	4.6	1.0	22.0	0.1	2.9	8.6	3.7
21	Western barnyard grass	4.3	0.5	11.9	0.2	3.9	15.0	3.1
22	Common groundsel	4.1	0.8	19.0	0.1	2.4	4.4	3.0
23	Barley	3.0	0.9	30.3	0.1	3.3	8.0	2.8
24	Dandelion	4.6	0.7	15.9	< 0.1	0.6	1.4	2.6
25	Pineappleweed	4.9	0.5	10.8	< 0.1	1.0	2.6	2.6
26	Quack grass	1.3	0.5	35.0	0.1	5.5	9.6	1.6
27	Rose species	1.4	0.4	25.0	< 0.1	1.6	2.0	1.1
28	Alfalfa	1.6	0.3	17.5	< 0.1	1.2	1.4	1.0
29	Slough grass	1.5	0.2	14.4	< 0.1	1.7	2.6	0.9
30	Oak-leaved goosefoot	1.5	0.1	9.5	< 0.1	0.6	1.0	0.7
31	Night-flowering catchfly	1.6	0.1	7.5	< 0.1	0.3	0.4	0.7
32	Rye	0.7	0.2	35.0	< 0.1	3.4	3.4	0.7
33	Kochia	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
34	Clover species	0.7	0.1	20.0	< 0.1	0.8	0.8	0.4
35	Northern willowherb	0.8	0.1	10.0	< 0.1	0.8	0.8	0.4
36	Corn spurry	0.8	< 0.1	5.0	< 0.1	1.2	1.2	0.4
37	Rough hair grass	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.3
38	Corn gromwell	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.3
39	Canada fleabane	0.7	0.1	10.0	< 0.1	0.6	0.6	0.3
40	Prostrate knotweed	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
41	Bluebur	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
42	Dock species	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	Golden dock	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
44	Rough cinquefoil	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
45	Round-leaved mallow	0.7	< 0.1	5.0	< 0.1	0.6	0.6	0.3
46	Field horsetail	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
47	Oats	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
48	Field mint	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3
49	Willow species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Cereal crops in Crop District 4A

Table 83. 2017 Cereal crops in Crop District 4A (78 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	20.9	11.8	56.3	6.2	29.4	106.6	53.1
2	Wild buckwheat	47.6	14.6	30.6	1.9	3.9	49.4	42.4
3	Wild oats	31.2	7.5	24.0	4.2	13.5	139.0	40.9
4	Canada thistle	24.2	6.3	26.1	0.6	2.6	11.4	18.5
5	Lamb's-quarters	15.7	4.8	30.7	0.8	5.0	16.8	14.9
6	Canola/rapeseed	20.4	4.2	20.6	0.6	2.9	15.0	14.5
7	False cleavers	14.7	3.6	24.7	0.7	4.8	21.0	12.7
8	Stork's bill	14.0	3.3	23.9	0.4	2.8	6.0	10.4
9	Hemp-nettle	8.1	2.1	25.8	0.7	8.1	26.2	8.5
10	Spiny annual sow-thistle	12.3	2.6	21.2	0.3	2.2	8.6	8.4
11	Pale smartweed	13.0	1.7	12.9	0.4	2.8	16.6	7.9
12	Shepherd's-purse	11.8	1.7	14.8	0.1	1.0	2.4	6.4
13	Redroot pigweed	5.0	1.4	27.1	0.5	9.0	33.0	5.6
14	Perennial sow-thistle	7.4	1.6	22.0	0.2	2.9	8.6	5.4
15	Foxtail barley	9.3	1.0	10.8	0.2	1.7	3.6	4.9
16	Common groundsel	6.5	1.2	19.0	0.2	2.4	4.4	4.4
17	Stinkweed	3.9	1.2	31.7	0.3	7.7	11.8	4.3
18	Narrow-leaved hawk's-beard	6.6	1.2	18.8	0.1	1.2	2.6	4.0
19	Low cudweed	8.2	0.7	8.4	0.1	1.5	4.2	4.0
20	Chickweed	4.8	1.1	22.6	0.2	3.7	7.6	3.7
21	Western barnyard grass	4.2	0.6	13.8	0.3	6.0	15.0	3.3
22	Pineappleweed	5.3	0.6	11.3	0.1	1.0	2.6	2.6
23	Dandelion	3.9	0.8	19.9	< 0.1	0.8	1.4	2.3
24	Quack grass	2.2	0.8	35.0	0.1	5.5	9.6	2.2
25	Barley	2.3	0.7	29.5	0.1	3.8	8.0	2.0
26	Rose species	2.3	0.6	25.0	< 0.1	1.6	2.0	1.6
27	Alfalfa	2.6	0.5	17.5	< 0.1	1.2	1.4	1.5
28	Oak-leaved goosefoot	2.4	0.2	9.5	< 0.1	0.6	1.0	1.1
29	Night-flowering catchfly	2.6	0.2	7.5	< 0.1	0.3	0.4	1.1
30	Rye	1.1	0.4	35.0	< 0.1	3.4	3.4	1.0
31	Wheat	1.1	0.3	30.0	< 0.1	2.2	2.2	0.9
32	Kochia	2.1	0.1	5.0	< 0.1	0.2	0.2	0.8
33	Slough grass	1.3	0.1	10.0	< 0.1	1.0	1.0	0.6
34	Corn spurry	1.3	0.1	5.0	< 0.1	1.2	1.2	0.6
35	Rough hair grass	1.3	0.1	5.0	< 0.1	0.4	0.4	0.5
36	Corn gromwell	1.3	0.1	5.0	< 0.1	0.4	0.4	0.5
37	Canada fleabane	1.1	0.1	10.0	< 0.1	0.6	0.6	0.5
38	Bluebur	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
39	Dock species	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
40	Prostrate knotweed	1.1	0.1	10.0	< 0.1	0.4	0.4	0.5
41	Field horsetail	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
42	Oats	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Spring wheat in Crop District 4A

Table 84. 2017 Spring wheat in Crop District 4A (49 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	38.5	9.4	24.4	6.4	16.6	139.0	72.7
2	Wild buckwheat	48.7	12.4	25.5	1.2	2.4	18.0	43.1
3	Canola/rapeseed	26.6	5.8	21.9	0.8	2.8	15.0	22.9
4	Canada thistle	25.5	5.6	21.9	0.5	2.0	11.4	20.5
5	False cleavers	15.2	3.8	25.1	0.7	4.5	21.0	15.7
6	Spiny annual sow-thistle	19.1	4.1	21.2	0.4	2.2	8.6	15.4
7	Hemp-nettle	6.6	2.6	39.0	1.0	14.7	26.2	13.0
8	Green foxtail	7.3	2.3	31.1	1.0	13.1	53.0	12.7
9	Perennial sow-thistle	9.8	2.4	24.9	0.3	3.3	8.6	9.2
10	Shepherd's-purse	12.7	2.2	17.2	0.2	1.2	2.4	8.6
11	Stork's bill	9.5	2.1	22.1	0.2	2.6	5.0	8.1
12	Foxtail barley	12.7	1.4	10.9	0.2	1.4	3.6	7.5
13	Narrow-leaved hawk's-beard	10.3	1.9	18.8	0.1	1.2	2.6	7.2
14	Low cudweed	12.7	1.1	8.4	0.2	1.5	4.2	7.0
15	Western barnyard grass	6.6	0.9	13.8	0.4	6.0	15.0	6.3
16	Common groundsel	6.1	1.3	21.7	0.2	2.6	4.4	5.2
17	Pale smartweed	10.3	0.6	6.0	< 0.1	0.3	0.6	4.4
18	Lamb's-quarters	6.2	0.8	13.1	0.1	1.3	2.6	3.8
19	Pineappleweed	6.2	0.7	11.7	0.1	1.1	2.6	3.6
20	Rose species	1.9	0.5	25.0	< 0.1	1.2	1.2	1.5
21	Alfalfa	2.0	0.3	15.0	< 0.1	1.0	1.0	1.3
22	Redroot pigweed	2.1	0.3	15.0	< 0.1	0.8	0.8	1.3
23	Slough grass	2.1	0.2	10.0	< 0.1	1.0	1.0	1.1
24	Chickweed	2.1	0.2	10.0	< 0.1	0.4	0.4	1.0
25	Dandelion	2.1	0.2	10.0	< 0.1	0.4	0.4	1.0
26	Night-flowering catchfly	2.0	0.2	10.0	< 0.1	0.4	0.4	1.0
27	Rough hair grass	2.1	0.1	5.0	< 0.1	0.4	0.4	0.9
28	Corn gromwell	2.0	0.1	5.0	< 0.1	0.4	0.4	0.9
29	Oak-leaved goosefoot	2.0	0.1	5.0	< 0.1	0.2	0.2	0.8
30	Dock species	2.0	0.1	5.0	< 0.1	0.2	0.2	0.8
31	Field horsetail	1.7	0.1	5.0	< 0.1	0.2	0.2	0.7
32	Kochia	1.6	0.1	5.0	< 0.1	0.2	0.2	0.7

Field Survey Summary Tables – Barley in Crop District 4A

Table 85. 2017 Barley in Crop District 4A (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	29.7	18.1	61.0	12.9	43.4	106.6	109.6
2	Wild buckwheat	35.7	13.5	37.7	1.0	2.8	4.4	40.1
3	Canada thistle	28.5	9.6	33.5	0.9	3.0	8.0	30.6
4	Lamb's-quarters	21.5	8.5	39.5	1.0	4.9	12.6	27.1
5	Chickweed	18.6	5.1	27.5	0.9	4.9	7.6	20.4
6	Wild oats	16.7	2.6	15.3	0.2	1.4	2.6	12.1
7	False cleavers	12.8	2.2	17.3	0.1	1.2	1.6	9.5
8	Hemp-nettle	14.2	1.8	12.4	0.1	0.8	1.2	9.2
9	Canola/rapeseed	12.8	0.6	5.0	< 0.1	0.3	0.4	6.6
10	Stork's bill	7.0	1.4	20.0	0.3	3.8	3.8	6.5
11	Wheat	5.8	1.7	30.0	0.1	2.2	2.2	5.7
12	Rose species	5.8	1.5	25.0	0.1	2.0	2.0	5.2
13	Common groundsel	7.0	0.7	10.0	0.2	3.0	3.0	5.2
14	Pale smartweed	7.0	0.7	10.0	0.1	2.0	2.0	4.7
15	Shepherd's-purse	5.8	1.2	20.0	0.1	1.6	1.6	4.7
16	Oats	5.8	0.3	5.0	< 0.1	0.2	0.2	2.9

Table 86. 2017 Oats in Crop District 4A (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	64.7	39.4	60.9	17.0	26.3	62.8	78.2
2	Wild buckwheat	49.7	22.5	45.4	5.6	11.3	49.4	37.1
3	Lamb's-quarters	52.0	18.3	35.2	3.6	7.0	16.8	30.0
4	Stork's bill	44.0	11.6	26.4	1.2	2.7	6.0	18.4
5	Pale smartweed	34.7	7.8	22.5	2.1	6.0	16.6	16.5
6	Stinkweed	26.0	8.2	31.7	2.0	7.7	11.8	14.9
7	Redroot pigweed	15.9	6.0	37.7	2.9	18.1	33.0	13.7
8	False cleavers	17.4	5.2	30.1	1.6	9.3	18.4	10.5
9	Wild oats	22.9	6.6	28.9	0.5	2.2	3.6	9.7
10	Canada thistle	17.4	6.5	37.5	0.9	5.1	6.4	9.5
11	Quack grass	14.4	5.0	35.0	0.8	5.5	9.6	7.8
12	Barley	15.7	4.6	29.5	0.6	3.8	8.0	7.3
13	Dandelion	17.3	4.3	25.0	0.2	1.0	1.4	6.4
14	Canola/rapeseed	6.5	2.3	35.0	0.6	9.6	9.6	4.2
15	Shepherd's-purse	17.3	0.9	5.0	< 0.1	0.2	0.2	3.9
16	Rye	7.2	2.5	35.0	0.2	3.4	3.4	3.5
17	Alfalfa	8.7	1.7	20.0	0.1	1.4	1.4	3.0
18	Common groundsel	8.7	1.7	20.0	0.1	1.2	1.2	3.0
19	Foxtail barley	7.2	0.7	10.0	0.3	3.6	3.6	2.4
20	Hemp-nettle	8.7	0.9	10.0	0.1	1.2	1.2	2.4
21	Pineappleweed	8.7	0.9	10.0	< 0.1	0.4	0.4	2.3
22	Oak-leaved goosefoot	7.2	1.1	15.0	0.1	1.0	1.0	2.2
23	Corn spurry	8.7	0.4	5.0	0.1	1.2	1.2	2.2
24	Bluebur	8.7	0.4	5.0	< 0.1	0.2	0.2	2.0
25	Night-flowering catchfly	8.7	0.4	5.0	< 0.1	0.2	0.2	2.0
26	Canada fleabane	7.2	0.7	10.0	< 0.1	0.6	0.6	1.9
27	Prostrate knotweed	7.2	0.7	10.0	< 0.1	0.4	0.4	1.9
28	Perennial sow-thistle	7.2	0.4	5.0	0.1	0.8	0.8	1.7
29	Kochia	7.2	0.4	5.0	< 0.1	0.2	0.2	1.6

Field Survey Summary Tables – Canola in Crop District 4A

Table 87. 2017 Canola in Crop District 4A (42 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	36.1	8.6	23.8	1.0	2.7	25.0	46.2
2	Wheat	24.6	6.0	24.4	1.0	4.2	20.2	38.6
3	Lamb's-quarters	40.8	6.7	16.4	0.5	1.2	5.6	35.3
4	Wild oats	23.2	4.7	20.1	0.3	1.4	3.2	22.6
5	Spiny annual sow-thistle	16.6	3.2	19.6	0.4	2.2	13.8	18.2
6	Canada thistle	22.6	3.0	13.2	0.3	1.1	3.2	17.8
7	False cleavers	9.0	2.8	31.3	0.4	4.8	16.2	16.3
8	Shepherd's-purse	17.5	2.6	14.6	0.2	1.0	2.4	14.0
9	Stork's bill	13.1	2.0	15.2	0.2	1.9	8.4	12.7
10	Green foxtail	13.0	2.0	15.5	0.2	1.4	4.0	11.6
11	Chickweed	7.5	1.6	21.7	0.2	2.8	6.8	9.5
12	Redroot pigweed	4.5	1.4	31.4	0.2	3.5	6.0	7.1
13	Barley	4.6	1.4	31.0	0.1	2.9	3.6	6.6
14	Stinkweed	9.1	0.8	9.1	0.1	0.8	2.0	6.0
15	Canola/rapeseed	6.4	0.9	14.2	0.1	0.9	2.6	5.0
16	Low cudweed	5.6	0.4	7.7	0.1	1.9	3.2	4.7
17	Narrow-leaved hawk's-beard	7.0	0.7	10.3	< 0.1	0.6	1.2	4.5
18	Hemp-nettle	7.6	0.7	8.7	< 0.1	0.4	0.4	4.3
19	Dandelion	6.5	0.7	11.3	< 0.1	0.5	1.0	4.1
20	Western barnyard grass	5.0	0.5	8.9	< 0.1	0.5	0.6	3.0
21	Slough grass	2.0	0.4	20.0	0.1	2.6	2.6	2.4
22	Pale smartweed	4.5	0.2	5.0	< 0.1	0.2	0.2	2.1
23	Northern willowherb	2.5	0.3	10.0	< 0.1	0.8	0.8	1.7
24	Pineappleweed	2.5	0.3	10.0	< 0.1	0.6	0.6	1.6
25	Rough cinquefoil	2.0	0.2	10.0	< 0.1	0.4	0.4	1.2
26	Golden dock	2.5	0.1	5.0	< 0.1	0.2	0.2	1.1
27	Field mint	2.0	0.1	5.0	< 0.1	0.2	0.2	0.9
28	Willow species	2.0	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Annual crops in Crop District 4B

Table 88. 2017 Annual crops in Crop District 4B (160 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	25.6	9.9	38.9	12.6	49.1	1073.2	61.9
2	Wild buckwheat	56.7	18.5	32.7	2.2	4.0	41.0	41.8
3	False cleavers	36.4	11.1	30.4	2.4	6.5	76.6	29.4
4	Canola/rapeseed	39.6	11.1	28.1	1.4	3.5	38.4	26.8
5	Wild oats	18.3	5.0	27.1	1.7	9.1	95.4	15.8
6	Spiny annual sow-thistle	24.4	4.9	20.2	0.5	2.2	29.4	13.3
7	Lamb's-quarters	18.3	5.0	27.1	0.8	4.2	30.0	12.6
8	Green foxtail	8.2	3.8	46.3	1.7	20.9	171.0	12.2
9	Hemp-nettle	15.0	4.2	27.9	0.7	4.9	30.6	10.9
10	Low cudweed	16.9	3.2	18.7	0.7	4.3	33.0	10.2
11	Shepherd's-purse	14.6	3.5	24.1	0.6	4.0	34.6	9.5
12	Canada thistle	18.7	2.9	15.5	0.3	1.6	7.2	8.9
13	Wheat	12.3	3.0	24.0	0.5	4.3	34.2	8.2
14	Pale smartweed	8.9	1.8	19.9	0.2	2.7	14.8	5.0
15	Stork's bill	6.3	1.4	22.7	0.3	4.8	37.2	4.2
16	Narrow-leaved hawk's-beard	5.8	0.9	14.9	0.2	2.9	22.8	3.0
17	Dandelion	7.5	0.8	10.1	< 0.1	0.7	1.6	2.9
18	Scentless chamomile	5.0	0.7	14.4	0.1	2.0	12.2	2.4
19	Field horsetail	5.9	0.5	8.9	0.1	1.4	4.2	2.4
20	Night-flowering catchfly	2.7	0.8	28.7	0.1	4.1	8.0	1.9
21	Perennial sow-thistle	2.5	0.7	26.6	0.1	4.5	15.6	1.8
22	Foxtail barley	2.1	0.6	30.0	0.1	6.1	13.8	1.6
23	Stinkweed	2.5	0.5	20.2	0.1	3.2	14.4	1.5
24	Common groundsel	1.6	0.6	41.2	0.1	7.2	11.8	1.5
25	Barley	2.3	0.5	21.5	0.1	2.4	6.2	1.3
26	Pineappleweed	1.9	0.3	14.2	< 0.1	1.5	2.4	0.9
27	Rough cinquefoil	2.0	0.2	10.8	< 0.1	1.1	3.2	0.8
28	Rough hair grass	2.3	0.2	7.0	< 0.1	0.4	0.8	0.8
29	Flax	0.9	0.3	30.0	< 0.1	4.6	4.6	0.7
30	Redroot pigweed	1.6	0.1	7.0	< 0.1	0.5	0.8	0.5
31	Ball mustard	1.2	0.2	12.5	< 0.1	0.5	0.8	0.5
32	Henbit	0.9	0.2	20.0	< 0.1	1.6	1.6	0.5
33	Blue grass species	1.1	0.1	7.8	< 0.1	0.7	0.8	0.4
34	Western barnyard grass	0.6	0.1	20.0	< 0.1	1.8	1.8	0.3
35	Tumble pigweed	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3
36	Field violet	0.5	0.1	25.0	< 0.1	1.4	1.4	0.3
37	Oak-leaved goosefoot	0.3	0.1	30.0	< 0.1	5.4	5.4	0.2
38	Tartary buckwheat	0.3	0.1	35.0	< 0.1	3.0	3.0	0.2
39	Flixweed	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
40	White cockle	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
41	Biennial wormwood	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
42	Golden dock	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
43	Vetch species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
44	Bicknell's geranium	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
45	Yellow toadflax	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
46	Clover species	0.5	< 0.1	5.0	< 0.1	0.6	0.6	0.2
47	Purslane speedwell	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
48	Quack grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
49	Broad-leaved plantain	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	Pygmyflower	0.5	< 0.1	5.0	< 0.1	0.8	0.8	0.2
51	Rayless aster	0.3	< 0.1	15.0	< 0.1	1.4	1.4	0.1
52	Drooping woodreed	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1

Field Survey Summary Tables – Cereal crops in Crop District 4B

Table 89. 2017 Cereal crops in Crop District 4B (92 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	21.8	8.2	37.6	8.6	39.6	712.8	53.3
2	Wild buckwheat	58.9	19.4	32.9	2.5	4.3	41.0	50.3
3	Canola/rapeseed	43.7	12.3	28.2	1.7	3.9	38.4	34.2
4	False cleavers	32.4	7.5	23.3	1.9	6.0	76.6	26.4
5	Green foxtail	9.8	4.7	48.6	2.5	25.4	171.0	19.1
6	Spiny annual sow-thistle	27.6	5.9	21.5	0.5	2.0	12.8	17.0
7	Wild oats	16.2	3.5	21.5	1.6	10.1	95.4	15.7
8	Canada thistle	22.5	3.3	14.5	0.3	1.5	7.0	11.6
9	Hemp-nettle	13.1	3.6	27.3	0.8	5.8	30.6	11.1
10	Lamb's-quarters	11.8	2.8	24.2	0.5	4.6	30.0	9.0
11	Low cudweed	10.1	1.7	16.6	0.2	2.0	6.6	5.7
12	Pale smartweed	7.1	2.0	27.3	0.3	4.5	14.8	5.7
13	Shepherd's-purse	10.4	1.5	14.0	0.2	1.5	3.6	5.3
14	Dandelion	9.3	0.7	7.5	< 0.1	0.4	1.6	3.6
15	Field horsetail	6.8	0.7	10.1	0.1	1.3	4.2	3.1
16	Common groundsel	2.7	1.1	41.2	0.2	7.2	11.8	2.9
17	Foxtail barley	2.7	1.0	38.0	0.2	7.8	13.8	2.8
18	Narrow-leaved hawk's-beard	6.1	0.6	9.6	< 0.1	0.6	1.6	2.6
19	Stork's bill	3.7	1.0	25.5	0.1	1.7	4.6	2.4
20	Night-flowering catchfly	2.4	0.8	31.9	0.1	4.0	5.8	2.0
21	Scentless chamomile	5.4	0.3	5.0	< 0.1	0.3	0.4	1.9
22	Rough hair grass	4.0	0.3	7.0	< 0.1	0.4	0.8	1.5
23	Stinkweed	0.8	0.6	75.0	0.1	14.4	14.4	1.4
24	Flax	1.6	0.5	30.0	0.1	4.6	4.6	1.3
25	Wheat	2.4	0.4	14.7	< 0.1	1.7	2.4	1.3
26	Pineappleweed	2.2	0.4	16.2	< 0.1	1.8	2.4	1.2
27	Rough cinquefoil	2.6	0.3	9.5	< 0.1	0.4	0.8	1.1
28	Perennial sow-thistle	2.5	0.2	7.8	< 0.1	0.7	0.8	1.0
29	Henbit	1.6	0.3	20.0	< 0.1	1.6	1.6	0.9
30	Tumble pigweed	1.6	0.1	5.0	< 0.1	0.4	0.4	0.6
31	Oak-leaved goosefoot	0.5	0.2	30.0	< 0.1	5.4	5.4	0.5
32	Barley	0.9	0.1	15.0	< 0.1	0.8	0.8	0.4
33	Biennial wormwood	1.1	0.1	5.0	< 0.1	0.4	0.4	0.4
34	Vetch species	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
35	Bicknell's geranium	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
36	Ball mustard	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
37	Blue grass species	0.9	< 0.1	5.0	< 0.1	0.8	0.8	0.3
38	Quack grass	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
39	Pygmyflower	0.8	< 0.1	5.0	< 0.1	0.8	0.8	0.3
40	Rayless aster	0.5	0.1	15.0	< 0.1	1.4	1.4	0.3
41	Flixweed	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
42	Drooping woodreed	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2

Field Survey Summary Tables – Spring wheat in Crop District 4B

Table 90. 2017 Spring wheat in Crop District 4B (66 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	58.3	18.7	32.1	2.5	4.3	41.0	65.2
2	Chickweed	24.8	9.6	38.6	3.4	13.9	61.4	50.8
3	Canola/rapeseed	46.7	11.6	24.7	1.7	3.6	38.4	44.9
4	False cleavers	31.1	6.3	20.2	0.8	2.6	12.2	25.2
5	Spiny annual sow-thistle	28.5	6.4	22.6	0.6	2.0	12.8	22.6
6	Wild oats	16.5	2.5	14.9	0.6	3.5	8.4	13.5
7	Canada thistle	21.1	2.9	13.5	0.2	1.1	3.8	12.3
8	Hemp-nettle	12.9	2.5	19.2	0.3	2.2	6.4	9.8
9	Low cudweed	13.2	2.3	17.2	0.3	2.1	6.6	9.6
10	Lamb's-quarters	8.9	1.2	13.6	0.1	1.7	3.0	5.7
11	Shepherd's-purse	8.1	0.9	11.4	0.1	1.1	3.6	4.5
12	Field horsetail	7.9	0.9	11.1	0.1	1.3	4.2	4.5
13	Stork's bill	4.4	1.2	28.2	0.1	1.8	4.6	3.7
14	Night-flowering catchfly	3.3	1.1	31.9	0.1	4.0	5.8	3.6
15	Green foxtail	5.5	0.7	12.7	0.1	1.8	2.8	3.5
16	Foxtail barley	1.5	0.8	55.0	0.2	13.8	13.8	3.4
17	Scentless chamomile	7.4	0.4	5.0	< 0.1	0.3	0.4	2.9
18	Narrow-leaved hawk's-beard	5.8	0.5	8.8	< 0.1	0.6	1.6	2.8
19	Pale smartweed	4.0	0.4	10.9	< 0.1	0.9	1.8	2.2
20	Dandelion	5.2	0.3	5.0	< 0.1	0.2	0.2	2.0
21	Wheat	2.2	0.4	20.0	0.1	2.4	2.4	1.7
22	Perennial sow-thistle	2.7	0.2	7.2	< 0.1	0.7	0.8	1.2
23	Rough hair grass	2.5	0.2	9.3	< 0.1	0.6	0.8	1.2
24	Biennial wormwood	1.5	0.1	5.0	< 0.1	0.4	0.4	0.6
25	Common groundsel	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
26	Vetch species	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
27	Blue grass species	1.2	0.1	5.0	< 0.1	0.8	0.8	0.5
28	Pygmyflower	1.1	0.1	5.0	< 0.1	0.8	0.8	0.5
29	Rough cinquefoil	1.1	0.1	5.0	< 0.1	0.4	0.4	0.4

Field Survey Summary Tables – Barley in Crop District 4B

Table 91. 2017 Barley in Crop District 4B (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	14.1	5.5	39.3	28.9	204.7	712.8	53.6
2	Wild buckwheat	65.3	22.3	34.2	2.8	4.3	18.0	38.3
3	Green foxtail	22.4	16.3	72.8	10.3	46.1	171.0	34.8
4	False cleavers	37.7	13.0	34.4	6.2	16.6	76.6	29.4
5	Wild oats	20.0	8.0	39.9	5.7	28.6	95.4	20.3
6	Canola/rapeseed	33.0	12.3	37.4	1.3	4.1	10.8	20.1
7	Hemp-nettle	12.7	7.1	56.2	2.4	18.5	30.6	12.6
8	Canada thistle	29.1	5.2	17.7	0.7	2.3	7.0	12.3
9	Lamb's-quarters	16.4	6.1	37.0	1.6	9.5	30.0	11.3
10	Spiny annual sow-thistle	22.8	4.5	19.5	0.5	2.0	3.8	9.9
11	Shepherd's-purse	21.4	3.7	17.4	0.4	2.0	3.4	8.9
12	Common groundsel	7.7	5.0	65.0	0.9	11.8	11.8	7.3
13	Dandelion	13.7	1.8	13.1	0.1	1.0	1.6	5.0
14	Flax	7.7	2.3	30.0	0.4	4.6	4.6	4.3
15	Pineappleweed	10.2	1.7	16.2	0.2	1.8	2.4	4.1
16	Pale smartweed	10.0	1.8	17.5	0.2	1.7	1.8	4.1
17	Foxtail barley	7.5	2.0	26.6	0.3	3.8	4.6	3.9
18	Henbit	7.4	1.5	20.0	0.1	1.6	1.6	3.2
19	Tumble pigweed	7.4	0.4	5.0	< 0.1	0.4	0.4	2.1
20	Field horsetail	5.0	0.3	5.0	0.1	1.2	1.2	1.5
21	Oak-leaved goosefoot	2.6	0.8	30.0	0.1	5.4	5.4	1.5
22	Rough hair grass	5.0	0.2	5.0	< 0.1	0.4	0.4	1.4
23	Rough cinquefoil	5.0	0.2	5.0	< 0.1	0.2	0.2	1.4
24	Ball mustard	5.0	0.2	5.0	< 0.1	0.2	0.2	1.4
25	Wheat	4.0	0.2	5.0	< 0.1	0.4	0.4	1.2
26	Quack grass	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Rayless aster	2.6	0.4	15.0	< 0.1	1.4	1.4	1.0
28	Stork's bill	2.6	0.3	10.0	< 0.1	1.0	1.0	0.9
29	Perennial sow-thistle	2.6	0.3	10.0	< 0.1	0.6	0.6	0.9
30	Low cudweed	2.6	0.1	5.0	< 0.1	0.4	0.4	0.7
31	Flixweed	2.6	0.1	5.0	< 0.1	0.4	0.4	0.7
32	Drooping woodreed	2.6	0.1	5.0	< 0.1	0.4	0.4	0.7

Table 92. 2017 Canola in Crop District 4B (61 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	28.2	12.4	43.7	19.5	69.2	1073.2	72.9
2	Wild buckwheat	53.4	17.4	32.6	1.9	3.6	9.4	34.1
3	False cleavers	40.3	16.3	40.4	3.2	7.9	49.0	33.4
4	Canola/rapeseed	33.2	8.9	26.9	0.7	2.2	6.6	18.2
5	Lamb's-quarters	25.9	8.3	32.0	1.2	4.5	13.0	17.1
6	Low cudweed	27.5	5.2	18.9	1.6	5.8	33.0	15.8
7	Wheat	26.5	6.3	23.6	1.2	4.5	34.2	15.5
8	Wild oats	20.2	6.0	30.0	1.4	6.7	19.8	14.2
9	Shepherd's-purse	19.7	5.2	26.6	0.7	3.7	10.8	11.6
10	Hemp-nettle	16.8	5.4	32.1	0.8	4.6	12.4	11.1
11	Spiny annual sow-thistle	19.0	2.5	13.2	0.2	1.0	3.6	7.5
12	Stork's bill	11.1	2.4	21.3	0.7	6.5	37.2	6.9
13	Green foxtail	6.6	2.7	41.1	0.7	10.5	18.2	6.0
14	Canada thistle	12.3	2.2	17.7	0.2	1.8	7.2	5.6
15	Pale smartweed	11.0	1.0	9.4	0.1	0.7	2.8	3.9
16	Narrow-leaved hawk's-beard	4.2	1.3	30.9	0.4	9.2	22.8	3.3
17	Scentless chamomile	5.0	1.5	30.0	0.2	4.8	12.2	3.3
18	Barley	4.6	1.1	23.4	0.1	2.9	6.2	2.5
19	Dandelion	5.5	0.9	17.1	0.1	1.2	1.6	2.4
20	Perennial sow-thistle	1.7	1.3	75.0	0.3	15.6	15.6	2.3
21	Night-flowering catchfly	3.3	0.8	25.2	0.1	4.2	8.0	2.0
22	Field horsetail	5.1	0.3	6.3	0.1	1.5	2.6	1.8
23	Stinkweed	4.2	0.4	9.0	< 0.1	0.9	1.4	1.5
24	Redroot pigweed	4.1	0.3	7.0	< 0.1	0.5	0.8	1.3
25	Western barnyard grass	1.7	0.3	20.0	< 0.1	1.8	1.8	0.8
26	Ball mustard	1.6	0.3	20.0	< 0.1	0.8	0.8	0.7
27	Field violet	1.3	0.3	25.0	< 0.1	1.4	1.4	0.7
28	Blue grass species	1.7	0.2	10.0	< 0.1	0.6	0.6	0.6
29	Tartary buckwheat	0.9	0.3	35.0	< 0.1	3.0	3.0	0.5
30	White cockle	1.6	0.1	5.0	< 0.1	0.4	0.4	0.5
31	Golden dock	1.7	0.1	5.0	< 0.1	0.2	0.2	0.5
32	Yellow toadflax	1.6	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Foxtail barley	1.3	0.1	5.0	< 0.1	0.6	0.6	0.4
34	Purslane speedwell	1.3	0.1	5.0	< 0.1	0.4	0.4	0.4
35	Broad-leaved plantain	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
36	Flixweed	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3

Field Survey Summary Tables – Annual crops in Crop District 5

Table 93. 2017 Annual crops in Crop District 5 (150 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	60.0	24.3	40.5	18.3	30.6	500.6	61.3
2	Wild buckwheat	46.0	15.5	33.7	3.0	6.6	80.4	25.0
3	Lamb's-quarters	21.7	8.3	38.3	7.2	33.1	704.8	22.8
4	Canola/rapeseed	31.0	9.9	31.9	3.0	9.8	177.8	18.2
5	Dandelion	42.9	9.4	22.0	1.1	2.5	28.0	16.6
6	Hemp-nettle	26.0	6.1	23.5	2.0	7.7	136.8	12.7
7	False cleavers	21.8	5.4	25.0	1.7	7.6	165.8	10.9
8	Wheat	19.7	6.0	30.3	1.6	8.0	66.8	10.7
9	Corn spurry	11.7	4.5	38.3	2.0	17.0	83.6	8.9
10	Wild oats	16.0	4.6	28.8	1.3	7.9	65.2	8.5
11	Pale smartweed	16.6	3.6	22.0	1.4	8.1	91.4	8.1
12	Annual blue grass	11.1	2.1	18.6	2.5	22.4	150.6	8.0
13	Low cudweed	6.4	1.7	26.5	2.8	44.2	219.2	7.5
14	Canada thistle	22.4	3.4	15.1	0.4	1.9	19.6	7.3
15	Barley	11.1	3.9	35.2	0.6	5.3	36.6	5.9
16	Stinkweed	9.9	2.4	24.7	1.2	12.1	189.8	5.7
17	Shepherd's-purse	13.8	2.7	19.6	0.5	3.9	41.0	5.4
18	Spiny annual sow-thistle	14.8	2.4	16.5	0.4	2.8	40.8	5.2
19	Field horsetail	14.3	2.3	16.0	0.4	2.9	48.0	5.0
20	Quack grass	9.5	2.4	25.1	0.8	8.8	32.8	4.9
21	Narrow-leaved hawk's-beard	9.2	2.3	25.3	0.4	4.1	12.6	4.0
22	Green foxtail	8.1	1.9	23.7	0.3	3.9	15.8	3.4
23	Broad-leaved plantain	8.5	1.2	14.5	0.2	2.3	22.0	2.8
24	Clover species	9.0	1.1	12.5	0.1	0.8	4.2	2.6
25	Night-flowering catchfly	8.3	1.2	14.6	0.1	1.3	5.4	2.6
26	Stork's bill	3.5	1.0	30.0	0.4	12.7	59.2	2.2
27	White cockle	4.5	1.2	25.7	0.2	4.4	31.4	2.0
28	Rough cinquefoil	2.8	1.1	38.4	0.3	11.0	25.0	1.8
29	Alfalfa	4.0	1.2	30.7	0.1	2.5	5.6	1.8
30	Vetch species	6.1	0.6	10.2	< 0.1	0.6	2.0	1.6
31	Henbit	3.8	1.0	25.4	0.1	2.8	12.0	1.6
32	Pineappleweed	3.8	0.4	11.6	< 0.1	1.1	2.4	1.1
33	Common groundsel	2.1	0.6	29.4	0.1	5.6	19.2	1.1
34	Field pea	3.3	0.5	14.9	< 0.1	0.9	2.4	1.0
35	Western barnyard grass	3.6	0.3	9.2	0.1	1.6	7.8	1.0
36	Prostrate knotweed	4.0	0.2	5.6	< 0.1	0.3	0.4	0.9
37	Fescue species	2.4	0.3	13.6	0.1	2.4	3.8	0.8
38	Bird's-eye speedwell	0.7	0.5	70.0	0.2	25.2	25.2	0.8
39	Foxtail barley	2.4	0.3	11.7	< 0.1	1.0	3.0	0.7
40	Marsh yellow cress	2.4	0.2	10.0	< 0.1	0.7	1.6	0.7
41	Meadow brome	1.8	0.2	10.2	0.1	3.7	10.2	0.6
42	Northern willowherb	2.4	0.1	5.0	< 0.1	0.2	0.2	0.5
43	Yellow toadflax	0.6	0.3	40.0	0.1	13.8	13.8	0.5
44	Poplar species	0.6	0.4	60.0	< 0.1	6.0	6.0	0.5
45	Borage	1.3	0.2	17.4	< 0.1	1.3	1.8	0.4
46	Willow species	1.7	0.1	7.7	< 0.1	0.3	0.6	0.4
47	Redroot pigweed	0.6	0.3	45.0	< 0.1	4.8	4.8	0.4
48	Golden corydalis	1.1	0.2	15.0	< 0.1	0.6	0.6	0.3
49	Purslane speedwell	1.2	0.1	10.0	< 0.1	0.4	0.4	0.3
50	Spear-leaved goosefoot	0.6	0.2	30.0	< 0.1	5.4	5.4	0.3
51	Tall buttercup	0.6	< 0.1	5.0	0.1	14.4	14.4	0.3
52	Field violet	0.5	0.2	50.0	< 0.1	4.6	4.6	0.3

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Table 93. 2017 Annual crops in Crop District 5 (150 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Oak-leaved goosefoot	1.0	0.1	15.0	< 0.1	0.7	1.2	0.3
54	Tumble pigweed	1.3	0.1	5.0	< 0.1	0.3	0.4	0.3
55	Wild mustard	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
56	Rye	0.5	0.1	25.0	< 0.1	2.0	2.0	0.2
57	Black medick	0.7	0.1	10.0	< 0.1	0.4	0.4	0.2
58	Oats	0.7	0.1	10.0	< 0.1	0.4	0.4	0.2
59	Absinth	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
60	Annual brome species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
61	Timothy	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.1
62	Red goosefoot	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
63	Toad rush	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
64	Water mudwort	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Cereal crops in Crop District 5

Table 94. 2017 Cereal crops in Crop District 5 (104 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	62.5	27.2	43.4	22.9	36.6	500.6	66.7
2	Lamb's-quarters	20.7	8.5	41.0	10.1	48.6	704.8	25.6
3	Wild buckwheat	44.8	15.2	33.9	3.3	7.3	80.4	24.3
4	Canola/rapeseed	40.3	12.3	30.4	3.8	9.4	177.8	22.2
5	Dandelion	42.3	9.0	21.3	1.1	2.7	28.0	16.1
6	Hemp-nettle	29.7	6.5	22.0	2.3	7.6	136.8	13.7
7	Corn spurry	13.3	5.3	40.1	2.7	20.0	83.6	10.5
8	False cleavers	23.3	4.5	19.1	1.8	7.9	165.8	10.4
9	Pale smartweed	19.3	4.5	23.4	1.9	9.9	91.4	9.8
10	Low cudweed	5.3	1.4	25.6	3.9	73.2	219.2	8.0
11	Wild oats	15.1	4.3	28.3	1.3	8.6	65.2	7.9
12	Stinkweed	13.6	3.5	26.0	1.8	13.0	189.8	7.8
13	Canada thistle	20.9	3.7	17.8	0.5	2.5	19.6	7.4
14	Annual blue grass	13.5	1.8	13.2	2.1	15.6	94.2	7.0
15	Wheat	13.4	3.2	24.1	1.1	8.3	66.8	6.5
16	Quack grass	9.7	2.3	23.7	0.9	9.3	32.8	4.9
17	Spiny annual sow-thistle	16.1	2.2	13.6	0.2	1.2	11.6	4.9
18	Field horsetail	11.5	1.8	16.1	0.2	1.8	9.2	3.8
19	Green foxtail	10.0	1.9	18.9	0.3	3.0	12.6	3.7
20	Shepherd's-purse	8.4	1.8	20.8	0.4	4.8	41.0	3.5
21	Narrow-leaved hawk's-beard	5.6	1.9	33.9	0.3	5.8	12.6	2.9
22	Broad-leaved plantain	8.7	1.0	11.2	0.1	0.7	3.6	2.4
23	Rough cinquefoil	3.1	1.5	46.8	0.4	14.1	25.0	2.3
24	Night-flowering catchfly	8.0	0.9	11.9	0.1	1.0	2.8	2.3
25	White cockle	5.9	1.0	16.9	0.1	1.2	3.4	1.9
26	Clover species	6.7	0.7	10.2	< 0.1	0.7	4.2	1.8
27	Western barnyard grass	5.3	0.5	9.2	0.1	1.6	7.8	1.5
28	Alfalfa	4.1	0.8	18.4	0.1	1.7	5.6	1.4
29	Pineappleweed	4.7	0.6	11.9	< 0.1	1.0	2.4	1.3
30	Prostrate knotweed	5.8	0.3	5.6	< 0.1	0.3	0.4	1.3
31	Henbit	2.6	0.9	33.8	0.1	5.0	12.0	1.3
32	Vetch species	4.3	0.6	14.2	< 0.1	0.9	2.0	1.3
33	Field pea	3.9	0.7	17.3	< 0.1	1.1	2.4	1.3
34	Stork's bill	3.1	0.7	21.7	< 0.1	1.5	3.2	1.1
35	Fescue species	3.6	0.5	13.6	0.1	2.4	3.8	1.1
36	Foxtail barley	3.4	0.4	11.7	< 0.1	1.0	3.0	1.0
37	Meadow brome	2.7	0.3	10.2	0.1	3.7	10.2	0.8
38	Marsh yellow cress	2.7	0.3	11.7	< 0.1	0.8	1.6	0.7
39	Poplar species	0.9	0.6	60.0	0.1	6.0	6.0	0.7
40	Borage	1.9	0.3	17.4	< 0.1	1.3	1.8	0.6
41	Willow species	2.5	0.2	7.7	< 0.1	0.3	0.6	0.6
42	Common groundsel	2.3	0.2	9.3	< 0.1	0.7	1.4	0.6
43	Redroot pigweed	0.9	0.4	45.0	< 0.1	4.8	4.8	0.5
44	Golden corydalis	1.6	0.2	15.0	< 0.1	0.6	0.6	0.5
45	Purslane speedwell	1.7	0.2	10.0	< 0.1	0.4	0.4	0.5
46	Field violet	0.7	0.4	50.0	< 0.1	4.6	4.6	0.4
47	Oak-leaved goosefoot	1.4	0.2	15.0	< 0.1	0.7	1.2	0.4
48	Tumble pigweed	1.8	0.1	5.0	< 0.1	0.3	0.4	0.4
49	Tall buttercup	0.9	< 0.1	5.0	0.1	14.4	14.4	0.4
50	Wild mustard	1.3	0.1	5.0	< 0.1	0.4	0.4	0.3
51	Barley	0.9	0.1	15.0	< 0.1	1.2	1.2	0.3
52	Oats	1.0	0.1	10.0	< 0.1	0.4	0.4	0.3

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Table 94. 2017 Cereal crops in Crop District 5 (104 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Northern willowherb	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.2
54	Annual brome species	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.2
55	Timothy	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
56	Toad rush	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
57	Water mudwort	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Spring wheat in Crop District 5

Table 95. 2017 Spring wheat in Crop District 5 (37 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	55.8	24.9	44.7	25.7	46.1	500.6	118.4
2	Canola/rapeseed	49.6	13.8	27.8	1.0	2.1	11.4	32.2
3	Wild buckwheat	36.2	9.5	26.3	0.9	2.4	8.8	23.1
4	Dandelion	30.2	4.9	16.4	0.7	2.3	19.6	15.6
5	False cleavers	21.4	4.1	19.2	0.5	2.1	10.6	11.7
6	Annual blue grass	9.4	1.0	11.0	2.4	25.5	93.8	10.6
7	Hemp-nettle	25.0	2.1	8.6	0.2	0.6	2.0	9.4
8	Wild oats	7.9	3.2	40.2	1.0	12.6	41.4	8.7
9	Canada thistle	18.2	2.6	14.0	0.2	1.3	2.8	8.4
10	Spiny annual sow-thistle	10.6	2.8	26.6	0.3	3.2	11.6	7.1
11	Pale smartweed	12.7	1.2	9.1	0.2	1.4	3.6	5.2
12	Corn spurry	9.3	1.5	16.2	0.1	1.4	6.0	4.6
13	Quack grass	4.7	1.4	30.0	0.5	10.0	10.0	4.3
14	Lamb's-quarters	7.5	1.4	18.3	0.1	1.6	2.2	3.9
15	Western barnyard grass	7.2	1.0	13.5	0.2	3.0	7.8	3.6
16	Wheat	8.8	0.7	8.5	0.1	0.8	1.6	3.3
17	Poplar species	2.5	1.5	60.0	0.1	6.0	6.0	2.9
18	Stinkweed	5.8	1.0	17.2	< 0.1	0.7	1.0	2.8
19	Field horsetail	6.2	0.4	6.5	< 0.1	0.4	0.8	2.1
20	Field pea	6.3	0.3	5.0	< 0.1	0.2	0.2	2.0
21	Clover species	6.3	0.3	5.0	< 0.1	0.2	0.2	2.0
22	Stork's bill	2.5	0.9	35.0	0.1	3.2	3.2	1.9
23	Night-flowering catchfly	5.0	0.4	7.7	< 0.1	0.3	0.4	1.8
24	Prostrate knotweed	4.5	0.2	5.0	< 0.1	0.2	0.2	1.5
25	Pineappleweed	4.1	0.2	5.0	< 0.1	0.3	0.4	1.3
26	Barley	2.5	0.4	15.0	< 0.1	1.2	1.2	1.2
27	Shepherd's-purse	3.6	0.2	5.0	< 0.1	0.4	0.4	1.2
28	Common groundsel	3.6	0.2	5.0	< 0.1	0.2	0.2	1.1
29	Fescue species	2.5	0.2	10.0	< 0.1	1.6	1.6	1.1
30	Henbit	2.7	0.3	10.0	< 0.1	0.4	0.4	1.0
31	Oats	2.7	0.3	10.0	< 0.1	0.4	0.4	1.0
32	Green foxtail	2.7	0.1	5.0	< 0.1	0.2	0.2	0.9
33	Broad-leaved plantain	2.7	0.1	5.0	< 0.1	0.2	0.2	0.9
34	Northern willowherb	2.7	0.1	5.0	< 0.1	0.2	0.2	0.9
35	Tumble pigweed	2.5	0.1	5.0	< 0.1	0.4	0.4	0.8
36	Alfalfa	2.5	0.1	5.0	< 0.1	0.2	0.2	0.8
37	Low cudweed	1.8	0.1	5.0	< 0.1	1.6	1.6	0.7

Table 96. 2017 Barley in Crop District 5 (56 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	66.7	31.2	46.8	24.9	37.4	397.0	64.1
2	Lamb's-quarters	24.4	8.7	35.6	15.1	61.7	704.8	29.4
3	Wild buckwheat	49.3	18.8	38.1	5.3	10.6	80.4	27.4
4	Canola/rapeseed	39.8	12.9	32.5	6.4	16.0	177.8	23.5
5	Dandelion	49.9	10.8	21.6	1.4	2.9	28.0	17.3
6	Hemp-nettle	33.8	9.7	28.7	4.0	11.9	136.8	17.3
7	Pale smartweed	21.3	6.3	29.4	3.4	15.9	91.4	12.1
8	False cleavers	25.4	5.3	20.7	3.1	12.3	165.8	11.8
9	Wild oats	19.9	5.5	27.5	1.7	8.8	65.2	9.2
10	Wheat	15.7	5.4	34.3	2.0	12.9	66.8	8.8
11	Canada thistle	23.8	4.5	18.8	0.8	3.4	19.6	8.0
12	Annual blue grass	15.9	2.4	15.3	2.3	14.4	94.2	7.3
13	Corn spurry	12.3	3.5	28.4	1.3	10.8	77.6	6.1
14	Shepherd's-purse	12.1	3.1	25.7	0.8	6.2	41.0	5.1
15	Quack grass	11.8	2.4	20.1	1.1	9.3	32.8	5.0
16	Stinkweed	15.1	2.6	17.4	0.4	2.5	8.2	4.8
17	Field horsetail	14.1	2.9	20.4	0.4	2.5	9.2	4.7
18	Green foxtail	15.0	2.1	14.3	0.4	2.7	12.6	4.5
19	Spiny annual sow-thistle	15.0	1.5	9.9	0.1	0.6	1.6	3.6
20	Night-flowering catchfly	10.3	1.2	11.6	0.1	1.1	2.8	2.7
21	White cockle	7.9	1.7	21.9	0.1	1.7	3.4	2.6
22	Broad-leaved plantain	6.8	0.8	11.6	< 0.1	0.5	1.0	1.7
23	Foxtail barley	6.5	0.8	11.7	0.1	1.0	3.0	1.7
24	Vetch species	4.9	1.0	20.4	0.1	1.3	2.0	1.6
25	Clover species	6.9	0.5	6.9	< 0.1	0.4	1.0	1.5
26	Narrow-leaved hawk's-beard	4.2	1.0	22.9	0.1	2.2	2.6	1.5
27	Alfalfa	3.0	1.0	33.0	0.1	3.4	5.6	1.3
28	Field pea	3.0	1.1	35.0	0.1	2.4	2.4	1.3
29	Stork's bill	4.2	0.7	16.2	< 0.1	0.7	1.2	1.2
30	Low cudweed	3.8	0.4	11.7	0.1	3.0	7.0	1.1
31	Willow species	4.7	0.4	7.7	< 0.1	0.3	0.6	1.1
32	Henbit	1.7	1.0	55.0	0.1	4.8	4.8	1.0
33	Redroot pigweed	1.7	0.8	45.0	0.1	4.8	4.8	0.9
34	Golden corydalis	3.0	0.5	15.0	< 0.1	0.6	0.6	0.8
35	Meadow brome	1.8	0.4	20.0	0.2	10.2	10.2	0.8
36	Oak-leaved goosefoot	2.6	0.4	15.0	< 0.1	0.7	1.2	0.7
37	Field violet	1.3	0.7	50.0	0.1	4.6	4.6	0.7
38	Tall buttercup	1.7	0.1	5.0	0.2	14.4	14.4	0.7
39	Prostrate knotweed	2.9	0.2	7.3	< 0.1	0.4	0.4	0.6
40	Borage	1.9	0.3	15.0	< 0.1	1.8	1.8	0.5
41	Common groundsel	1.9	0.3	15.0	< 0.1	1.4	1.4	0.5
42	Wild mustard	2.5	0.1	5.0	< 0.1	0.4	0.4	0.5
43	Pineappleweed	2.5	0.1	5.0	< 0.1	0.2	0.2	0.5
44	Marsh yellow cress	1.7	0.3	15.0	< 0.1	1.6	1.6	0.5
45	Annual brome species	1.9	0.1	5.0	< 0.1	0.2	0.2	0.4
46	Timothy	1.7	0.1	5.0	< 0.1	0.4	0.4	0.4
47	Tumble pigweed	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4
48	Toad rush	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4
49	Western barnyard grass	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4
50	Rough cinquefoil	1.3	0.1	5.0	< 0.1	0.4	0.4	0.3

Field Survey Summary Tables – Canola in Crop District 5

Table 97. 2017 Canola in Crop District 5 (40 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	35.5	13.5	38.0	2.9	8.3	66.2	31.0
2	Chickweed	52.3	14.2	27.2	1.6	3.0	13.4	28.7
3	Barley	35.2	13.5	38.2	2.1	5.9	36.6	27.0
4	Wild buckwheat	48.4	14.5	29.9	1.3	2.7	12.0	27.0
5	Annual blue grass	4.5	2.5	55.0	3.4	75.8	150.6	18.4
6	False cleavers	21.2	8.7	41.0	1.5	7.0	30.8	17.7
7	Dandelion	36.3	8.3	22.9	0.8	2.3	16.8	17.6
8	Lamb's-quarters	25.4	8.0	31.6	0.9	3.7	19.0	15.6
9	Wild oats	18.5	5.3	28.6	1.3	7.0	43.0	13.7
10	Shepherd's-purse	24.6	4.2	17.0	0.4	1.6	8.4	10.0
11	Stork's bill	4.7	2.1	43.5	1.5	31.1	59.2	9.3
12	Hemp-nettle	16.7	3.1	18.7	0.6	3.4	21.4	8.4
13	Low cudweed	10.0	2.8	27.6	0.6	6.1	21.8	7.0
14	Narrow-leaved hawk's-beard	15.4	3.1	20.1	0.3	2.0	8.4	6.9
15	Canada thistle	19.3	1.9	9.7	0.1	0.6	1.4	5.9
16	Field horsetail	16.2	1.6	10.0	0.1	0.5	1.0	4.9
17	Pale smartweed	12.3	2.0	16.4	0.2	1.3	4.0	4.8
18	Bird's-eye speedwell	2.5	1.7	70.0	0.6	25.2	25.2	4.6
19	Green foxtail	4.7	2.3	48.6	0.4	8.5	15.8	4.6
20	Night-flowering catchfly	10.2	2.0	19.9	0.2	1.8	5.4	4.5
21	Clover species	12.3	1.8	15.0	0.1	0.9	2.6	4.4
22	Quack grass	6.4	1.9	29.3	0.3	4.7	9.2	4.1
23	Alfalfa	4.3	2.6	60.0	0.2	4.4	4.4	3.7
24	Spiny annual sow-thistle	9.5	1.2	12.5	0.1	0.7	1.4	3.1
25	Henbit	7.2	1.3	18.0	0.1	0.8	1.2	2.7
26	Vetch species	9.7	0.6	6.7	< 0.1	0.4	0.6	2.6
27	Yellow toadflax	2.3	0.9	40.0	0.3	13.8	13.8	2.6
28	Broad-leaved plantain	4.9	1.2	25.0	0.1	2.0	3.2	2.4
29	Northern willowherb	6.2	0.3	5.0	< 0.1	0.2	0.2	1.6
30	Rye	1.7	0.4	25.0	< 0.1	2.0	2.0	0.8
31	Rough cinquefoil	2.3	0.2	10.0	< 0.1	0.6	0.6	0.7
32	Absinth	2.5	0.1	5.0	< 0.1	0.2	0.2	0.6
33	Red goosefoot	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6
34	Marsh yellow cress	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6
35	Corn spurry	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Stinkweed	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Field pea	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6

Field Survey Summary Tables – Annual crops in Crop District 6

Table 98. 2017 Annual crops in Crop District 6 (92 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	32.1	16.4	51.0	10.1	31.5	140.0	55.6
2	Wild buckwheat	53.4	18.7	35.0	2.2	4.2	44.4	34.5
3	Canola/rapeseed	31.3	11.7	37.5	1.4	4.5	17.6	21.2
4	Wheat	12.5	7.4	58.8	3.5	28.1	91.4	21.0
5	Lamb's-quarters	30.0	8.2	27.3	1.2	3.9	22.2	17.2
6	Dandelion	27.9	7.3	26.0	0.8	3.0	15.4	14.9
7	Hemp-nettle	23.2	4.8	20.8	0.8	3.4	48.0	11.7
8	Field horsetail	18.7	5.6	30.0	0.9	4.7	20.4	11.6
9	Wild oats	22.1	4.8	21.8	0.6	2.8	18.4	10.9
10	False cleavers	19.7	4.4	22.2	0.7	3.3	44.6	10.1
11	Stinkweed	8.6	2.8	33.0	1.2	14.2	194.8	8.4
12	Low cudweed	12.5	2.2	17.6	0.4	3.4	7.2	6.0
13	Clover species	7.3	2.3	31.0	0.6	7.6	25.8	5.4
14	Canada thistle	15.3	1.8	11.7	0.2	1.0	2.0	5.3
15	Shepherd's-purse	12.9	1.9	14.6	0.2	1.5	6.4	5.0
16	Broad-leaved plantain	12.5	1.7	13.7	0.1	1.1	4.6	4.6
17	Spiny annual sow-thistle	9.3	1.7	18.1	0.3	3.4	25.0	4.5
18	Pale smartweed	8.5	1.8	21.2	0.2	2.9	17.2	4.2
19	Narrow-leaved hawk's-beard	10.2	1.7	17.0	0.1	1.5	7.0	4.1
20	Barley	3.3	2.3	70.6	0.3	9.5	12.4	3.7
21	Night-flowering catchfly	10.1	1.2	11.4	0.1	1.4	11.0	3.6
22	Annual blue grass	3.6	1.3	36.1	0.4	11.9	22.6	3.4
23	Oak-leaved goosefoot	4.0	1.4	34.5	0.4	10.0	23.6	3.3
24	Rough cinquefoil	5.7	1.4	24.7	0.1	2.5	6.0	2.9
25	Alfalfa	6.0	1.0	15.9	0.2	2.9	29.8	2.7
26	Stork's bill	5.4	1.0	18.6	0.1	1.6	5.2	2.3
27	Corn spurry	2.9	0.8	26.0	0.3	9.1	12.2	2.2
28	Perennial sow-thistle	5.4	0.6	10.8	< 0.1	0.8	1.2	1.8
29	White cockle	3.1	0.8	27.0	0.1	4.0	13.6	1.8
30	Green foxtail	4.7	0.4	9.5	< 0.1	0.6	1.4	1.5
31	Redroot pigweed	1.8	0.6	31.7	0.1	8.1	19.0	1.4
32	Wild mustard	2.4	0.6	25.2	0.1	4.0	5.2	1.4
33	Field violet	3.3	0.4	13.1	< 0.1	1.3	1.6	1.2
34	Marsh yellow cress	3.1	0.4	11.6	0.1	1.9	3.6	1.2
35	Western barnyard grass	1.7	0.4	25.0	0.1	7.6	7.6	1.1
36	Oats	1.8	0.4	22.5	0.1	3.4	4.8	0.9
37	Pygmyflower	2.4	0.4	16.1	< 0.1	0.8	1.0	0.9
38	Northern willowherb	3.0	0.2	5.0	< 0.1	0.2	0.2	0.8
39	Water mudwort	1.5	0.2	10.0	0.1	4.6	4.6	0.7
40	Pineappleweed	2.4	0.1	5.0	< 0.1	0.2	0.2	0.6
41	Toad rush	1.5	0.2	15.0	< 0.1	1.2	1.2	0.6
42	Prostrate knotweed	1.7	0.2	10.0	< 0.1	1.0	1.0	0.6
43	Willow species	1.5	0.1	5.0	< 0.1	0.4	0.4	0.4
44	Rayless aster	0.9	0.2	20.0	< 0.1	2.0	2.0	0.4
45	Sweet-clover species	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
46	Purslane speedwell	0.6	0.1	15.0	< 0.1	6.8	6.8	0.4
47	Common yarrow	1.1	0.1	8.2	< 0.1	0.3	0.4	0.3
48	Blue grass species	0.5	0.2	35.0	< 0.1	2.8	2.8	0.3
49	Tall buttercup	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
50	Flixweed	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Wormseed mustard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Foxtail barley	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2

(Table continued on next page)

Field Survey Summary Tables – Annual crops in Crop District 6

Table 98. 2017 Annual crops in Crop District 6 (92 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Quack grass	0.5	0.1	10.0	< 0.1	0.6	0.6	0.2
54	Thyme-leaved sandwort	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
55	Poplar species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Cereal crops in Crop District 6

Table 99. 2017 Cereal crops in Crop District 6 (58 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	22.1	11.2	50.7	6.4	28.7	140.0	43.5
2	Wild buckwheat	46.6	14.0	29.9	1.7	3.7	44.4	32.0
3	Canola/rapeseed	33.0	10.8	32.7	1.3	4.1	17.6	24.0
4	Lamb's-quarters	23.0	6.6	28.8	1.1	4.7	22.2	16.5
5	Dandelion	23.9	6.7	28.0	0.9	3.6	15.4	15.9
6	Hemp-nettle	22.7	4.7	20.8	1.0	4.2	48.0	14.1
7	Stinkweed	8.7	3.6	41.0	1.8	21.0	194.8	13.5
8	Wild oats	15.5	4.0	25.9	0.4	2.9	15.6	9.5
9	Clover species	10.1	3.5	34.2	0.9	8.5	25.8	9.5
10	Wheat	2.7	2.7	100.0	1.4	51.2	51.2	9.4
11	Field horsetail	15.2	3.0	20.0	0.3	2.2	7.6	8.0
12	False cleavers	14.5	3.0	20.3	0.3	2.0	7.8	7.6
13	Annual blue grass	5.0	2.1	42.5	0.7	14.3	22.6	6.3
14	Broad-leaved plantain	12.5	2.4	19.4	0.2	1.8	4.6	6.3
15	Oak-leaved goosefoot	5.2	2.2	41.7	0.7	12.5	23.6	6.2
16	Pale smartweed	10.5	2.0	19.5	0.4	3.4	17.2	6.0
17	Canada thistle	13.9	2.0	14.0	0.2	1.3	2.0	6.0
18	Spiny annual sow-thistle	7.4	2.0	26.9	0.5	6.2	25.0	5.7
19	Low cudweed	11.2	1.4	12.5	0.3	2.4	6.6	5.2
20	Narrow-leaved hawk's-beard	9.9	1.6	16.1	0.2	1.5	7.0	4.5
21	Corn spurry	3.8	1.2	31.6	0.4	11.5	12.2	3.9
22	Night-flowering catchfly	11.4	0.9	8.0	0.1	0.6	1.2	3.9
23	Barley	3.0	1.9	62.7	0.3	8.5	12.4	3.6
24	Alfalfa	5.2	0.9	18.1	0.2	4.6	29.8	3.2
25	Shepherd's-purse	6.0	1.0	16.1	0.1	1.9	6.4	2.8
26	Wild mustard	4.0	1.0	25.2	0.2	4.0	5.2	2.6
27	Stork's bill	4.8	1.1	21.9	0.1	2.2	5.2	2.6
28	Perennial sow-thistle	6.3	0.7	11.2	0.1	0.9	1.2	2.4
29	Green foxtail	6.5	0.7	10.4	< 0.1	0.6	1.4	2.4
30	Field violet	5.4	0.7	13.1	0.1	1.3	1.6	2.3
31	Western barnyard grass	2.7	0.7	25.0	0.2	7.6	7.6	2.2
32	White cockle	1.3	0.9	70.0	0.2	13.6	13.6	1.9
33	Marsh yellow cress	4.0	0.5	13.2	0.1	2.0	3.6	1.8
34	Oats	3.0	0.7	22.5	0.1	3.4	4.8	1.8
35	Water mudwort	2.5	0.2	10.0	0.1	4.6	4.6	1.3
36	Pineappleweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
37	Toad rush	2.5	0.4	15.0	< 0.1	1.2	1.2	1.1
38	Redroot pigweed	2.0	0.4	17.5	0.1	2.6	3.2	1.1
39	Prostrate knotweed	2.7	0.3	10.0	< 0.1	1.0	1.0	1.0
40	Rayless aster	1.5	0.3	20.0	< 0.1	2.0	2.0	0.8
41	Willow species	2.5	0.1	5.0	< 0.1	0.4	0.4	0.8
42	Northern willowherb	2.5	0.1	5.0	< 0.1	0.2	0.2	0.7
43	Sweet-clover species	2.5	0.1	5.0	< 0.1	0.2	0.2	0.7
44	Purslane speedwell	1.0	0.2	15.0	0.1	6.8	6.8	0.7
45	Common yarrow	1.9	0.2	8.2	< 0.1	0.3	0.4	0.6
46	Blue grass species	0.9	0.3	35.0	< 0.1	2.8	2.8	0.6
47	Rough cinquefoil	1.5	0.1	10.0	< 0.1	0.4	0.4	0.5
48	Tall buttercup	1.5	0.1	5.0	< 0.1	0.4	0.4	0.5
49	Foxtail barley	1.0	0.1	10.0	< 0.1	0.4	0.4	0.4
50	Quack grass	0.9	0.1	10.0	< 0.1	0.6	0.6	0.3
51	Poplar species	1.0	0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Spring wheat in Crop District 6

Table 100. 2017 Spring wheat in Crop District 6 (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	19.4	10.9	56.0	3.7	19.3	38.4	49.0
2	Canola/rapeseed	38.6	12.4	32.2	1.6	4.2	17.6	40.0
3	Wild buckwheat	42.2	10.2	24.2	0.9	2.2	9.2	32.6
4	Annual blue grass	11.7	5.0	42.5	1.7	14.3	22.6	23.0
5	Dandelion	21.2	6.0	28.3	1.0	4.9	15.4	22.0
6	Hemp-nettle	28.8	5.3	18.3	0.7	2.6	12.0	21.0
7	Wild oats	19.0	5.3	28.0	0.8	4.0	15.6	18.4
8	False cleavers	18.8	3.0	15.9	0.4	2.1	7.6	12.3
9	Field horsetail	16.5	3.2	19.6	0.4	2.2	4.6	11.8
10	Green foxtail	15.3	1.6	10.4	0.1	0.6	1.4	7.2
11	Low cudweed	11.7	0.6	5.0	0.2	1.8	3.0	5.8
12	Lamb's-quarters	7.2	1.4	19.6	0.1	1.8	3.0	4.9
13	Broad-leaved plantain	5.9	1.8	30.0	0.1	1.6	1.6	4.7
14	Canada thistle	8.3	0.8	10.0	0.2	1.8	2.0	4.6
15	Spiny annual sow-thistle	8.9	1.2	13.5	0.1	0.7	1.6	4.6
16	Water mudwort	5.9	0.6	10.0	0.3	4.6	4.6	4.6
17	Perennial sow-thistle	8.3	1.0	12.1	0.1	1.0	1.2	4.4
18	Night-flowering catchfly	9.4	0.8	8.1	< 0.1	0.4	0.4	4.0
19	Stork's bill	5.9	1.2	20.0	0.1	1.2	1.2	3.8
20	Oats	3.5	0.9	25.0	0.2	4.8	4.8	3.5
21	Toad rush	5.9	0.9	15.0	0.1	1.2	1.2	3.4
22	Field violet	5.9	0.3	5.0	0.1	1.0	1.0	2.5
23	Willow species	5.9	0.3	5.0	< 0.1	0.4	0.4	2.3
24	Oak-leaved goosefoot	5.9	0.3	5.0	< 0.1	0.2	0.2	2.2
25	Narrow-leaved hawk's-beard	5.9	0.3	5.0	< 0.1	0.2	0.2	2.2
26	Northern willowherb	5.9	0.3	5.0	< 0.1	0.2	0.2	2.2
27	Clover species	3.5	0.4	10.0	< 0.1	0.4	0.4	1.6
28	Alfalfa	3.5	0.2	5.0	< 0.1	0.2	0.2	1.3

Table 101. 2017 Barley in Crop District 6 (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	26.9	14.8	55.2	10.1	37.7	140.0	54.8
2	Wild buckwheat	45.0	14.1	31.4	1.2	2.6	9.0	25.8
3	Wheat	6.8	6.8	100.0	3.5	51.2	51.2	19.7
4	Dandelion	35.1	9.8	27.8	1.0	2.9	11.2	19.4
5	Lamb's-quarters	28.2	9.5	33.6	1.1	3.8	18.4	17.9
6	Clover species	18.7	6.8	36.1	2.0	10.7	25.8	16.9
7	Canola/rapeseed	26.4	8.3	31.5	1.0	3.8	10.8	16.2
8	Oak-leaved goosefoot	6.8	5.1	75.0	1.6	23.6	23.6	11.5
9	Canada thistle	25.7	4.0	15.4	0.3	1.1	1.8	9.9
10	Spiny annual sow-thistle	9.0	3.7	40.9	1.1	12.0	25.0	8.9
11	Wild oats	18.4	4.3	23.6	0.3	1.6	3.4	8.7
12	Hemp-nettle	21.7	3.3	15.0	0.3	1.4	10.4	8.5
13	False cleavers	16.2	4.1	25.5	0.3	2.0	7.8	8.1
14	Field horsetail	16.1	2.2	13.7	0.2	1.2	2.6	6.0
15	Corn spurry	6.1	2.2	35.0	0.7	12.2	12.2	5.8
16	Broad-leaved plantain	12.9	2.3	17.9	0.2	1.9	2.4	5.6
17	Pale smartweed	18.5	1.4	7.7	0.1	0.6	1.8	5.6
18	Stinkweed	9.3	1.8	19.5	0.5	5.7	19.6	5.4
19	Shepherd's-purse	12.2	2.1	17.4	0.3	2.1	6.4	5.3
20	Western barnyard grass	6.8	1.7	25.0	0.5	7.6	7.6	4.7
21	Wild mustard	6.8	2.0	30.0	0.4	5.2	5.2	4.4
22	Night-flowering catchfly	10.8	1.1	10.0	0.1	1.0	1.2	3.6
23	Narrow-leaved hawk's-beard	10.0	1.3	12.7	0.1	0.7	1.4	3.5
24	Field violet	7.1	1.4	20.0	0.1	1.6	1.6	3.1
25	Pineappleweed	10.0	0.5	5.0	< 0.1	0.2	0.2	2.6
26	Low cudweed	6.8	0.7	10.0	0.1	1.4	1.4	2.4
27	Marsh yellow cress	6.8	0.7	10.0	0.1	1.2	1.2	2.3
28	Prostrate knotweed	6.8	0.7	10.0	0.1	1.0	1.0	2.3
29	Perennial sow-thistle	6.8	0.7	10.0	0.1	0.8	0.8	2.2
30	Sweet-clover species	6.1	0.3	5.0	< 0.1	0.2	0.2	1.6
31	Purslane speedwell	2.5	0.4	15.0	0.2	6.8	6.8	1.5
32	Blue grass species	2.1	0.7	35.0	0.1	2.8	2.8	1.3
33	Tall buttercup	3.7	0.2	5.0	< 0.1	0.4	0.4	1.0
34	Common yarrow	2.9	0.3	10.0	< 0.1	0.4	0.4	0.9
35	Stork's bill	2.5	0.3	10.0	< 0.1	1.0	1.0	0.8
36	Foxtail barley	2.5	0.3	10.0	< 0.1	0.4	0.4	0.8
37	Quack grass	2.1	0.2	10.0	< 0.1	0.6	0.6	0.7

Field Survey Summary Tables – Oats in Crop District 6

Table 102. 2017 Oats in Crop District 6 (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Stinkweed	29.3	16.8	57.4	9.5	32.5	194.8	43.2
2	Wild buckwheat	61.7	23.0	37.3	5.1	8.3	44.4	42.8
3	Lamb's-quarters	50.1	12.9	25.7	3.5	6.9	22.2	28.9
4	Canola/rapeseed	35.1	12.6	36.0	1.5	4.2	11.6	20.2
5	Chickweed	17.6	3.5	20.0	3.9	22.0	22.0	16.6
6	Barley	17.5	11.0	62.7	1.5	8.5	12.4	15.3
7	Hemp-nettle	10.0	6.9	68.9	3.1	30.5	48.0	15.1
8	Pale smartweed	17.6	8.7	49.1	1.9	10.5	17.2	14.7
9	Alfalfa	21.7	5.1	23.4	1.4	6.4	29.8	11.9
10	Broad-leaved plantain	28.3	4.4	15.6	0.5	1.7	4.6	10.5
11	Low cudweed	20.7	5.2	25.0	0.8	4.0	6.6	10.3
12	Narrow-leaved hawk's-beard	19.6	5.6	28.6	0.7	3.6	7.0	10.0
13	White cockle	7.6	5.3	70.0	1.0	13.6	13.6	8.1
14	Field horsetail	10.0	4.6	46.0	0.6	5.8	7.6	6.9
15	Corn spurry	7.6	1.9	25.0	0.8	10.2	10.2	5.0
16	Redroot pigweed	12.0	2.1	17.5	0.3	2.6	3.2	4.9
17	Night-flowering catchfly	17.6	0.9	5.0	0.1	0.4	0.4	4.6
18	Stork's bill	7.6	2.7	35.0	0.4	5.2	5.2	4.5
19	Clover species	6.0	3.3	55.0	0.3	4.4	4.4	4.3
20	Oats	8.9	1.8	20.0	0.2	2.0	2.0	3.6
21	Rayless aster	8.8	1.8	20.0	0.2	2.0	2.0	3.6
22	Marsh yellow cress	7.6	1.5	20.0	0.3	3.6	3.6	3.4
23	Wild mustard	7.6	1.1	15.0	0.1	1.4	1.4	2.7
24	Rough cinquefoil	8.8	0.9	10.0	< 0.1	0.4	0.4	2.6
25	Dandelion	4.1	1.2	30.0	0.1	2.6	2.6	2.0
26	Shepherd's-purse	6.0	0.6	10.0	< 0.1	0.8	0.8	1.8
27	Poplar species	6.0	0.3	5.0	< 0.1	0.2	0.2	1.5
28	Common yarrow	4.1	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 103. 2017 Canola in Crop District 6 (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	52.0	26.6	51.2	17.4	33.6	117.8	70.6
2	Wild buckwheat	64.9	26.4	40.7	3.2	5.0	25.8	36.9
3	Wheat	28.4	15.6	55.0	7.4	26.0	91.4	33.9
4	Lamb's-quarters	43.0	11.2	26.0	1.4	3.3	21.0	18.7
5	Canola/rapeseed	27.9	13.4	47.9	1.5	5.2	16.6	17.3
6	Field horsetail	22.9	9.6	41.8	1.7	7.6	20.4	14.7
7	Dandelion	32.3	8.4	26.2	0.8	2.6	7.6	13.5
8	False cleavers	30.2	7.2	23.7	1.3	4.4	44.6	13.5
9	Wild oats	27.4	5.8	21.2	0.9	3.4	18.4	11.1
10	Hemp-nettle	26.3	5.5	20.8	0.6	2.1	11.2	9.8
11	Shepherd's-purse	25.8	3.6	14.0	0.4	1.4	3.6	8.0
12	Low cudweed	15.8	3.7	23.7	0.7	4.6	7.2	7.1
13	Rough cinquefoil	13.3	3.6	27.4	0.4	2.9	6.0	5.7
14	Canada thistle	17.3	1.5	8.8	0.1	0.6	1.6	4.5
15	Barley	4.2	3.3	80.0	0.4	10.6	10.6	4.0
16	Spiny annual sow-thistle	13.5	1.3	10.0	0.1	0.8	3.0	3.6
17	Narrow-leaved hawk's-beard	10.1	2.1	20.5	0.2	1.5	2.6	3.6
18	Broad-leaved plantain	13.7	0.7	5.0	< 0.1	0.2	0.2	3.1
19	Night-flowering catchfly	7.4	1.0	13.5	0.1	1.2	3.0	2.2
20	Stork's bill	6.8	1.0	14.7	0.1	0.7	1.6	2.0
21	Pale smartweed	4.2	1.5	35.0	0.1	2.0	2.0	1.9
22	Stinkweed	7.4	0.6	8.4	0.1	0.7	1.8	1.9
23	Redroot pigweed	1.7	1.0	60.0	0.3	19.0	19.0	1.8
24	White cockle	6.3	0.8	12.3	< 0.1	0.7	0.8	1.8
25	Pygmyflower	4.9	1.0	20.0	< 0.1	1.0	1.0	1.6
26	Alfalfa	6.3	0.3	5.0	< 0.1	0.2	0.2	1.4
27	Perennial sow-thistle	4.6	0.5	10.0	< 0.1	0.4	0.4	1.2
28	Northern willowherb	4.2	0.2	5.0	< 0.1	0.2	0.2	0.9
29	Clover species	1.7	0.4	25.0	0.1	5.4	5.4	0.8
30	Flixweed	2.5	0.1	5.0	< 0.1	0.2	0.2	0.6
31	Wormseed mustard	2.5	0.1	5.0	< 0.1	0.2	0.2	0.6
32	Green foxtail	2.2	0.1	5.0	< 0.1	0.4	0.4	0.5
33	Oak-leaved goosefoot	2.2	0.1	5.0	< 0.1	0.2	0.2	0.5
34	Marsh yellow cress	1.7	0.1	5.0	< 0.1	1.8	1.8	0.4
35	Annual blue grass	1.7	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Annual crops in Crop District 7

Table 104. 2017 Annual crops in Crop District 7 (150 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	36.9	13.9	37.8	4.2	11.4	58.6	40.7
2	Canola/rapeseed	45.8	17.0	37.2	2.7	5.9	34.2	38.9
3	Field horsetail	46.2	12.1	26.1	3.4	7.4	56.0	37.4
4	Wild buckwheat	34.6	8.7	25.2	1.4	4.1	28.4	22.5
5	False cleavers	26.1	6.6	25.5	1.2	4.5	61.4	17.6
6	Wild oats	18.6	4.5	24.3	1.8	9.4	96.6	16.5
7	Stinkweed	20.6	5.2	25.5	1.0	4.8	34.8	14.1
8	Narrow-leaved hawk's-beard	16.1	3.6	22.3	1.1	7.1	70.8	12.3
9	Canada thistle	23.3	3.6	15.6	0.5	2.0	15.4	10.9
10	Dandelion	17.3	4.1	23.8	0.3	1.9	8.4	9.4
11	Wheat	15.2	4.1	27.0	0.4	2.6	11.0	9.1
12	Clover species	10.8	3.5	32.5	0.4	4.0	11.4	7.7
13	Hemp-nettle	12.8	2.6	19.9	0.4	2.9	19.8	7.1
14	Oats	3.2	1.5	46.8	0.6	19.4	48.8	5.0
15	Low cudweed	10.4	1.5	14.1	0.2	2.2	10.0	4.9
16	Rough cinquefoil	3.8	1.2	31.0	0.4	11.2	33.6	3.9
17	Pale smartweed	5.2	1.3	25.9	0.3	5.5	22.6	3.8
18	Chickweed	4.7	1.0	20.9	0.3	6.8	25.0	3.5
19	Spiny annual sow-thistle	6.1	1.2	19.1	0.1	1.8	8.0	3.0
20	Alfalfa	3.7	1.5	39.9	0.1	3.0	8.0	2.8
21	Broad-leaved plantain	6.2	0.6	9.0	< 0.1	0.6	1.0	2.1
22	Foxtail barley	5.9	0.5	8.7	< 0.1	0.8	3.6	2.1
23	Barley	3.1	0.5	17.3	0.1	4.3	23.8	1.8
24	Perennial sow-thistle	4.4	0.6	13.7	< 0.1	1.1	4.4	1.8
25	Shepherd's-purse	3.4	0.5	14.8	0.1	3.1	8.2	1.7
26	Vetch species	3.3	0.6	17.6	0.1	2.5	8.6	1.7
27	Stork's bill	2.0	0.7	36.2	0.1	5.3	10.0	1.6
28	Bluebur	3.0	0.5	16.2	0.1	2.6	5.0	1.5
29	Sweet-clover species	3.1	0.6	18.2	< 0.1	1.2	2.0	1.4
30	Pineappleweed	3.0	0.3	10.0	< 0.1	1.3	4.4	1.2
31	Wild mustard	0.7	0.4	64.7	0.1	16.5	31.2	1.0
32	Bicknell's geranium	3.3	0.2	5.5	< 0.1	0.2	0.6	1.0
33	Tartary buckwheat	0.6	0.5	85.0	0.1	11.4	11.4	0.9
34	Corn spurry	2.2	0.2	11.1	< 0.1	0.9	1.0	0.8
35	Fescue species	1.7	0.2	13.4	< 0.1	1.1	4.6	0.7
36	Green foxtail	1.9	0.2	10.5	< 0.1	0.8	1.2	0.7
37	Ball mustard	2.1	0.1	7.1	< 0.1	0.8	1.0	0.7
38	Night-flowering catchfly	1.5	0.3	17.5	< 0.1	1.1	2.0	0.7
39	Purslane speedwell	2.0	0.2	7.6	< 0.1	0.4	0.6	0.6
40	Dock species	1.5	0.1	5.0	< 0.1	2.0	2.0	0.6
41	Marsh yellow cress	1.8	0.1	5.0	< 0.1	0.4	1.2	0.5
42	Yellow toadflax	1.3	0.2	12.1	< 0.1	0.9	1.2	0.5
43	Biennial wormwood	1.2	0.1	9.2	< 0.1	0.8	2.4	0.4
44	Northern willowherb	1.1	0.1	11.9	< 0.1	0.8	1.0	0.4
45	Quack grass	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
46	Golden dock	1.2	0.1	5.0	< 0.1	0.3	0.4	0.4
47	Golden corydalis	0.8	0.1	15.0	< 0.1	1.0	1.0	0.4
48	Timothy	0.4	0.1	35.0	< 0.1	2.2	2.2	0.2
49	Flixweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	Marsh hedge-nettle	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2
51	Common groundsel	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Rough hair grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

(Table continued on next page)

Table 104. 2017 Annual crops in Crop District 7 (150 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	White cockle	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
54	Blue grass species	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
55	Common yarrow	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Cereal crops in Crop District 7

Table 105. 2017 Cereal crops in Crop District 7 (63 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	29.5	15.2	51.4	4.5	15.4	54.0	45.8
2	Field horsetail	42.6	9.0	21.2	2.3	5.4	37.0	31.8
3	Wild buckwheat	37.6	10.3	27.3	1.6	4.3	19.6	28.2
4	Canola/rapeseed	21.4	9.9	46.3	1.9	8.9	25.2	25.1
5	Stinkweed	19.4	7.1	36.5	1.9	9.7	34.8	21.7
6	Oats	7.0	3.5	49.8	1.5	21.5	48.8	12.8
7	Clover species	13.8	5.7	41.7	0.7	5.0	11.4	12.8
8	Narrow-leaved hawk's-beard	21.2	4.6	21.6	0.5	2.4	11.6	12.7
9	Canada thistle	21.4	4.1	18.9	0.6	2.8	15.4	12.7
10	Dandelion	19.6	4.2	21.2	0.3	1.8	8.4	11.0
11	Wild oats	11.5	2.5	21.5	1.0	8.6	40.4	10.5
12	Hemp-nettle	13.9	3.1	22.1	0.5	3.8	19.8	9.4
13	False cleavers	19.7	2.7	13.7	0.3	1.4	16.8	9.2
14	Spiny annual sow-thistle	10.1	2.4	23.5	0.2	2.4	8.0	6.2
15	Pale smartweed	9.7	2.1	21.1	0.3	2.9	7.6	6.0
16	Alfalfa	5.8	2.8	48.1	0.2	3.9	8.0	5.4
17	Perennial sow-thistle	6.2	1.2	19.6	0.1	1.7	4.4	3.4
18	Stork's bill	3.0	1.4	45.6	0.2	7.4	10.0	3.3
19	Chickweed	3.9	0.8	21.2	0.3	7.2	25.0	3.3
20	Foxtail barley	9.2	0.6	6.0	0.1	0.6	3.6	3.2
21	Broad-leaved plantain	8.1	0.8	9.3	< 0.1	0.5	0.8	3.1
22	Wild mustard	1.6	1.0	64.7	0.3	16.5	31.2	2.7
23	Low cudweed	7.1	0.4	5.0	< 0.1	0.2	0.2	2.3
24	Sweet-clover species	4.5	0.6	13.9	< 0.1	0.7	1.4	2.0
25	Green foxtail	4.5	0.5	10.5	< 0.1	0.8	1.2	1.8
26	Bluebur	3.6	0.5	13.4	< 0.1	1.2	1.2	1.6
27	Shepherd's-purse	3.8	0.3	7.6	0.1	1.4	1.4	1.5
28	Bicknell's geranium	4.3	0.3	5.9	< 0.1	0.3	0.6	1.4
29	Vetch species	3.2	0.4	11.1	< 0.1	1.0	1.4	1.4
30	Golden corydalis	2.0	0.3	15.0	< 0.1	1.0	1.0	0.9
31	Ball mustard	2.0	0.2	10.0	< 0.1	0.6	0.6	0.8
32	Corn spurry	1.5	0.3	20.0	< 0.1	1.0	1.0	0.7
33	Fescue species	0.7	0.4	55.0	< 0.1	4.6	4.6	0.7
34	Purslane speedwell	1.8	0.2	10.0	< 0.1	0.4	0.4	0.7
35	Timothy	0.9	0.3	35.0	< 0.1	2.2	2.2	0.6
36	Pineappleweed	1.5	0.1	5.0	< 0.1	0.2	0.2	0.5
37	Common groundsel	1.5	0.1	5.0	< 0.1	0.2	0.2	0.5
38	Biennial wormwood	0.8	0.2	20.0	< 0.1	2.4	2.4	0.5
39	Rough cinquefoil	1.1	0.1	5.0	< 0.1	0.4	0.4	0.4
40	Rough hair grass	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
41	Golden dock	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3
42	Yellow toadflax	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
43	White cockle	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
44	Quack grass	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
45	Wheat	0.1	< 0.1	30.0	< 0.1	2.4	2.4	0.1

Field Survey Summary Tables – Spring wheat in Crop District 7

Table 106. 2017 Spring wheat in Crop District 7 (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	26.8	12.6	46.9	2.5	9.3	26.2	43.4
2	Field horsetail	42.5	8.1	19.1	1.4	3.3	10.6	33.3
3	Wild buckwheat	42.6	7.9	18.5	1.1	2.5	19.6	30.3
4	Canola/rapeseed	13.4	6.2	46.7	1.3	10.1	25.2	22.4
5	Narrow-leaved hawk's-beard	24.4	5.7	23.2	0.7	2.9	11.6	19.7
6	Canada thistle	23.6	5.2	22.0	0.8	3.3	15.4	19.4
7	Oats	3.4	3.0	90.0	1.6	48.8	48.8	17.8
8	Dandelion	18.8	3.9	20.7	0.4	2.0	7.6	13.2
9	Hemp-nettle	15.6	2.8	18.1	0.6	4.0	19.8	12.8
10	Stinkweed	11.4	2.0	17.6	0.4	4.0	8.0	9.2
11	Clover species	9.2	2.6	28.8	0.4	4.5	10.8	9.2
12	False cleavers	19.8	1.5	7.7	0.1	0.7	2.0	8.4
13	Chickweed	7.4	1.6	21.2	0.5	7.2	25.0	8.3
14	Perennial sow-thistle	9.6	2.2	22.8	0.2	1.9	4.4	7.0
15	Wild oats	13.5	1.1	7.8	0.1	0.7	1.0	5.9
16	Broad-leaved plantain	11.5	1.2	10.8	0.1	0.6	0.8	5.3
17	Foxtail barley	14.4	0.8	5.7	< 0.1	0.3	0.6	5.3
18	Sweet-clover species	8.6	1.2	13.9	0.1	0.7	1.4	4.4
19	Spiny annual sow-thistle	5.5	0.8	15.0	< 0.1	0.6	0.6	2.8
20	Green foxtail	4.7	0.7	15.0	0.1	1.2	1.2	2.7
21	Low cudweed	6.6	0.3	5.0	< 0.1	0.2	0.2	2.3
22	Pale smartweed	6.6	0.3	5.0	< 0.1	0.2	0.2	2.3
23	Golden corydalis	3.8	0.6	15.0	< 0.1	1.0	1.0	2.1
24	Fescue species	1.3	0.7	55.0	0.1	4.6	4.6	1.8
25	Corn spurry	2.8	0.6	20.0	< 0.1	1.0	1.0	1.7
26	Shepherd's-purse	3.4	0.2	5.0	< 0.1	1.4	1.4	1.5
27	Wild mustard	1.5	0.6	40.0	< 0.1	2.2	2.2	1.5
28	Purslane speedwell	3.3	0.3	10.0	< 0.1	0.4	0.4	1.4
29	Bluebur	3.0	0.2	5.0	< 0.1	1.2	1.2	1.3
30	Pineappleweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.0
31	Common groundsel	2.8	0.1	5.0	< 0.1	0.2	0.2	1.0
32	Yellow toadflax	1.7	0.1	5.0	< 0.1	0.2	0.2	0.6
33	White cockle	1.3	0.1	10.0	< 0.1	0.4	0.4	0.6

Field Survey Summary Tables – Barley in Crop District 7

Table 107. 2017 Barley in Crop District 7 (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	44.7	22.1	49.4	7.7	17.2	54.0	43.8
2	Wild buckwheat	47.5	21.7	45.6	3.4	7.2	15.8	32.4
3	Stinkweed	18.4	17.0	92.1	5.8	31.7	34.8	30.5
4	Field horsetail	50.7	8.3	16.3	5.2	10.2	37.0	29.0
5	Wild oats	21.0	9.2	43.8	4.5	21.4	40.4	22.3
6	Oats	24.9	9.0	36.0	3.0	12.1	37.6	18.8
7	Clover species	22.1	11.9	53.8	1.5	6.6	11.4	15.9
8	Dandelion	38.6	9.3	24.2	0.7	1.7	8.4	15.2
9	Narrow-leaved hawk's-beard	35.7	7.2	20.2	0.7	1.8	5.6	13.2
10	False cleavers	29.4	7.3	24.8	0.9	3.1	16.8	12.8
11	Canola/rapeseed	18.1	7.4	40.6	0.7	4.1	8.2	10.2
12	Hemp-nettle	23.7	5.2	22.0	0.5	2.1	4.4	9.2
13	Canada thistle	31.2	3.1	9.9	0.3	1.0	3.8	8.7
14	Spiny annual sow-thistle	13.4	4.7	35.1	0.8	5.9	8.0	7.8
15	Low cudweed	17.4	0.9	5.0	< 0.1	0.2	0.2	3.9
16	Bluebur	9.7	1.9	20.0	0.1	1.2	1.2	3.4
17	Shepherd's-purse	9.7	1.0	10.0	0.1	1.4	1.4	2.8
18	Ball mustard	9.7	1.0	10.0	0.1	0.6	0.6	2.6
19	Vetch species	7.6	1.1	15.0	0.1	1.4	1.4	2.5
20	Green foxtail	9.7	0.5	5.0	< 0.1	0.4	0.4	2.2
21	Foxtail barley	7.6	0.6	7.5	0.2	2.1	3.6	2.2
22	Broad-leaved plantain	9.7	0.5	5.0	< 0.1	0.2	0.2	2.2
23	Pale smartweed	9.7	0.5	5.0	< 0.1	0.2	0.2	2.2
24	Biennial wormwood	3.8	0.8	20.0	0.1	2.4	2.4	1.5
25	Perennial sow-thistle	5.5	0.3	5.0	< 0.1	0.6	0.6	1.3
26	Rough cinquefoil	5.5	0.3	5.0	< 0.1	0.4	0.4	1.3
27	Quack grass	3.8	0.2	5.0	< 0.1	0.2	0.2	0.9
28	Stork's bill	3.8	0.2	5.0	< 0.1	0.2	0.2	0.9
29	Wheat	0.5	0.2	30.0	< 0.1	2.4	2.4	0.2
30	Alfalfa	0.5	0.1	10.0	< 0.1	0.4	0.4	0.1

Table 108. 2017 Oats in Crop District 7 (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	23.1	14.9	64.6	6.1	26.5	49.4	51.5
2	Canola/rapeseed	40.0	19.2	48.2	3.9	9.8	24.6	50.3
3	Field horsetail	36.4	11.4	31.4	1.9	5.1	35.6	31.8
4	Stinkweed	36.2	9.5	26.2	1.6	4.5	17.4	28.9
5	Alfalfa	21.4	10.5	48.9	0.8	3.9	8.0	21.0
6	Wild buckwheat	19.7	6.1	30.7	1.3	6.6	13.4	18.5
7	Pale smartweed	16.0	6.7	41.9	1.0	6.3	7.6	16.5
8	Clover species	16.5	7.1	43.1	0.6	3.9	7.4	15.3
9	Stork's bill	8.4	5.0	60.0	0.8	10.0	10.0	11.6
10	Spiny annual sow-thistle	16.6	3.6	21.8	0.2	1.4	2.6	10.0
11	Wild mustard	2.9	2.6	90.0	0.9	31.2	31.2	7.8
12	Canada thistle	9.2	2.6	27.7	0.5	5.1	9.4	7.7
13	Bicknell's geranium	16.0	0.9	5.9	< 0.1	0.3	0.6	6.4
14	False cleavers	11.8	1.4	12.1	0.1	0.6	0.8	5.6
15	Hemp-nettle	2.9	1.9	65.0	0.4	13.6	13.6	4.7
16	Dandelion	6.3	0.7	10.3	< 0.1	0.4	0.6	2.8
17	Vetch species	6.3	0.5	7.3	< 0.1	0.6	0.8	2.7
18	Timothy	3.4	1.2	35.0	0.1	2.2	2.2	2.6
19	Rough hair grass	4.3	0.2	5.0	< 0.1	0.2	0.2	1.7
20	Narrow-leaved hawk's-beard	3.4	0.3	10.0	< 0.1	0.4	0.4	1.5
21	Golden dock	3.4	0.2	5.0	< 0.1	0.4	0.4	1.3

Field Survey Summary Tables – Canola in Crop District 7

Table 109. 2017 Canola in Crop District 7 (62 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	67.8	23.4	34.5	3.2	4.8	34.2	55.5
2	Field horsetail	52.9	15.6	29.5	4.4	8.4	56.0	50.7
3	Lamb's-quarters	41.5	10.3	24.7	2.0	4.7	41.0	30.0
4	False cleavers	34.1	10.5	30.8	1.8	5.4	30.0	27.8
5	Wild oats	20.0	5.1	25.4	2.4	12.1	96.6	22.3
6	Wheat	29.6	8.1	27.5	0.8	2.6	11.0	18.9
7	Wild buckwheat	27.1	6.1	22.5	1.1	4.1	28.4	18.1
8	Low cudweed	17.1	3.0	17.8	0.5	3.0	10.0	9.7
9	Canada thistle	22.0	2.7	12.0	0.2	1.0	4.2	9.0
10	Stinkweed	18.4	3.1	16.6	0.2	1.3	4.0	8.5
11	Dandelion	12.2	3.4	27.7	0.2	2.0	4.0	7.4
12	Hemp-nettle	10.2	2.3	23.0	0.3	2.6	7.6	6.0
13	Chickweed	7.0	1.4	20.7	0.5	6.6	18.6	5.5
14	Barley	6.4	1.2	18.2	0.3	4.8	23.8	4.2
15	Clover species	8.1	1.4	17.5	0.1	1.3	3.4	3.8
16	Pale smartweed	2.6	1.1	43.4	0.4	15.3	22.6	3.7
17	Tartary buckwheat	1.4	1.2	85.0	0.2	11.4	11.4	2.3
18	Alfalfa	3.0	0.7	24.7	< 0.1	1.3	2.4	1.6
19	Narrow-leaved hawk's-beard	3.7	0.5	13.8	< 0.1	1.2	3.2	1.6
20	Night-flowering catchfly	3.4	0.6	17.5	< 0.1	1.1	2.0	1.6
21	Dock species	3.5	0.2	5.0	0.1	2.0	2.0	1.4
22	Corn spurry	3.6	0.3	7.6	< 0.1	0.8	1.0	1.3
23	Marsh yellow cress	4.1	0.2	5.0	< 0.1	0.4	1.2	1.3
24	Pineappleweed	1.7	0.4	25.0	0.1	4.4	4.4	1.2
25	Northern willowherb	2.5	0.3	11.9	< 0.1	0.8	1.0	1.0
26	Stork's bill	1.7	0.3	20.0	< 0.1	1.6	1.6	0.9
27	Quack grass	2.4	0.1	5.0	< 0.1	0.2	0.2	0.7
28	Rough cinquefoil	1.5	0.3	20.0	< 0.1	0.8	0.8	0.7
29	Fescue species	1.9	0.1	5.0	< 0.1	0.6	0.6	0.6
30	Spiny annual sow-thistle	1.5	0.2	12.5	< 0.1	0.5	0.6	0.6
31	Marsh hedge-nettle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.5
32	Bicknell's geranium	1.7	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Broad-leaved plantain	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
34	Bluebur	0.8	0.1	15.0	< 0.1	0.6	0.6	0.3
35	Purslane speedwell	0.8	0.1	10.0	< 0.1	0.6	0.6	0.3
36	Shepherd's-purse	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 110. 2017 Peas in Crop District 7 (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	44.4	21.6	48.6	10.2	22.9	58.6	50.0
2	Canola/rapeseed	50.3	18.6	36.9	3.5	7.0	31.4	31.2
3	Narrow-leaved hawk's-beard	39.2	10.1	25.7	6.4	16.2	70.8	30.8
4	Field horsetail	36.3	10.2	28.1	3.5	9.8	43.6	22.9
5	Wild buckwheat	48.5	12.1	24.8	1.7	3.5	9.2	21.4
6	Wild oats	35.0	8.8	25.2	2.0	5.6	22.2	17.5
7	Rough cinquefoil	18.3	7.0	38.4	2.9	15.6	33.6	15.8
8	False cleavers	20.5	6.4	31.3	1.7	8.4	61.4	12.7
9	Stinkweed	30.7	6.5	21.3	0.6	2.1	9.2	11.6
10	Canada thistle	32.7	5.4	16.5	0.8	2.4	6.2	11.5
11	Dandelion	26.5	6.3	23.7	0.6	2.3	7.4	10.6
12	Wheat	15.3	3.7	23.9	0.4	2.4	5.4	6.2
13	Clover species	10.1	3.3	32.4	0.6	6.4	9.6	5.8
14	Vetch species	13.6	3.0	22.1	0.5	3.5	8.6	5.8
15	Shepherd's-purse	10.1	2.5	24.7	0.6	5.5	8.2	5.0
16	Hemp-nettle	18.0	1.8	9.8	0.2	1.3	2.8	4.9
17	Foxtail barley	14.4	2.0	13.7	0.2	1.3	3.0	4.4
18	Broad-leaved plantain	16.6	1.5	9.3	0.1	0.8	1.0	4.3
19	Bluebur	8.4	1.7	20.0	0.4	5.0	5.0	3.8
20	Sweet-clover species	8.4	2.1	25.0	0.2	2.0	2.0	3.4
21	Perennial sow-thistle	12.3	0.6	5.0	< 0.1	0.3	0.4	2.6
22	Pineappleweed	11.1	0.6	5.0	< 0.1	0.4	0.6	2.4
23	Spiny annual sow-thistle	8.8	0.7	7.6	< 0.1	0.3	0.6	2.0
24	Yellow toadflax	6.5	1.0	15.0	0.1	1.2	1.2	2.0
25	Ball mustard	8.4	0.4	5.0	0.1	1.0	1.0	2.0
26	Purslane speedwell	6.6	0.3	5.0	< 0.1	0.3	0.4	1.4
27	Golden dock	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Flixweed	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
29	Biennial wormwood	5.8	0.3	5.0	< 0.1	0.2	0.2	1.2
30	Bicknell's geranium	5.2	0.3	5.0	< 0.1	0.2	0.2	1.1
31	Fescue species	4.3	0.2	5.0	< 0.1	0.2	0.2	0.9
32	Oats	2.3	0.5	20.0	< 0.1	0.8	0.8	0.8
33	Barley	2.3	0.2	10.0	< 0.1	0.6	0.6	0.6
34	Blue grass species	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
35	Common yarrow	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Number of Fields Surveyed by Municipal Jurisdiction

Table 111. Number of fields surveyed by crop in each municipal jurisdiction

	Cereals					Oilseed Canola	Pulses		Mixed annuals
	Spring wheat	Barley	Durum	Oat	Mixed cereal		Field peas	Lentils	
Crop District 1									
Cypress	5	1	8	-	-	4	5	4	-
Forty Mile	3	1	18	-	-	4	10	15	-
Special Area 2	5	-	-	4	-	3	2	-	-
Special Area 3 & Acadia	6	3	3	2	-	3	4	3	-
Special Area 4	10	2	1	1	-	2	-	1	-
Crop District 2									
Kneehill	15	4	-	1	-	14	3	-	-
Lethbridge	11	3	7	-	-	8	1	-	-
Newell	13	2	-	-	-	6	-	-	-
Starland	9	6	-	-	-	11	2	-	-
Taber	9	5	7	-	-	7	2	2	-
Vulcan	12	9	4	-	-	18	12	1	-
Warner	8	3	15	1	-	5	6	4	-
Wheatland	21	9	-	-	-	12	2	-	-
Crop District 3									
Cardston & Pincher Creek	10	9	2	2	1	9	2	-	-
Foothills	7	3	-	-	-	5	1	-	-
Mountain View	7	9	-	-	-	9	2	-	-
Rocky View	9	8	-	1	1	7	-	-	-
Willow Creek	6	3	2	-	1	11	3	1	-
Crop District 4A									
Flagstaff	18	-	-	1	1	15	1	-	-
Paintearth	7	3	-	3	-	4	1	-	-
Provost	6	4	-	2	1	10	1	-	-
Stettler	8	5	-	2	-	8	2	-	-
Wainwright	10	3	-	4	-	5	1	-	-
Crop District 4B									
Beaver	13	2	-	-	-	9	2	-	-
Camrose	13	3	-	1	-	17	2	-	-
Lamont	7	3	-	-	-	11	-	-	-
Minburn	9	3	-	1	-	6	1	-	-
Two Hills	5	4	-	-	-	7	-	-	-
Vermilion River	19	5	-	4	-	11	2	-	-
Crop District 5									
Lacombe & Clearwater	3	18	-	1	1	9	2	-	-
Leduc	8	5	-	-	-	4	-	-	-
Parkland & Brazeau	3	6	-	2	-	-	-	-	-
Ponoka	2	6	-	-	-	4	1	-	-
Red Deer	10	11	-	2	1	8	1	-	1
Sturgeon & Strathcona	8	6	-	4	-	9	-	-	-
Wetaskiwin	3	4	-	-	-	6	1	-	-
Crop District 6									
Athabasca & Lac La Biche	5	3	-	3	-	2	-	-	-
Barrhead	1	3	-	-	-	5	1	-	-
Bonnyville	1	3	-	1	-	3	2	1	-
Lac Ste. Anne, Woodlands & Yellowhead	1	6	-	1	-	3	-	-	-
St. Paul	4	1	-	4	-	3	-	-	-
Thorhild & Smoky Lake	2	2	-	1	-	9	-	-	-
Westlock & Lesser Slave River	9	7	-	2	-	5	-	-	-

(Table continued on next page)

Field Survey Summary Tables – Number of Fields Surveyed by Municipal Jurisdiction

Table 111. Number of fields surveyed by crop in each municipal jurisdiction (*continued*)

	Cereals					Oilseed	Pulses		Mixed annuals
	Spring wheat	Barley	Durum	Oat	Mixed cereal	Canola	Field peas	Lentils	
Crop District 7									
Big Lakes & Northern Sunrise	3	1	-	3	-	5	1	-	-
Birch Hills & Spirit River	2	2	-	-	-	7	1	-	-
Clear Hills	2	6	-	1	-	5	4	-	-
Fairview & Peace	1	-	-	2	-	6	3	-	-
Grande Prairie & Greenview	8	3	-	-	-	12	7	-	-
Lesser Slave River*									
Mackenzie	3	1	-	-	-	4	2	-	-
Northern Lights	6	4	-	2	-	7	4	-	-
Saddle Hills	3	-	-	4	-	7	3	-	-
Smoky River	4	-	-	-	-	9	-	-	-

* Included with Westlock in Crop District 6

Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Municipal Jurisdiction

Table 112. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed annual crops in each municipal jurisdiction

	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Crop District 1								
Cypress	27	13.6	3.4	5.7	3.5	0.5	48.7	9.6
Forty Mile	51	5.5	1.4	2.0	2.3	0.2	69.2	6.5
Special Area 2	14	23.3	6.0	10.3	4.7	0.7	42.4	13.2
Special Area 3 & Acadia	24	30.8	18.5	5.4	4.3	0.5	52.1	10.2
Special Area 4	17	29.4	9.1	8.1	5.1	0.5	40.7	11.9
Crop District 2								
Kneehill	37	2.6	1.2	0.0	0.7	0.2	70.1	7.5
Lethbridge	30	7.7	1.8	1.8	2.3	0.3	65.7	8.7
Newell	21	11.4	5.4	2.8	2.7	0.5	62.0	10.6
Starland	28	10.4	2.1	4.9	4.4	0.6	45.3	9.4
Taber	32	15.7	7.3	2.7	3.5	0.5	56.4	8.8
Vulcan	56	34.9	14.2	2.7	3.1	0.3	53.8	6.7
Warner	42	2.8	0.9	0.2	1.5	0.3	85.1	5.5
Wheatland	44	22.2	5.4	5.3	3.4	0.3	48.0	7.5
Crop District 3								
Cardston & Pincher Creek	35	18.9	6.6	4.4	2.9	0.4	55.5	8.4
Foothills	16	16.3	6.4	4.8	3.5	0.8	55.7	12.4
Mountain View	27	28.6	8.6	5.5	3.4	0.6	40.5	9.4
Rocky View	26	65.9	30.7	13.0	5.2	0.7	29.3	8.9
Willow Creek	27	17.1	9.5	1.1	2.3	0.3	65.9	9.1
Crop District 4A								
Flagstaff	36	16.3	5.2	6.2	3.8	0.4	56.4	8.3
Paintearth	18	7.0	4.4	0.2	1.7	0.6	64.5	11.3
Provost	24	24.1	7.2	5.2	4.2	0.6	39.2	10.0
Stettler	25	7.7	3.5	1.4	2.4	0.6	74.9	8.7
Wainwright	23	18.3	5.5	5.4	3.6	0.4	46.6	10.4
Crop District 4B								
Beaver	26	17.2	3.9	8.8	4.2	0.5	40.6	9.6
Camrose	36	62.4	32.8	9.2	4.7	0.4	38.5	8.1
Lamont	21	10.5	5.6	0.0	1.5	0.5	78.4	9.0
Minburn	20	26.7	8.0	4.7	4.0	0.5	41.2	11.0
Two Hills	16	6.4	1.4	4.5	3.0	0.5	59.2	12.3
Vermilion River	41	27.4	5.8	10.3	4.7	0.4	32.0	7.3
Crop District 5								
Lacombe & Clearwater	34	52.2	13.8	15.4	6.2	0.5	24.8	7.4
Leduc	17	3.0	2.0	0.2	1.0	0.3	82.7	9.2
Parkland & Brazeau	11	138.6	48.7	41.1	9.0	2.0	15.7	11.0
Ponoka	13	78.5	39.2	15.3	4.7	0.9	25.4	12.1
Red Deer	34	63.1	25.5	14.4	6.2	0.6	30.9	7.9
Sturgeon & Strathcona	27	23.6	8.2	6.5	5.0	0.7	43.2	9.5
Wetaskiwin	14	72.7	32.1	18.8	5.8	0.9	28.1	12.0
Crop District 6								
Athabasca & Lac La Biche	13	25.6	14.2	4.8	3.7	0.6	43.5	13.8
Barrhead	10	67.4	18.4	43.1	4.7	1.5	41.0	15.6
Bonnyville	11	36.0	9.0	23.7	6.0	0.5	18.6	11.7
Lac Ste. Anne, Woodlands & Yellowhead	11	21.2	10.2	7.3	5.1	0.8	30.8	13.9
St. Paul	12	17.5	6.2	12.4	3.2	0.6	28.7	13.1
Thorhild & Smoky Lake	14	18.6	7.0	14.5	5.7	0.9	30.5	12.3
Westlock & Lesser Slave River	23	20.8	5.6	8.6	4.3	0.6	45.2	10.4

(Table continued on next page)

Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Municipal Jurisdiction

Table 112. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed annual crops in each municipal jurisdiction (*continued*)

	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Crop District 7								
Big Lakes & Northern Sunrise	13	12.8	3.8	5.2	3.1	0.4	37.4	13.4
Birch Hills & Spirit River	12	3.4	1.1	0.5	2.8	0.6	73.1	12.8
Clear Hills	18	15.8	4.3	5.2	4.4	0.8	41.6	11.6
Fairview & Peace	12	26.2	6.9	9.9	5.1	0.8	23.2	12.2
Grande Prairie & Greenview	30	28.8	9.4	6.4	4.5	0.6	41.9	9.0
Lesser Slave River*								
Mackenzie	10	51.2	16.4	18.8	6.5	1.2	30.7	14.6
Northern Lights	23	18.5	5.0	8.7	3.8	0.7	49.9	10.4
Saddle Hills	17	13.1	4.3	6.0	3.6	0.7	46.1	12.1
Smoky River	13	22.7	6.7	13.5	4.8	0.6	33.4	13.1

* Included with Westlock in Crop District 6

Field Survey Summary Tables – Annual crops in Cypress

Table 113. 2017 Annual crops in Cypress (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	55.0	13.1	23.8	1.5	2.6	14.8	41.0
2	Wild oats	27.2	9.6	35.2	2.7	9.9	54.0	38.2
3	Wheat	24.6	14.4	58.7	1.7	6.7	9.2	35.1
4	Narrow-leaved hawk's-beard	26.3	7.5	28.7	0.9	3.3	10.2	22.3
5	Flax	3.3	3.1	95.0	2.2	65.6	65.6	20.4
6	Russian thistle	26.3	5.1	19.4	0.5	2.1	9.6	17.2
7	Western barnyard grass	20.6	5.2	25.0	0.6	3.1	7.2	16.3
8	Lamb's-quarters	20.8	5.3	25.6	0.5	2.6	8.0	15.8
9	Canada thistle	23.2	4.8	20.7	0.4	1.9	4.8	15.2
10	Kochia	27.8	3.8	13.8	0.2	0.7	2.8	13.7
11	Green foxtail	3.8	3.4	90.0	0.9	24.8	24.8	11.8
12	Canola/rapeseed	13.2	2.5	18.8	0.3	2.0	7.2	8.4
13	Dandelion	9.8	2.8	28.3	0.2	1.6	1.8	7.0
14	Foxtail barley	6.4	2.1	32.5	0.3	4.9	9.6	6.5
15	Spiny annual sow-thistle	7.1	1.5	21.6	0.2	2.4	4.2	5.0
16	Annual spurge species	6.5	1.3	20.1	0.2	3.3	6.2	4.9
17	Round-leaved mallow	7.3	0.7	10.0	< 0.1	0.5	0.6	3.2
18	Flixweed	3.3	0.8	25.0	0.1	3.0	3.0	2.6
19	Redroot pigweed	3.8	0.8	20.0	0.1	1.6	1.6	2.4
20	Wild mustard	3.3	0.8	25.0	< 0.1	1.2	1.2	2.2
21	Perennial sow-thistle	3.3	0.7	20.0	< 0.1	1.4	1.4	2.0
22	Sunflower	3.3	0.7	20.0	< 0.1	1.2	1.2	2.0
23	Shepherd's-purse	3.3	0.2	5.0	< 0.1	0.2	0.2	1.2
24	Field pea	3.3	0.2	5.0	< 0.1	0.2	0.2	1.2
25	Pseudognaphalium species	3.3	0.2	5.0	< 0.1	0.2	0.2	1.2
26	Prairie sage	3.2	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Barley	3.2	0.2	5.0	< 0.1	0.2	0.2	1.2
28	Aster species	3.2	0.2	5.0	< 0.1	0.2	0.2	1.2

Field Survey Summary Tables – Annual crops in Forty Mile

Table 114. 2017 Annual crops in Forty Mile (51 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	42.7	10.0	23.4	1.4	3.2	22.0	67.8
2	Russian thistle	23.6	3.9	16.3	0.6	2.4	11.2	29.9
3	Canada thistle	23.7	2.6	10.9	0.4	1.6	6.8	23.7
4	Narrow-leaved hawk's-beard	8.1	2.3	28.3	0.6	7.5	27.4	20.1
5	Wild buckwheat	11.8	2.9	25.0	0.2	1.7	4.2	16.0
6	Foxtail barley	15.0	1.8	12.2	0.2	1.0	3.0	13.7
7	Wheat	15.0	1.9	12.8	0.1	0.7	2.0	13.0
8	Annual brome species	3.3	1.8	53.3	0.4	10.8	16.4	12.4
9	Pale smartweed	5.9	0.9	15.0	0.4	6.1	17.8	11.3
10	Wild oats	11.9	1.2	10.0	0.2	1.5	2.6	11.2
11	Spiny annual sow-thistle	9.1	1.5	16.1	0.1	1.4	3.4	9.8
12	Vetch species	2.0	1.6	80.0	0.3	13.8	13.8	9.6
13	Tumble pigweed	3.9	1.3	32.5	0.1	2.6	2.8	6.7
14	Canola/rapeseed	2.0	1.2	60.0	0.1	5.6	5.6	5.7
15	Barley	6.0	0.7	11.5	0.1	1.1	1.8	5.5
16	Western barnyard grass	3.9	0.7	17.5	0.1	2.2	4.0	5.0
17	Round-leaved mallow	3.9	0.5	12.5	< 0.1	1.0	1.4	3.6
18	Biennial wormwood	3.9	0.5	12.5	< 0.1	1.0	1.0	3.6
19	Prickly lettuce	4.0	0.4	10.1	< 0.1	1.0	1.8	3.5
20	Lentils	4.0	0.3	7.6	< 0.1	0.9	1.4	3.2
21	Cow cockle	2.0	0.5	25.0	0.1	2.8	2.8	3.1
22	Flixweed	2.0	0.6	30.0	< 0.1	1.4	1.4	2.8
23	Slough grass	2.0	0.2	10.0	0.1	4.0	4.0	2.8
24	Goat's-beard	3.9	0.3	7.5	< 0.1	0.4	0.6	2.7
25	Wild mustard	3.9	0.3	7.5	< 0.1	0.3	0.4	2.6
26	Lamb's-quarters	3.2	0.3	8.0	< 0.1	0.3	0.4	2.2
27	Bull thistle	2.0	0.4	20.0	< 0.1	1.0	1.0	2.2
28	Low cudweed	2.0	0.2	10.0	< 0.1	1.4	1.4	1.8
29	Stinkweed	2.0	0.2	10.0	< 0.1	0.8	0.8	1.6
30	Sunflower	2.0	0.2	10.0	< 0.1	0.4	0.4	1.5
31	Smooth brome	2.0	0.1	5.0	< 0.1	0.2	0.2	1.2

Field Survey Summary Tables – Annual crops in Special Area 2

Table 115. 2017 Annual crops in Special Area 2 (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Alfalfa	14.1	8.5	60.0	7.1	50.6	50.6	41.7
2	Redroot pigweed	27.3	13.7	50.2	3.2	11.6	22.0	32.4
3	Wild buckwheat	40.4	10.4	25.9	1.3	3.3	6.4	24.1
4	Canada thistle	24.6	6.1	25.0	3.0	12.1	17.2	23.8
5	Tumble pigweed	20.2	8.6	42.5	1.0	4.8	6.2	16.5
6	Barley	14.1	5.6	40.0	1.8	12.6	12.6	16.0
7	Shepherd's-purse	17.6	6.0	34.1	1.1	6.2	7.0	14.1
8	Lamb's-quarters	34.3	4.6	13.4	0.5	1.3	4.0	13.6
9	Dandelion	26.4	3.0	11.3	0.7	2.5	3.6	11.3
10	Green foxtail	15.7	4.9	31.4	0.6	4.0	8.6	10.7
11	White mustard	14.1	5.6	40.0	0.4	2.6	2.6	9.9
12	Dock species	28.2	2.8	10.0	0.2	0.8	0.8	9.7
13	Russian thistle	20.2	3.8	19.0	0.2	1.0	1.4	8.8
14	Wheat	6.1	4.3	70.0	0.5	7.4	7.4	7.2
15	Stork's bill	14.1	2.8	20.0	0.3	2.4	2.4	7.1
16	Stinkweed	16.7	1.9	11.3	0.2	1.1	3.8	6.1
17	Corn spurry	8.8	2.6	30.0	0.4	4.4	4.4	6.0
18	Prostrate knotweed	13.2	2.1	16.0	0.1	0.9	1.2	5.3
19	Canola/rapeseed	14.1	1.4	10.0	0.2	1.2	1.2	5.1
20	Purslane	14.1	1.4	10.0	0.1	1.0	1.0	5.0
21	Skeletonweed	14.1	1.4	10.0	0.1	0.6	0.6	4.7
22	Pasture sage	14.1	0.7	5.0	0.1	0.4	0.4	3.9
23	Narrow-leaved hawk's-beard	14.1	0.7	5.0	< 0.1	0.2	0.2	3.8
24	Spiny annual sow-thistle	9.7	0.5	5.0	0.1	0.6	0.6	2.8
25	Kochia	6.1	0.6	10.0	< 0.1	0.6	0.6	2.0
26	Annual spurge species	6.1	0.3	5.0	< 0.1	0.4	0.4	1.7
27	Round-leaved mallow	3.5	0.7	20.0	< 0.1	1.0	1.0	1.5
28	Oak-leaved goosefoot	3.5	0.5	15.0	0.1	1.6	1.6	1.5
29	Wild oats	3.5	0.5	15.0	< 0.1	1.4	1.4	1.4
30	False cleavers	3.5	0.3	10.0	< 0.1	1.0	1.0	1.2
31	Perennial sow-thistle	3.5	0.2	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Annual crops in Special Area 3 & Acadia

Table 116. 2017 Annual crops in Special Area 3 & Acadia (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	10.7	7.2	67.3	13.4	125.0	274.0	54.4
2	Wild buckwheat	46.9	10.8	22.9	1.1	2.3	8.2	27.3
3	Kochia	46.7	8.8	18.8	1.4	3.1	10.4	26.0
4	Narrow-leaved hawk's-beard	41.0	6.9	16.8	0.9	2.2	7.2	20.6
5	Wild oats	27.7	5.0	18.0	1.8	6.5	32.0	18.3
6	Canada thistle	26.8	3.0	11.2	1.6	6.0	15.6	15.1
7	Quack grass	4.8	1.2	25.0	3.4	71.6	71.6	13.6
8	Redroot pigweed	7.7	4.1	53.0	1.1	13.9	32.4	10.2
9	Alfalfa	16.7	4.4	26.5	0.3	1.7	2.8	10.1
10	Foxtail barley	24.4	1.7	7.0	0.6	2.4	5.0	9.7
11	Dandelion	12.8	3.5	27.3	0.6	5.0	20.4	9.3
12	Barley	7.1	4.0	56.7	0.7	9.2	12.4	8.6
13	Green foxtail	19.9	2.0	9.8	0.1	0.7	1.4	7.4
14	Perennial sow-thistle	15.5	2.0	13.1	0.3	1.9	3.0	7.0
15	Yellow toadflax	4.8	1.0	20.0	1.3	26.4	26.4	6.3
16	Russian thistle	7.7	2.2	28.5	0.5	6.8	9.2	6.1
17	Stinkweed	7.7	2.4	31.6	0.4	4.8	7.0	5.9
18	Goat's-beard	15.8	1.3	8.0	0.1	0.5	1.0	5.5
19	Oats	9.0	2.2	25.0	0.2	1.8	1.8	5.3
20	Wheat	17.0	0.9	5.0	0.1	0.4	0.6	5.2
21	Dock species	4.8	1.4	30.0	0.2	4.2	4.2	3.5
22	Canola/rapeseed	5.1	1.0	20.0	0.3	5.8	5.8	3.3
23	Western barnyard grass	5.1	1.5	30.0	0.1	1.6	1.6	3.3
24	Lentils	4.8	1.4	30.0	0.1	2.6	2.6	3.2
25	Field pea	5.1	0.8	15.0	0.1	1.8	1.8	2.4
26	Flixweed	4.8	0.5	10.0	0.1	1.8	1.8	2.0
27	Prickly lettuce	5.1	0.5	10.0	< 0.1	0.8	0.8	1.9
28	Persian darnel	4.8	0.5	10.0	0.1	1.2	1.2	1.9
29	Sunflower	5.1	0.3	5.0	< 0.1	0.2	0.2	1.5
30	White mustard	4.8	0.2	5.0	< 0.1	0.6	0.6	1.5
31	Canada fleabane	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
32	Common pepper-grass	3.0	0.4	15.0	< 0.1	0.8	0.8	1.3
33	Common groundsel	3.0	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Annual crops in Special Area 4

Table 117. 2017 Annual crops in Special Area 4 (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	24.4	8.8	36.3	12.8	52.5	119.8	57.0
2	Lamb's-quarters	37.5	10.4	27.8	3.5	9.2	39.6	29.4
3	Narrow-leaved hawk's-beard	43.3	12.4	28.7	1.5	3.5	7.8	25.9
4	Spiny annual sow-thistle	24.7	8.3	33.6	3.5	14.2	53.6	25.0
5	Kochia	28.3	7.9	27.9	2.1	7.6	20.6	20.6
6	Canada thistle	34.4	7.0	20.3	1.1	3.1	6.4	17.3
7	Wild buckwheat	36.9	7.7	20.8	0.6	1.7	4.6	17.0
8	Wild oats	24.7	7.0	28.5	1.0	4.0	7.2	15.2
9	Stinkweed	25.0	4.7	18.8	0.3	1.3	2.2	10.6
10	Canola/rapeseed	25.0	3.4	13.7	0.4	1.5	3.8	9.5
11	Stork's bill	18.3	4.0	21.7	0.5	2.6	4.2	9.1
12	Hemp-nettle	18.6	2.8	15.1	0.5	2.9	6.8	8.2
13	Dandelion	25.0	1.6	6.2	0.1	0.3	0.4	6.7
14	Perennial sow-thistle	12.5	1.5	12.3	0.1	1.2	1.6	4.5
15	Pale smartweed	6.4	1.3	20.0	0.3	5.2	5.2	3.7
16	Russian thistle	12.5	0.9	7.4	0.1	0.5	0.8	3.6
17	Canada fleabane	6.1	1.5	25.0	0.2	3.4	3.4	3.4
18	Wheat	12.2	0.6	5.0	0.1	0.8	1.0	3.3
19	Rough hair grass	6.1	1.5	25.0	0.2	2.6	2.6	3.2
20	Barley	6.4	1.3	20.0	0.2	2.4	2.4	3.0
21	Foxtail barley	10.1	0.7	6.8	< 0.1	0.3	0.6	2.8
22	Field pea	10.1	0.5	5.0	< 0.1	0.2	0.2	2.5
23	Sweet-clover species	6.1	0.9	15.0	< 0.1	0.6	0.6	2.2
24	Redroot pigweed	6.4	0.6	10.0	< 0.1	0.4	0.4	2.0
25	White mustard	6.1	0.6	10.0	< 0.1	0.8	0.8	2.0
26	Russian pigweed	6.1	0.6	10.0	< 0.1	0.6	0.6	1.9
27	Tumble pigweed	6.1	0.6	10.0	< 0.1	0.4	0.4	1.9
28	Bull thistle	6.1	0.6	10.0	< 0.1	0.4	0.4	1.9
29	Rose species	6.1	0.3	5.0	0.1	1.0	1.0	1.7
30	Common pepper-grass	6.4	0.3	5.0	< 0.1	0.2	0.2	1.6
31	Pasture sage	6.4	0.3	5.0	< 0.1	0.2	0.2	1.6
32	Prostrate knotweed	6.1	0.3	5.0	< 0.1	0.2	0.2	1.5

Table 118. 2017 Annual crops in Kneehill (37 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	16.6	4.6	27.6	0.6	3.5	14.4	68.2
2	False cleavers	5.3	3.5	65.2	0.9	17.6	31.4	61.2
3	Wild oats	8.3	2.2	27.2	0.4	4.8	9.4	38.0
4	Dandelion	8.5	2.6	31.2	0.2	2.9	8.0	34.6
5	Shepherd's-purse	7.5	1.5	20.7	0.1	1.8	2.4	23.1
6	Lamb's-quarters	5.1	1.1	21.3	0.1	1.3	1.6	14.9
7	Spiny annual sow-thistle	2.8	1.4	50.0	0.1	3.6	3.6	14.6
8	Foxtail barley	5.4	0.5	10.0	< 0.1	0.4	0.4	10.8
9	Flixweed	3.0	0.7	25.0	< 0.1	1.0	1.0	9.0
10	Narrow-leaved hawk's-beard	3.0	0.6	20.0	< 0.1	1.4	1.4	8.7
11	Canada thistle	3.0	0.3	10.0	< 0.1	0.6	0.6	6.2
12	Goat's-beard	3.0	0.3	10.0	< 0.1	0.4	0.4	6.0
13	Chickweed	2.6	0.1	5.0	< 0.1	0.6	0.6	4.7

Field Survey Summary Tables – Annual crops in Lethbridge

Table 119. 2017 Annual crops in Lethbridge (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	17.0	7.1	42.0	1.3	7.7	24.6	38.8
2	Round-leaved mallow	17.0	5.6	33.0	1.0	5.8	17.0	31.5
3	Wheat	10.2	3.7	36.7	1.2	12.0	35.6	27.9
4	Wild buckwheat	23.5	5.2	22.3	0.5	2.0	8.6	27.0
5	Kochia	23.1	4.2	18.2	0.3	1.2	5.4	22.3
6	Canola/rapeseed	16.0	3.0	19.0	0.5	3.2	10.0	19.9
7	Dandelion	19.4	3.7	19.3	0.3	1.5	5.8	19.9
8	Green foxtail	6.8	3.6	52.5	0.7	10.5	17.2	19.5
9	Lamb's-quarters	20.1	3.0	14.9	0.2	1.2	2.2	17.9
10	Redroot pigweed	6.8	2.2	32.5	0.5	7.9	15.6	14.4
11	Annual brome species	3.4	2.2	65.0	0.6	18.6	18.6	14.2
12	Canada thistle	13.6	1.2	8.8	0.1	0.6	0.8	9.4
13	Spiny annual sow-thistle	6.8	1.2	17.5	0.1	1.1	1.8	6.4
14	Chickweed	3.4	1.0	30.0	0.2	5.8	5.8	6.1
15	Prostrate knotweed	6.5	0.5	7.6	< 0.1	0.4	0.6	4.2
16	Prickly lettuce	6.5	0.5	7.6	< 0.1	0.3	0.4	4.1
17	Tumble pigweed	6.8	0.3	5.0	< 0.1	0.2	0.2	3.9
18	Field horsetail	3.4	0.3	10.0	< 0.1	0.6	0.6	2.4
19	Sunflower	3.4	0.3	10.0	< 0.1	0.6	0.6	2.4
20	Western barnyard grass	3.4	0.2	5.0	< 0.1	0.4	0.4	2.0
21	Foxtail barley	3.4	0.2	5.0	< 0.1	0.2	0.2	1.9
22	Flixweed	3.4	0.2	5.0	< 0.1	0.2	0.2	1.9
23	Hemp-nettle	3.4	0.2	5.0	< 0.1	0.2	0.2	1.9

Table 120. 2017 Annual crops in Newell (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Shepherd's-purse	4.4	4.4	100.0	4.8	108.2	108.2	52.1
2	Western barnyard grass	11.3	2.1	18.7	2.0	18.1	45.8	26.1
3	Lamb's-quarters	24.0	5.0	20.8	0.5	2.2	10.2	23.0
4	Alfalfa	12.5	5.0	40.0	0.7	5.2	11.0	19.9
5	Kochia	16.9	4.4	26.2	0.5	3.0	8.2	19.2
6	Round-leaved mallow	15.2	4.5	29.7	0.5	3.4	11.0	18.9
7	Canada thistle	24.0	3.5	14.7	0.3	1.4	2.8	18.7
8	Wheat	17.8	3.2	18.1	0.3	1.8	3.6	15.7
9	Spiny annual sow-thistle	13.5	2.9	21.5	0.3	2.3	6.2	13.3
10	Dandelion	8.6	3.8	44.3	0.3	3.5	5.6	13.1
11	Redroot pigweed	12.8	2.5	19.7	0.3	2.3	5.4	12.1
12	Canola/rapeseed	15.2	1.1	7.3	0.1	0.4	0.6	8.2
13	Wild oats	11.3	0.9	8.0	0.1	0.8	1.0	6.7
14	Perennial sow-thistle	6.8	1.4	20.0	0.1	1.6	1.6	6.1
15	Pale smartweed	4.9	1.2	25.0	0.1	3.0	3.0	5.5
16	False cleavers	4.4	1.1	25.0	0.1	2.8	2.8	4.8
17	Wild buckwheat	8.3	0.6	7.5	0.1	0.6	1.0	4.7
18	Stinkweed	8.3	0.6	7.5	< 0.1	0.5	0.8	4.7
19	Tumble pigweed	6.8	0.7	10.0	< 0.1	0.6	0.6	4.2
20	Blue lettuce	6.8	0.3	5.0	< 0.1	0.2	0.2	3.3
21	Northern willowherb	6.8	0.3	5.0	< 0.1	0.2	0.2	3.3
22	Black medick	4.2	0.6	15.0	< 0.1	0.8	0.8	3.0
23	Willow species	4.2	0.6	15.0	< 0.1	0.6	0.6	3.0
24	Foxtail barley	4.4	0.2	5.0	< 0.1	0.2	0.2	2.1
25	Low cudweed	4.4	0.2	5.0	< 0.1	0.2	0.2	2.1
26	Rough cinquefoil	4.2	0.2	5.0	< 0.1	0.2	0.2	2.0
27	Purslane speedwell	4.2	0.2	5.0	< 0.1	0.2	0.2	2.0
28	Clover species	4.2	0.2	5.0	< 0.1	0.2	0.2	2.0

Field Survey Summary Tables – Annual crops in Starland

Table 121. 2017 Annual crops in Starland (28 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	66.7	20.6	30.8	1.8	2.7	11.4	52.2
2	False cleavers	31.1	19.9	64.1	2.6	8.4	14.0	51.2
3	Spiny annual sow-thistle	29.5	11.5	38.9	1.5	5.1	15.2	32.3
4	Canada thistle	39.8	8.3	20.8	0.8	2.0	6.8	24.4
5	Canola/rapeseed	32.2	5.7	17.7	0.4	1.3	6.2	16.7
6	Wild oats	30.3	4.6	15.1	0.5	1.6	3.6	15.8
7	Wheat	20.9	5.1	24.5	0.6	2.7	10.0	15.1
8	Barley	22.0	4.4	19.8	0.3	1.3	2.0	11.9
9	Lamb's-quarters	28.6	3.3	11.4	0.2	0.6	2.6	11.3
10	Redroot pigweed	13.3	3.7	28.2	0.4	3.1	6.4	10.6
11	Annual spurge species	14.2	3.6	25.0	0.3	2.0	3.8	9.4
12	Pale smartweed	14.9	1.9	12.9	0.2	1.7	2.8	7.6
13	Stinkweed	18.0	2.0	11.3	0.1	0.6	1.0	7.1
14	Western barnyard grass	13.4	1.0	7.5	0.1	0.7	1.6	4.9
15	Round-leaved mallow	4.7	0.9	20.0	0.1	2.0	2.0	2.9
16	Perennial sow-thistle	6.7	0.8	11.5	< 0.1	0.6	0.6	2.6
17	Dandelion	7.7	0.4	5.0	< 0.1	0.2	0.2	2.3
18	Foxtail barley	7.6	0.4	5.0	< 0.1	0.2	0.2	2.2
19	Shepherd's-purse	3.8	1.0	25.0	< 0.1	1.2	1.2	2.2
20	Henbit	3.8	0.8	20.0	0.1	1.6	1.6	2.2
21	Narrow-leaved hawk's-beard	3.9	0.7	17.5	0.1	1.7	2.8	2.2
22	Hemp-nettle	5.8	0.4	6.7	< 0.1	0.4	0.8	1.9
23	Prostrate knotweed	2.0	0.9	45.0	0.1	3.0	3.0	1.9
24	Wild mustard	2.0	0.3	15.0	0.1	4.0	4.0	1.5
25	Night-flowering catchfly	4.7	0.2	5.0	< 0.1	0.2	0.2	1.4
26	Flax	4.7	0.2	5.0	< 0.1	0.2	0.2	1.4
27	Green foxtail	2.0	0.4	20.0	< 0.1	1.8	1.8	1.2
28	Low cudweed	2.0	0.2	10.0	0.1	2.6	2.6	1.1
29	Rayless aster	2.0	0.1	5.0	< 0.1	1.0	1.0	0.7
30	Stork's bill	2.0	0.1	5.0	< 0.1	1.0	1.0	0.7
31	Tumble pigweed	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
32	Field pea	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6

Table 122. 2017 Annual crops in Taber (32 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	48.5	10.0	20.7	3.2	6.6	84.2	47.0
2	Chickweed	5.5	3.2	57.5	5.8	104.5	208.0	42.5
3	Wild buckwheat	36.2	10.0	27.6	1.2	3.4	22.2	30.8
4	Lamb's-quarters	29.3	9.7	33.3	1.1	3.8	12.6	27.8
5	Spiny annual sow-thistle	25.5	7.5	29.5	0.9	3.6	12.6	22.7
6	Wild oats	20.0	5.9	29.4	0.5	2.3	3.4	16.1
7	Canola/rapeseed	8.7	6.0	69.3	0.6	7.5	10.8	14.2
8	Round-leaved mallow	23.8	3.4	14.2	0.1	0.6	1.4	12.0
9	Redroot pigweed	19.2	2.3	12.1	0.5	2.7	10.0	11.7
10	Russian thistle	15.0	2.9	19.1	0.2	1.1	2.6	9.0
11	Canada thistle	17.7	2.0	11.2	0.1	0.8	2.2	8.5
12	Nightshade species	4.6	3.9	85.0	0.3	7.4	7.4	8.3
13	Wheat	5.5	3.0	55.0	0.3	5.0	8.0	7.2
14	Perennial sow-thistle	15.0	1.3	8.9	0.1	0.6	1.8	6.6
15	Tumble pigweed	11.1	1.4	12.5	0.1	0.7	1.2	5.4
16	Foxtail barley	10.5	0.5	5.0	< 0.1	0.4	0.6	3.9
17	Prickly lettuce	9.1	0.8	8.5	< 0.1	0.3	0.6	3.8
18	Prostrate knotweed	3.2	1.3	40.0	0.1	3.2	3.2	3.1
19	Pale smartweed	6.3	0.8	12.5	0.1	0.8	1.2	3.1
20	Dandelion	5.9	0.8	14.3	0.1	0.9	1.8	3.1
21	Rye	3.2	1.1	35.0	0.1	2.0	2.0	2.7
22	Black medick	2.8	0.6	20.0	0.2	6.8	6.8	2.7
23	Stork's bill	4.6	0.2	5.0	< 0.1	0.2	0.2	1.7
24	Shepherd's-purse	3.2	0.3	10.0	< 0.1	0.6	0.6	1.4
25	Field pea	3.2	0.2	5.0	< 0.1	0.2	0.2	1.2
26	Western barnyard grass	3.2	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Goat's-beard	2.8	0.1	5.0	< 0.1	0.2	0.2	1.0
28	Stinkweed	2.8	0.1	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Annual crops in Vulcan

Table 123. 2017 Annual crops in Vulcan (56 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	9.2	5.5	59.5	21.0	229.0	592.8	71.4
2	Wild oats	37.8	14.7	38.9	4.9	12.9	77.6	47.8
3	Wild buckwheat	41.1	9.5	23.1	0.7	1.7	10.6	29.3
4	Barley	16.2	7.0	43.2	1.2	7.2	24.6	18.8
5	Wheat	26.1	5.9	22.7	0.4	1.5	5.4	18.2
6	Canola/rapeseed	12.6	4.8	38.3	1.1	9.0	47.4	14.4
7	Kochia	13.2	2.7	20.2	0.6	4.4	24.6	9.9
8	Annual brome species	1.9	1.9	100.0	2.2	114.8	114.8	9.6
9	Canada thistle	17.8	1.5	8.4	0.2	0.9	4.4	8.5
10	Spiny annual sow-thistle	12.5	1.7	13.6	0.1	1.0	3.0	6.9
11	Lamb's-quarters	5.2	1.8	34.9	0.8	15.0	42.2	6.5
12	Chickweed	3.0	1.7	58.1	0.7	21.7	38.0	5.4
13	Dandelion	10.6	0.5	5.0	< 0.1	0.3	0.6	4.3
14	Shepherd's-purse	3.5	1.5	42.7	0.3	9.7	13.4	4.3
15	Narrow-leaved hawk's-beard	9.4	0.7	7.0	< 0.1	0.4	0.8	4.2
16	Stinkweed	7.4	0.7	9.9	< 0.1	0.5	0.8	3.6
17	Alfalfa	5.0	1.0	19.8	0.1	1.1	2.2	3.3
18	Field pea	7.1	0.5	7.5	< 0.1	0.3	0.6	3.2
19	Prostrate knotweed	7.1	0.4	6.3	< 0.1	0.4	0.8	3.1
20	Foxtail barley	5.5	0.6	11.6	< 0.1	0.8	1.0	2.9
21	Russian thistle	3.4	0.9	26.0	0.1	4.3	8.0	2.9
22	Round-leaved mallow	4.8	0.2	5.0	< 0.1	0.3	0.4	2.0
23	Cow cockle	3.5	0.3	9.6	< 0.1	1.2	1.8	1.8
24	Tumble pigweed	3.3	0.3	10.0	< 0.1	0.9	1.4	1.7
25	Wild mustard	3.5	0.3	7.6	< 0.1	0.3	0.4	1.6
26	Goat's-beard	3.7	0.2	5.0	< 0.1	0.2	0.2	1.5
27	Fababean	1.9	0.4	20.0	< 0.1	0.8	0.8	1.2
28	Rose species	1.9	0.3	15.0	< 0.1	2.0	2.0	1.1
29	Annual spurge species	1.8	0.2	10.0	< 0.1	0.4	0.4	0.9
30	Night-flowering catchfly	1.7	0.2	10.0	< 0.1	0.4	0.4	0.8
31	Quack grass	1.7	0.2	10.0	< 0.1	0.4	0.4	0.8
32	Skeletonweed	1.6	0.2	10.0	< 0.1	0.8	0.8	0.8
33	Cattail	1.9	0.1	5.0	< 0.1	0.4	0.4	0.8
34	Flixweed	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
35	Sedge species	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
36	Vetch species	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
37	False cleavers	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
38	Western barnyard grass	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
39	Meadow brome	1.8	0.1	5.0	< 0.1	0.4	0.4	0.7
40	Slough grass	1.8	0.1	5.0	< 0.1	0.2	0.2	0.7
41	Hemp-nettle	1.7	0.1	5.0	< 0.1	0.2	0.2	0.7
42	Lentils	1.6	0.1	5.0	< 0.1	0.2	0.2	0.7

Table 124. 2017 Annual crops in Warner (42 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Russian thistle	17.5	3.8	21.7	0.8	4.5	25.0	60.5
2	Kochia	20.6	4.1	19.8	0.6	2.8	7.4	56.2
3	Canada thistle	17.2	1.7	10.0	0.3	1.5	7.0	30.1
4	Wild oats	17.4	1.6	9.4	0.2	1.0	3.2	26.9
5	Wild buckwheat	17.7	1.5	8.6	0.2	0.9	2.4	25.8
6	Foxtail barley	7.7	0.8	10.0	0.3	3.4	8.0	18.6
7	Wheat	2.6	1.2	45.0	0.2	7.4	7.4	14.7
8	Western barnyard grass	5.1	0.6	12.5	0.1	1.9	2.6	10.3
9	Pale smartweed	7.5	0.4	5.0	0.1	0.9	2.2	9.4
10	Redroot pigweed	5.1	0.5	10.0	0.1	1.6	3.0	9.1
11	Stinkweed	4.9	0.5	10.2	< 0.1	0.7	1.2	7.2
12	Round-leaved mallow	5.1	0.4	7.5	< 0.1	0.8	1.4	7.0
13	Prostrate knotweed	5.1	0.3	5.0	< 0.1	0.3	0.4	5.4
14	Biennial wormwood	2.5	0.3	10.0	< 0.1	0.8	0.8	3.7
15	Lamb's-quarters	2.6	0.3	10.0	< 0.1	0.4	0.4	3.5
16	Spiny annual sow-thistle	2.6	0.1	5.0	< 0.1	0.4	0.4	2.8
17	Perennial sow-thistle	2.4	0.1	5.0	< 0.1	0.6	0.6	2.7
18	Water smartweed	2.4	0.1	5.0	< 0.1	0.2	0.2	2.4
19	Field pea	2.4	0.1	5.0	< 0.1	0.2	0.2	2.4
20	Green foxtail	1.5	0.1	5.0	< 0.1	0.2	0.2	1.5

Field Survey Summary Tables – Annual crops in Wheatland

Table 125. 2017 Annual crops in Wheatland (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	19.3	14.1	73.1	5.3	27.6	106.6	47.2
2	Canola/rapeseed	36.5	11.0	30.1	3.7	10.2	89.6	41.4
3	Wild buckwheat	50.2	11.3	22.4	1.2	2.3	15.4	34.1
4	Spiny annual sow-thistle	28.4	7.0	24.5	1.3	4.6	24.8	23.0
5	Canada thistle	35.9	5.4	14.9	0.8	2.2	17.0	20.9
6	Lamb's-quarters	31.9	6.3	19.9	0.7	2.3	11.2	20.6
7	Chickweed	5.7	2.7	47.7	3.3	57.7	128.2	19.7
8	Kochia	15.4	3.3	21.8	2.4	15.8	88.8	19.6
9	Wild oats	8.4	5.3	63.1	1.6	19.0	34.0	16.2
10	Dandelion	24.0	3.7	15.3	0.3	1.2	5.0	13.0
11	Narrow-leaved hawk's-beard	10.8	2.1	19.4	0.3	2.9	8.4	7.2
12	False cleavers	9.1	1.4	15.0	0.1	1.5	10.0	5.0
13	Oak-leaved goosefoot	2.4	0.5	20.0	0.6	25.0	25.0	4.0
14	Prostrate knotweed	7.1	0.8	10.6	0.1	1.0	2.2	3.4
15	Round-leaved mallow	5.9	0.9	15.5	0.1	1.7	2.4	3.3
16	Stinkweed	6.2	0.7	11.2	0.1	0.9	1.8	2.9
17	Barley	5.9	0.6	9.5	< 0.1	0.6	1.2	2.6
18	Foxtail barley	3.7	1.0	26.4	0.1	1.5	2.0	2.6
19	Green foxtail	5.5	0.4	8.0	0.1	1.1	1.6	2.5
20	Perennial sow-thistle	2.6	0.7	25.0	< 0.1	1.8	1.8	1.8
21	Tumble pigweed	4.9	0.2	5.0	< 0.1	0.2	0.2	1.8
22	Shepherd's-purse	4.8	0.2	5.0	< 0.1	0.2	0.2	1.7
23	Stork's bill	4.6	0.2	5.0	< 0.1	0.3	0.4	1.7
24	Field horsetail	2.4	0.2	10.0	0.1	2.4	2.4	1.3
25	Rough cinquefoil	2.6	0.1	5.0	< 0.1	0.2	0.2	1.0
26	Persian darnel	2.6	0.1	5.0	< 0.1	0.2	0.2	1.0
27	Blue grass species	1.1	0.1	5.0	< 0.1	1.0	1.0	0.4

Field Survey Summary Tables – Annual crops in Cardston & Pincher Creek

Table 126. 2017 Annual crops in Cardston & Pincher Creek (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	25.9	12.9	49.8	7.4	28.7	186.2	65.4
2	Stinkweed	23.0	13.3	57.9	4.8	20.9	100.2	51.2
3	Wild buckwheat	36.3	7.6	21.1	1.0	2.7	32.0	28.0
4	Canada thistle	34.6	4.8	13.9	0.7	2.0	12.2	22.1
5	Annual brome species	12.7	6.1	47.8	0.8	6.3	8.0	16.8
6	Spiny annual sow-thistle	12.1	3.1	25.5	1.1	9.0	55.0	14.1
7	Wheat	10.2	4.6	45.0	0.5	5.0	6.2	12.3
8	Dandelion	17.3	2.9	17.0	0.2	1.4	4.8	11.3
9	Prostrate knotweed	18.3	2.4	13.1	0.1	0.6	2.2	10.2
10	Canola/rapeseed	15.4	1.4	8.9	0.1	0.5	1.4	7.6
11	Alfalfa	8.7	2.6	29.8	0.2	2.0	3.8	7.4
12	False cleavers	3.6	2.7	75.0	0.5	13.3	22.4	7.3
13	Shepherd's-purse	12.7	1.4	10.7	0.1	0.6	0.6	6.6
14	Barley	5.3	1.7	31.7	0.3	6.4	15.0	5.9
15	Chickweed	1.8	1.1	60.0	0.6	33.0	33.0	5.2
16	Spear-leaved goosefoot	10.9	0.5	5.0	< 0.1	0.2	0.2	4.7
17	Kochia	3.4	1.5	45.0	0.1	3.8	3.8	3.9
18	Wild mustard	5.2	1.2	22.0	0.1	1.2	3.2	3.7
19	Lamb's-quarters	3.6	0.8	22.5	< 0.1	1.4	2.6	2.6
20	Scouring-rush	3.5	0.2	5.0	0.2	5.2	5.2	2.4
21	Round-leaved mallow	3.6	0.5	15.0	< 0.1	0.8	1.2	2.1
22	Milkweed species	3.5	0.3	10.0	< 0.1	0.4	0.4	1.7
23	Field horsetail	3.5	0.2	5.0	< 0.1	0.6	0.6	1.5
24	Green foxtail	3.5	0.2	5.0	< 0.1	0.4	0.4	1.5
25	Italian rye grass	1.8	0.4	25.0	< 0.1	2.8	2.8	1.5
26	Biennial wormwood	2.8	0.1	5.0	< 0.1	0.2	0.2	1.2
27	Cow cockle	1.8	0.2	10.0	< 0.1	0.4	0.4	0.9
28	Tumble pigweed	1.8	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Annual crops in Foothills

Table 127. 2017 Annual crops in Foothills (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	49.8	20.4	41.0	5.3	10.7	45.2	69.3
2	Annual brome species	12.5	6.6	52.8	3.4	27.4	48.0	31.9
3	Wild buckwheat	50.2	6.3	12.5	0.3	0.6	1.4	23.1
4	Barley	19.1	8.6	45.2	0.9	4.6	7.2	20.4
5	False cleavers	12.7	7.4	57.9	1.4	10.7	15.2	20.1
6	Redroot pigweed	12.7	5.6	43.8	1.1	8.7	16.6	16.5
7	Canada thistle	31.4	3.7	11.9	0.2	0.8	1.4	14.5
8	Canola/rapeseed	25.7	4.9	18.9	0.2	0.9	1.4	14.1
9	Green foxtail	12.5	3.8	30.5	0.8	6.1	11.8	12.4
10	Dandelion	6.6	4.6	70.0	0.6	8.8	8.8	10.5
11	Wheat	12.7	3.4	27.1	0.5	3.7	4.6	10.3
12	Lamb's-quarters	12.7	3.3	25.7	0.4	2.8	5.2	9.4
13	Prostrate knotweed	19.3	2.0	10.1	0.1	0.4	0.6	8.1
14	Spiny annual sow-thistle	18.6	1.5	8.3	0.1	0.5	0.6	7.5
15	Kochia	6.1	2.1	35.0	0.5	8.6	8.6	7.4
16	Perennial sow-thistle	6.1	1.5	25.0	0.4	5.8	5.8	5.6
17	Hemp-nettle	12.5	0.9	7.5	< 0.1	0.4	0.6	4.9
18	Foxtail barley	12.3	0.6	5.0	< 0.1	0.3	0.4	4.4
19	Night-flowering catchfly	6.6	1.6	25.0	0.1	1.6	1.6	4.3
20	Black medick	6.6	0.7	10.0	< 0.1	0.4	0.4	2.8
21	Field pea	6.1	0.6	10.0	< 0.1	0.4	0.4	2.6

Field Survey Summary Tables – Annual crops in Mountain View

Table 128. 2017 Annual crops in Mountain View (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	37.7	18.6	49.4	11.5	30.5	121.8	67.2
2	Wild oats	25.4	9.1	35.7	5.2	20.4	79.8	33.3
3	Wild buckwheat	48.9	16.7	34.1	1.3	2.7	6.4	33.2
4	False cleavers	35.8	11.9	33.2	1.5	4.3	25.0	26.0
5	Hemp-nettle	21.4	7.1	33.0	1.5	7.0	40.4	17.6
6	Dandelion	22.1	7.7	35.0	0.8	3.7	12.8	16.0
7	Canola/rapeseed	19.2	7.1	37.1	1.1	5.8	21.4	15.6
8	Lamb's-quarters	18.5	6.5	35.2	1.3	7.1	31.0	15.6
9	Oats	2.9	2.9	100.0	1.6	53.8	53.8	8.9
10	Canada thistle	11.9	4.1	34.6	0.5	3.9	8.8	8.7
11	Barley	11.9	4.7	39.8	0.3	2.2	3.2	8.5
12	Stinkweed	10.2	2.9	28.2	0.4	3.7	7.2	6.8
13	Foxtail barley	8.3	3.0	35.6	0.3	3.4	7.6	6.0
14	Spiny annual sow-thistle	9.3	2.1	22.5	0.2	2.5	4.2	5.4
15	Shepherd's-purse	6.6	2.3	35.7	0.1	1.9	3.0	4.4
16	Yellow toadflax	4.7	1.9	40.0	0.3	6.8	6.8	4.1
17	Quack grass	3.6	1.6	45.0	0.3	7.0	7.0	3.3
18	Field violet	3.6	1.6	45.0	0.2	4.6	4.6	3.0
19	Rough cinquefoil	6.6	0.7	10.0	< 0.1	0.4	0.4	2.6
20	Narrow-leaved hawk's-beard	6.6	0.5	7.2	< 0.1	0.3	0.4	2.4
21	Clover species	5.9	0.6	10.0	< 0.1	0.8	1.4	2.4
22	Prostrate knotweed	3.6	0.7	20.0	0.1	1.4	1.4	1.9
23	Vetch species	2.9	0.7	25.0	< 0.1	1.2	1.2	1.6
24	Broad-leaved plantain	2.9	0.6	20.0	< 0.1	1.0	1.0	1.5
25	Perennial sow-thistle	3.6	0.4	10.0	< 0.1	0.4	0.4	1.4
26	Orchard grass	2.9	0.4	15.0	< 0.1	0.8	0.8	1.3
27	Stork's bill	3.6	0.2	5.0	< 0.1	0.2	0.2	1.2

Field Survey Summary Tables – Annual crops in Rocky View

Table 129. 2017 Annual crops in Rocky View (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	28.3	17.7	62.3	33.3	117.5	766.4	66.2
2	Wild oats	59.5	20.8	34.9	5.7	9.5	55.4	32.1
3	False cleavers	43.5	22.2	51.0	6.2	14.3	80.2	30.6
4	Wild buckwheat	60.4	18.1	30.0	2.5	4.2	32.0	26.0
5	Chickweed	26.5	15.8	59.4	7.8	29.2	75.0	26.0
6	Barley	32.4	18.0	55.6	3.3	10.1	38.6	21.5
7	Shepherd's-purse	40.4	9.6	23.7	0.9	2.3	7.4	14.7
8	Hemp-nettle	23.4	9.8	41.7	1.4	6.1	18.4	12.3
9	Canola/rapeseed	28.1	8.6	30.7	1.0	3.7	13.4	12.0
10	Spiny annual sow-thistle	31.2	4.4	14.0	0.4	1.4	7.0	9.3
11	Wheat	20.0	6.4	32.0	0.5	2.4	7.0	8.3
12	Canada thistle	28.1	3.4	12.1	0.4	1.4	3.6	8.0
13	Prostrate knotweed	20.3	5.2	25.8	0.4	1.8	6.0	7.5
14	Dandelion	15.1	2.9	19.0	0.1	1.0	2.0	4.8
15	Oats	4.0	3.6	90.0	0.6	14.6	14.6	3.7
16	Stinkweed	8.3	2.3	27.9	0.3	3.1	5.0	3.3
17	Yellow toadflax	4.0	1.6	40.0	0.4	9.2	9.2	2.3
18	Clover species	4.0	1.8	45.0	0.1	3.2	3.2	2.0
19	Night-flowering catchfly	4.0	0.8	20.0	0.2	5.8	5.8	1.6
20	Foxtail barley	4.0	0.6	15.0	< 0.1	0.8	0.8	1.2
21	Quack grass	4.0	0.4	10.0	0.1	2.6	2.6	1.2
22	Flax	4.0	0.6	15.0	< 0.1	0.6	0.6	1.2
23	Western barnyard grass	4.0	0.2	5.0	< 0.1	0.8	0.8	0.9
24	Tumble pigweed	4.0	0.2	5.0	< 0.1	0.2	0.2	0.9
25	Field pea	4.0	0.2	5.0	< 0.1	0.2	0.2	0.9
26	Timothy	3.1	0.3	10.0	< 0.1	0.4	0.4	0.8
27	Fescue species	3.1	0.2	5.0	< 0.1	1.2	1.2	0.8

Field Survey Summary Tables – Annual crops in Willow Creek

Table 130. 2017 Annual crops in Willow Creek (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	19.2	11.3	59.0	12.6	65.4	255.8	105.4
2	Redroot pigweed	3.8	3.8	100.0	1.1	29.4	29.4	16.3
3	Wheat	15.4	3.8	25.0	0.2	1.5	3.6	16.1
4	Canada thistle	19.2	2.7	14.0	0.2	0.8	2.0	14.9
5	Barley	7.7	3.5	45.1	0.5	6.3	12.2	13.5
6	Western barnyard grass	7.7	3.1	40.0	0.3	4.2	7.4	11.7
7	Wild oats	15.4	1.7	11.3	0.1	0.6	1.4	10.9
8	Lamb's-quarters	3.8	2.7	70.0	0.5	13.0	13.0	10.2
9	Wild buckwheat	15.4	1.3	8.8	0.1	0.4	0.6	9.9
10	Stinkweed	7.7	2.3	30.0	0.2	2.7	5.2	9.4
11	Perennial sow-thistle	3.9	1.7	45.0	0.6	16.2	16.2	9.0
12	Prostrate knotweed	11.5	1.3	11.7	0.1	0.8	1.8	8.4
13	Pale smartweed	7.7	1.5	20.0	0.2	2.9	5.4	7.9
14	Canola/rapeseed	11.5	1.0	8.3	0.1	0.9	2.2	7.6
15	Dandelion	11.5	1.0	8.3	< 0.1	0.3	0.6	7.3
16	Tumble pigweed	11.5	0.6	5.0	< 0.1	0.3	0.6	6.5
17	Spiny annual sow-thistle	7.7	0.8	10.0	0.1	1.0	1.8	5.4
18	Foxtail barley	7.7	0.8	10.0	< 0.1	0.4	0.6	5.2
19	Annual brome species	5.8	0.5	8.4	< 0.1	0.8	2.0	3.8
20	Round-leaved mallow	3.8	0.4	10.0	< 0.1	0.8	0.8	2.7
21	Shepherd's-purse	3.8	0.4	10.0	< 0.1	0.8	0.8	2.7
22	Annual spurge species	3.8	0.4	10.0	< 0.1	0.4	0.4	2.6
23	Night-flowering catchfly	3.9	0.2	5.0	< 0.1	0.4	0.4	2.2
24	False cleavers	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
25	Field pea	3.9	0.2	5.0	< 0.1	0.2	0.2	2.1
26	Narrow-leaved hawk's-beard	3.8	0.2	5.0	< 0.1	0.2	0.2	2.1
27	Russian thistle	3.8	0.2	5.0	< 0.1	0.2	0.2	2.1
28	Lentils	3.8	0.2	5.0	< 0.1	0.2	0.2	2.1

Field Survey Summary Tables – Annual crops in Flagstaff

Table 131. 2017 Annual crops in Flagstaff (36 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	41.1	8.8	21.5	7.1	17.2	139.0	65.7
2	Wild buckwheat	48.9	10.1	20.6	0.8	1.6	5.6	30.8
3	False cleavers	16.5	7.9	47.5	1.4	8.5	28.4	23.2
4	Green foxtail	10.1	3.5	34.9	1.5	14.5	54.2	16.3
5	Canada thistle	27.8	4.8	17.3	0.3	1.2	2.0	15.7
6	Lamb's-quarters	25.3	4.9	19.4	0.4	1.5	5.6	15.4
7	Hemp-nettle	14.0	3.4	24.4	1.1	7.8	26.2	14.8
8	Canola/rapeseed	16.5	4.7	28.3	0.7	4.1	15.0	14.6
9	Spiny annual sow-thistle	21.5	4.4	20.6	0.5	2.2	8.6	14.3
10	Shepherd's-purse	24.1	4.5	18.5	0.3	1.3	2.4	14.2
11	Chickweed	10.3	3.9	37.5	0.7	7.1	19.8	12.2
12	Stork's bill	11.9	2.8	23.1	0.3	2.7	5.0	8.7
13	Low cudweed	19.0	1.5	8.0	0.2	1.2	3.2	8.5
14	Wheat	14.5	1.9	13.2	0.2	1.5	3.8	7.7
15	Narrow-leaved hawk's-beard	13.9	2.1	15.4	0.1	0.9	1.6	7.2
16	Foxtail barley	8.8	0.9	10.0	0.2	1.9	3.6	4.5
17	Barley	5.1	1.2	22.6	0.1	2.0	3.6	3.5
18	Western barnyard grass	6.2	0.8	12.5	0.1	1.8	3.2	3.4
19	Common groundsel	5.1	1.0	20.0	0.1	1.7	2.6	3.2
20	Pale smartweed	7.7	0.5	6.7	< 0.1	0.3	0.6	2.9
21	Redroot pigweed	5.1	0.9	17.5	< 0.1	0.9	1.0	2.8
22	Perennial sow-thistle	2.6	0.9	35.0	0.1	2.0	2.0	2.2
23	Pineappleweed	5.1	0.4	7.5	< 0.1	0.4	0.6	2.0
24	Slough grass	2.6	0.3	10.0	< 0.1	1.0	1.0	1.2
25	Northern willowherb	2.6	0.3	10.0	< 0.1	0.8	0.8	1.1
26	Dandelion	2.6	0.3	10.0	< 0.1	0.4	0.4	1.1
27	Night-flowering catchfly	2.5	0.3	10.0	< 0.1	0.4	0.4	1.1
28	Stinkweed	2.6	0.1	5.0	< 0.1	0.4	0.4	0.9
29	Corn gromwell	2.5	0.1	5.0	< 0.1	0.4	0.4	0.9

Table 132. 2017 Annual crops in Paintearth (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	28.7	10.8	37.8	1.4	4.9	18.0	61.3
2	Wild oats	21.4	5.9	27.8	0.7	3.4	6.0	36.5
3	Canada thistle	12.2	7.2	59.2	0.8	6.5	8.0	34.5
4	False cleavers	5.5	2.7	50.0	1.2	21.0	21.0	25.9
5	Lamb's-quarters	17.4	3.9	22.3	0.4	2.4	3.4	25.1
6	Perennial sow-thistle	10.9	3.6	32.8	0.5	5.0	8.6	22.2
7	Western barnyard grass	5.5	0.8	15.0	0.8	15.0	15.0	16.9
8	Shepherd's-purse	10.9	1.4	12.5	0.1	1.0	1.2	11.1
9	Canola/rapeseed	5.5	1.4	25.0	0.3	4.6	4.6	10.0
10	Common groundsel	5.5	1.4	25.0	0.2	4.4	4.4	9.8
11	Pineappleweed	5.5	1.1	20.0	0.1	2.6	2.6	7.8
12	Stinkweed	5.4	1.1	20.0	0.1	2.0	2.0	7.1
13	Redroot pigweed	5.4	1.1	20.0	0.1	1.4	1.4	6.7
14	Alfalfa	5.4	1.1	20.0	0.1	1.4	1.4	6.7
15	Pale smartweed	5.4	0.8	15.0	< 0.1	0.6	0.6	5.5
16	Spiny annual sow-thistle	5.4	0.5	10.0	< 0.1	0.6	0.6	4.9
17	Rough hair grass	5.5	0.3	5.0	< 0.1	0.4	0.4	4.2
18	Golden dock	5.4	0.3	5.0	< 0.1	0.2	0.2	4.0

Field Survey Summary Tables – Annual crops in Provost

Table 133. 2017 Annual crops in Provost (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	41.6	23.5	56.6	13.2	31.8	106.6	86.0
2	Wild buckwheat	48.6	26.2	53.9	4.8	9.8	49.4	55.1
3	Wild oats	40.2	10.3	25.6	1.0	2.5	4.2	23.0
4	Canada thistle	32.2	7.2	22.5	0.8	2.4	11.4	17.5
5	Wheat	20.1	6.0	30.0	0.7	3.7	14.4	13.3
6	Lamb's-quarters	32.2	3.2	10.0	0.2	0.6	1.4	11.3
7	Canola/rapeseed	25.1	3.5	13.8	0.2	0.9	2.6	10.1
8	Narrow-leaved hawk's-beard	16.0	4.0	25.0	0.3	2.2	5.2	8.9
9	Stork's bill	13.2	3.1	23.1	0.6	4.2	8.4	8.2
10	Quack grass	8.2	2.9	35.0	0.5	5.5	9.6	6.5
11	Redroot pigweed	8.2	2.1	25.0	0.3	3.1	6.0	4.9
12	Shepherd's-purse	12.1	1.6	13.4	0.1	1.0	1.6	4.9
13	Chickweed	4.1	2.1	50.0	0.3	7.6	7.6	4.2
14	Hemp-nettle	8.0	1.4	17.5	0.1	1.0	1.6	3.5
15	Dandelion	8.1	1.2	15.2	< 0.1	0.6	1.0	3.3
16	Foxtail barley	8.1	0.6	7.5	0.2	1.9	3.6	3.1
17	Rye	4.1	1.4	35.0	0.1	3.4	3.4	2.9
18	Spiny annual sow-thistle	8.0	0.8	10.0	< 0.1	0.4	0.6	2.8
19	False cleavers	8.0	0.6	7.5	< 0.1	0.4	0.6	2.6
20	Perennial sow-thistle	8.1	0.4	5.0	0.1	0.7	0.8	2.5
21	Rose species	4.7	1.2	25.0	0.1	1.2	1.2	2.4
22	Kochia	8.1	0.4	5.0	< 0.1	0.2	0.2	2.4
23	Common groundsel	5.0	0.5	10.0	0.1	3.0	3.0	2.3
24	Slough grass	4.0	0.8	20.0	0.1	2.6	2.6	2.1
25	Barley	4.1	0.8	20.0	0.1	2.0	2.0	2.1
26	Clover species	4.0	0.8	20.0	< 0.1	0.8	0.8	1.8
27	Oak-leaved goosefoot	4.1	0.6	15.0	< 0.1	1.0	1.0	1.7
28	Western barnyard grass	4.0	0.6	15.0	< 0.1	0.6	0.6	1.6
29	Canada fleabane	4.1	0.4	10.0	< 0.1	0.6	0.6	1.5
30	Prostrate knotweed	4.1	0.4	10.0	< 0.1	0.4	0.4	1.4
31	Rough cinquefoil	4.0	0.4	10.0	< 0.1	0.4	0.4	1.4
32	Stinkweed	4.1	0.2	5.0	< 0.1	0.6	0.6	1.3
33	Round-leaved mallow	4.0	0.2	5.0	< 0.1	0.6	0.6	1.2
34	Field mint	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
35	Willow species	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2

Table 134. 2017 Annual crops in Stettler (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	25.2	7.1	28.3	1.0	3.9	14.6	39.9
2	Wild buckwheat	28.8	7.9	27.3	0.6	2.2	4.4	38.1
3	Pale smartweed	28.7	3.9	13.7	1.0	3.4	16.6	33.6
4	Wild oats	4.3	2.8	65.0	1.7	40.8	40.8	30.7
5	Redroot pigweed	4.2	2.7	65.0	1.4	33.0	33.0	25.8
6	Canada thistle	20.3	2.4	12.0	0.3	1.3	3.8	17.6
7	Stinkweed	11.7	2.7	22.7	0.5	4.1	10.8	17.3
8	Stork's bill	16.0	2.5	15.4	0.2	1.2	3.8	14.9
9	Pineappleweed	12.7	1.3	10.0	0.1	0.9	1.6	9.6
10	Dandelion	8.3	2.1	25.0	0.1	1.0	1.4	9.3
11	Canola/rapeseed	12.7	1.1	8.4	0.1	0.6	0.8	8.7
12	Green foxtail	7.6	1.2	16.3	0.2	2.5	5.2	8.5
13	Foxtail barley	8.5	1.1	12.5	0.1	0.7	1.2	6.8
14	False cleavers	7.6	0.9	11.8	0.1	0.8	1.6	6.1
15	Spiny annual sow-thistle	4.9	1.0	20.0	0.1	1.4	1.4	5.2
16	Perennial sow-thistle	4.3	0.6	15.0	0.1	3.2	3.2	5.0
17	Shepherd's-purse	8.3	0.4	5.0	< 0.1	0.2	0.2	4.7
18	Common groundsel	4.2	0.8	20.0	< 0.1	1.2	1.2	4.3
19	Chickweed	3.4	0.7	20.0	0.1	2.2	2.2	4.0
20	Corn spurry	4.2	0.2	5.0	< 0.1	1.2	1.2	2.9
21	Low cudweed	4.3	0.2	5.0	< 0.1	0.8	0.8	2.7
22	Hemp-nettle	4.3	0.2	5.0	< 0.1	0.4	0.4	2.5
23	Oats	3.4	0.2	5.0	< 0.1	0.2	0.2	1.9

Field Survey Summary Tables – Annual crops in Wainwright

Table 135. 2017 Annual crops in Wainwright (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	34.0	16.3	48.0	7.2	21.3	85.0	67.2
2	Wild buckwheat	65.3	15.1	23.1	1.5	2.3	14.6	43.1
3	Lamb's-quarters	22.0	8.9	40.6	1.6	7.3	16.8	24.8
4	Wild oats	33.7	7.1	21.0	1.3	4.0	23.0	24.6
5	False cleavers	28.4	5.7	20.0	1.1	3.9	18.4	20.3
6	Canada thistle	23.6	5.2	22.0	0.5	2.2	6.4	15.1
7	Stork's bill	23.0	5.1	22.4	0.5	2.3	6.0	15.0
8	Spiny annual sow-thistle	18.1	5.0	27.8	0.7	3.7	13.8	14.3
9	Canola/rapeseed	17.7	3.4	19.0	0.5	2.7	9.6	11.3
10	Hemp-nettle	14.2	3.3	23.3	0.6	4.4	10.8	11.0
11	Wheat	4.7	3.3	70.0	1.0	20.2	20.2	10.2
12	Stinkweed	4.7	1.7	35.0	0.6	11.8	11.8	6.2
13	Chickweed	9.5	1.2	12.5	0.3	2.7	5.0	5.3
14	Barley	3.8	2.3	60.0	0.3	8.0	8.0	5.3
15	Foxtail barley	4.7	1.2	25.0	0.1	2.0	2.0	3.1
16	Low cudweed	4.7	0.5	10.0	0.2	4.2	4.2	2.9
17	Pale smartweed	4.7	0.5	10.0	0.2	3.4	3.4	2.7
18	Rose species	3.9	1.0	25.0	0.1	2.0	2.0	2.6
19	Alfalfa	4.7	0.7	15.0	< 0.1	1.0	1.0	2.4
20	Bluebur	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
21	Night-flowering catchfly	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
22	Dandelion	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
23	Oak-leaved goosefoot	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
24	Shepherd's-purse	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
25	Western barnyard grass	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
26	Dock species	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
27	Field horsetail	3.9	0.2	5.0	< 0.1	0.2	0.2	1.3

Table 136. 2017 Annual crops in Beaver (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	38.4	13.0	33.9	4.1	10.7	61.4	45.1
2	Canola/rapeseed	50.1	15.6	31.2	1.7	3.4	13.8	36.2
3	Wild buckwheat	50.1	13.1	26.2	1.3	2.6	8.4	31.8
4	Low cudweed	34.7	9.1	26.1	2.5	7.3	33.0	31.4
5	Shepherd's-purse	19.2	11.4	59.1	2.3	12.1	34.6	28.7
6	False cleavers	49.9	8.5	16.9	0.8	1.6	4.2	24.3
7	Lamb's-quarters	23.1	6.2	26.7	0.8	3.4	7.4	15.8
8	Spiny annual sow-thistle	23.1	6.0	25.8	0.4	1.8	5.6	13.5
9	Scentless chamomile	19.2	3.9	20.0	0.6	3.0	12.2	11.5
10	Hemp-nettle	15.3	4.2	27.5	0.4	2.7	6.4	9.9
11	Wild oats	11.5	2.5	21.7	0.6	5.0	7.6	8.4
12	Perennial sow-thistle	7.7	3.1	40.0	0.6	8.1	15.6	8.3
13	Wheat	7.7	2.1	27.5	0.3	4.3	6.6	5.7
14	Canada thistle	11.5	1.5	13.3	0.2	1.5	3.8	5.1
15	Pale smartweed	7.7	1.7	22.5	0.1	1.8	3.4	4.3
16	Green foxtail	7.6	1.1	14.9	0.1	1.4	2.6	3.5
17	Stork's bill	7.6	0.8	10.0	< 0.1	0.4	0.6	2.7
18	Field horsetail	7.6	0.4	5.0	0.1	0.9	1.2	2.6
19	Narrow-leaved hawk's-beard	7.6	0.4	5.0	< 0.1	0.2	0.2	2.3
20	Western barnyard grass	3.9	0.8	20.0	0.1	1.8	1.8	2.0
21	Ball mustard	3.8	0.8	20.0	< 0.1	0.8	0.8	1.8
22	Dandelion	3.9	0.4	10.0	< 0.1	1.0	1.0	1.5
23	Pineappleweed	3.9	0.4	10.0	< 0.1	0.8	0.8	1.5
24	Barley	3.9	0.2	5.0	< 0.1	0.4	0.4	1.2
25	Vetch species	3.9	0.2	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables – Annual crops in Camrose

Table 137. 2017 Annual crops in Camrose (36 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	61.9	26.0	42.1	52.1	84.1	1073.2	121.0
2	Wild buckwheat	61.8	14.8	24.0	1.2	1.9	8.6	29.0
3	False cleavers	48.4	14.6	30.1	1.7	3.6	14.8	26.7
4	Low cudweed	34.5	6.1	17.8	1.2	3.6	20.8	15.1
5	Wheat	24.8	5.8	23.2	0.7	2.7	10.6	11.8
6	Wild oats	19.4	5.5	28.4	1.4	7.1	29.4	11.5
7	Canola/rapeseed	27.3	4.7	17.1	0.4	1.5	10.8	10.8
8	Shepherd's-purse	20.6	5.1	24.8	0.6	3.2	9.2	10.2
9	Spiny annual sow-thistle	27.9	3.1	11.1	0.3	1.0	3.2	9.3
10	Lamb's-quarters	19.4	4.2	21.5	0.5	2.5	8.8	8.8
11	Canada thistle	18.2	2.6	14.3	0.2	1.0	1.8	6.6
12	Pale smartweed	20.0	2.2	10.9	0.2	0.9	2.8	6.6
13	Hemp-nettle	13.3	2.5	18.9	0.2	1.7	7.0	5.6
14	Narrow-leaved hawk's-beard	6.0	2.7	45.0	0.7	12.2	22.8	5.0
15	Field horsetail	12.7	0.9	6.9	0.1	1.2	2.6	3.8
16	Foxtail barley	5.4	1.8	32.8	0.4	7.9	13.8	3.5
17	Barley	4.9	0.8	17.5	0.1	1.3	1.8	1.9
18	Stinkweed	5.5	0.6	10.5	< 0.1	0.9	1.4	1.8
19	Blue grass species	5.5	0.4	7.8	< 0.1	0.7	0.8	1.6
20	Dandelion	2.4	0.7	30.0	< 0.1	1.6	1.6	1.3
21	Field violet	2.4	0.6	25.0	< 0.1	1.4	1.4	1.1
22	Green foxtail	3.0	0.3	10.0	0.1	2.8	2.8	1.1
23	Golden dock	3.0	0.2	5.0	< 0.1	0.2	0.2	0.8
24	Common groundsel	3.0	0.2	5.0	< 0.1	0.2	0.2	0.8
25	Stork's bill	3.0	0.2	5.0	< 0.1	0.2	0.2	0.8
26	Perennial sow-thistle	2.4	0.2	10.0	< 0.1	0.8	0.8	0.8
27	Clover species	2.4	0.1	5.0	< 0.1	0.6	0.6	0.7
28	Purslane speedwell	2.4	0.1	5.0	< 0.1	0.4	0.4	0.6
29	Quack grass	2.4	0.1	5.0	< 0.1	0.2	0.2	0.6
30	Broad-leaved plantain	2.4	0.1	5.0	< 0.1	0.2	0.2	0.6

Table 138. 2017 Annual crops in Lamont (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	26.4	11.0	41.8	0.9	3.5	9.0	47.7
2	Hemp-nettle	13.2	8.5	64.4	2.2	16.7	30.6	45.9
3	Chickweed	7.5	5.1	67.5	3.1	41.5	45.0	44.2
4	False cleavers	15.6	7.2	46.5	0.8	5.4	9.4	32.4
5	Wheat	9.4	3.8	40.9	1.4	14.6	34.2	26.7
6	Canada thistle	13.2	3.7	27.8	0.5	3.7	7.2	20.6
7	Night-flowering catchfly	9.4	4.2	45.0	0.6	6.7	8.0	20.4
8	Canola/rapeseed	5.7	4.5	80.0	0.5	9.0	9.0	17.3
9	Lamb's-quarters	9.4	2.7	28.9	0.2	2.1	4.0	13.4
10	Shepherd's-purse	11.3	0.6	5.0	< 0.1	0.3	0.4	9.1
11	Low cudweed	5.7	0.3	5.0	0.1	2.2	2.2	5.6
12	Spiny annual sow-thistle	5.7	0.3	5.0	< 0.1	0.8	0.8	4.8
13	Scentless chamomile	5.7	0.3	5.0	< 0.1	0.2	0.2	4.5
14	Dandelion	5.7	0.3	5.0	< 0.1	0.2	0.2	4.5
15	Narrow-leaved hawk's-beard	3.7	0.2	5.0	< 0.1	0.2	0.2	3.0

Field Survey Summary Tables – Annual crops in Minburn

Table 139. 2017 Annual crops in Minburn (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	False cleavers	34.2	18.6	54.3	7.4	21.5	76.6	52.5
2	Wild buckwheat	68.1	22.4	32.8	3.7	5.4	41.0	50.4
3	Wild oats	43.2	10.9	25.3	5.6	13.0	95.4	41.4
4	Canola/rapeseed	50.1	11.5	23.0	0.9	1.8	6.6	26.0
5	Chickweed	13.7	6.3	46.1	2.6	19.0	36.8	18.7
6	Stork's bill	13.4	8.1	60.0	1.9	14.4	37.2	17.7
7	Spiny annual sow-thistle	29.9	5.9	19.6	0.4	1.4	3.8	14.2
8	Hemp-nettle	15.9	4.1	25.5	0.6	4.0	10.8	9.9
9	Common groundsel	6.9	4.5	65.0	0.8	11.8	11.8	8.7
10	Canada thistle	20.3	2.4	11.7	0.2	0.8	0.8	7.8
11	Shepherd's-purse	18.3	1.5	8.1	0.2	1.3	2.2	6.8
12	Green foxtail	4.5	3.6	80.0	0.6	13.6	13.6	6.6
13	Lamb's-quarters	6.8	2.8	41.5	0.5	7.3	9.8	6.1
14	Flax	6.9	2.1	30.0	0.3	4.6	4.6	4.7
15	Dandelion	11.4	1.2	10.9	0.1	0.8	1.6	4.3
16	Wheat	11.4	0.9	8.0	0.1	0.9	1.2	4.0
17	Barley	4.5	2.0	45.0	0.3	6.2	6.2	3.9
18	Pineappleweed	6.9	1.4	20.0	0.2	2.4	2.4	3.6
19	Field horsetail	4.5	1.3	30.0	0.2	4.2	4.2	3.0
20	Low cudweed	6.9	0.7	10.0	< 0.1	0.4	0.4	2.4
21	Stinkweed	6.9	0.3	5.0	< 0.1	0.6	0.6	2.2
22	Tartary buckwheat	2.3	0.8	35.0	0.1	3.0	3.0	1.6
23	Pale smartweed	4.5	0.2	5.0	< 0.1	0.4	0.4	1.4
24	Redroot pigweed	4.5	0.2	5.0	< 0.1	0.2	0.2	1.4
25	Narrow-leaved hawk's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	0.7

Table 140. 2017 Annual crops in Two Hills (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	51.5	12.2	23.7	1.4	2.7	8.4	62.7
2	Canola/rapeseed	48.8	10.4	21.3	1.2	2.5	5.2	55.7
3	Wild oats	23.8	5.2	21.8	1.3	5.3	12.4	37.6
4	False cleavers	30.1	6.6	22.0	0.6	2.1	4.4	32.7
5	Canada thistle	24.5	3.1	12.6	0.3	1.1	2.0	18.2
6	Dandelion	15.1	2.1	13.8	0.2	1.1	1.6	11.7
7	Wheat	12.0	2.1	17.4	0.2	1.9	2.4	11.7
8	Henbit	8.9	1.8	20.0	0.1	1.6	1.6	8.6
9	Green foxtail	6.0	1.5	25.0	0.2	3.8	3.8	8.5
10	Oak-leaved goosefoot	3.1	0.9	30.0	0.2	5.4	5.4	5.5
11	Spiny annual sow-thistle	6.2	0.9	15.0	0.1	1.6	2.0	5.4
12	Field horsetail	8.9	0.4	5.0	0.1	0.8	0.8	4.9
13	Shepherd's-purse	6.0	0.6	10.0	0.1	1.6	1.6	4.7
14	Scentsless chamomile	9.2	0.5	5.0	< 0.1	0.4	0.4	4.5
15	Foxtail barley	3.1	0.6	20.0	0.1	4.6	4.6	4.5
16	Tumble pigweed	8.9	0.4	5.0	< 0.1	0.4	0.4	4.4
17	Flixweed	6.2	0.3	5.0	< 0.1	0.4	0.4	3.1
18	Ball mustard	6.0	0.3	5.0	< 0.1	0.2	0.2	2.8
19	Rayless aster	3.1	0.5	15.0	< 0.1	1.4	1.4	2.6
20	Stork's bill	3.1	0.3	10.0	< 0.1	1.0	1.0	2.1
21	Perennial sow-thistle	3.1	0.3	10.0	< 0.1	0.6	0.6	1.9
22	Redroot pigweed	3.1	0.2	5.0	< 0.1	0.8	0.8	1.7
23	Low cudweed	3.1	0.2	5.0	< 0.1	0.4	0.4	1.5
24	Drooping woodreed	3.1	0.2	5.0	< 0.1	0.4	0.4	1.5
25	Pineappleweed	3.1	0.2	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Annual crops in Vermilion River

Table 141. 2017 Annual crops in Vermilion River (41 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	75.0	32.1	42.8	4.4	5.9	25.0	57.0
2	Green foxtail	22.9	13.0	57.0	7.1	30.9	171.0	40.7
3	Canola/rapeseed	58.4	19.0	32.5	3.1	5.4	38.4	38.6
4	False cleavers	35.4	10.0	28.2	3.0	8.5	49.0	26.3
5	Lamb's-quarters	36.2	10.1	27.9	2.0	5.5	30.0	22.8
6	Spiny annual sow-thistle	41.0	10.7	26.0	1.5	3.6	29.4	22.4
7	Wild oats	18.0	6.2	34.2	1.7	9.5	19.8	14.8
8	Hemp-nettle	24.3	4.5	18.7	0.8	3.2	12.4	11.5
9	Canada thistle	25.0	3.8	15.3	0.5	1.8	7.0	9.9
10	Chickweed	15.3	3.2	21.1	1.0	6.7	23.2	9.5
11	Pale smartweed	13.2	4.6	34.7	0.8	6.0	14.8	9.2
12	Wheat	6.9	1.9	28.0	0.3	4.7	8.8	4.2
13	Shepherd's-purse	9.7	1.1	11.4	0.1	1.3	2.6	3.4
14	Stork's bill	10.4	0.7	6.3	0.1	1.3	3.4	3.2
15	Low cudweed	8.3	1.1	13.3	0.1	1.7	3.8	3.2
16	Narrow-leaved hawk's-beard	10.4	0.8	8.0	< 0.1	0.5	1.0	3.0
17	Rough cinquefoil	9.0	1.0	10.8	0.1	1.1	3.2	3.0
18	Rough hair grass	10.4	0.7	7.0	< 0.1	0.4	0.8	2.9
19	Stinkweed	2.1	1.6	75.0	0.3	14.4	14.4	2.7
20	Dandelion	10.4	0.5	5.0	< 0.1	0.2	0.2	2.7
21	Foxtail barley	2.8	0.8	30.0	0.1	3.4	3.4	1.6
22	Night-flowering catchfly	4.9	0.2	5.0	< 0.1	0.3	0.4	1.3
23	Perennial sow-thistle	2.1	0.4	20.0	< 0.1	1.4	1.4	0.9
24	Redroot pigweed	2.8	0.3	10.0	< 0.1	0.6	0.6	0.9
25	White cockle	2.8	0.1	5.0	< 0.1	0.4	0.4	0.7
26	Biennial wormwood	2.8	0.1	5.0	< 0.1	0.4	0.4	0.7
27	Bicknell's geranium	2.8	0.1	5.0	< 0.1	0.2	0.2	0.7
28	Yellow toadflax	2.8	0.1	5.0	< 0.1	0.2	0.2	0.7
29	Field horsetail	2.1	0.2	10.0	< 0.1	1.2	1.2	0.7
30	Pygmyflower	2.1	0.1	5.0	< 0.1	0.8	0.8	0.6

Field Survey Summary Tables – Annual crops in Lacombe & Clearwater

Table 142. 2017 Annual crops in Lacombe & Clearwater (34 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	76.6	36.0	47.0	19.6	25.6	153.4	73.0
2	Canola/rapeseed	38.9	13.3	34.3	8.0	20.5	177.8	30.1
3	Wild buckwheat	62.0	22.3	36.0	2.8	4.5	21.4	29.7
4	Dandelion	61.5	12.9	21.0	1.6	2.6	17.2	21.3
5	Lamb's-quarters	23.2	5.3	22.7	4.3	18.7	187.0	15.4
6	Stinkweed	10.7	2.9	26.7	4.2	39.5	189.8	11.7
7	Wild oats	16.6	6.7	40.3	1.9	11.7	43.0	10.7
8	Annual blue grass	12.7	2.2	17.1	2.9	23.2	94.2	9.1
9	Corn spurry	14.9	6.5	43.8	1.2	8.2	15.2	8.9
10	False cleavers	23.3	6.0	25.7	0.7	2.9	10.6	8.9
11	Wheat	25.3	4.7	18.6	0.5	2.0	6.0	8.0
12	Hemp-nettle	26.7	3.6	13.4	0.3	1.0	5.8	7.1
13	Spiny annual sow-thistle	17.8	4.4	24.5	0.5	2.7	11.6	6.6
14	Shepherd's-purse	18.0	2.4	13.5	1.0	5.3	41.0	6.3
15	Barley	14.4	4.2	29.5	0.5	3.2	8.8	5.9
16	Night-flowering catchfly	16.8	3.2	18.9	0.3	1.8	5.4	5.3
17	Green foxtail	17.5	2.0	11.5	0.2	1.3	2.8	4.6
18	Clover species	16.1	2.4	14.8	0.2	1.0	4.2	4.4
19	Pale smartweed	19.5	1.4	7.4	0.2	0.8	3.6	4.4
20	Broad-leaved plantain	11.6	3.0	25.5	0.2	1.9	3.6	4.2
21	Canada thistle	17.7	1.4	8.0	0.1	0.4	1.2	3.9
22	Field horsetail	11.6	1.7	14.2	0.1	0.8	2.4	3.1
23	Yellow toadflax	2.9	1.2	40.0	0.4	13.8	13.8	2.0
24	Alfalfa	4.4	1.5	35.3	0.2	3.5	5.6	2.0
25	Stork's bill	7.1	0.9	12.1	< 0.1	0.6	1.0	1.8
26	Henbit	6.3	0.9	15.0	< 0.1	0.7	1.0	1.7
27	Field violet	2.2	1.1	50.0	0.1	4.6	4.6	1.3
28	Vetch species	6.1	0.3	5.0	< 0.1	0.4	0.6	1.2
29	White cockle	3.2	0.6	20.0	< 0.1	1.2	1.2	1.0
30	Pineappleweed	4.1	0.2	5.0	< 0.1	0.2	0.2	0.8
31	Narrow-leaved hawk's-beard	3.2	0.3	10.0	< 0.1	0.4	0.4	0.7
32	Oats	3.2	0.3	10.0	< 0.1	0.4	0.4	0.7
33	Prostrate knotweed	3.2	0.2	5.0	< 0.1	0.2	0.2	0.6
34	Northern willowherb	3.2	0.2	5.0	< 0.1	0.2	0.2	0.6
35	Field pea	3.2	0.2	5.0	< 0.1	0.2	0.2	0.6
36	Annual brome species	3.2	0.2	5.0	< 0.1	0.2	0.2	0.6
37	Red goosefoot	2.9	0.1	5.0	< 0.1	0.2	0.2	0.6
38	Rough cinquefoil	2.2	0.1	5.0	< 0.1	0.2	0.2	0.4
39	Oak-leaved goosefoot	2.2	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Annual crops in Leduc

Table 143. 2017 Annual crops in Leduc (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Quack grass	5.2	2.1	40.0	1.7	32.8	32.8	73.8
2	Alfalfa	14.9	6.9	46.2	0.5	3.5	4.4	71.3
3	Wheat	10.3	2.3	22.5	0.3	3.3	4.0	34.9
4	Field horsetail	18.7	1.4	7.6	0.1	0.4	0.6	29.4
5	Chickweed	10.3	1.8	17.5	0.1	1.4	2.4	25.4
6	Dandelion	10.3	1.5	15.0	0.1	1.1	1.8	22.9
7	Northern willowherb	9.0	0.4	5.0	< 0.1	0.2	0.2	12.1
8	Spiny annual sow-thistle	5.2	0.5	10.0	< 0.1	0.4	0.4	8.8
9	Timothy	5.2	0.3	5.0	< 0.1	0.4	0.4	7.3
10	Hemp-nettle	5.2	0.3	5.0	< 0.1	0.2	0.2	7.0
11	Canola/rapeseed	5.2	0.3	5.0	< 0.1	0.2	0.2	7.0

Field Survey Summary Tables – Annual crops in Parkland & Brazeau

Table 144. 2017 Annual crops in Parkland & Brazeau (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	70.8	25.9	36.5	21.6	30.5	183.0	32.7
2	Low cudweed	13.9	7.0	50.0	30.5	219.2	219.2	26.0
3	Lamb's-quarters	56.7	31.7	55.9	10.8	19.1	38.8	25.4
4	Wild buckwheat	41.4	23.8	57.5	11.9	28.7	80.4	21.7
5	Hemp-nettle	27.5	19.5	71.0	12.6	45.7	136.8	19.1
6	False cleavers	35.4	9.1	25.8	12.5	35.2	165.8	16.2
7	Corn spurry	28.6	14.6	51.2	8.9	31.0	63.4	14.8
8	Quack grass	47.9	13.6	28.3	4.6	9.6	15.0	13.5
9	Dandelion	48.7	16.2	33.1	1.9	3.8	9.8	12.6
10	Stinkweed	34.6	13.6	39.4	2.8	8.0	18.0	10.7
11	Canada thistle	34.0	10.8	31.8	2.8	8.2	19.6	9.7
12	Canola/rapeseed	22.1	11.8	53.3	3.8	17.2	47.0	9.4
13	Rough cinquefoil	13.9	11.1	80.0	3.5	25.0	25.0	8.0
14	Narrow-leaved hawk's-beard	21.3	9.8	46.2	1.9	8.8	12.6	7.2
15	White cockle	34.0	6.2	18.1	0.5	1.4	3.4	6.4
16	Wheat	14.7	7.4	50.0	2.3	15.4	30.4	5.9
17	Field horsetail	26.7	6.5	24.4	0.5	2.0	3.6	5.7
18	Vetch species	26.7	4.5	17.0	0.3	1.1	2.0	4.8
19	Shepherd's-purse	22.1	5.5	25.0	0.5	2.3	3.4	4.8
20	Pale smartweed	26.7	3.3	12.4	0.2	0.8	1.0	4.3
21	Western barnyard grass	27.8	2.1	7.5	0.1	0.3	0.4	3.9
22	Wild oats	22.1	1.8	8.3	0.8	3.7	9.6	3.7
23	Marsh yellow cress	21.3	2.5	11.7	0.2	0.8	1.6	3.4
24	Field pea	12.8	4.5	35.0	0.3	2.4	2.4	3.2
25	Green foxtail	14.7	3.3	22.5	0.5	3.1	5.6	3.2
26	Fescue species	13.9	2.8	20.0	0.5	3.8	3.8	2.9
27	Poplar species	7.4	4.4	60.0	0.4	6.0	6.0	2.7
28	Golden corydalis	12.8	1.9	15.0	0.1	0.6	0.6	2.2
29	Purslane speedwell	13.9	1.4	10.0	0.1	0.4	0.4	2.1
30	Tumble pigweed	14.7	0.7	5.0	< 0.1	0.3	0.4	1.9
31	Broad-leaved plantain	13.9	0.7	5.0	< 0.1	0.2	0.2	1.8
32	Meadow brome	13.9	0.7	5.0	< 0.1	0.2	0.2	1.8
33	Tall buttercup	7.4	0.4	5.0	1.1	14.4	14.4	1.7
34	Foxtail barley	12.8	0.6	5.0	< 0.1	0.2	0.2	1.7
35	Clover species	12.8	0.6	5.0	< 0.1	0.2	0.2	1.7
36	Annual blue grass	7.4	0.4	5.0	0.2	2.6	2.6	1.1
37	Toad rush	7.4	0.4	5.0	< 0.1	0.2	0.2	1.0
38	Alfalfa	7.4	0.4	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Annual crops in Ponoka

Table 145. 2017 Annual crops in Ponoka (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	69.7	41.0	58.8	52.2	74.9	397.0	107.4
2	Wild buckwheat	53.5	14.9	27.8	4.3	8.0	60.4	26.3
3	Pale smartweed	17.8	11.5	64.5	7.4	41.8	91.4	20.5
4	Narrow-leaved hawk's-beard	31.0	10.7	34.5	1.2	3.8	8.4	14.9
5	Dandelion	38.7	7.0	18.1	0.6	1.6	7.4	13.5
6	Barley	15.5	12.9	83.3	1.6	10.0	11.0	13.4
7	Hemp-nettle	18.5	8.6	46.2	3.0	16.3	34.8	13.2
8	Field horsetail	20.9	7.3	34.7	2.7	13.1	48.0	12.6
9	Wild oats	23.2	6.9	29.6	0.5	2.2	3.8	10.0
10	Lamb's-quarters	15.5	8.5	55.0	0.7	4.2	4.2	9.5
11	Canada thistle	27.9	2.9	10.4	0.2	0.6	1.2	8.0
12	Canola/rapeseed	15.5	5.2	33.5	0.3	2.0	2.4	7.0
13	White cockle	5.4	5.4	100.0	1.7	31.4	31.4	6.7
14	Corn spurry	15.5	3.7	24.2	0.3	2.2	5.8	6.1
15	Quack grass	10.8	3.2	30.0	1.1	10.0	17.4	5.7
16	Night-flowering catchfly	10.1	2.0	20.0	0.1	1.0	1.0	3.6
17	Vetch species	10.8	0.5	5.0	< 0.1	0.2	0.2	2.7
18	Borage	7.7	1.2	15.0	0.1	1.8	1.8	2.6
19	Wild mustard	10.1	0.5	5.0	< 0.1	0.4	0.4	2.5
20	Stinkweed	10.1	0.5	5.0	< 0.1	0.4	0.4	2.5
21	Annual blue grass	10.1	0.5	5.0	< 0.1	0.2	0.2	2.5
22	Spiny annual sow-thistle	10.1	0.5	5.0	< 0.1	0.2	0.2	2.5
23	Clover species	5.4	1.4	25.0	0.1	2.2	2.2	2.2
24	Rye	5.4	1.4	25.0	0.1	2.0	2.0	2.1
25	False cleavers	7.7	0.4	5.0	< 0.1	0.4	0.4	1.9

Table 146. 2017 Annual crops in Red Deer (34 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	67.7	19.9	29.3	21.4	31.5	500.6	59.1
2	Lamb's-quarters	17.7	4.5	25.6	14.5	81.9	704.8	29.1
3	Canola/rapeseed	43.8	15.9	36.3	3.5	8.0	51.8	24.1
4	Dandelion	60.4	13.4	22.3	1.8	2.9	28.0	22.3
5	Wild buckwheat	45.3	12.1	26.7	1.3	3.0	12.0	18.2
6	Wheat	22.6	8.0	35.5	2.2	9.6	66.8	12.9
7	False cleavers	24.0	7.7	32.1	1.5	6.4	30.8	11.9
8	Annual blue grass	19.3	2.8	14.5	3.7	19.3	93.8	11.0
9	Wild oats	15.4	4.8	31.2	2.6	17.1	65.2	10.2
10	Shepherd's-purse	24.2	5.4	22.4	0.9	3.9	26.0	9.3
11	Hemp-nettle	30.5	3.5	11.3	0.2	0.5	2.0	7.7
12	Green foxtail	13.4	5.3	39.4	1.0	7.3	15.8	7.5
13	Barley	12.3	4.6	37.2	1.2	10.1	36.6	7.3
14	Spiny annual sow-thistle	30.2	2.7	8.8	0.1	0.5	1.6	7.0
15	Broad-leaved plantain	18.4	2.2	12.0	0.6	3.4	22.0	5.6
16	Corn spurry	4.0	2.7	67.5	1.7	41.8	77.6	5.3
17	Stork's bill	3.0	2.1	70.0	1.8	59.2	59.2	4.8
18	Canada thistle	19.3	1.9	9.6	0.2	0.8	2.8	4.7
19	Clover species	17.3	1.9	11.0	0.1	0.7	2.6	4.4
20	Common groundsel	9.3	2.7	29.4	0.5	5.6	19.2	4.3
21	Quack grass	13.8	1.5	10.7	0.3	2.5	8.0	3.9
22	Pale smartweed	9.9	2.2	22.0	0.2	2.2	4.4	3.5
23	Bird's-eye speedwell	3.0	2.1	70.0	0.7	25.2	25.2	3.2
24	Stinkweed	10.9	1.3	12.2	0.1	0.5	1.0	2.8
25	Narrow-leaved hawk's-beard	8.9	0.6	7.3	0.1	0.6	2.0	2.0
26	Prostrate knotweed	9.5	0.5	5.0	< 0.1	0.3	0.4	1.9
27	Henbit	5.0	1.0	19.2	0.2	5.0	12.0	1.9
28	Willow species	7.5	0.6	7.7	< 0.1	0.3	0.6	1.7
29	Pineappleweed	7.0	0.5	6.8	< 0.1	0.7	1.4	1.5
30	Vetch species	6.9	0.5	7.8	< 0.1	0.4	0.4	1.5
31	Field horsetail	6.0	0.5	8.3	< 0.1	0.7	1.2	1.4
32	Low cudweed	5.9	0.5	8.3	0.1	1.1	1.6	1.4
33	Meadow brome	2.8	0.6	20.0	0.3	10.2	10.2	1.3
34	Night-flowering catchfly	5.4	0.4	7.7	< 0.1	0.3	0.4	1.2
35	Rough cinquefoil	4.8	0.4	7.9	< 0.1	0.5	0.6	1.1
36	Field pea	3.9	0.2	5.0	< 0.1	0.2	0.2	0.8
37	Black medick	3.0	0.3	10.0	< 0.1	0.4	0.4	0.7
38	Foxtail barley	2.8	0.3	10.0	< 0.1	0.4	0.4	0.7
39	Absinth	3.0	0.1	5.0	< 0.1	0.2	0.2	0.6
40	White cockle	2.0	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Annual crops in Sturgeon & Strathcona

Table 147. 2017 Annual crops in Sturgeon & Strathcona (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	40.6	15.9	39.0	5.8	14.3	105.8	46.7
2	Annual blue grass	11.3	4.3	38.3	5.7	50.7	150.6	30.3
3	Wild buckwheat	44.4	13.0	29.3	0.8	1.9	6.8	23.8
4	Corn spurry	11.3	4.3	38.3	3.2	28.1	83.6	19.4
5	Lamb's-quarters	22.5	10.3	45.8	1.4	6.2	19.0	19.4
6	Canola/rapeseed	30.0	7.5	25.0	0.8	2.5	11.6	15.8
7	False cleavers	33.8	6.8	20.0	0.4	1.1	2.4	14.3
8	Wheat	30.0	5.8	19.4	0.7	2.5	13.4	14.3
9	Canada thistle	33.8	5.8	17.2	0.5	1.4	7.6	13.8
10	Low cudweed	15.0	5.3	35.0	1.1	7.1	21.8	12.1
11	Dandelion	26.3	3.4	12.9	0.2	0.9	2.4	9.2
12	Pale smartweed	22.5	3.8	16.7	0.2	1.0	3.2	8.7
13	Wild oats	14.3	4.3	29.8	0.3	2.3	3.2	8.0
14	Hemp-nettle	26.3	2.3	8.6	0.2	0.6	2.4	7.9
15	Barley	15.0	3.6	23.8	0.3	2.2	6.2	7.5
16	Shepherd's-purse	15.0	2.8	18.8	0.4	2.9	8.4	7.3
17	Field horsetail	11.3	1.9	16.7	0.4	3.3	9.2	5.5
18	Henbit	7.5	3.2	42.5	0.2	3.0	4.8	5.3
19	Night-flowering catchfly	11.3	1.3	11.7	0.2	1.4	2.8	4.1
20	Spiny annual sow-thistle	11.3	1.3	11.7	0.1	0.8	1.4	3.8
21	Pineappleweed	7.5	1.7	22.5	0.2	2.2	2.4	3.7
22	Narrow-leaved hawk's-beard	7.5	1.1	15.0	0.2	2.3	4.4	3.2
23	Stork's bill	3.8	1.3	35.0	0.1	3.2	3.2	2.4
24	Fescue species	7.5	0.6	7.5	0.1	1.0	1.6	2.3
25	Foxtail barley	3.8	0.9	25.0	0.1	3.0	3.0	2.1
26	Borage	3.8	0.8	20.0	< 0.1	0.8	0.8	1.5
27	Alfalfa	3.8	0.2	5.0	< 0.1	0.4	0.4	1.0
28	Marsh yellow cress	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
29	Prostrate knotweed	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
30	Stinkweed	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
31	Northern willowherb	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
32	Field pea	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
33	Western barnyard grass	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
34	Water mudwort	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 148. 2017 Annual crops in Wetaskiwin (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	83.4	35.3	42.4	19.1	22.9	140.6	60.5
2	Lamb's-quarters	28.7	10.1	35.4	18.4	64.2	265.0	36.0
3	Wild buckwheat	71.3	26.0	36.4	6.5	9.1	56.8	35.8
4	Hemp-nettle	46.3	18.7	40.3	5.8	12.6	43.2	26.4
5	Wheat	16.6	13.5	81.4	6.7	40.4	66.2	19.7
6	Pale smartweed	27.4	9.9	36.3	6.0	22.1	75.0	18.6
7	Canola/rapeseed	39.4	6.4	16.3	0.5	1.2	2.6	11.1
8	Dandelion	27.4	8.9	32.5	0.8	2.8	6.2	10.7
9	Canada thistle	34.2	5.5	16.0	0.4	1.2	3.6	9.5
10	Wild oats	27.4	6.2	22.5	0.8	2.8	7.2	9.2
11	Spiny annual sow-thistle	6.8	6.2	90.0	2.8	40.8	40.8	8.5
12	False cleavers	20.5	4.8	23.3	0.4	2.1	4.0	6.8
13	Field horsetail	23.4	1.5	6.5	0.3	1.2	3.2	5.3
14	Corn spurry	20.5	1.7	8.3	0.3	1.7	2.6	5.0
15	Quack grass	6.8	3.8	55.0	0.6	9.2	9.2	4.2
16	Low cudweed	15.0	1.3	8.5	0.5	3.5	7.0	4.0
17	Barley	13.7	2.1	15.0	0.1	0.6	1.0	3.6
18	Stinkweed	6.8	3.1	45.0	0.4	5.6	5.6	3.4
19	Redroot pigweed	6.8	3.1	45.0	0.3	4.8	4.8	3.4
20	Narrow-leaved hawk's-beard	6.8	1.4	20.0	0.7	10.2	10.2	2.9
21	Spear-leaved goosefoot	6.8	2.1	30.0	0.4	5.4	5.4	2.8
22	Western barnyard grass	6.8	1.4	20.0	0.5	7.8	7.8	2.7
23	Stork's bill	6.8	1.7	25.0	0.1	1.2	1.2	2.3
24	Annual blue grass	5.2	1.6	30.0	0.1	2.0	2.0	1.9
25	Oak-leaved goosefoot	5.2	1.3	25.0	0.1	1.2	1.2	1.7
26	Night-flowering catchfly	6.8	0.3	5.0	< 0.1	0.4	0.4	1.4
27	Broad-leaved plantain	6.8	0.3	5.0	< 0.1	0.2	0.2	1.4
28	Prostrate knotweed	5.2	0.5	10.0	< 0.1	0.4	0.4	1.2

Field Survey Summary Tables – Annual crops in Athabasca & Lac La Biche

Table 149. 2017 Annual crops in Athabasca & Lac La Biche (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	44.5	14.2	31.8	5.5	12.3	38.4	47.4
2	Canola/rapeseed	57.7	21.5	37.2	2.3	4.0	11.6	45.8
3	Stinkweed	4.0	4.0	100.0	7.7	194.8	194.8	35.1
4	Wild buckwheat	39.9	13.2	33.0	1.8	4.4	9.2	30.6
5	Lamb's-quarters	35.9	10.3	28.8	1.4	3.8	10.2	25.3
6	Hemp-nettle	33.7	7.6	22.4	1.4	4.1	12.0	21.9
7	False cleavers	21.1	7.5	35.6	1.1	5.1	7.8	17.3
8	Field horsetail	33.7	5.4	16.0	0.5	1.6	7.6	16.5
9	Wheat	6.2	4.9	80.0	1.4	23.0	23.0	12.1
10	Alfalfa	12.5	2.8	22.3	1.2	9.5	29.8	10.8
11	Pale smartweed	4.0	3.4	85.0	0.7	17.2	17.2	7.0
12	Dandelion	12.5	2.5	19.7	0.2	1.6	2.6	6.6
13	Rayless aster	8.6	1.7	20.0	0.2	2.0	2.0	4.7
14	Spiny annual sow-thistle	8.6	0.9	10.0	0.1	1.0	1.0	3.5
15	Rough cinquefoil	8.6	0.9	10.0	< 0.1	0.4	0.4	3.3
16	Tall buttercup	8.6	0.4	5.0	< 0.1	0.4	0.4	2.9
17	Night-flowering catchfly	8.6	0.4	5.0	< 0.1	0.4	0.4	2.9
18	Clover species	8.6	0.4	5.0	< 0.1	0.4	0.4	2.9
19	Narrow-leaved hawk's-beard	6.2	0.3	5.0	< 0.1	0.4	0.4	2.1
20	Common yarrow	4.0	0.2	5.0	< 0.1	0.2	0.2	1.3

Table 150. 2017 Annual crops in Barrhead (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	49.0	40.2	82.0	45.7	93.1	117.8	106.1
2	Dandelion	39.7	14.2	35.8	1.8	4.4	11.2	21.0
3	Wild oats	60.3	5.6	9.3	0.8	1.3	5.4	17.9
4	Wheat	10.4	10.4	100.0	5.3	51.2	51.2	17.4
5	Clover species	19.9	9.8	49.3	3.0	15.3	25.8	15.5
6	Low cudweed	30.1	7.5	24.8	1.5	5.0	7.2	13.9
7	Oak-leaved goosefoot	10.4	7.8	75.0	2.5	23.6	23.6	11.3
8	Shepherd's-purse	31.1	4.7	15.0	0.7	2.3	3.6	11.0
9	Barley	9.4	7.6	80.0	1.0	10.6	10.6	8.7
10	Lamb's-quarters	20.8	4.7	22.5	0.4	1.7	2.0	8.2
11	Canola/rapeseed	9.4	5.7	60.0	1.0	10.8	10.8	7.5
12	Wild buckwheat	20.8	2.6	12.5	0.2	1.0	1.0	6.6
13	Perennial sow-thistle	20.7	2.1	10.0	0.1	0.6	0.8	6.1
14	Corn spurry	9.4	3.3	35.0	1.2	12.2	12.2	6.0
15	Western barnyard grass	10.4	2.6	25.0	0.8	7.6	7.6	5.2
16	Wild mustard	10.4	3.1	30.0	0.5	5.2	5.2	5.2
17	Broad-leaved plantain	10.4	2.6	25.0	0.1	1.4	1.4	4.3
18	Canada thistle	9.4	2.4	25.0	0.2	1.6	1.6	3.9
19	False cleavers	10.3	1.5	15.0	0.2	1.6	1.6	3.5
20	White cockle	10.4	1.6	15.0	0.1	0.8	0.8	3.4
21	Marsh yellow cress	10.4	1.0	10.0	0.1	1.2	1.2	3.1
22	Prostrate knotweed	10.4	1.0	10.0	0.1	1.0	1.0	3.1
23	Stinkweed	10.4	1.0	10.0	0.1	0.6	0.6	3.1
24	Pale smartweed	10.4	0.5	5.0	0.1	0.6	0.6	2.7
25	Pineappleweed	10.4	0.5	5.0	< 0.1	0.2	0.2	2.6
26	Alfalfa	10.4	0.5	5.0	< 0.1	0.2	0.2	2.6

Field Survey Summary Tables – Annual crops in Bonnyville

Table 151. 2017 Annual crops in Bonnyville (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	54.5	28.2	51.7	6.4	11.8	22.0	45.4
2	Wild buckwheat	72.7	27.3	37.5	3.0	4.1	17.8	38.2
3	Wheat	18.2	9.5	52.5	8.4	46.1	91.4	32.6
4	Field horsetail	54.5	13.6	25.0	1.8	3.3	9.8	23.0
5	Hemp-nettle	18.2	8.2	45.0	4.4	24.2	48.0	20.6
6	Canola/rapeseed	36.4	12.3	33.8	2.2	6.1	10.2	20.2
7	Stinkweed	18.2	10.5	57.5	3.1	16.9	19.6	18.4
8	Redroot pigweed	18.2	5.9	32.5	1.9	10.5	19.0	12.2
9	Dandelion	45.5	4.5	10.0	0.2	0.5	0.8	11.2
10	Narrow-leaved hawk's-beard	36.4	3.6	10.0	0.3	0.9	2.6	9.3
11	Shepherd's-purse	18.2	4.5	25.0	0.7	3.6	6.4	7.8
12	Alfalfa	18.2	4.5	25.0	0.4	2.3	4.4	7.2
13	Night-flowering catchfly	9.1	3.6	40.0	1.0	11.0	11.0	6.7
14	Clover species	18.2	2.7	15.0	0.5	2.8	5.4	6.2
15	Pale smartweed	18.2	2.7	15.0	0.2	1.0	1.8	5.3
16	Wild oats	18.2	1.8	10.0	0.2	1.0	1.2	4.7
17	Canada thistle	18.2	1.8	10.0	0.2	0.9	1.4	4.7
18	Purslane speedwell	9.1	1.4	15.0	0.6	6.8	6.8	4.1
19	Stork's bill	9.1	0.9	10.0	0.1	1.0	1.0	2.4
20	Marsh yellow cress	9.1	0.5	5.0	0.2	1.8	1.8	2.3
21	Foxtail barley	9.1	0.9	10.0	< 0.1	0.4	0.4	2.2
22	Rough cinquefoil	9.1	0.5	5.0	0.1	0.8	0.8	2.0
23	Perennial sow-thistle	9.1	0.5	5.0	0.1	0.6	0.6	2.0
24	White cockle	9.1	0.5	5.0	< 0.1	0.4	0.4	1.9
25	False cleavers	9.1	0.5	5.0	< 0.1	0.4	0.4	1.9
26	Annual blue grass	9.1	0.5	5.0	< 0.1	0.2	0.2	1.9
27	Pygmyflower	9.1	0.5	5.0	< 0.1	0.2	0.2	1.9
28	Thyme-leaved sandwort	9.1	0.5	5.0	< 0.1	0.2	0.2	1.9
29	Corn spurry	9.1	0.5	5.0	< 0.1	0.2	0.2	1.9

Field Survey Summary Tables – Annual crops in Lac Ste. Anne, Woodlands & Yellowhead

Table 152. 2017 Annual crops in Lac Ste. Anne, Woodlands & Yellowhead (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	77.7	33.9	43.6	10.8	13.8	140.0	91.7
2	Wild buckwheat	86.6	26.8	30.9	3.1	3.5	22.4	51.8
3	Wild oats	29.3	13.5	46.2	1.9	6.6	18.4	25.2
4	Lamb's-quarters	61.0	11.8	19.4	0.9	1.4	2.4	25.1
5	Hemp-nettle	47.0	6.9	14.6	0.7	1.6	10.4	18.0
6	False cleavers	41.5	8.4	20.2	0.4	1.0	2.2	16.4
7	Field horsetail	17.4	4.9	28.3	1.7	10.0	20.4	15.4
8	Shepherd's-purse	31.1	4.7	15.0	0.2	0.6	0.8	10.5
9	Dandelion	17.4	5.5	31.8	0.4	2.3	7.0	9.5
10	Stinkweed	14.0	5.6	40.0	0.4	3.2	3.2	9.1
11	Spiny annual sow-thistle	16.8	2.0	12.1	0.1	0.9	3.0	5.5
12	Alfalfa	14.0	2.1	15.0	0.1	1.0	1.0	5.0
13	Night-flowering catchfly	14.0	0.7	5.0	0.1	0.4	0.4	3.5
14	Narrow-leaved hawk's-beard	9.4	0.7	7.9	< 0.1	0.5	0.6	2.6
15	Blue grass species	4.0	1.4	35.0	0.1	2.8	2.8	2.4
16	Canola/rapeseed	7.9	0.4	5.0	< 0.1	0.2	0.2	1.9
17	Common yarrow	5.5	0.5	10.0	< 0.1	0.4	0.4	1.6
18	Canada thistle	4.0	0.6	15.0	0.1	1.4	1.4	1.5
19	Quack grass	4.0	0.4	10.0	< 0.1	0.6	0.6	1.2
20	Clover species	4.0	0.4	10.0	< 0.1	0.4	0.4	1.2
21	Pale smartweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Annual crops in St. Paul

Table 153. 2017 Annual crops in St. Paul (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	70.8	27.5	38.8	3.9	5.5	17.6	69.6
2	Wild buckwheat	57.6	26.0	45.1	3.9	6.7	25.8	63.9
3	False cleavers	14.3	5.7	39.8	2.7	18.5	44.6	24.9
4	Barley	17.1	10.7	62.7	1.5	8.5	12.4	23.5
5	Wild oats	14.6	7.9	53.9	1.4	9.9	15.6	20.1
6	Oats	17.4	3.9	22.5	0.6	3.4	4.8	12.3
7	Narrow-leaved hawk's-beard	17.6	3.5	20.0	0.2	1.4	2.2	10.1
8	Clover species	14.5	4.1	28.2	0.3	2.0	4.4	9.9
9	Field horsetail	11.7	3.2	27.5	0.4	3.4	4.6	8.9
10	Hemp-nettle	5.9	3.2	55.0	0.7	11.2	11.2	8.6
11	Dandelion	14.5	1.6	11.0	0.2	1.2	1.8	6.9
12	Canada thistle	11.7	1.5	12.5	0.2	1.4	1.6	5.9
13	Pale smartweed	5.8	1.8	30.0	0.4	7.4	7.4	5.9
14	Lamb's-quarters	11.7	0.9	7.5	0.2	1.6	2.4	5.5
15	Low cudweed	5.9	1.5	25.0	0.4	6.6	6.6	5.4
16	Green foxtail	8.6	1.7	20.0	0.1	1.4	1.4	5.0
17	Chickweed	5.9	1.2	20.0	0.3	5.6	5.6	4.8
18	Redroot pigweed	5.8	1.8	30.0	0.2	3.2	3.2	4.5
19	Broad-leaved plantain	5.9	0.3	5.0	< 0.1	0.2	0.2	2.2
20	Poplar species	5.9	0.3	5.0	< 0.1	0.2	0.2	2.2

Field Survey Summary Tables – Annual crops in Thorhild & Smoky Lake

Table 154. 2017 Annual crops in Thorhild & Smoky Lake (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	71.6	22.8	31.9	3.5	4.9	44.4	47.4
2	Canola/rapeseed	61.8	25.3	41.0	2.4	3.9	9.4	41.4
3	Field horsetail	29.4	14.7	50.0	2.1	7.1	12.0	26.7
4	Wheat	33.4	12.3	36.9	2.1	6.3	13.6	25.8
5	Lamb's-quarters	37.8	9.1	24.0	1.6	4.3	22.2	21.7
6	False cleavers	38.2	8.2	21.4	1.0	2.5	7.8	17.5
7	Stinkweed	19.2	4.5	23.5	0.7	3.8	14.0	10.4
8	Rough cinquefoil	14.9	5.9	39.7	0.7	4.5	6.0	10.3
9	Narrow-leaved hawk's-beard	14.2	5.1	36.2	0.5	3.5	7.0	8.8
10	Canada thistle	28.4	3.1	11.0	0.2	0.8	1.8	8.4
11	Spiny annual sow-thistle	13.1	4.4	33.3	0.3	2.5	3.0	7.1
12	Broad-leaved plantain	23.6	2.1	8.7	0.2	1.0	4.6	6.9
13	Pale smartweed	14.2	2.5	17.3	0.4	3.0	9.4	6.5
14	Hemp-nettle	23.6	1.7	7.0	0.2	0.9	2.2	6.4
15	White cockle	4.4	3.1	70.0	0.6	13.6	13.6	6.1
16	Wild oats	14.2	3.2	22.3	0.2	1.4	2.0	5.8
17	Night-flowering catchfly	19.6	1.5	7.5	0.1	0.7	1.2	5.2
18	Low cudweed	14.2	1.8	12.7	0.2	1.7	5.0	5.0
19	Dandelion	18.6	1.6	8.8	0.1	0.5	0.6	4.9
20	Field violet	9.8	2.0	20.0	0.2	1.6	1.6	3.9
21	Corn spurry	4.4	1.1	25.0	0.4	10.2	10.2	3.9
22	Pygmyflower	9.8	2.0	20.0	0.1	1.0	1.0	3.6
23	Stork's bill	4.4	1.5	35.0	0.2	5.2	5.2	3.1
24	Shepherd's-purse	9.8	1.0	10.0	0.1	0.6	0.6	2.7
25	Chickweed	9.8	1.0	10.0	< 0.1	0.4	0.4	2.6
26	Marsh yellow cress	4.4	0.9	20.0	0.2	3.6	3.6	2.2
27	Wild mustard	4.4	0.7	15.0	0.1	1.4	1.4	1.6
28	Flixweed	5.1	0.3	5.0	< 0.1	0.2	0.2	1.1
29	Wormseed mustard	5.1	0.3	5.0	< 0.1	0.2	0.2	1.1
30	Oak-leaved goosefoot	4.4	0.2	5.0	< 0.1	0.2	0.2	1.0
31	Pineappleweed	4.4	0.2	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Annual crops in Westlock & Lesser Slave River

Table 155. 2017 Annual crops in Westlock & Lesser Slave River (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	11.3	8.7	77.5	5.9	52.3	60.2	38.9
2	Wild buckwheat	45.8	19.0	41.4	1.6	3.6	8.6	35.8
3	Chickweed	26.8	14.1	52.7	3.1	11.6	32.6	34.0
4	Dandelion	37.8	12.1	32.0	1.6	4.3	15.4	27.8
5	Hemp-nettle	33.0	9.4	28.4	0.9	2.7	13.6	20.5
6	Annual blue grass	11.3	4.8	42.5	1.6	14.3	22.6	14.7
7	Field horsetail	14.9	5.5	36.9	1.3	8.4	35.6	14.5
8	Spiny annual sow-thistle	17.1	2.8	16.5	0.9	5.4	25.0	11.0
9	Lamb's-quarters	15.0	5.2	34.9	0.5	3.5	7.8	10.8
10	Canada thistle	23.8	3.0	12.5	0.4	1.8	9.4	10.3
11	Broad-leaved plantain	22.5	3.4	15.0	0.3	1.3	2.4	9.7
12	Low cudweed	16.9	2.0	11.7	0.4	2.2	3.0	7.5
13	Stork's bill	14.8	2.5	16.7	0.1	0.9	1.6	6.4
14	Wild mustard	2.4	2.2	90.0	0.8	31.2	31.2	6.2
15	Wild oats	12.8	2.5	19.2	0.2	1.6	3.0	6.2
16	Night-flowering catchfly	12.4	1.9	15.5	0.1	1.2	3.0	5.3
17	Green foxtail	14.2	1.0	7.0	0.1	0.4	0.4	4.5
18	Pale smartweed	8.1	2.1	26.0	0.1	1.5	2.0	4.4
19	Northern willowherb	11.3	0.6	5.0	< 0.1	0.2	0.2	3.3
20	Water mudwort	5.6	0.6	10.0	0.3	4.6	4.6	3.1
21	Canola/rapeseed	6.5	1.0	15.5	0.1	1.0	1.4	2.8
22	Perennial sow-thistle	5.6	0.8	15.0	0.1	1.2	1.2	2.4
23	Toad rush	5.6	0.8	15.0	0.1	1.2	1.2	2.4
24	Rough cinquefoil	5.6	0.8	15.0	0.1	1.0	1.0	2.4
25	False cleavers	5.6	0.6	10.0	< 0.1	0.8	0.8	2.0
26	Field violet	5.6	0.3	5.0	0.1	1.0	1.0	1.8
27	Willow species	5.6	0.3	5.0	< 0.1	0.4	0.4	1.7
28	Oak-leaved goosefoot	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
29	Narrow-leaved hawk's-beard	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
30	Sweet-clover species	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
31	Stinkweed	2.4	0.4	15.0	< 0.1	1.8	1.8	1.1
32	Shepherd's-purse	3.4	0.2	5.0	< 0.1	0.2	0.2	1.0
33	Alfalfa	2.4	0.2	10.0	< 0.1	1.0	1.0	0.9
34	Vetch species	2.4	0.2	10.0	< 0.1	0.8	0.8	0.9
35	Bicknell's geranium	2.4	0.2	10.0	< 0.1	0.6	0.6	0.9

Field Survey Summary Tables – Annual crops in Big Lakes & Northern Sunrise

Table 156. 2017 Annual crops in Big Lakes & Northern Sunrise (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	61.8	24.7	40.1	4.7	7.6	24.6	84.8
2	Field horsetail	60.9	14.1	23.1	2.3	3.8	21.4	53.6
3	Wild buckwheat	27.5	11.3	41.2	1.4	5.2	14.8	32.9
4	Pale smartweed	15.4	7.7	50.0	1.2	7.6	7.6	22.9
5	Clover species	23.3	8.6	36.7	0.7	2.9	3.0	22.5
6	Wheat	18.0	7.3	40.6	0.8	4.4	7.8	20.2
7	Narrow-leaved hawk's-beard	12.9	2.9	22.8	0.3	2.6	3.2	10.1
8	Bicknell's geranium	23.3	1.2	5.0	< 0.1	0.2	0.2	9.3
9	Stinkweed	17.1	1.7	9.8	0.2	1.0	6.4	8.7
10	Hemp-nettle	9.5	1.8	18.7	0.3	3.6	19.8	7.8
11	Alfalfa	7.9	2.8	35.0	0.1	1.6	1.6	6.7
12	Chickweed	1.6	1.3	80.0	0.4	25.0	25.0	5.2
13	Lamb's-quarters	9.5	1.0	10.9	0.1	1.2	3.0	5.1
14	False cleavers	5.0	1.5	30.0	0.1	2.8	2.8	4.4
15	Canada thistle	7.9	0.8	10.0	< 0.1	0.4	0.4	3.7
16	Purslane speedwell	5.0	0.3	5.0	< 0.1	0.2	0.2	2.0

Field Survey Summary Tables – Annual crops in Birch Hills & Spirit River

Table 157. 2017 Annual crops in Birch Hills & Spirit River (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	38.5	11.5	29.9	1.4	3.5	8.2	87.4
2	Wheat	32.1	7.4	23.1	0.5	1.7	2.4	49.0
3	Low cudweed	32.5	2.3	7.0	0.3	1.0	2.0	27.5
4	False cleavers	25.4	2.5	10.0	0.2	1.0	1.6	23.6
5	Field horsetail	38.9	1.9	5.0	0.1	0.2	0.2	22.0
6	Wild buckwheat	15.9	2.9	18.0	0.2	1.4	1.8	20.6
7	Lamb's-quarters	25.8	1.9	7.5	0.1	0.5	0.6	18.4
8	Canada thistle	19.0	1.6	8.3	0.1	0.7	1.0	15.6
9	Dock species	13.1	0.7	5.0	0.3	2.0	2.0	14.4
10	Wild oats	13.1	0.7	5.0	< 0.1	0.2	0.2	7.4
11	Purslane speedwell	6.3	0.6	10.0	< 0.1	0.4	0.4	4.9
12	Chickweed	6.3	0.3	5.0	< 0.1	0.4	0.4	4.0
13	Clover species	6.3	0.3	5.0	< 0.1	0.2	0.2	3.6
14	Narrow-leaved hawk's-beard	3.2	0.2	5.0	< 0.1	0.2	0.2	1.8

Table 158. 2017 Annual crops in Clear Hills (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Field horsetail	42.1	17.4	41.3	5.4	12.9	45.4	63.7
2	Oats	15.9	10.1	63.5	4.0	25.4	37.6	40.6
3	Dandelion	68.4	13.7	20.0	0.9	1.3	7.4	36.8
4	Canada thistle	47.4	8.4	17.8	0.8	1.7	3.8	25.5
5	False cleavers	26.3	8.2	31.0	1.3	4.8	16.8	23.2
6	Lamb's-quarters	31.6	8.2	25.8	0.7	2.2	6.6	20.8
7	Wild oats	21.0	5.3	25.0	0.9	4.3	14.4	16.4
8	Hemp-nettle	31.6	3.4	10.8	0.3	1.0	2.4	13.1
9	Clover species	10.5	2.1	20.0	0.5	4.8	6.0	8.0
10	Wild buckwheat	21.1	1.6	7.5	0.1	0.4	1.0	7.2
11	Stinkweed	15.8	2.1	13.3	0.1	0.6	1.0	6.6
12	Spiny annual sow-thistle	15.8	1.8	11.7	0.1	0.5	0.6	6.2
13	Foxtail barley	10.5	0.8	7.5	0.2	2.1	3.6	4.7
14	Barley	10.5	1.6	15.0	0.1	0.7	0.8	4.7
15	Narrow-leaved hawk's-beard	10.5	0.5	5.0	< 0.1	0.4	0.4	3.3
16	Biennial wormwood	5.3	1.1	20.0	0.1	2.4	2.4	3.2
17	Marsh yellow cress	5.3	0.3	5.0	0.1	1.2	1.2	1.9
18	Blue grass species	5.3	0.3	5.0	< 0.1	0.4	0.4	1.6
19	Canola/rapeseed	5.3	0.3	5.0	< 0.1	0.4	0.4	1.6
20	Rough cinquefoil	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
21	Low cudweed	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
22	Quack grass	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
23	Broad-leaved plantain	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
24	Stork's bill	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
25	Northern willowherb	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6
26	Common yarrow	5.3	0.3	5.0	< 0.1	0.2	0.2	1.6

Field Survey Summary Tables – Annual crops in Fairview & Peace

Table 159. 2017 Annual crops in Fairview & Peace (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	58.7	32.2	54.8	10.9	18.6	49.4	74.5
2	Canola/rapeseed	76.1	25.9	34.0	3.7	4.9	16.8	46.2
3	Wild buckwheat	48.5	17.8	36.7	2.6	5.3	13.4	31.2
4	False cleavers	51.5	17.9	34.7	1.6	3.0	6.8	27.9
5	Stinkweed	41.3	11.8	28.5	1.9	4.7	17.4	23.3
6	Wild oats	28.2	7.7	27.3	1.4	5.1	12.0	16.1
7	Alfalfa	17.4	9.0	51.7	0.8	4.8	8.0	12.5
8	Stork's bill	10.2	6.1	60.0	1.0	10.0	10.0	9.9
9	Canada thistle	28.2	2.8	9.9	0.2	0.5	0.6	8.0
10	Wheat	10.2	5.1	50.0	0.5	4.8	4.8	7.2
11	Field horsetail	17.3	1.8	10.2	0.6	3.7	4.6	7.0
12	Foxtail barley	17.4	2.8	16.2	0.3	1.6	3.0	6.3
13	Narrow-leaved hawk's-beard	24.6	1.2	5.0	< 0.1	0.2	0.2	5.8
14	Clover species	10.2	3.0	30.0	0.2	2.0	2.0	4.8
15	Pineappleweed	17.4	0.9	5.0	0.1	0.4	0.6	4.2
16	Yellow toadflax	10.2	1.5	15.0	0.1	1.2	1.2	3.5
17	Perennial sow-thistle	10.2	0.5	5.0	< 0.1	0.2	0.2	2.4
18	Spiny annual sow-thistle	10.2	0.5	5.0	< 0.1	0.2	0.2	2.4
19	Wild mustard	3.6	1.4	40.0	0.1	2.2	2.2	2.0
20	Hemp-nettle	7.2	0.4	5.0	< 0.1	0.2	0.2	1.7
21	Bluebur	3.6	0.5	15.0	< 0.1	0.6	0.6	1.1
22	Purslane speedwell	3.6	0.4	10.0	< 0.1	0.6	0.6	1.0
23	Shepherd's-purse	3.6	0.2	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Annual crops in Grande Prairie & Greenview

Table 160. 2017 Annual crops in Grande Prairie & Greenview (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	23.9	13.5	56.5	6.3	26.2	58.6	37.9
2	Narrow-leaved hawk's-beard	34.9	12.4	35.4	5.1	14.7	70.8	35.5
3	Canola/rapeseed	51.9	15.7	30.3	1.8	3.5	31.4	30.6
4	Wild buckwheat	38.9	11.4	29.3	2.3	6.0	19.6	25.9
5	Dandelion	31.1	7.8	25.2	0.8	2.5	8.4	15.9
6	Stinkweed	17.5	6.3	36.0	1.7	9.8	34.8	14.9
7	Clover species	17.9	8.0	44.6	1.2	7.0	11.4	14.7
8	Rough cinquefoil	12.3	5.5	44.5	2.1	16.8	33.6	14.3
9	Canada thistle	31.5	4.9	15.5	0.9	2.7	6.2	13.9
10	Wheat	23.1	5.6	24.2	0.5	2.0	5.4	11.3
11	Oats	3.7	3.3	90.0	1.8	48.8	48.8	9.8
12	Wild oats	12.5	3.7	29.7	0.8	6.5	22.2	8.6
13	Field horsetail	18.6	3.3	17.9	0.4	2.3	8.2	8.3
14	Chickweed	12.8	2.1	16.8	0.5	3.9	10.2	6.3
15	Hemp-nettle	11.9	2.5	21.4	0.4	3.6	10.0	6.2
16	Vetch species	9.7	2.2	22.1	0.3	3.5	8.6	5.1
17	Tartary buckwheat	3.0	2.6	85.0	0.3	11.4	11.4	4.0
18	Shepherd's-purse	6.8	1.6	23.0	0.3	4.5	8.2	3.8
19	False cleavers	6.1	2.0	32.5	0.2	3.6	7.0	3.7
20	Bluebur	6.0	1.2	20.0	0.3	5.0	5.0	3.4
21	Ball mustard	10.2	0.7	7.1	0.1	0.8	1.0	3.2
22	Broad-leaved plantain	9.7	0.8	8.1	0.1	0.8	1.0	3.1
23	Sweet-clover species	6.0	1.5	25.0	0.1	2.0	2.0	3.0
24	Alfalfa	3.4	1.5	42.6	0.1	2.3	2.4	2.2
25	Spiny annual sow-thistle	6.0	0.9	15.0	< 0.1	0.6	0.6	2.2
26	Fescue species	4.5	1.0	21.2	0.1	1.6	4.6	2.0
27	Barley	6.2	0.5	7.6	< 0.1	0.3	0.4	1.8
28	Foxtail barley	6.2	0.3	5.0	< 0.1	0.2	0.2	1.7
29	Low cudweed	6.0	0.3	5.0	< 0.1	0.2	0.2	1.6
30	Corn spurry	3.0	0.6	20.0	< 0.1	1.0	1.0	1.3
31	Marsh hedge-nettle	3.2	0.3	10.0	< 0.1	0.4	0.4	1.0
32	Bicknell's geranium	3.7	0.2	5.0	< 0.1	0.2	0.2	1.0
33	Pineappleweed	3.2	0.2	5.0	< 0.1	0.2	0.2	0.9
34	Common groundsel	3.0	0.2	5.0	< 0.1	0.2	0.2	0.8
35	White cockle	1.5	0.1	10.0	< 0.1	0.4	0.4	0.5

Field Survey Summary Tables – Annual crops in Mackenzie

Table 161. 2017 Annual crops in Mackenzie (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	78.6	38.3	48.8	13.4	17.0	54.0	63.4
2	Field horsetail	80.9	24.6	30.5	13.2	16.3	56.0	54.5
3	Wild oats	69.1	17.3	25.0	13.3	19.3	96.6	48.0
4	False cleavers	69.1	15.8	22.9	3.8	5.5	30.0	28.4
5	Wild buckwheat	59.5	17.7	29.8	3.7	6.2	28.4	28.0
6	Canola/rapeseed	47.6	9.1	19.0	0.8	1.7	6.0	14.8
7	Hemp-nettle	19.1	4.3	22.5	0.7	3.6	4.4	7.1
8	Stinkweed	19.1	4.3	22.5	0.2	1.2	2.0	6.2
9	Spiny annual sow-thistle	9.5	4.3	45.0	0.8	8.0	8.0	5.8
10	Green foxtail	21.4	2.3	10.5	0.2	0.8	1.2	5.1
11	Shepherd's-purse	19.1	1.9	10.0	0.5	2.5	3.6	5.1
12	Broad-leaved plantain	19.1	1.4	7.5	0.1	0.5	0.8	4.1
13	Bluebur	9.5	1.9	20.0	0.1	1.2	1.2	2.9
14	Golden corydalis	9.5	1.4	15.0	0.1	1.0	1.0	2.6
15	Corn spurry	9.5	1.0	10.0	0.1	1.0	1.0	2.3
16	Quack grass	11.9	0.6	5.0	< 0.1	0.2	0.2	2.3
17	Sweet-clover species	11.9	0.6	5.0	< 0.1	0.2	0.2	2.3
18	Wheat	9.5	1.0	10.0	0.1	0.8	0.8	2.2
19	Oats	9.5	1.0	10.0	< 0.1	0.4	0.4	2.2
20	Fescue species	9.5	0.5	5.0	0.1	0.6	0.6	1.9
21	Perennial sow-thistle	9.5	0.5	5.0	< 0.1	0.4	0.4	1.9
22	Golden dock	9.5	0.5	5.0	< 0.1	0.2	0.2	1.8
23	Flixweed	9.5	0.5	5.0	< 0.1	0.2	0.2	1.8
24	Pale smartweed	9.5	0.5	5.0	< 0.1	0.2	0.2	1.8
25	Canada thistle	9.5	0.5	5.0	< 0.1	0.2	0.2	1.8
26	Biennial wormwood	9.5	0.5	5.0	< 0.1	0.2	0.2	1.8

Field Survey Summary Tables – Annual crops in Northern Lights

Table 162. 2017 Annual crops in Northern Lights (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	47.5	19.5	41.2	3.9	8.2	26.2	55.2
2	Field horsetail	53.2	10.4	19.6	5.3	10.0	44.4	54.3
3	Stinkweed	27.9	8.9	31.9	2.5	9.0	31.8	30.8
4	Canada thistle	22.2	7.8	35.0	1.1	5.0	15.4	20.5
5	False cleavers	30.4	6.2	20.5	0.7	2.1	9.8	18.4
6	Dandelion	23.8	6.2	26.0	0.5	2.0	6.8	15.7
7	Wild buckwheat	32.0	3.5	11.0	0.3	0.9	4.4	13.9
8	Narrow-leaved hawk's-beard	23.8	4.1	17.2	0.4	1.7	5.6	13.0
9	Wheat	9.8	4.7	47.9	0.7	7.2	11.0	11.7
10	Barley	4.1	2.1	50.0	1.0	23.8	23.8	8.7
11	Hemp-nettle	13.9	2.3	16.8	0.3	2.1	3.4	7.8
12	Wild oats	17.1	1.8	10.7	0.2	1.2	1.8	7.6
13	Chickweed	4.1	2.1	50.0	0.8	18.6	18.6	7.5
14	Perennial sow-thistle	9.8	2.5	25.4	0.3	2.8	4.4	6.9
15	Clover species	9.8	1.6	16.3	0.2	1.7	2.0	5.2
16	Sweet-clover species	7.3	1.8	25.0	0.1	1.4	1.4	4.5
17	Oats	5.7	1.1	20.0	0.1	1.4	1.4	3.2
18	Foxtail barley	8.2	0.6	7.5	< 0.1	0.5	0.6	3.1
19	Vetch species	5.7	0.9	15.0	0.1	1.4	1.4	2.9
20	Rough cinquefoil	8.2	0.4	5.0	< 0.1	0.3	0.4	2.7
21	Bluebur	5.7	0.3	5.0	0.1	1.2	1.2	2.2
22	Purslane speedwell	4.1	0.2	5.0	< 0.1	0.4	0.4	1.4
23	Rough hair grass	4.1	0.2	5.0	< 0.1	0.2	0.2	1.3
24	Broad-leaved plantain	4.1	0.2	5.0	< 0.1	0.2	0.2	1.3

Field Survey Summary Tables – Annual crops in Saddle Hills

Table 163. 2017 Annual crops in Saddle Hills (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Field horsetail	64.7	24.1	37.2	3.0	4.6	15.6	67.0
2	Canola/rapeseed	59.7	21.1	35.3	2.4	4.1	13.2	58.1
3	False cleavers	19.5	6.7	34.2	2.6	13.2	61.4	32.5
4	Wild oats	11.7	6.0	51.4	1.8	15.7	22.4	23.9
5	Stinkweed	27.2	5.4	19.8	0.7	2.6	9.2	18.8
6	Canada thistle	27.6	3.0	10.9	0.3	1.2	2.6	13.5
7	Clover species	16.4	4.9	30.0	0.5	2.8	7.4	13.4
8	Spiny annual sow-thistle	20.3	3.9	19.1	0.2	1.1	1.2	11.6
9	Low cudweed	16.2	3.2	20.0	0.5	2.8	5.4	11.5
10	Lamb's-quarters	15.8	2.4	15.0	0.3	2.1	3.6	9.5
11	Dandelion	12.3	1.8	15.0	0.1	0.7	1.4	6.1
12	Hemp-nettle	8.1	2.0	25.0	0.2	2.4	2.4	5.9
13	Wild buckwheat	11.8	1.4	11.5	0.1	0.6	0.8	5.3
14	Stork's bill	8.1	1.6	20.0	0.1	1.6	1.6	5.0
15	Timothy	4.1	1.4	35.0	0.1	2.2	2.2	3.4
16	Wheat	8.1	0.4	5.0	< 0.1	0.2	0.2	2.8
17	Alfalfa	4.1	0.8	20.0	< 0.1	1.0	1.0	2.3
18	Pale smartweed	4.1	0.4	10.0	< 0.1	0.8	0.8	1.8
19	Narrow-leaved hawk's-beard	4.1	0.4	10.0	< 0.1	0.4	0.4	1.7
20	Golden dock	4.1	0.2	5.0	< 0.1	0.4	0.4	1.5
21	Vetch species	4.1	0.2	5.0	< 0.1	0.4	0.4	1.5
22	Yellow toadflax	4.1	0.2	5.0	< 0.1	0.2	0.2	1.4
23	Broad-leaved plantain	3.6	0.2	5.0	< 0.1	0.4	0.4	1.3

Field Survey Summary Tables – Annual crops in Smoky River

Table 164. 2017 Annual crops in Smoky River (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola/rapeseed	61.4	38.5	62.8	8.4	13.7	34.2	79.9
2	Field horsetail	61.2	19.0	31.1	3.8	6.2	19.2	44.3
3	Lamb's-quarters	50.1	11.1	22.2	1.6	3.2	13.8	26.1
4	Wild buckwheat	44.3	7.8	17.6	1.1	2.5	13.6	20.2
5	False cleavers	27.7	7.0	25.3	1.6	5.9	26.0	18.5
6	Low cudweed	27.7	6.3	22.9	1.2	4.2	10.0	15.8
7	Pale smartweed	16.7	3.9	23.6	1.3	7.8	22.6	12.2
8	Dandelion	22.1	6.1	27.5	0.5	2.1	4.0	11.4
9	Stinkweed	22.3	5.0	22.4	0.4	1.9	3.4	10.4
10	Hemp-nettle	16.9	3.9	23.3	0.6	3.3	7.6	9.0
11	Wild oats	11.3	2.8	25.0	0.3	2.3	2.6	5.7
12	Canada thistle	16.7	1.9	11.6	0.1	0.7	1.0	5.5
13	Chickweed	5.6	1.1	20.0	0.7	12.0	12.0	5.0
14	Wheat	11.0	2.2	20.0	0.2	1.6	1.6	4.8
15	Night-flowering catchfly	11.3	2.0	17.5	0.1	1.1	2.0	4.4
16	Narrow-leaved hawk's-beard	11.0	1.1	10.0	0.2	1.8	1.8	4.0
17	Broad-leaved plantain	11.0	1.7	15.0	0.1	0.8	0.8	4.0
18	Perennial sow-thistle	11.0	1.7	15.0	0.1	0.8	0.8	4.0
19	Pineappleweed	5.6	1.4	25.0	0.2	4.4	4.4	3.4
20	Foxtail barley	11.0	0.6	5.0	< 0.1	0.2	0.2	2.8
21	Marsh yellow cress	11.0	0.6	5.0	< 0.1	0.2	0.2	2.8
22	Barley	5.5	0.8	15.0	0.1	1.8	1.8	2.2
23	Northern willowherb	5.6	0.8	15.0	0.1	1.0	1.0	2.1
24	Corn spurry	5.6	0.3	5.0	< 0.1	0.6	0.6	1.5

Field Survey Summary Tables – Density, Species Richness and Weed-Free Quadrats by Survey

Table 165. Number of fields surveyed, density, species richness and weed-free quadrats by survey

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
2017	1232	25.1	2.0	5.6	3.7	0.1	49.5	1.4
2009-10	1333	22.3	1.5	5.8	4.3	0.1	46.7	1.4
2001	1153	37.5	2.3	11.8	5.1	0.1	32.6	1.4
1997	684	45.4	3.3	16.6	6.3	0.1	24.8	1.7
1987-89	1086	98.0	4.3	51.9	7.7	0.1	14.3	1.1
1973-77	3109	158.6	4.6	61.9	*	*	**	**

* Only data for the main weed species are available for the 1970s; therefore, number of species per field cannot be compared to subsequent surveys

** Quadrat counts are not available for the 1970s

Table 166. 2009-10 Annual crops in Alberta (1333 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	49.7	15.2	30.6	2.2	4.5	313.6	36.8
2	Wild oats	22.8	6.1	26.6	2.2	9.7	284.6	21.2
3	Canada thistle	32.3	5.2	16.0	0.5	1.5	16.2	14.8
4	Canola/rapeseed	20.7	5.7	27.4	0.9	4.2	85.4	14.4
5	Dandelion	26.1	5.3	20.1	0.7	2.6	102.4	14.4
6	False cleavers	16.0	4.4	27.3	1.4	8.7	147.0	14.3
7	Chickweed	12.3	4.1	33.7	1.4	11.2	206.0	13.1
8	Lamb's-quarters	17.1	3.6	21.0	0.9	5.2	328.8	11.5
9	Hemp-nettle	14.0	3.2	23.1	1.0	7.0	184.8	10.8
10	Spiny annual sow-thistle	12.5	3.6	29.0	0.7	5.6	101.0	9.7
11	Narrow-leaved hawk's-beard	14.2	3.4	23.9	0.6	4.2	148.2	9.3
12	Low cudweed	2.4	0.9	36.6	1.7	72.2	709.8	9.2
13	Stinkweed	14.3	3.0	20.8	0.6	4.3	57.6	9.0
14	Perennial sow-thistle	12.1	2.7	22.0	0.5	4.0	189.4	7.6
15	Field horsetail	10.6	2.3	21.5	0.6	5.6	50.4	7.4
16	Shepherd's-purse	12.1	2.6	21.5	0.4	3.5	32.2	7.3
17	Kochia	12.2	2.3	19.1	0.4	3.0	89.6	6.8
18	Green foxtail	6.8	2.0	29.6	0.7	9.8	186.0	6.6
19	Wheat	9.1	2.4	26.4	0.4	3.9	31.8	6.1
20	Redroot pigweed	11.1	1.9	16.6	0.3	2.5	73.4	5.7
21	Corn spurry	2.1	0.8	38.8	0.9	42.9	362.0	5.2
22	Pale smartweed	7.5	1.4	19.0	0.4	4.7	151.0	4.8
23	Quack grass	7.2	1.6	21.5	0.3	4.2	59.8	4.6
24	Clover species	5.4	1.2	22.8	0.4	6.7	162.4	4.1
25	Pineappleweed	4.3	0.9	21.4	0.3	7.9	57.8	3.4
26	Foxtail barley	5.8	0.8	13.7	0.1	2.0	15.2	2.6
27	Stork's bill	4.2	0.9	22.7	0.2	3.7	57.0	2.6
28	Russian thistle	3.8	1.0	26.1	0.2	4.2	35.4	2.6
29	Alfalfa	3.4	0.8	24.5	0.2	4.5	106.2	2.3
30	Flixweed	5.4	0.6	11.6	< 0.1	0.7	7.0	2.1
31	Barley	3.7	0.7	20.0	0.1	2.3	28.0	2.0
32	Prostrate knotweed	3.2	0.6	19.8	0.1	1.6	7.6	1.6
33	Round-leaved mallow	3.4	0.5	15.5	0.1	1.5	28.6	1.5
34	Tartary buckwheat	2.5	0.7	27.7	0.1	2.4	11.8	1.5
35	Common groundsel	3.2	0.4	11.0	0.1	2.0	35.0	1.4
36	Field bindweed	1.9	0.6	30.8	< 0.1	2.5	9.0	1.2
37	Annual brome species	1.3	0.2	15.8	0.1	11.0	187.6	1.2
38	Henbit	1.4	0.2	15.3	0.1	5.4	47.0	0.9
39	Broad-leaved plantain	2.5	0.2	8.2	< 0.1	0.6	2.2	0.8
40	Wild mustard	1.4	0.3	23.1	< 0.1	2.8	14.6	0.8
41	Scentless chamomile	0.9	0.3	31.7	0.1	7.6	69.2	0.8
42	Prostrate pigweed	1.1	0.3	27.1	< 0.1	3.6	15.6	0.8
43	Bluebur	1.6	0.2	11.3	< 0.1	2.4	18.8	0.7
44	Oats	1.0	0.2	23.7	< 0.1	4.7	12.2	0.7
45	White cockle	0.9	0.2	20.7	0.1	5.6	26.4	0.6
46	Field pea	1.3	0.3	19.9	< 0.1	1.2	6.2	0.6
47	Slough grass	0.4	0.1	23.3	0.1	25.2	74.2	0.6
48	Povertyweed	0.9	0.1	15.2	< 0.1	4.5	20.0	0.5
49	Rough cinquefoil	1.1	0.2	17.2	< 0.1	1.4	7.4	0.5
50	Cow cockle	1.3	0.2	13.2	< 0.1	0.8	3.2	0.5
51	Dock species	0.6	0.1	19.3	0.1	10.6	56.0	0.5
52	Meadow brome	0.4	0.2	65.0	< 0.1	8.4	8.4	0.5

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Field Survey Summary Tables – Annual Crops in 2009-10

Table 166. 2009-10 Annual crops in Alberta (1333 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Annual spurge species	0.7	0.2	24.8	< 0.1	3.4	15.0	0.4
54	Western barnyard grass	0.7	0.1	19.2	< 0.1	3.9	15.8	0.4
55	Vetchling species	1.2	0.1	7.5	< 0.1	0.4	0.8	0.4
56	Ball mustard	0.7	0.2	22.0	< 0.1	2.6	7.4	0.4
57	Biennial wormwood	1.0	0.1	11.4	< 0.1	0.9	3.0	0.4
58	Fescue species	1.0	0.1	8.6	< 0.1	0.6	1.4	0.3
59	Vetch species	0.7	0.1	11.6	< 0.1	2.4	18.4	0.3
60	Pasture sage	0.5	0.1	24.2	< 0.1	3.8	7.2	0.3
61	Yellow toadflax	0.7	0.1	10.7	< 0.1	2.9	10.0	0.3
62	Black medick	0.4	0.1	28.0	< 0.1	4.1	11.8	0.3
63	Purslane	0.4	0.1	27.7	< 0.1	2.0	4.4	0.3
64	Wild tomato	0.7	0.1	8.0	< 0.1	0.6	2.4	0.3
65	Purslane speedwell	0.4	0.1	26.1	< 0.1	2.3	5.4	0.2
66	Sweet-clover species	0.7	0.1	9.6	< 0.1	0.6	1.6	0.2
67	Pygmyflower	0.4	0.1	24.0	< 0.1	2.8	11.6	0.2
68	Goat's-beard	0.5	0.1	10.9	< 0.1	0.5	1.4	0.2
69	Yellow alyssum	0.2	0.1	49.2	< 0.1	9.5	15.4	0.2
70	Rose species	0.6	< 0.1	6.7	< 0.1	0.4	1.0	0.2
71	False ragweed	0.2	0.1	47.6	< 0.1	2.1	3.2	0.2
72	Field mint	0.2	< 0.1	24.6	< 0.1	10.9	16.2	0.2
73	Smooth brome	0.3	0.1	17.3	< 0.1	4.6	61.6	0.2
74	Canada fleabane	0.3	0.1	25.8	< 0.1	2.2	4.0	0.2
75	Wild chamomile	0.2	0.1	37.5	< 0.1	4.2	7.2	0.2
76	Prickly lettuce	0.4	< 0.1	11.3	< 0.1	1.8	5.4	0.2
77	Blue grass species	0.2	< 0.1	13.7	< 0.1	15.8	32.8	0.2
78	Night-flowering catchfly	0.4	< 0.1	12.0	< 0.1	1.6	8.6	0.2
79	Common pepper-grass	0.3	0.1	20.7	< 0.1	2.0	4.2	0.2
80	American dragonhead	0.4	0.1	14.6	< 0.1	1.3	2.6	0.2
81	Milk-vetch species	0.2	< 0.1	21.6	< 0.1	4.8	11.6	0.1
82	Borage	0.1	0.1	45.0	< 0.1	4.6	4.6	0.1
83	Marsh yellow cress	0.2	< 0.1	15.6	< 0.1	1.3	2.4	0.1
84	Persian darnel	0.2	< 0.1	26.9	< 0.1	3.2	15.2	0.1
85	Small-seeded false flax	0.3	< 0.1	9.2	< 0.1	1.1	2.0	0.1
86	Northern willowherb	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
87	Spear-leaved goosefoot	0.3	< 0.1	7.1	< 0.1	0.5	1.2	0.1
88	Milkweed species	0.2	< 0.1	14.7	< 0.1	1.0	1.4	0.1
89	Wormseed mustard	0.3	< 0.1	8.3	< 0.1	0.3	0.4	0.1
90	Orchard grass	0.2	< 0.1	15.8	< 0.1	0.6	0.8	0.1
91	Wood whitlow-grass	0.2	< 0.1	17.5	< 0.1	1.1	1.4	0.1
92	Prairie sage	0.2	< 0.1	7.5	< 0.1	0.4	0.6	0.1
93	Flax	0.1	< 0.1	20.0	< 0.1	3.6	3.6	0.1
94	Sunflower	0.1	< 0.1	7.9	< 0.1	2.6	3.2	0.1
95	Scouring-rush	0.1	< 0.1	15.0	< 0.1	4.4	4.4	0.1
96	Common burdock	0.2	< 0.1	7.5	< 0.1	0.3	0.4	0.1
97	Golden corydalis	0.1	< 0.1	12.6	< 0.1	1.4	2.6	0.1
98	Nuttall's alkali grass	0.1	< 0.1	5.0	< 0.1	9.2	9.2	< 0.1
99	Poplar species	0.2	< 0.1	5.0	< 0.1	0.3	0.4	< 0.1
100	Scarlet mallow	0.1	< 0.1	15.0	< 0.1	0.6	0.6	< 0.1
101	Common yarrow	0.1	< 0.1	8.4	< 0.1	0.6	0.8	< 0.1
102	Slender wheat grass	0.1	< 0.1	7.8	< 0.1	0.3	0.4	< 0.1
103	White mustard	0.1	< 0.1	17.3	< 0.1	2.4	9.4	< 0.1
104	Timothy	0.1	< 0.1	7.0	< 0.1	0.4	0.6	< 0.1

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Table 166. 2009-10 Annual crops in Alberta (1333 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
105	Dog mustard	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
106	Slender plantain	0.1	< 0.1	15.0	< 0.1	1.2	1.2	< 0.1
107	Western snowberry	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
108	Tall buttercup	0.1	< 0.1	10.0	< 0.1	1.2	1.2	< 0.1
109	Goldenrod species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
110	Tansy	0.1	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
111	Sheep sorrel	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
112	Blue lettuce	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
113	Caraway	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
114	Spreading dogbane	0.1	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
115	Low larkspur	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
116	Silvery lupin	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
117	Mouse-eared chickweed	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
118	Water smartweed	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
119	Northern bedstraw	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
120	Golden-bean	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.0	< 0.1
121	Crested wheat grass	< 0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
122	Silky lupin	< 0.1	< 0.1	20.0	< 0.1	1.0	1.0	< 0.1
123	Proso millet	< 0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Field Survey Summary Tables – Annual Crops in 2001

Table 167. 2001 Annual crops in Alberta (1153 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	53.8	22.6	41.9	4.0	7.5	175.0	35.5
2	Wild oats	45.7	17.9	39.1	5.0	10.9	379.6	33.5
3	Chickweed	21.5	10.7	49.7	6.6	30.9	1727.2	28.6
4	Stinkweed	30.9	9.3	29.9	1.9	6.2	203.2	17.0
5	Canada thistle	39.9	9.5	23.8	1.0	2.5	41.6	16.5
6	Lamb's-quarters	24.4	6.5	26.4	1.4	5.6	268.8	12.6
7	False cleavers	18.3	6.8	37.1	1.6	8.7	180.8	12.1
8	Green foxtail	12.4	4.9	39.1	2.3	18.6	469.9	11.7
9	Hemp-nettle	18.5	5.5	29.8	1.3	6.9	199.2	10.5
10	Dandelion	22.1	5.1	22.9	0.6	2.5	43.8	9.0
11	Shepherd's-purse	16.4	4.8	29.0	0.8	4.8	90.4	8.3
12	Pale smartweed	15.0	4.3	28.6	1.0	6.6	145.2	8.3
13	Field horsetail	13.0	4.0	30.8	0.9	6.6	76.8	7.3
14	Quack grass	15.7	3.5	22.1	0.7	4.5	63.2	7.1
15	Spiny annual sow-thistle	9.1	3.4	36.8	1.2	13.1	275.2	7.1
16	Canola/rapeseed	13.5	3.8	27.9	0.6	4.6	143.2	6.7
17	Narrow-leaved hawk's-beard	13.9	3.3	23.9	0.7	5.0	137.2	6.7
18	Perennial sow-thistle	16.2	3.9	23.8	0.4	2.5	64.8	6.7
19	Kochia	9.0	2.8	30.9	0.5	5.0	145.0	4.8
20	Wheat	8.5	2.7	31.5	0.5	5.5	128.2	4.6
21	Redroot pigweed	9.1	2.5	27.5	0.4	4.2	111.6	4.4
22	Russian thistle	6.5	2.5	37.2	0.4	5.9	120.4	3.8
23	Pineappleweed	7.0	1.8	25.7	0.5	7.0	172.4	3.8
24	Common groundsel	8.1	1.9	23.4	0.3	4.1	62.0	3.7
25	Barley	4.6	1.6	34.4	0.3	6.9	71.4	2.7
26	Clover species	4.1	1.3	31.2	0.3	7.2	96.6	2.4
27	Corn spurry	2.3	0.9	41.9	0.4	17.0	182.4	2.1
28	Bluebur	3.9	0.9	23.1	0.2	4.7	112.0	1.8
29	Stork's bill	3.5	1.0	27.9	0.2	4.4	52.2	1.7
30	Flixweed	4.0	0.9	21.7	0.1	2.3	37.6	1.6
31	Foxtail barley	3.9	0.6	14.8	0.1	1.8	19.8	1.3
32	Alfalfa	1.5	0.7	45.9	0.2	13.2	78.4	1.3
33	Round-leaved mallow	2.6	0.6	21.6	< 0.1	1.8	9.6	1.0
34	Prostrate knotweed	1.9	0.7	34.9	0.1	4.4	55.8	1.0
35	Rose species	2.8	0.5	17.4	< 0.1	1.0	5.6	0.9
36	Wild mustard	2.4	0.4	17.5	< 0.1	2.1	30.0	0.8
37	Sweet-clover species	1.3	0.5	37.5	0.1	6.4	16.8	0.8
38	Broad-leaved plantain	2.0	0.4	18.8	< 0.1	1.9	14.4	0.7
39	Low cudweed	0.8	0.2	24.5	0.1	17.1	121.2	0.6
40	Rough cinquefoil	1.0	0.2	24.9	0.1	6.6	38.6	0.5
41	Ball mustard	1.0	0.3	26.9	0.1	5.1	28.8	0.5
42	Night-flowering catchfly	0.8	0.2	29.2	< 0.1	5.5	31.6	0.4
43	Annual spurge species	0.7	0.3	36.1	< 0.1	7.0	31.8	0.4
44	Prostrate pigweed	0.8	0.3	39.4	< 0.1	4.0	15.6	0.4
45	Cow cockle	1.1	0.2	19.0	< 0.1	1.6	8.0	0.4
46	White cockle	1.3	0.1	10.8	< 0.1	0.8	6.2	0.4
47	Biennial wormwood	0.7	0.1	19.3	< 0.1	4.5	26.6	0.3
48	Scentsless chamomile	0.9	0.1	16.8	< 0.1	2.4	9.6	0.3
49	Yellow toadflax	0.9	0.1	14.3	< 0.1	1.8	4.6	0.3
50	Annual brome species	0.6	0.1	18.3	< 0.1	3.9	21.0	0.2
51	Vetch species	0.6	0.1	17.0	< 0.1	1.6	5.4	0.2
52	Fescue species	0.2	0.1	55.6	< 0.1	16.7	32.4	0.2

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Table 167. 2001 Annual crops in Alberta (1153 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Common pepper-grass	0.4	0.2	41.5	< 0.1	0.6	1.0	0.2
54	Oats	0.2	0.1	50.4	< 0.1	11.5	22.0	0.2
55	Knawel	0.3	0.1	32.1	< 0.1	6.7	22.4	0.2
56	American dragonhead	0.6	0.1	12.9	< 0.1	0.8	3.0	0.2
57	Flax	0.2	0.1	61.4	< 0.1	19.1	25.2	0.2
58	Poplar species	0.5	0.1	11.7	< 0.1	1.6	7.6	0.2
59	Common yarrow	0.5	0.1	12.4	< 0.1	0.8	1.2	0.1
60	Skeletonweed	0.1	< 0.1	40.0	< 0.1	39.2	39.2	0.1
61	Wild tomato	0.5	< 0.1	6.8	< 0.1	0.3	0.6	0.1
62	Blue lettuce	0.2	0.1	60.8	< 0.1	3.3	5.4	0.1
63	Field bindweed	0.4	0.1	13.2	< 0.1	1.0	6.2	0.1
64	Wormseed mustard	0.1	0.1	90.0	< 0.1	25.6	25.6	0.1
65	Chickpea	0.1	< 0.1	40.0	< 0.1	39.2	39.2	0.1
66	Bicknell's geranium	0.3	0.1	17.7	< 0.1	0.9	1.8	0.1
67	Mouse-eared chickweed	0.3	< 0.1	13.5	< 0.1	1.7	2.8	0.1
68	Milk-vetch species	0.4	< 0.1	6.9	< 0.1	0.3	0.6	0.1
69	Wild chamomile	0.2	< 0.1	20.0	< 0.1	2.3	4.4	0.1
70	Western barnyard grass	0.1	< 0.1	40.0	< 0.1	27.4	27.4	0.1
71	Goat's-beard	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Northern willowherb	0.2	0.1	25.1	< 0.1	1.8	3.4	0.1
73	Tartary buckwheat	0.2	0.1	40.3	< 0.1	4.3	6.2	0.1
74	Redtop	0.3	< 0.1	8.0	< 0.1	1.5	4.2	0.1
75	Yellow foxtail	0.1	< 0.1	65.0	< 0.1	25.6	25.6	0.1
76	Field pea	0.2	< 0.1	14.7	< 0.1	1.4	6.0	0.1
77	Wood whitlow-grass	0.3	< 0.1	7.3	< 0.1	0.3	0.4	0.1
78	Persian darnel	0.1	< 0.1	60.0	< 0.1	20.4	20.4	0.1
79	Spear-leaved goosefoot	0.1	0.1	100.0	< 0.1	6.6	6.6	0.1
80	Toad rush	0.1	< 0.1	10.0	< 0.1	6.0	6.0	0.1
81	Russian pigweed	0.2	< 0.1	18.6	< 0.1	1.4	2.4	0.1
82	Meadow brome	0.2	< 0.1	6.6	< 0.1	1.1	1.2	0.1
83	Pasture sage	0.2	< 0.1	6.7	< 0.1	0.4	1.0	0.1
84	Scouring-rush	0.1	< 0.1	55.0	< 0.1	4.8	4.8	0.1
85	Wild radish	0.1	< 0.1	11.0	< 0.1	0.9	1.4	< 0.1
86	Dog mustard	0.1	< 0.1	5.0	< 0.1	0.6	1.0	< 0.1
87	Milkweed species	0.1	< 0.1	7.5	< 0.1	0.5	0.8	< 0.1
88	Vetchling species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
89	Henbit	0.1	< 0.1	25.0	< 0.1	3.4	3.4	< 0.1
90	Leafy spurge	0.1	< 0.1	10.0	< 0.1	2.0	2.0	< 0.1
91	Absinth	0.1	< 0.1	10.0	< 0.1	2.0	2.0	< 0.1
92	Timothy	0.1	< 0.1	10.0	< 0.1	0.8	0.8	< 0.1
93	Purslane	0.1	< 0.1	15.0	< 0.1	0.6	0.6	< 0.1
94	Smooth brome	0.1	< 0.1	15.0	< 0.1	1.2	1.2	< 0.1
95	Rye	0.1	< 0.1	10.0	< 0.1	2.2	2.2	< 0.1
96	Dock species	0.1	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
97	Tansy	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
98	White mustard	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
99	Field mint	0.1	< 0.1	5.0	< 0.1	0.8	0.8	< 0.1
100	Pygmyflower	< 0.1	< 0.1	15.0	< 0.1	4.6	4.6	< 0.1
101	Small-seeded false flax	0.1	< 0.1	5.0	< 0.1	0.8	0.8	< 0.1
102	Slender wheat grass	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
103	Prickly lettuce	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
104	Ground-ivy	0.1	< 0.1	5.0	< 0.1	0.2	7.4	< 0.1

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Field Survey Summary Tables – Annual Crops in 2001

Table 167. 2001 Annual crops in Alberta (1153 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
105	Tall buttercup	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Table 168. 1997 Annual crops in Alberta (684 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Chickweed	29.5	14.1	47.9	9.5	32.3	619.8	33.4
2	Wild oats	54.6	19.0	34.7	4.8	8.8	403.4	29.7
3	Wild buckwheat	60.6	20.8	34.3	2.8	4.7	115.6	27.3
4	Stinkweed	41.1	14.8	36.1	4.6	11.2	269.4	24.9
5	Canada thistle	52.0	12.2	23.4	1.2	2.4	30.8	17.7
6	Shepherd's-purse	25.1	7.6	30.0	1.9	7.6	198.8	12.4
7	Hemp-nettle	22.3	7.9	35.4	1.5	6.6	48.0	11.2
8	Lamb's-quarters	26.2	6.6	25.0	1.2	4.5	141.2	10.4
9	False cleavers	16.0	6.3	39.5	1.8	11.2	244.0	10.0
10	Dandelion	31.5	6.2	19.7	0.5	1.6	76.4	9.5
11	Field horsetail	15.0	5.0	33.2	1.9	12.4	201.0	9.2
12	Narrow-leaved hawk's-beard	23.4	6.0	25.6	1.0	4.1	51.6	9.1
13	Pale smartweed	22.9	5.7	24.9	1.0	4.2	133.0	8.9
14	Perennial sow-thistle	23.4	5.8	24.7	0.8	3.5	74.0	8.7
15	Common groundsel	14.2	4.6	32.2	1.6	11.1	138.6	8.3
16	Quack grass	15.3	3.9	25.7	1.2	7.7	181.0	7.2
17	Green foxtail	15.0	3.8	25.0	0.7	4.5	68.2	5.9
18	Pineappleweed	10.1	2.4	23.4	1.2	12.0	258.6	5.6
19	Redroot pigweed	15.5	3.5	22.3	0.4	2.8	32.4	5.3
20	Canola/rapeseed	7.6	2.4	31.0	0.6	8.1	95.2	3.9
21	Wheat	7.0	2.2	31.2	0.6	8.7	131.6	3.7
22	Corn spurry	6.4	1.6	25.1	0.8	12.3	161.8	3.6
23	Kochia	6.9	1.8	26.0	0.3	4.8	27.8	2.8
24	Clover species	6.4	1.5	24.0	0.2	3.2	20.6	2.3
25	Low cudweed	1.5	0.5	33.3	0.8	52.8	363.8	2.3
26	Barley	5.2	1.5	28.8	0.2	4.5	60.4	2.2
27	Spiny annual sow-thistle	5.6	1.3	23.3	0.2	2.9	29.4	2.0
28	Bluebur	4.7	1.1	24.1	0.2	3.6	30.0	1.8
29	Russian thistle	4.8	1.1	23.2	0.1	2.9	14.4	1.7
30	Round-leaved mallow	3.2	1.2	37.5	0.2	6.0	25.6	1.6
31	Stork's bill	3.3	0.9	27.2	0.1	3.4	17.8	1.3
32	Field violet	0.1	0.1	100.0	0.5	421.6	421.6	1.2
33	Broad-leaved plantain	4.0	0.6	14.8	0.1	1.5	14.4	1.1
34	Alfalfa	3.7	0.6	15.7	0.1	1.5	9.8	1.0
35	Rose species	3.8	0.4	11.1	< 0.1	1.1	5.2	0.9
36	Yellow toadflax	1.6	0.6	38.6	0.1	7.3	41.2	0.9
37	Flixweed	3.4	0.5	13.4	< 0.1	0.9	4.2	0.9
38	Tartary buckwheat	2.2	0.5	21.6	0.1	3.5	26.0	0.8
39	Wormseed mustard	2.0	0.5	24.5	< 0.1	1.9	8.2	0.7
40	Foxtail barley	2.7	0.2	7.8	< 0.1	0.8	3.6	0.6
41	Rough cinquefoil	2.3	0.3	14.7	< 0.1	1.0	3.8	0.6
42	Western barnyard grass	1.9	0.4	20.2	< 0.1	2.0	7.4	0.6
43	White cockle	0.8	0.4	46.7	0.1	6.8	20.4	0.5
44	Prostrate knotweed	1.6	0.3	17.1	< 0.1	1.1	6.6	0.5
45	Flax	0.6	0.1	23.4	0.1	13.9	83.6	0.4
46	Night-flowering catchfly	0.7	0.3	45.3	< 0.1	5.6	10.0	0.4
47	Wild mustard	1.2	0.2	16.4	< 0.1	0.9	2.2	0.3
48	Ball mustard	1.2	0.2	16.7	< 0.1	1.1	3.4	0.3
49	Vetch species	0.9	0.1	8.8	< 0.1	0.9	3.6	0.2
50	Oats	0.4	0.2	48.9	< 0.1	5.9	7.6	0.2
51	Perennial rye grass	0.5	0.2	33.8	< 0.1	2.5	3.8	0.2
52	Persian darnel	0.4	0.1	29.1	< 0.1	7.0	16.8	0.2

(Table continued on next page)

Field Survey Summary Tables – Annual Crops in 1997

Table 168. 1997 Annual crops in Alberta (684 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Cow cockle	0.8	0.1	11.1	< 0.1	0.8	2.8	0.2
54	Leafy spurge	0.6	0.1	14.1	< 0.1	1.9	5.0	0.2
55	Tall buttercup	0.6	0.1	13.6	< 0.1	0.9	2.2	0.1
56	Field bindweed	0.6	0.1	10.0	< 0.1	0.7	2.0	0.1
57	Common pepper-grass	0.6	0.1	11.5	< 0.1	0.6	1.0	0.1
58	Biennial wormwood	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
59	Henbit	0.3	0.1	40.2	< 0.1	2.1	4.6	0.1
60	Canada fleabane	0.4	0.1	27.8	< 0.1	1.9	2.2	0.1
61	Black medick	0.5	0.1	15.8	< 0.1	1.1	2.2	0.1
62	Povertyweed	0.4	0.1	16.3	< 0.1	2.8	6.6	0.1
63	Nodding thistle	0.4	0.1	20.0	< 0.1	1.4	1.6	0.1
64	Wild chamomile	0.4	0.1	17.4	< 0.1	1.4	3.4	0.1
65	Timothy	0.3	0.1	34.4	< 0.1	2.7	5.4	0.1
66	Purslane speedwell	0.5	< 0.1	10.4	< 0.1	0.4	1.0	0.1
67	Prostrate pigweed	0.5	< 0.1	7.7	< 0.1	0.4	0.8	0.1
68	Northern willowherb	0.3	0.1	17.8	< 0.1	3.2	8.6	0.1
69	Scentless chamomile	0.4	0.1	15.0	< 0.1	0.9	1.8	0.1
70	Slender wheat grass	0.2	0.1	45.0	< 0.1	7.0	7.0	0.1
71	Russian knapweed	0.2	0.1	30.0	< 0.1	2.2	3.2	0.1
72	Bicknell's geranium	0.3	< 0.1	11.0	< 0.1	1.3	1.6	0.1
73	Vetchling species	0.2	0.1	27.0	< 0.1	3.2	6.8	0.1
74	Tumble mustard	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
75	Common yarrow	0.3	< 0.1	7.5	< 0.1	3.6	6.8	0.1
76	Annual brome species	0.3	< 0.1	9.1	< 0.1	0.9	1.8	0.1
77	American dragonhead	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
78	Milk-vetch species	0.2	< 0.1	15.0	< 0.1	1.2	2.0	0.1
79	White mustard	0.3	< 0.1	10.0	< 0.1	0.6	1.0	0.1
80	Bladder campion	0.2	< 0.1	20.0	< 0.1	1.2	1.2	0.1
81	Sedge species	0.3	< 0.1	5.0	< 0.1	0.6	0.6	0.1
82	Field pea	0.2	< 0.1	17.5	< 0.1	0.9	1.4	0.1
83	Nightshade species	0.3	< 0.1	5.0	< 0.1	0.4	0.6	0.1
84	Wild tomato	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
85	Prickly lettuce	0.2	< 0.1	10.0	< 0.1	0.8	0.8	< 0.1
86	Dock species	0.2	< 0.1	15.0	< 0.1	0.8	0.8	< 0.1
87	Western snowberry	0.2	< 0.1	10.0	< 0.1	1.2	1.2	< 0.1
88	Sweet-clover species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
89	Slender plantain	0.2	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
90	Northern bedstraw	0.2	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
91	Sunflower	0.2	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
92	Yellow alyssum	0.1	< 0.1	10.0	< 0.1	1.8	1.8	< 0.1
93	Wild radish	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
94	Oak-leaved goosefoot	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
95	Blue lettuce	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
96	Giant ragweed	0.1	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
97	Baby's-breath	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
98	Meadow foxtail	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
99	Tumble pigweed	0.1	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
100	Redtop	0.1	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
101	Water smartweed	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
102	Tansy	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
103	Wild strawberry	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
104	Smooth brome	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1

Table 169. 1987-89 Annual crops in Alberta (1086 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	71.4	32.8	46.0	9.4	13.2	445.8	32.3
2	Stinkweed	63.3	26.5	41.8	11.3	17.8	1048.4	30.6
3	Wild oats	49.2	18.3	37.3	7.6	15.5	643.6	21.7
4	Green foxtail	22.3	10.5	46.9	12.2	54.6	1185.4	19.6
5	Chickweed	25.6	13.8	53.9	10.3	40.2	978.2	19.5
6	Lamb's-quarters	46.4	14.6	31.5	5.6	12.0	478.6	17.7
7	Russian thistle	18.5	9.9	53.6	6.5	34.9	518.4	13.0
8	Hemp-nettle	28.1	10.4	37.0	3.5	12.3	272.0	11.4
9	Shepherd's-purse	23.0	8.0	34.9	4.9	21.2	988.0	11.3
10	Field horsetail	26.7	9.4	35.4	3.0	11.2	119.6	10.4
11	Pale smartweed	30.0	10.3	34.4	2.2	7.2	74.8	10.3
12	Canada thistle	35.7	8.1	22.7	1.1	3.0	37.2	9.1
13	Narrow-leaved hawk's-beard	19.6	5.7	29.2	2.3	12.0	390.6	7.3
14	Redroot pigweed	21.9	6.0	27.3	1.9	8.6	417.6	7.2
15	Common groundsel	16.7	5.1	30.7	2.8	16.7	596.2	7.1
16	Clover species	11.9	5.0	42.2	2.0	16.9	145.2	5.6
17	Perennial sow-thistle	21.8	4.8	22.0	0.7	3.2	51.4	5.5
18	Dandelion	17.9	3.7	20.7	0.4	2.3	36.8	4.3
19	Canola/rapeseed	14.8	4.0	27.4	0.7	4.6	74.2	4.3
20	Bluebur	15.2	3.9	25.8	0.6	4.0	79.4	4.2
21	Quack grass	13.7	3.1	22.9	0.9	6.8	105.0	4.0
22	Corn spurry	7.3	2.5	33.8	1.6	21.5	950.8	3.6
23	Kochia	9.4	2.8	30.3	0.8	8.6	122.4	3.2
24	Flixweed	12.7	2.0	15.9	0.4	2.9	102.0	2.9
25	Barley	9.8	2.4	24.6	0.4	4.2	61.8	2.7
26	Rose species	11.7	1.2	10.4	0.1	1.2	10.6	2.2
27	Tartary buckwheat	5.6	2.2	38.6	0.4	6.7	78.8	2.0
28	False cleavers	7.7	1.5	19.3	0.3	4.2	49.8	1.9
29	Wheat	6.1	1.6	26.4	0.3	4.1	43.8	1.7
30	Pineappleweed	6.4	1.1	16.6	0.4	6.1	145.2	1.7
31	Ball mustard	6.7	1.0	14.2	0.1	1.4	17.6	1.4
32	Stork's bill	5.1	1.1	22.4	0.2	3.5	48.4	1.3
33	Alfalfa	4.0	1.1	26.2	0.2	4.2	40.8	1.1
34	Wild tomato	5.2	0.8	15.2	0.1	1.7	18.2	1.1
35	Wild mustard	4.5	0.8	18.0	0.1	2.2	38.8	1.0
36	Cow cockle	2.8	0.7	23.9	0.3	9.4	102.0	0.9
37	Spiny annual sow-thistle	3.7	0.8	21.9	0.1	2.2	20.4	0.9
38	Prostrate knotweed	4.1	0.7	16.3	0.1	2.0	17.0	0.9
39	Rough cinquefoil	2.5	0.8	30.6	0.3	10.2	179.8	0.9
40	Vetch species	4.3	0.6	13.7	0.1	1.2	13.0	0.9
41	Broad-leaved plantain	3.2	0.5	15.0	0.1	3.7	68.6	0.7
42	Wormseed mustard	2.0	0.5	25.0	0.1	6.2	66.4	0.6
43	White cockle	2.3	0.5	21.7	0.1	2.4	11.6	0.6
44	Night-flowering catchfly	1.7	0.4	26.9	0.1	7.3	57.6	0.5
45	American dragonhead	1.8	0.4	19.8	0.1	5.8	184.0	0.5
46	Yellow toadflax	1.9	0.3	18.3	0.1	4.9	23.4	0.5
47	Low cudweed	1.4	0.3	20.9	0.1	9.4	68.2	0.4
48	Western barnyard grass	1.0	0.3	31.1	0.2	17.4	125.6	0.4
49	Sweet-clover species	1.3	0.3	23.7	0.1	8.5	155.2	0.4
50	Milk-vetch species	1.6	0.2	15.1	< 0.1	1.2	5.8	0.3
51	Oats	1.4	0.2	14.9	< 0.1	1.3	3.8	0.3
52	Biennial wormwood	1.2	0.2	19.2	< 0.1	2.9	18.2	0.3

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Field Survey Summary Tables – Annual Crops in 1987-89

Table 169. 1987-89 Annual crops in Alberta (1086 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Northern willowherb	1.3	0.2	15.5	< 0.1	2.1	10.4	0.3
54	Field bindweed	1.1	0.3	25.9	< 0.1	3.6	26.0	0.3
55	Golden corydalis	1.4	0.2	13.1	< 0.1	1.2	5.6	0.3
56	Round-leaved mallow	1.1	0.1	11.4	< 0.1	2.2	25.8	0.2
57	Fescue species	0.7	0.2	30.1	< 0.1	6.6	33.8	0.2
58	Western snowberry	0.7	0.2	25.4	< 0.1	6.6	29.6	0.2
59	Common yarrow	1.1	0.1	12.5	< 0.1	1.3	14.2	0.2
60	Scentless chamomile	0.7	0.1	21.1	< 0.1	4.6	28.6	0.2
61	Purslane speedwell	0.5	0.1	16.1	0.1	17.4	161.6	0.2
62	Absinth	0.8	0.1	10.7	< 0.1	3.1	19.8	0.2
63	Common pepper-grass	0.5	0.1	26.5	< 0.1	7.5	29.2	0.2
64	Blue grass species	0.6	0.1	17.8	< 0.1	2.8	6.4	0.1
65	Water smartweed	0.5	0.1	18.2	< 0.1	5.2	45.4	0.1
66	Canary grass	0.3	0.1	32.3	< 0.1	14.4	39.0	0.1
67	Mouse-eared chickweed	0.3	0.1	53.2	< 0.1	15.0	46.0	0.1
68	Prickly lettuce	0.8	0.1	7.2	< 0.1	0.6	2.2	0.1
69	Henbit	0.6	0.1	18.0	< 0.1	2.2	6.6	0.1
70	Skeletonweed	0.6	0.1	9.5	< 0.1	0.9	2.0	0.1
71	Annual spurge species	0.7	< 0.1	7.5	< 0.1	0.8	2.4	0.1
72	Persian dandelion	0.4	0.1	21.9	< 0.1	7.1	19.8	0.1
73	Bladder campion	0.6	0.1	10.7	< 0.1	0.8	2.2	0.1
74	Povertyweed	0.3	0.1	20.6	< 0.1	6.9	20.0	0.1
75	Prostrate pigweed	0.5	< 0.1	8.0	< 0.1	3.3	13.8	0.1
76	Aster species	0.4	0.1	14.6	< 0.1	1.3	3.6	0.1
77	Timothy	0.5	0.1	11.4	< 0.1	1.3	2.8	0.1
78	Field mint	0.5	< 0.1	9.0	< 0.1	1.7	5.8	0.1
79	Knawel	0.4	0.1	13.9	< 0.1	0.9	2.0	0.1
80	Purslane	0.3	0.1	18.9	< 0.1	2.1	4.6	0.1
81	Smooth brome	0.5	< 0.1	6.7	< 0.1	0.5	1.0	0.1
82	Black medick	0.1	0.1	95.0	< 0.1	27.8	27.8	0.1
83	Dog mustard	0.3	0.1	23.6	< 0.1	4.8	22.0	0.1
84	Canada fleabane	0.2	0.1	36.4	< 0.1	4.0	7.2	0.1
85	Poplar species	0.5	< 0.1	6.1	< 0.1	0.6	3.8	0.1
86	Pasture sage	0.4	< 0.1	9.7	< 0.1	0.4	0.8	0.1
87	Tall buttercup	0.3	0.1	21.5	< 0.1	2.3	5.6	0.1
88	Wild chamomile	0.2	0.1	27.2	< 0.1	4.3	6.6	0.1
89	Golden-bean	0.2	< 0.1	18.8	< 0.1	6.5	11.6	0.1
90	Avens species	0.2	< 0.1	24.1	< 0.1	2.9	5.2	0.1
91	Flax	0.3	< 0.1	5.0	< 0.1	0.7	1.4	< 0.1
92	Foxtail barley	0.3	< 0.1	7.7	< 0.1	0.6	0.8	< 0.1
93	Milkweed species	0.2	< 0.1	5.0	< 0.1	2.0	2.0	< 0.1
94	Clasping-leaved pennycress	0.1	< 0.1	70.0	< 0.1	14.2	14.2	< 0.1
95	Vetchling species	0.2	< 0.1	11.6	< 0.1	0.9	1.6	< 0.1
96	Tansy	0.2	< 0.1	13.8	< 0.1	0.8	0.8	< 0.1
97	Indian mustard	0.2	< 0.1	7.9	< 0.1	0.4	0.6	< 0.1
98	Field pea	0.2	< 0.1	11.4	< 0.1	0.8	1.0	< 0.1
99	Rye	0.2	< 0.1	7.5	< 0.1	0.8	0.8	< 0.1
100	Blue lettuce	0.2	< 0.1	8.1	< 0.1	1.3	1.8	< 0.1
101	Meadow rue species	0.2	< 0.1	9.0	< 0.1	1.2	3.8	< 0.1
102	Bicknell's geranium	0.1	< 0.1	30.0	< 0.1	3.2	3.2	< 0.1
103	Spear-leaved goosefoot	0.2	< 0.1	5.0	< 0.1	0.7	1.2	< 0.1
104	Tumble pigweed	0.1	< 0.1	15.0	< 0.1	8.2	8.2	< 0.1

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Table 169. 1987-89 Annual crops in Alberta (1086 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
105	Wild red raspberry	0.1	< 0.1	15.0	< 0.1	0.7	1.2	< 0.1
106	Wood whitlow-grass	0.2	< 0.1	7.1	< 0.1	0.4	0.6	< 0.1
107	Wild strawberry	0.1	< 0.1	10.0	< 0.1	0.8	0.8	< 0.1
108	Spreading dogbane	0.1	< 0.1	6.9	< 0.1	0.4	0.8	< 0.1
109	Dock species	< 0.1	< 0.1	55.0	< 0.1	8.0	8.0	< 0.1
110	Pygmyflower	0.1	< 0.1	5.0	< 0.1	1.2	1.2	< 0.1
111	Crested wheat grass	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
112	Redtop	0.1	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
113	Northern bedstraw	0.1	< 0.1	5.0	< 0.1	0.8	0.8	< 0.1
114	Nightshade species	0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
115	Palmate coltsfoot	< 0.1	< 0.1	35.0	< 0.1	2.4	2.4	< 0.1
116	White mustard	0.1	< 0.1	10.0	< 0.1	1.6	1.6	< 0.1
117	Giant ragweed	0.1	< 0.1	5.0	< 0.1	1.4	1.4	< 0.1
118	Goldenrod species	0.1	< 0.1	10.0	< 0.1	1.0	1.0	< 0.1
119	Rough hair grass	0.1	< 0.1	5.0	< 0.1	0.8	0.8	< 0.1
120	Slough grass	0.1	< 0.1	10.0	< 0.1	5.8	5.8	< 0.1
121	Dwarf raspberry	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
122	Slender wheat grass	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
123	Caraway	0.1	< 0.1	15.0	< 0.1	1.0	1.0	< 0.1
124	Toad rush	0.1	< 0.1	5.0	< 0.1	1.2	1.2	< 0.1
125	Wild radish	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
126	Strawberry-blite	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
127	Violet species	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
128	Ground-ivy	< 0.1	< 0.1	15.0	< 0.1	0.8	0.8	< 0.1
129	Sedge species	0.1	< 0.1	5.0	< 0.1	0.5	0.6	< 0.1
130	Low bush-cranberry	< 0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
131	Marsh hedge-nettle	< 0.1	< 0.1	5.0	< 0.1	1.2	1.2	< 0.1
132	Poison suckleya	< 0.1	< 0.1	15.0	< 0.1	1.0	1.0	< 0.1
133	Western sea-blite	< 0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
134	Annual brome species	< 0.1	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
135	Bull thistle	< 0.1	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
136	Willow species	< 0.1	< 0.1	10.0	< 0.1	0.8	0.8	< 0.1

Table 170. 1973-77 Annual crops in Alberta (3109 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Stinkweed	69.9	< 0.1	< 0.1	5.0	7.2	237.8	42.4
2	Wild oats	62.2	< 0.1	< 0.1	3.1	4.9	237.8	33.3
3	Wild buckwheat	57.9	< 0.1	< 0.1	2.1	3.6	160.2	28.7
4	Green foxtail	21.6	< 0.1	< 0.1	5.2	23.9	237.8	24.5
5	Lamb's-quarters	47.0	< 0.1	< 0.1	2.1	4.4	179.9	24.4
6	Chickweed	13.9	< 0.1	< 0.1	4.4	31.7	237.8	19.2
7	Hemp-nettle	28.0	< 0.1	< 0.1	1.7	5.9	200.6	15.9
8	Pale smartweed	21.8	< 0.1	< 0.1	2.0	9.4	237.8	14.7
9	Canada thistle	32.3	< 0.1	< 0.1	0.3	1.1	40.5	13.4
10	Redroot pigweed	25.4	< 0.1	< 0.1	0.7	2.7	90.0	11.8
11	Corn spurry	7.9	< 0.1	< 0.1	1.5	19.5	237.8	7.8
12	Canola/rapeseed	10.6	< 0.1	< 0.1	1.0	9.6	120.9	7.2
13	Russian thistle	13.6	< 0.1	< 0.1	0.6	4.2	85.4	7.0
14	Field horsetail	14.3	< 0.1	< 0.1	0.4	3.0	171.8	6.8
15	Dandelion	13.5	< 0.1	< 0.1	0.2	1.1	15.2	5.6
16	Wild mustard	9.6	< 0.1	< 0.1	0.3	3.0	110.2	4.6
17	Perennial sow-thistle	11.2	< 0.1	< 0.1	0.1	0.9	16.2	4.6
18	Flixweed	8.0	< 0.1	< 0.1	0.1	0.8	10.0	3.3
19	Bluebur	7.5	< 0.1	< 0.1	0.1	1.1	23.6	3.1
20	Tartary buckwheat	6.8	< 0.1	< 0.1	0.1	1.8	38.6	3.0
21	Shepherd's-purse	6.1	< 0.1	< 0.1	0.1	2.4	75.0	2.8
22	Narrow-leaved hawk's-beard	4.5	< 0.1	< 0.1	0.1	1.9	40.5	2.0
23	Quack grass	4.4	< 0.1	< 0.1	0.1	2.3	72.4	2.0
24	Ball mustard	4.5	< 0.1	< 0.1	0.1	1.4	8.8	1.9
25	Kochia	3.5	< 0.1	< 0.1	0.1	2.1	23.6	1.6
26	Cow cockle	3.4	< 0.1	< 0.1	0.1	1.6	21.4	1.5
27	Night-flowering catchfly	2.5	< 0.1	< 0.1	< 0.1	1.7	27.6	1.1
28	Wormseed mustard	1.6	< 0.1	< 0.1	0.1	3.2	23.6	0.8
29	Broad-leaved plantain	1.7	< 0.1	< 0.1	< 0.1	1.0	9.0	0.7
30	Wild tomato	1.5	< 0.1	< 0.1	< 0.1	0.6	20.0	0.6
31	Rose species	1.4	< 0.1	< 0.1	< 0.1	0.6	4.3	0.6
32	Common groundsel	1.2	< 0.1	< 0.1	< 0.1	1.3	9.5	0.5
33	Spear-leaved goosefoot	1.2	< 0.1	< 0.1	< 0.1	0.6	7.4	0.5
34	Pineappleweed	1.0	< 0.1	< 0.1	< 0.1	2.0	18.8	0.5
35	White cockle	1.1	< 0.1	< 0.1	< 0.1	0.9	4.3	0.4
36	Yellow toadflax	0.7	< 0.1	< 0.1	< 0.1	1.4	6.2	0.3
37	Stork's bill	0.5	< 0.1	< 0.1	< 0.1	5.2	23.6	0.3
38	Henbit	0.4	< 0.1	< 0.1	< 0.1	7.2	125.4	0.3
39	Scentless chamomile	0.4	< 0.1	< 0.1	< 0.1	5.5	23.6	0.2
40	Prostrate knotweed	0.5	< 0.1	< 0.1	< 0.1	0.3	1.0	0.2
41	False cleavers	0.4	< 0.1	< 0.1	< 0.1	1.0	8.6	0.2
42	Round-leaved mallow	0.3	< 0.1	< 0.1	< 0.1	0.5	1.0	0.1
43	Knawel	0.2	< 0.1	< 0.1	< 0.1	9.8	21.4	0.1



Residual Weed Population Shifts in Alberta – 1973 to 2017

Abstract

The comparison of the relative abundance of weeds in Alberta in 2017 with results from previous provincial surveys enables the identification of recent shifts in species ranks, density and relative abundance. In 2017, a total of 1232 fields of canola, spring wheat, durum, barley, oat, peas and lentil were surveyed. These fields were selected using a stratified random sampling procedure based on ecodistricts. In each field, weeds were counted in 20 quadrats (50 by 50 cm) in late summer. Weed data are summarized using a relative abundance index based on frequency, field uniformity and density. Chickweed (*Stellaria media* (L.) Vill.) was the most abundant weed, wild buckwheat (*Fallopia convolvulus* (L.) Á.Löve) ranked second, lamb's-quarters (*Chenopodium album* L.) ranked third and canola/rapeseed (*Brassica napus* L.) ranked fourth. The results from the 2017 survey are compared to results from surveys of 1333 fields in 2009-2010, 1153 fields in 2001, 684 fields in 1997, 1086 fields in 1987-1989 and 3109 fields in 1973-1977. The total weed densities in 2010 and 2017 were the lowest recorded. Sixteen species have been ranked amongst the top 25 most abundant species in each survey. Twelve species have declined at least ten ranks since the 1970s. Most of these species continued to decline in 2017: Tartary buckwheat (*Fagopyrum tataricum* (L.) Gaertn.), ball mustard (*Neslia paniculata* (L.) Desv.), bluebur (*Lappula squarrosa* (Retz.) Dumort.), flixweed (*Descurainia sophia* (L.) Webb ex Prantl), wild mustard (*Sinapis arvensis* L.), Russian thistle (*Salsola tragus* L.), corn spurry (*Spergula arvensis* L.), redroot pigweed (*Amaranthus retroflexus* L.), stinkweed (*Thlaspi arvense* L.), perennial sow-thistle (*Sonchus arvensis* L.) and common groundsel (*Senecio vulgaris* L.). Pale smartweed (*Persicaria lapathifolia* (L.) Delarbre) declined in the 2009-2010 survey, but did not decrease any further in the 2017 survey. Foxtail barley (*Hordeum jubatum* L.) has increased the most since the 1970s and appeared in the top twenty-five for the first time in 2017. False cleavers (*Galium spurium* L.), wheat (*Triticum* spp.), canola/rapeseed (*Brassica napus* L.), stork's bill (*Erodium cicutarium* (L.) L'Hér. ex Aiton), and kochia (*Bassia scoparia* (L.) A.J.Scott) have also steadily increased since the 1970s. Other species with their highest relative abundance recorded in 2017 include chickweed, lamb's-quarters, and barley (*Hordeum vulgare* L.). Spiny annual sow-thistle (*Sonchus asper* (L.) Hill) and low cudweed (*Gnaphalium uliginosum* L.) have also increased since the 1970s, but did not increase since 2009-2010.

Residual Weed Population Shifts in Alberta – 1973 to 2017

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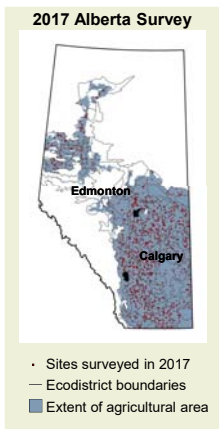


Objectives

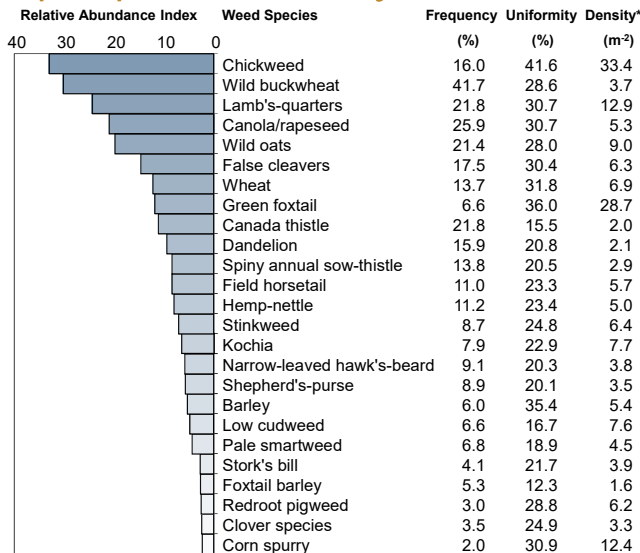
- Present the top 25 species in the 2017 Alberta provincial weed survey
- Compare the density and relative abundance of weeds in Alberta in 2017 with results from past provincial surveys

Methods

- Used a stratified random sampling procedure to select fields in ecodistricts shown on map
- Surveyed 1232 fields of canola, spring wheat, durum, barley, oat, peas and lentil
- Counted weeds in 20 quadrats (50 by 50 cm) per field in late summer
- Summarized weed data using a relative abundance index based on frequency, field uniformity and density
- Frequency = Percent of fields in which species occurred
- Uniformity = Percent of quadrats in which species occurred
- Density = Average density of species in all fields
- Compared top 25 species from surveys of:
 - 1333 fields in 2010 (2009-2010)
 - 1153 fields in 2001
 - 684 fields in 1997
 - 1086 fields in 1980's (1987-1989)
 - 3109 fields in 1970's (1973-1977)
- Data weighted based on distribution of surveyed crops in 2011 census
- 2009 irrigated field data down-weighted to reflect the relative area under irrigation



Top 25 Species in 2017 Survey



*Average density and uniformity in occurrence fields

Species Shifts

Weed Species	Relative Abundance Rank					Change*	
	1970's	1980's	1997	2001	2009/10		2017
Foxtail barley		92	40	31	26	22	70
False cleavers	41	28	9	7	6	6	35
Low cudweed		47	25	39	12	19	28
Spiny annual sow-thistle		37	27	15	10	11	26
Wheat		29	21	20	19	7	22
Stork's bill	37	32	31	29	27	21	16
Kochia	25	23	23	19	17	15	10
Canola/rapeseed	12	19	20	16	4	4	8
Barley		25	26	25	31	18	7
Narrow-leaved hawk's-beard	22	13	12	17	11	16	6
Chickweed	6	5	1	3	7	1	5
Dandelion	15	18	10	10	5	10	5
Shepherd's-purse	21	9	6	11	16	17	4
Lamb's-quarters	5	6	8	6	8	3	2
Field horsetail	14	10	11	13	15	12	2
Wild buckwheat	3	1	3	1	1	2	1
Canada thistle	9	12	5	5	3	9	0
Wild oats	2	3	2	2	2	5	-3
Green foxtail	4	4	17	8	18	8	-4
Hemp-nettle	7	8	7	9	9	13	-6
Pineappleweed	34	30	18	23	25	40	-6
Quack grass	23	21	16	14	23	31	-8
Clover species		16	24	26	24	24	-8
Common groundsel	32	15	15	24	35	42	-10
Perennial sow-thistle	17	17	14	18	14	28	-11
Pale smartweed	8	11	13	12	22	20	-12
Stinkweed	1	2	4	4	13	14	-13
Redroot pigweed	10	14	19	21	20	23	-13
Corn spurry	11	22	22	27	21	25	-14
Russian thistle	13	7	29	22	28	29	-16
Wild mustard	16	35	47	36	40	45	-29
Flixweed	18	24	37	30	30	52	-34
Bluebur	19	20	28	28	43	58	-39
Ball mustard	24	31	48	41	56	66	-42
Tartary buckwheat	20	27	38	73	34	67	-47

*Numbers in italics are changes from the 1980's surveys to 2017; these species were not included in the 1970's surveys

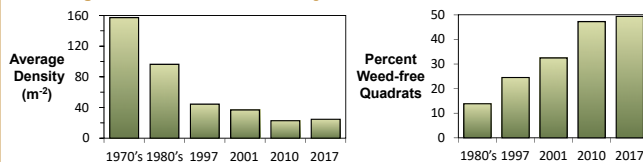
Sources

- Thomas, A.G. and R.F. Wise. 1985. Dew's Alberta Weed Survey 1973-1977. Agriculture Canada Weed Survey Series Publication 85-3.
- Maurice, D.C., J.T. O'Donovan and D.J. Pickle. 1990. Alberta Cereals & Oilseeds Crop Protection Survey. Alberta Agriculture (internal report).
- Thomas, A.G., B.L. Frick, and L.M. Hall. 1998. Weed survey of Alberta cereal and oilseed crops in 1997. Agriculture and Agri-Food Canada Weed Survey Series Publication 98-2.
- Thomas, A.G., J.Y. Leeson, and L.M. Hall. 2002. Weed survey of Alberta cereal, oilseed and pulse crops in 2001. Agriculture and Agri-Food Canada Weed Survey Series Publication 02-1.
- Leeson J.Y., C. Neeser, N. Kimmel and M. Vadnais. 2010. Alberta weed survey of irrigated fields in 2009. Weed Survey Series Publication 10-1. Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, Saskatchewan.
- Leeson J.Y., C. Neeser, N. Kimmel and M. Vadnais. 2012. Alberta weed survey of dryland fields in 2010. Weed Survey Series Publication 12-1. Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, Saskatchewan.

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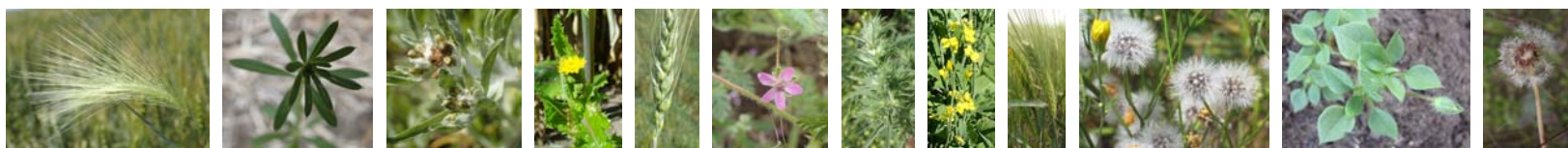
Changes in Total Density and Weed-free Quadrats



Summary

- The total weed densities in 2010 and 2017 were the lowest recorded
- Chickweed was ranked number one due, in part, to the high density and uniformity in occurrence fields
- Foxtail barley and stork's-bill have steadily increased over time and appeared in the top twenty-five species for the first time in 2017
- Volunteer wheat, canola and barley ranked the highest in 2017 attributable, in part, to crop diversification

- Other species that are steadily increased over time include kochia and false cleavers
- Spiny annual sow-thistle and low cudweed were ranked highest in 2010; dry conditions in the south-east may have contributed to the slightly reduced relative abundance of these species in 2017
- Of the twelve species with the largest decline, only pale smartweed did not decrease further in 2017



Weeds that have increased the most since the 1970's. Left to right: Foxtail barley, false cleavers, low cudweed, spiny annual sow-thistle, wheat, stork's-bill, kochia, canola, barley, narrow-leaved hawk's-beard, chickweed and dandelion



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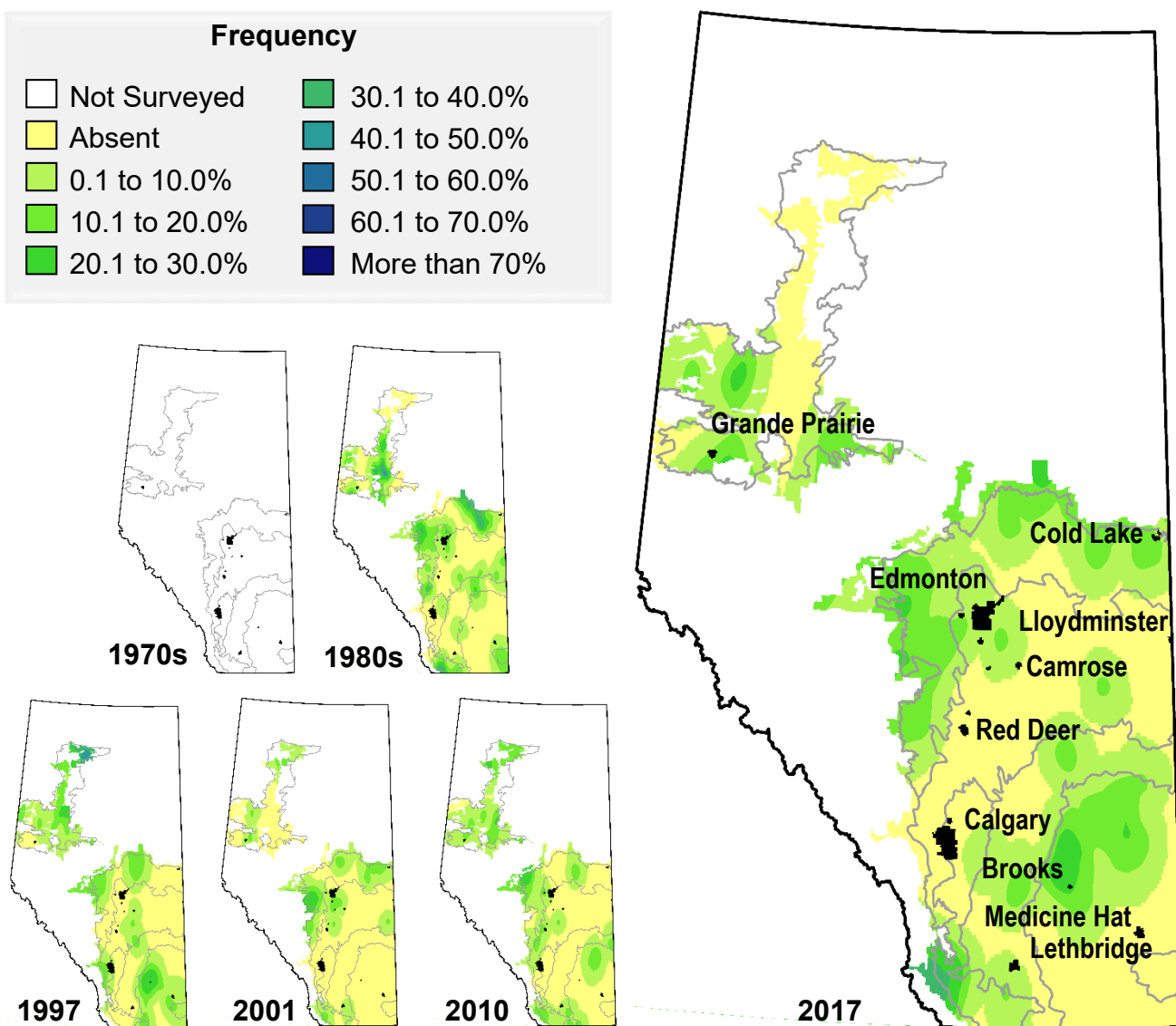
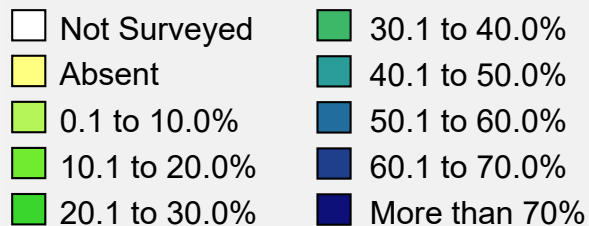
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Alfalfa, *Medicago sativa*

Frequency

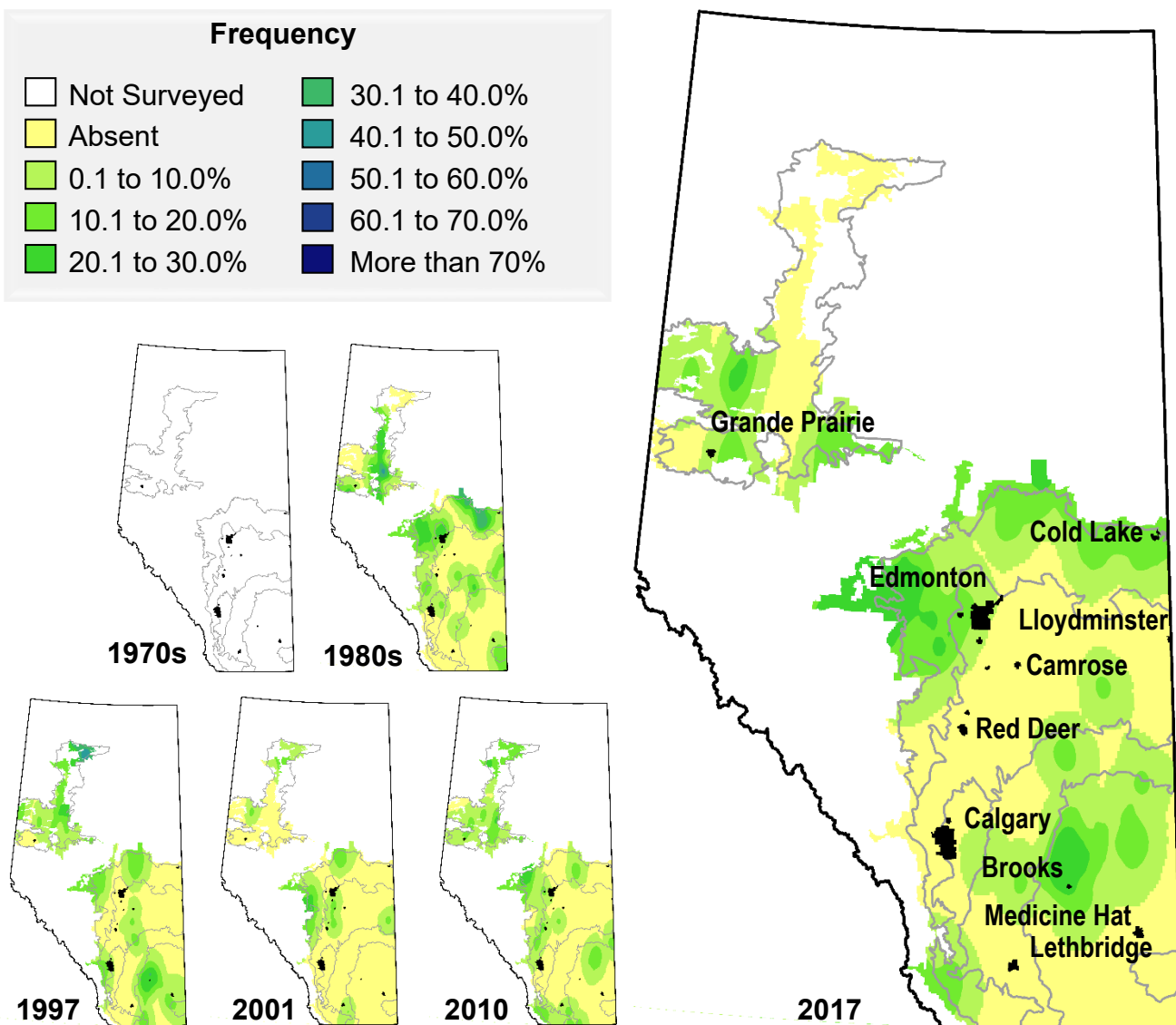
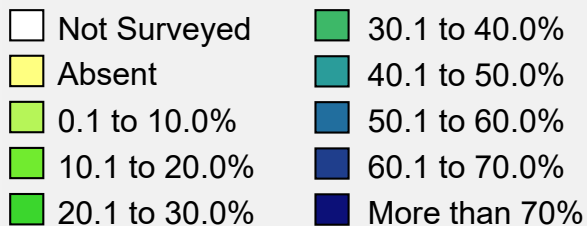


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	33	4.0	1.1	26.2	0.2	4.2	40.8	1.1
1997	34	3.7	0.6	15.7	0.1	1.5	9.8	1.0
2001	32	1.5	0.7	45.9	0.2	13.2	78.4	1.3
2009-10	29	3.4	0.8	24.5	0.2	4.5	106.2	2.3
2017	26	2.6	0.8	30.1	0.1	5.2	50.6	2.1

Species not surveyed in 1973-77

Barley, *Hordeum vulgare*

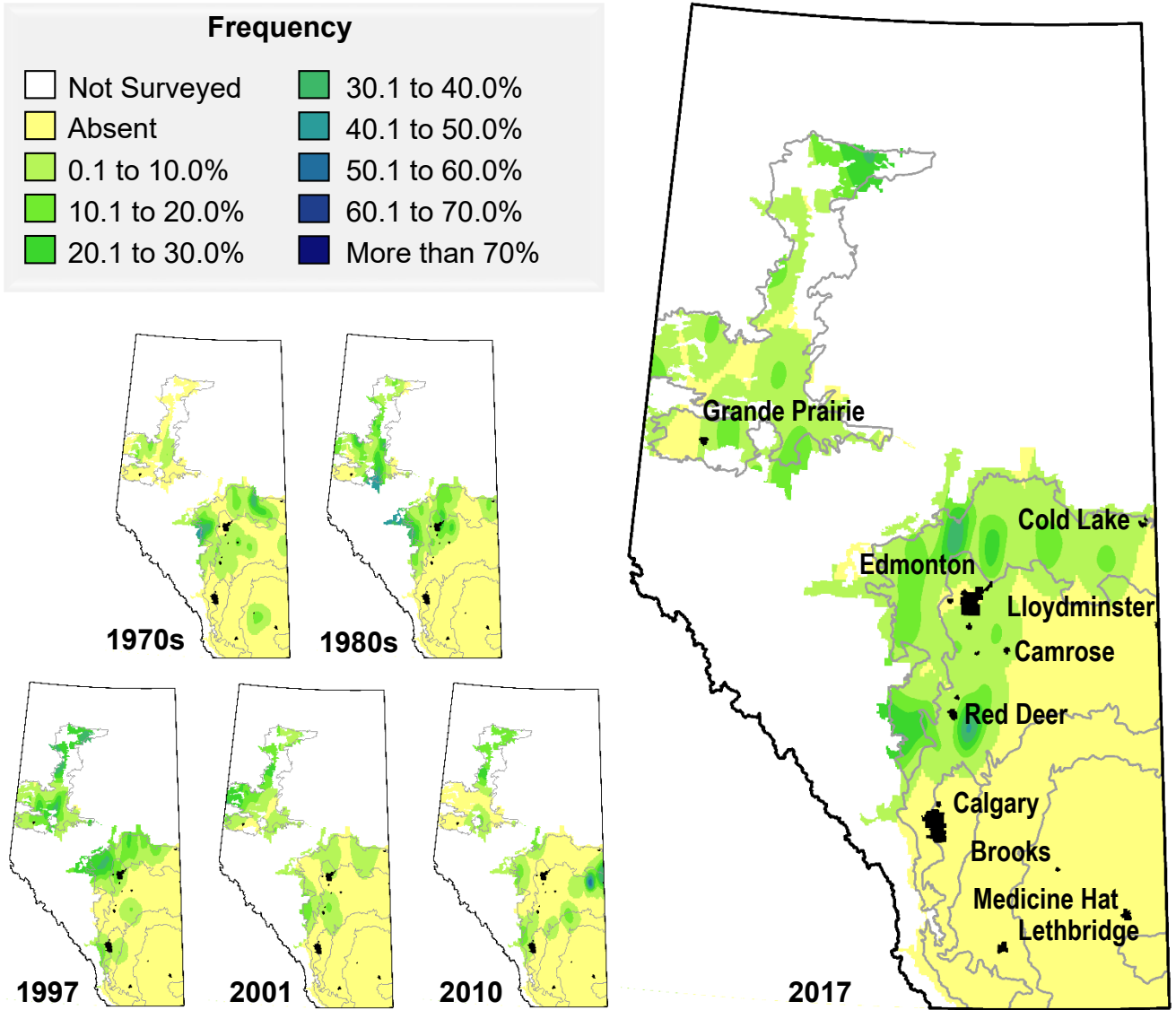
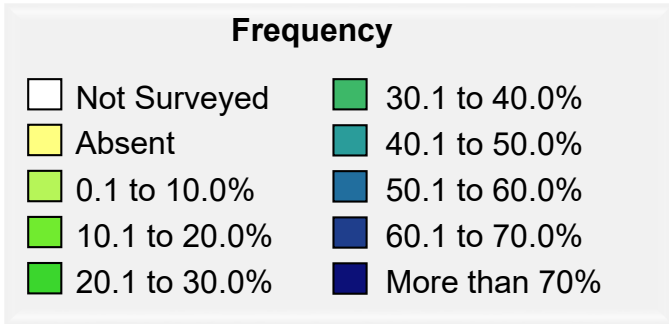
Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	25	9.8	2.4	24.6	0.4	4.2	61.8	2.7
1997	26	5.2	1.5	28.8	0.2	4.5	60.4	2.2
2001	25	4.6	1.6	34.4	0.3	6.9	71.4	2.7
2009-10	31	3.7	0.7	20.0	0.1	2.3	28.0	2.0
2017	18	6.0	2.1	35.4	0.3	5.4	38.6	5.2

Species not surveyed in 1973-77

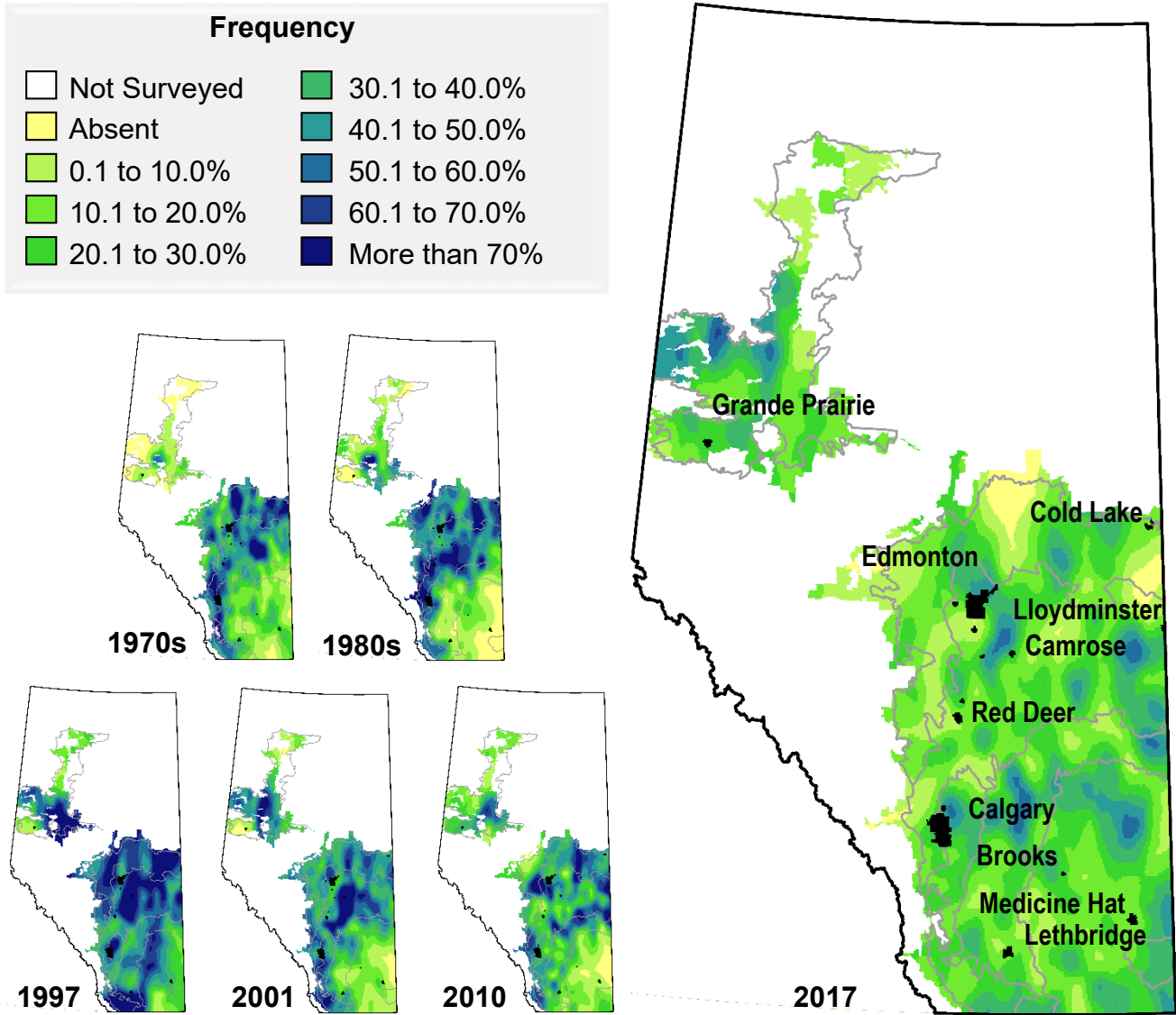
Broad-leaved plantain, *Plantago major**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	29	1.7	-	-	< 0.1	1.0	9.0	0.7
1987-89	41	3.2	0.5	15.0	0.1	3.7	68.6	0.7
1997	33	4.0	0.6	14.8	0.1	1.5	14.4	1.1
2001	38	2.0	0.4	18.8	< 0.1	1.9	14.4	0.7
2009-10	39	2.5	0.2	8.2	< 0.1	0.6	2.2	0.8
2017	36	2.9	0.4	12.4	< 0.1	1.3	22.0	1.3

* Includes saline plantain (*Plantago eriopoda*)
 Field uniformity is not available for 1973-77

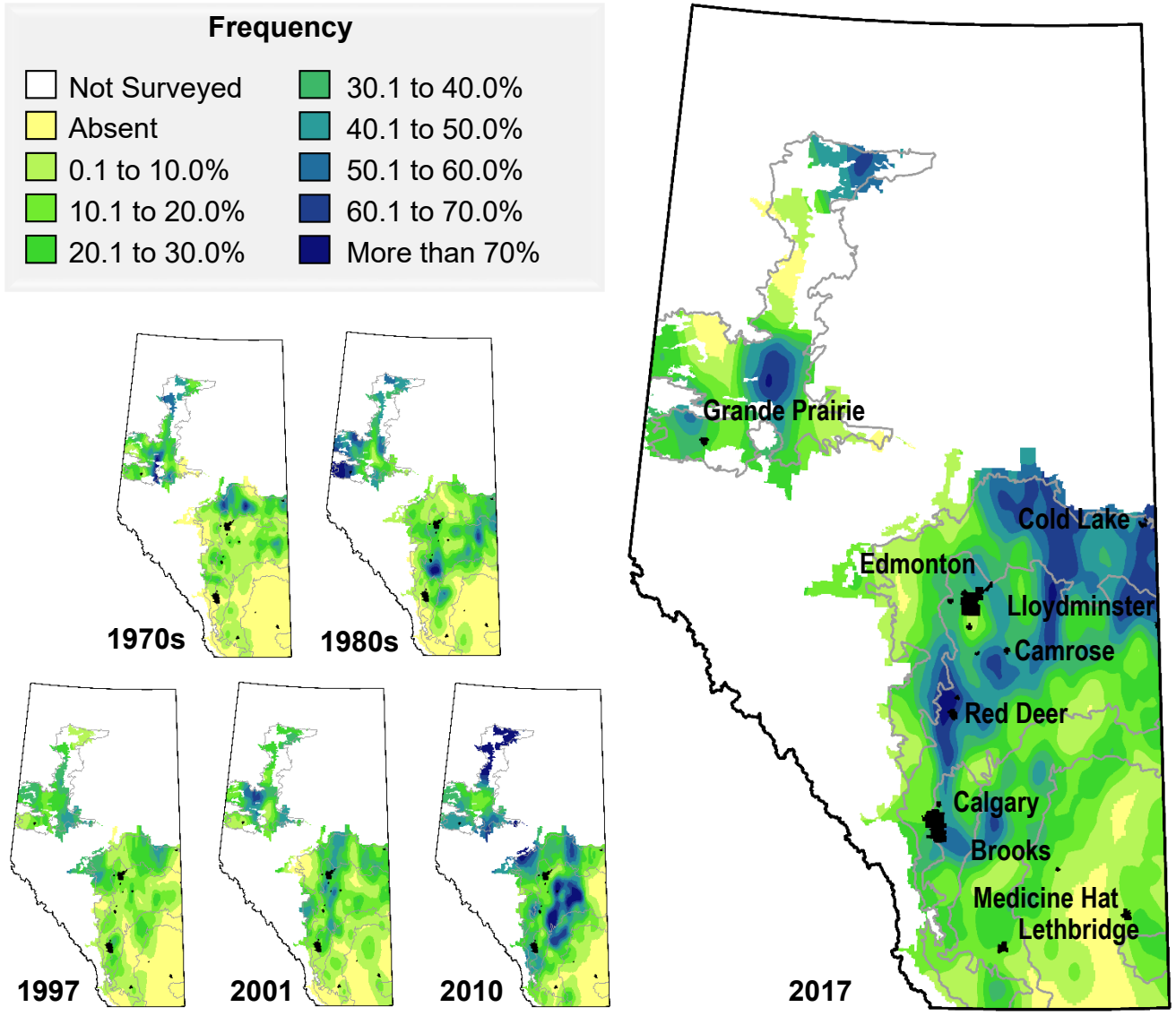
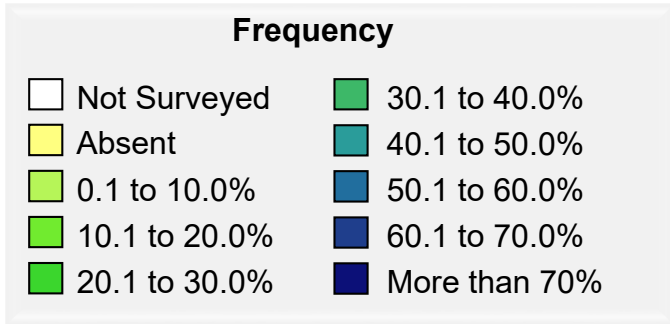
Canada thistle, *Cirsium arvense*



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	9	32.3	-	-	0.3	1.1	40.5	13.4
1987-89	12	35.7	8.1	22.7	1.1	3.0	37.2	9.1
1997	5	52.0	12.2	23.4	1.2	2.4	30.8	17.7
2001	5	39.9	9.5	23.8	1.0	2.5	41.6	16.5
2009-10	3	32.3	5.2	16.0	0.5	1.5	16.2	14.8
2017	9	21.8	3.4	15.5	0.4	2.0	19.6	11.2

Field uniformity is not available for 1973-77

Canola/rapeseed, *Brassica napus**

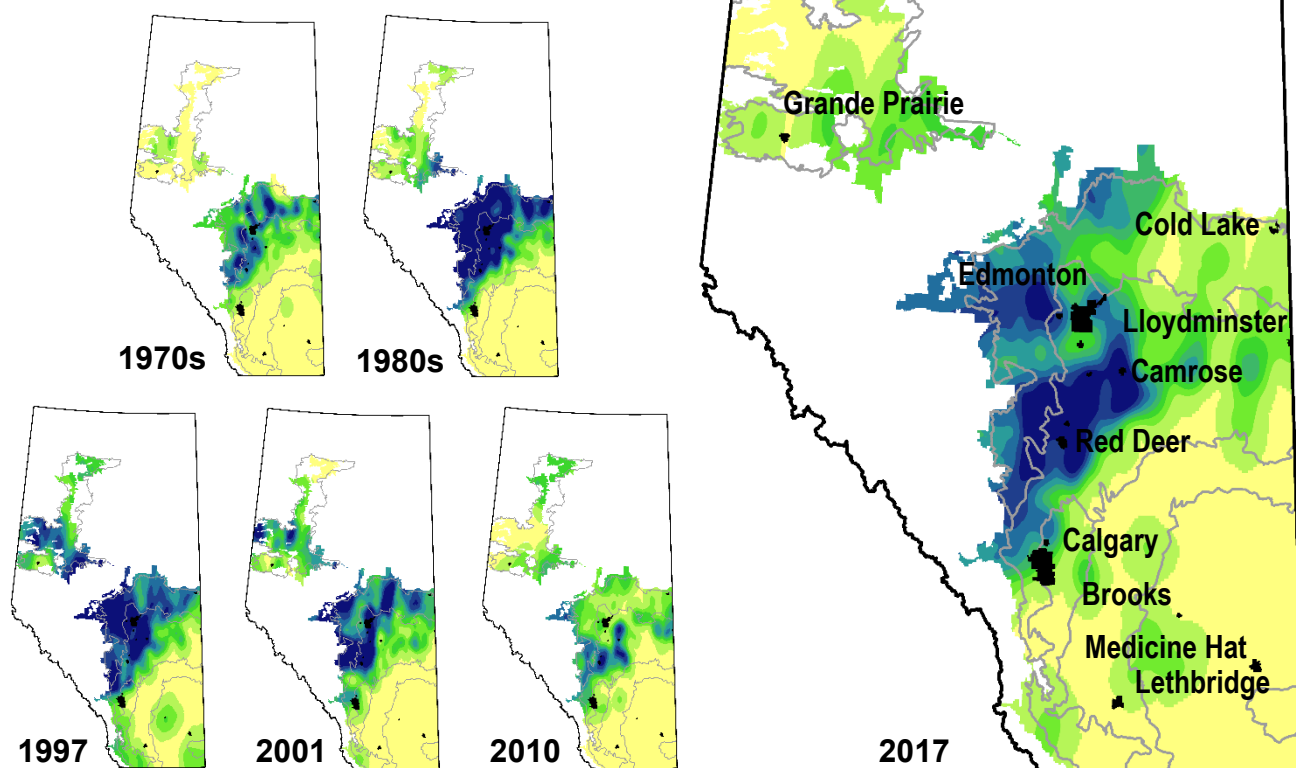
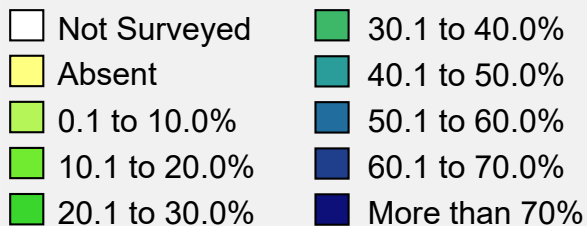


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	12	10.6	-	-	1.0	9.6	120.9	7.2
1987-89	19	14.8	4.0	27.4	0.7	4.6	74.2	4.3
1997	20	7.6	2.4	31.0	0.6	8.1	95.2	3.9
2001	16	13.5	3.8	27.9	0.6	4.6	143.2	6.7
2009-10	4	20.7	5.7	27.4	0.9	4.2	85.4	14.4
2017	4	25.9	7.9	30.7	1.4	5.3	177.8	21.0

* Includes Polish canola (*Brassica rapa*)
Field uniformity is not available for 1973-77

Chickweed, *Stellaria media*

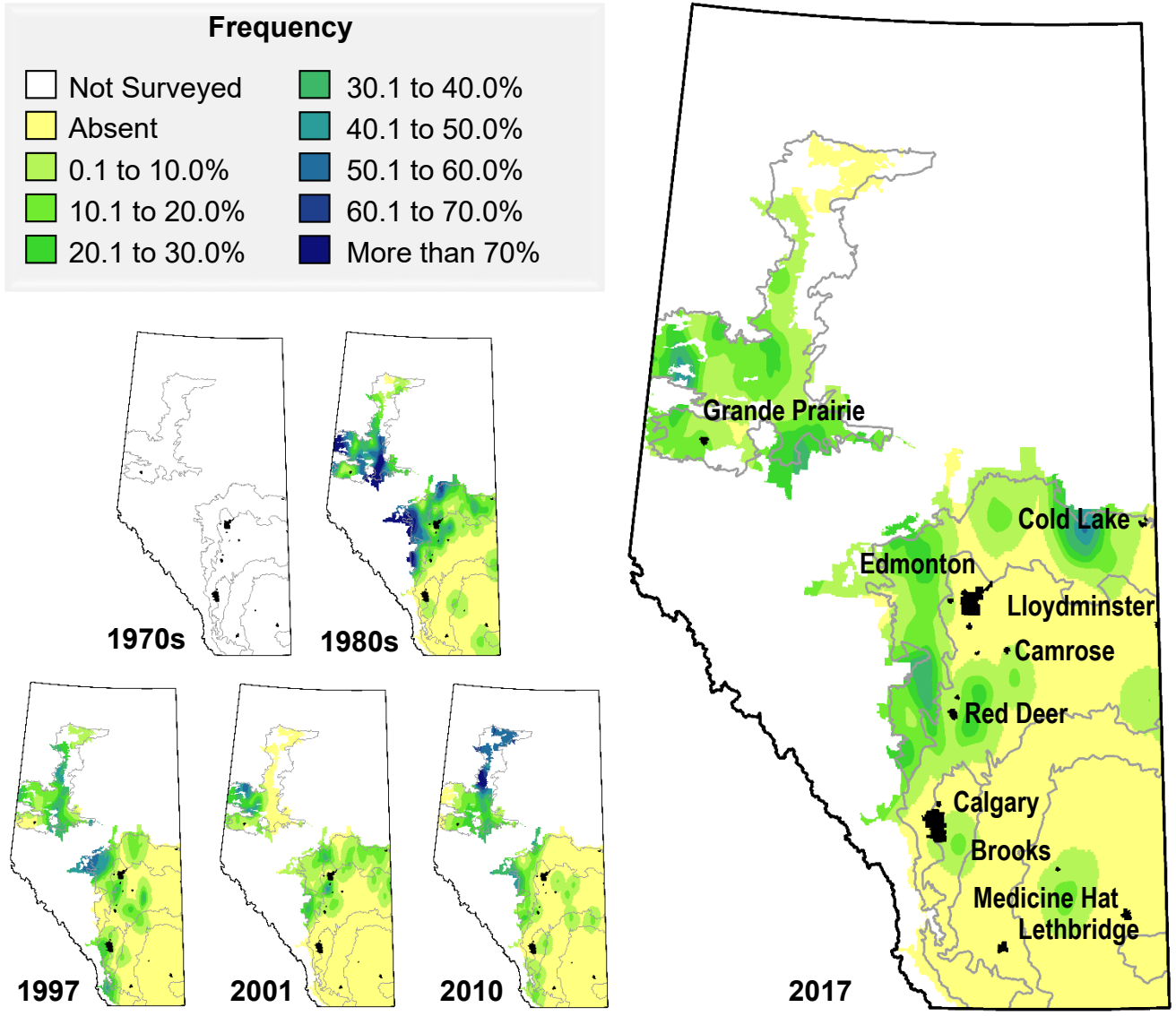
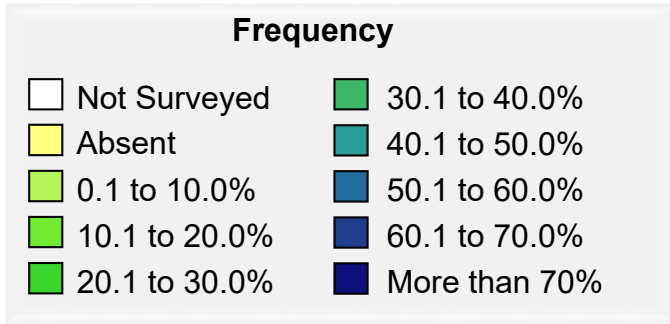
Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	6	13.9	-	-	4.4	31.7	237.8	19.2
1987-89	5	25.6	13.8	53.9	10.3	40.2	978.2	19.5
1997	1	29.5	14.1	47.9	9.5	32.3	619.8	33.4
2001	3	21.5	10.7	49.7	6.6	30.9	1727.2	28.6
2009-10	7	12.3	4.1	33.7	1.4	11.2	206.0	13.1
2017	1	16.0	6.6	41.6	5.3	33.4	1073.2	32.7

Field uniformity is not available for 1973-77

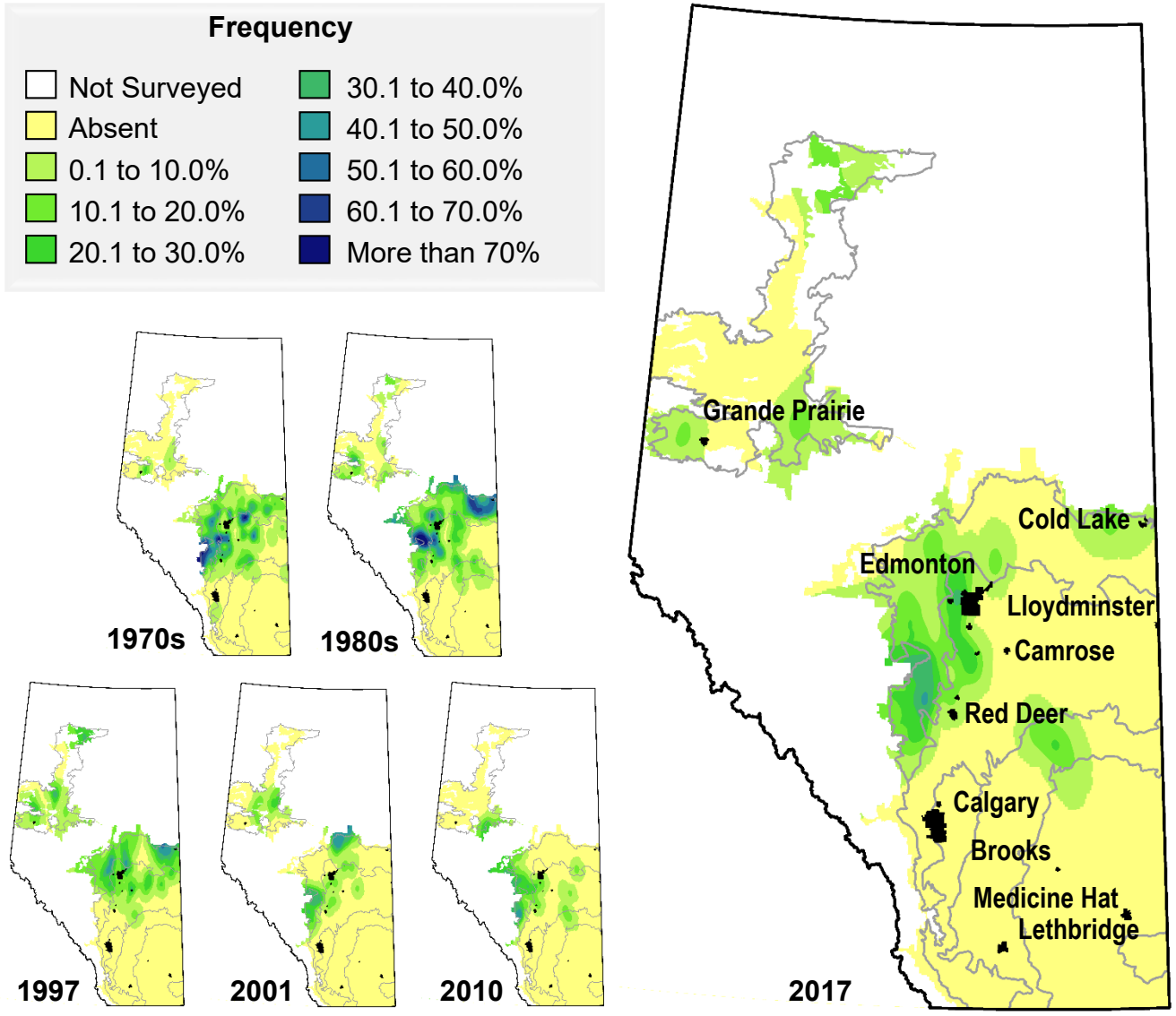
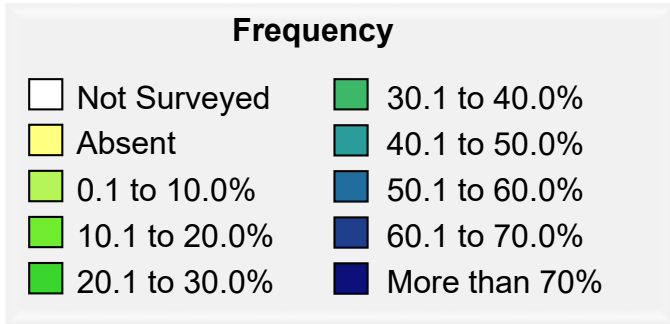
Clover species, *Trifolium spp.**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)		Relative Abundance	
			All Occurrence	High	All Occurrence	High		
1973-77	-	-	-	-	-	-	-	
1987-89	16	11.9	5.0	42.2	2.0	16.9	145.2	5.6
1997	24	6.4	1.5	24.0	0.2	3.2	20.6	2.3
2001	26	4.1	1.3	31.2	0.3	7.2	96.6	2.4
2009-10	24	5.4	1.2	22.8	0.4	6.7	162.4	4.1
2017	24	3.5	0.9	24.9	0.1	3.3	25.8	2.4

* Includes alsike, white and red clover (*Trifolium hybridum*, *T. repens* and *T. pratense*)
 Species not surveyed in 1973-77

Corn spurry, *Spergula arvensis*

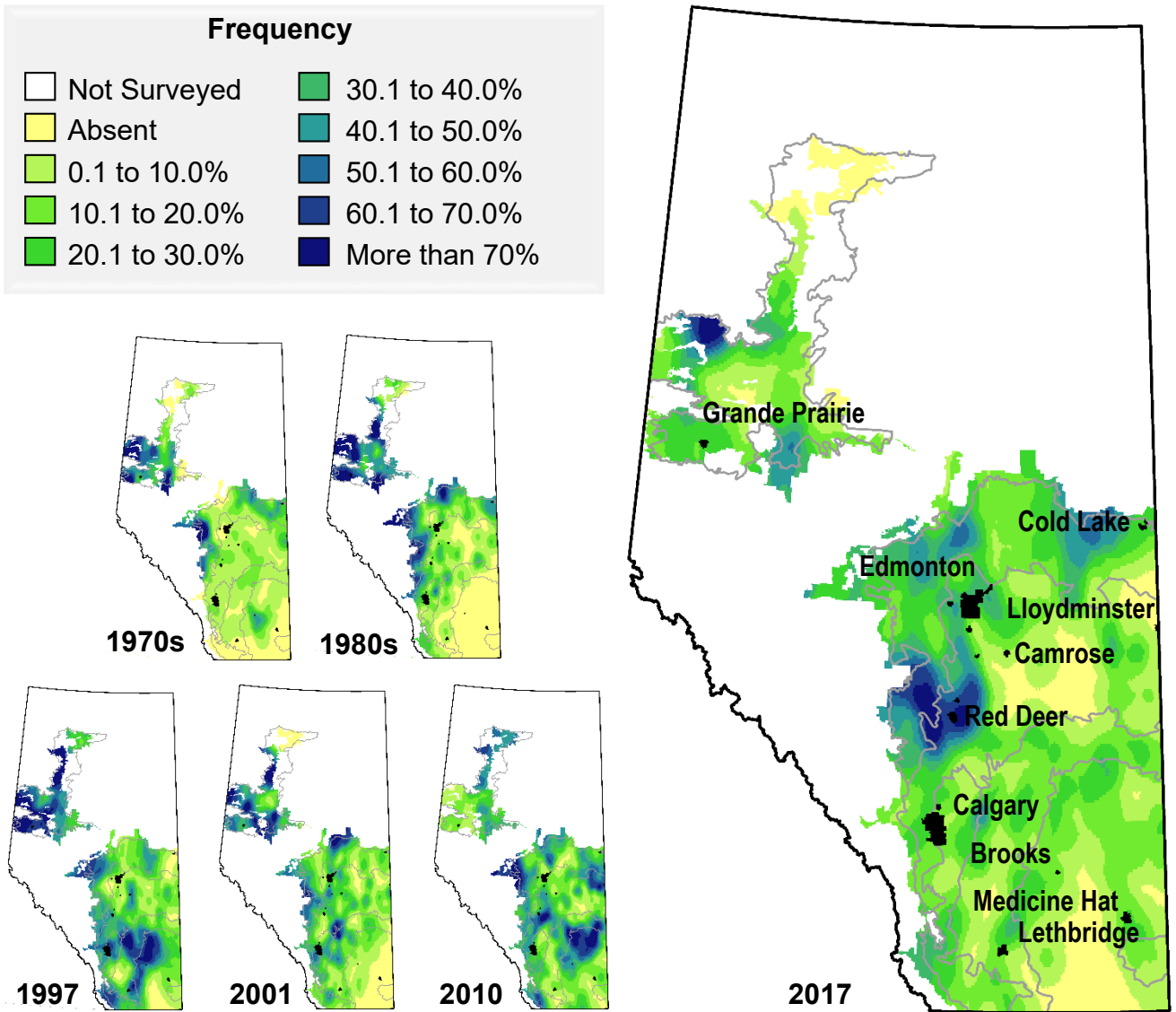
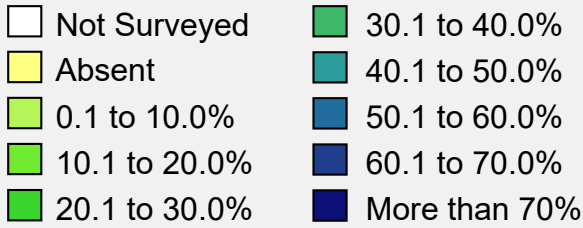


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	11	7.9	-	-	1.5	19.5	237.8	7.8
1987-89	22	7.3	2.5	33.8	1.6	21.5	950.8	3.6
1997	22	6.4	1.6	25.1	0.8	12.3	161.8	3.6
2001	27	2.3	0.9	41.9	0.4	17.0	182.4	2.1
2009-10	21	2.1	0.8	38.8	0.9	42.9	362.0	5.2
2017	25	2.0	0.6	30.9	0.3	12.4	83.6	2.2

Field uniformity is not available for 1973-77

Dandelion, *Taraxacum officinale**

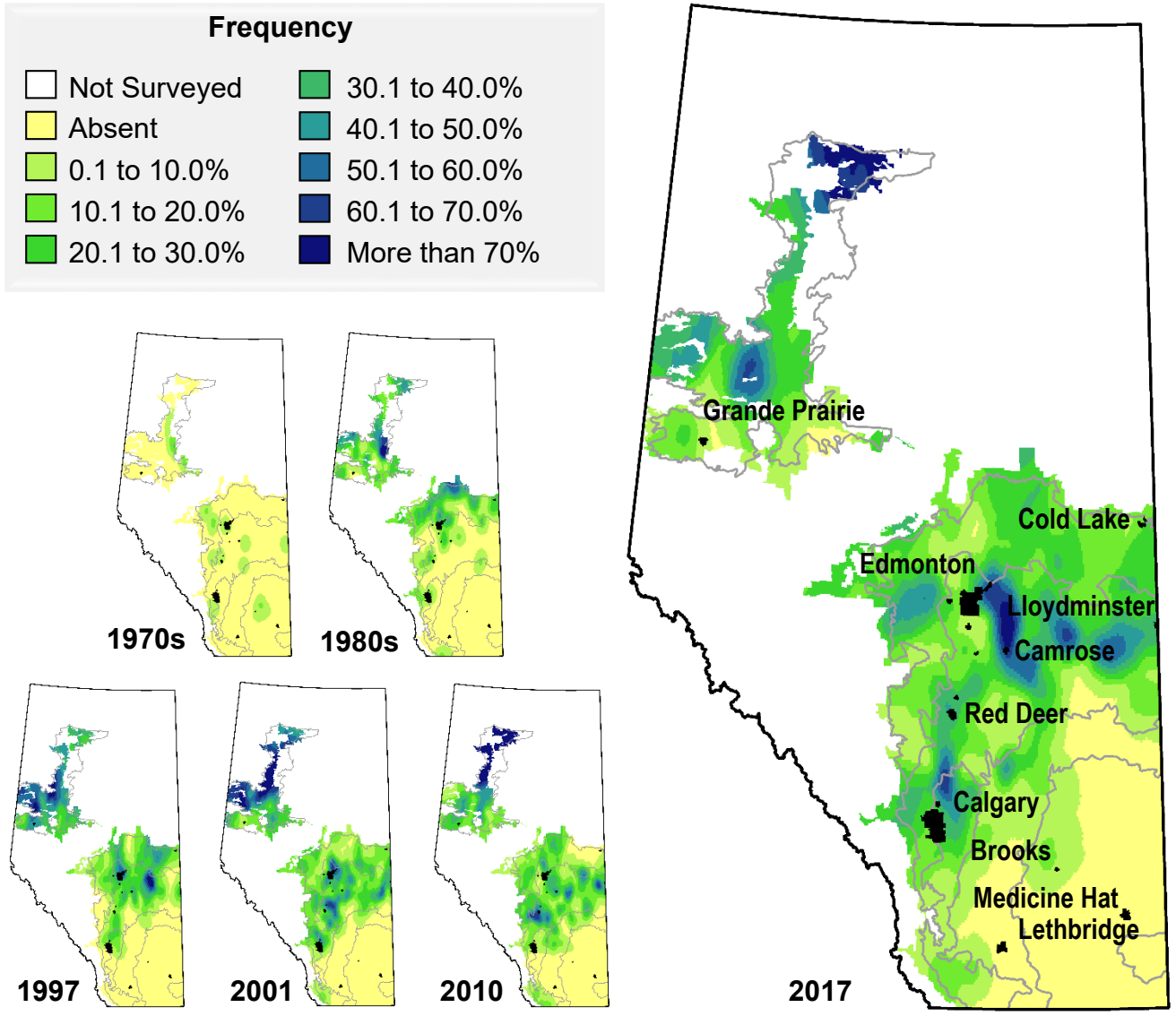
Frequency



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	15	13.5	-	-	0.2	1.1	15.2	5.6
1987-89	18	17.9	3.7	20.7	0.4	2.3	36.8	4.3
1997	10	31.5	6.2	19.7	0.5	1.6	76.4	9.5
2001	10	22.1	5.1	22.9	0.6	2.5	43.8	9.0
2009-10	5	26.1	5.3	20.1	0.7	2.6	102.4	14.4
2017	10	15.9	3.3	20.8	0.3	2.1	28.0	9.2

* Includes red-seeded dandelion (*Taraxacum erythrospermum*)
Field uniformity is not available for 1973-77

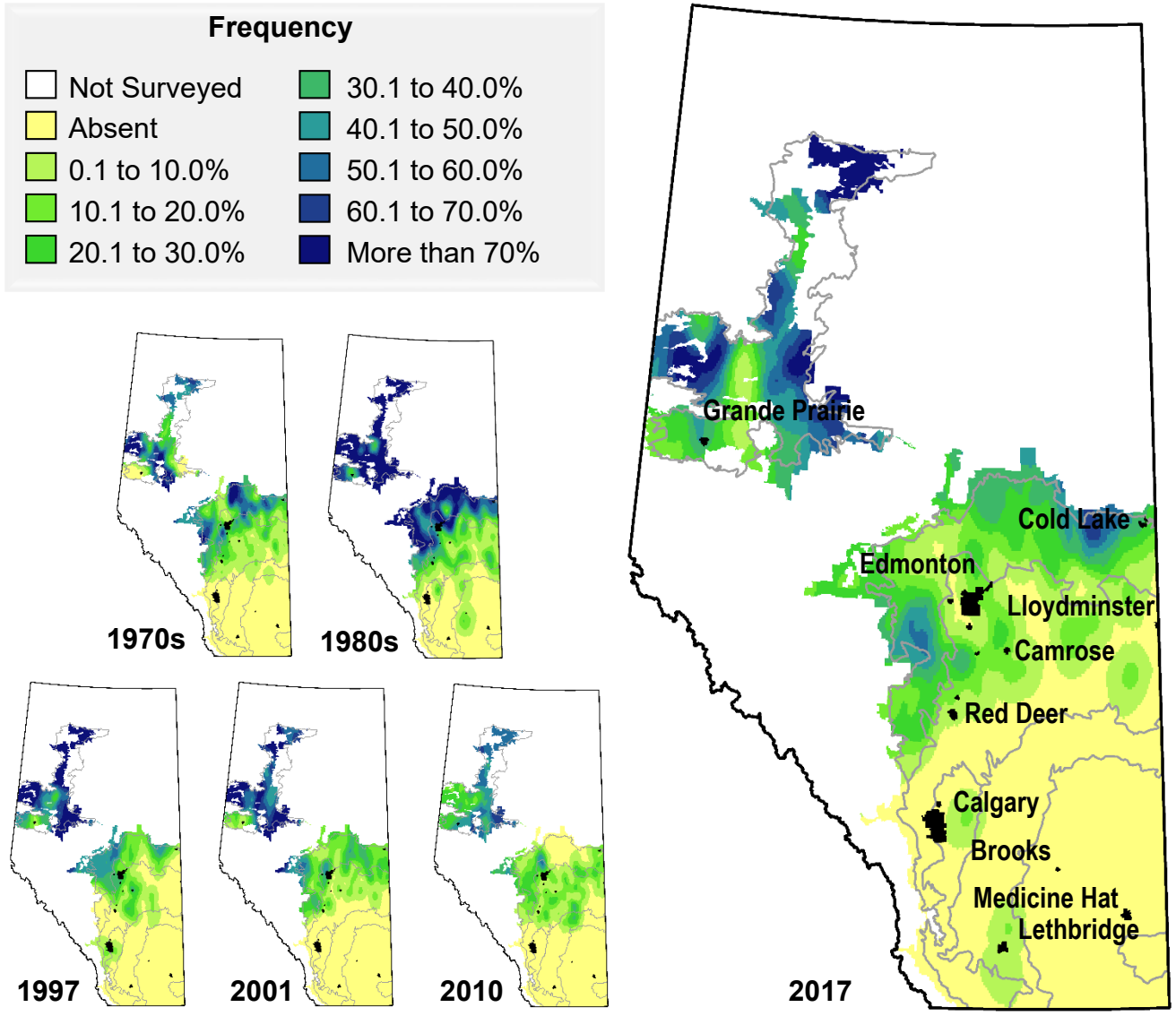
False cleavers, *Galium spurium**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	41	0.4	-	-	< 0.1	1.0	8.6	0.2
1987-89	28	7.7	1.5	19.3	0.3	4.2	49.8	1.9
1997	9	16.0	6.3	39.5	1.8	11.2	244.0	10.0
2001	7	18.3	6.8	37.1	1.6	8.7	180.8	12.1
2009-10	6	16.0	4.4	27.3	1.4	8.7	147.0	14.3
2017	6	17.5	5.3	30.4	1.1	6.3	165.8	14.8

* May include cleavers (*Galium aparine*)
Field uniformity is not available for 1973-77

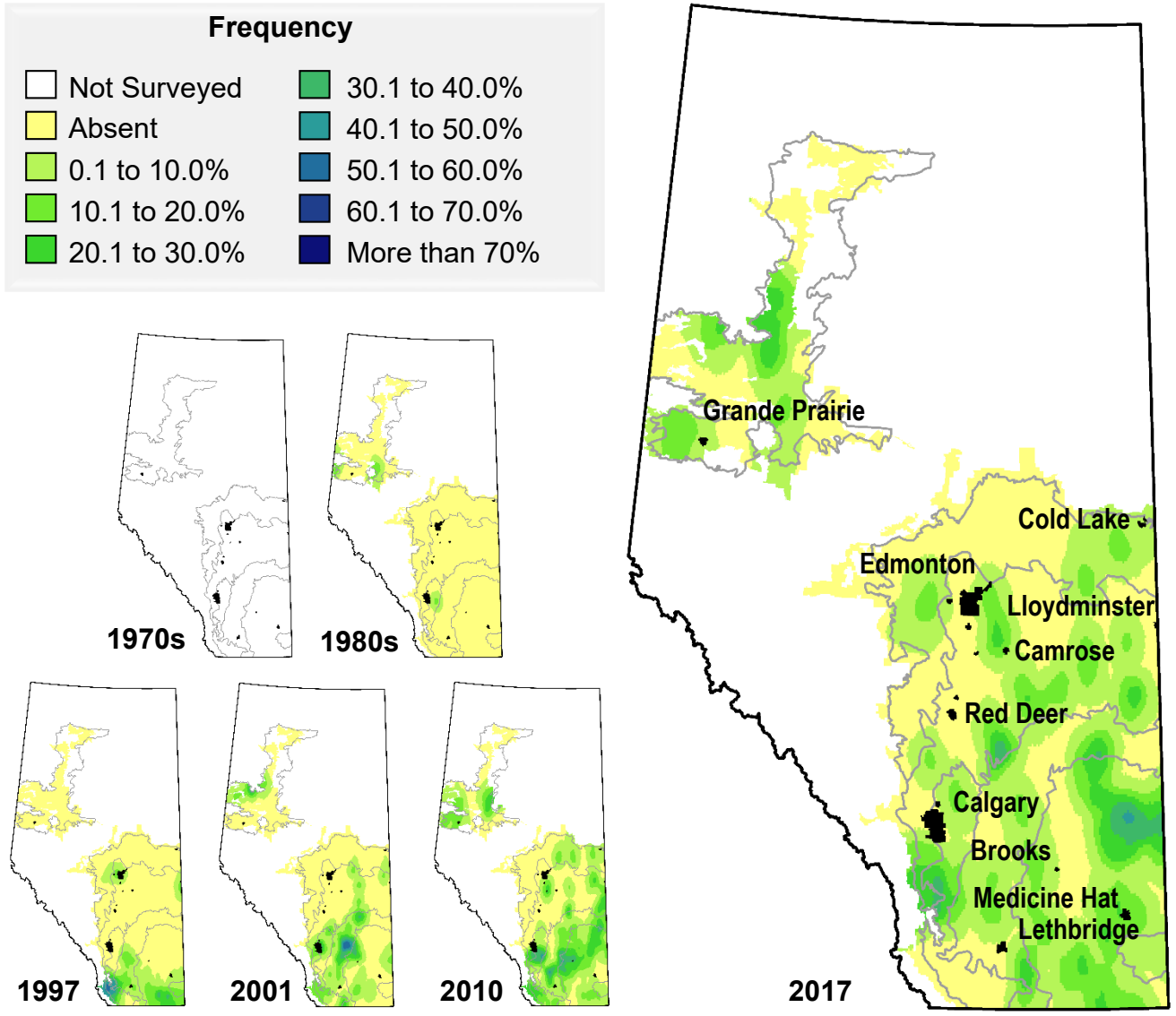
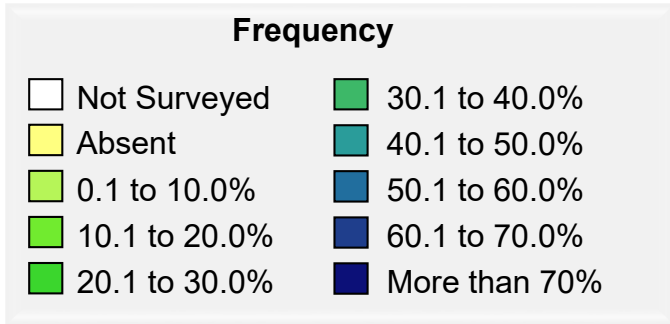
Field horsetail, *Equisetum arvense**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	14	14.3	-	-	0.4	3.0	171.8	6.8
1987-89	10	26.7	9.4	35.4	3.0	11.2	119.6	10.4
1997	11	15.0	5.0	33.2	1.9	12.4	201.0	9.2
2001	13	13.0	4.0	30.8	0.9	6.6	76.8	7.3
2009-10	15	10.6	2.3	21.5	0.6	5.6	50.4	7.4
2017	12	11.0	2.6	23.3	0.6	5.7	56.0	8.2

* Includes other horsetail species (*Equisetum* spp.)
 Field uniformity is not available for 1973-77

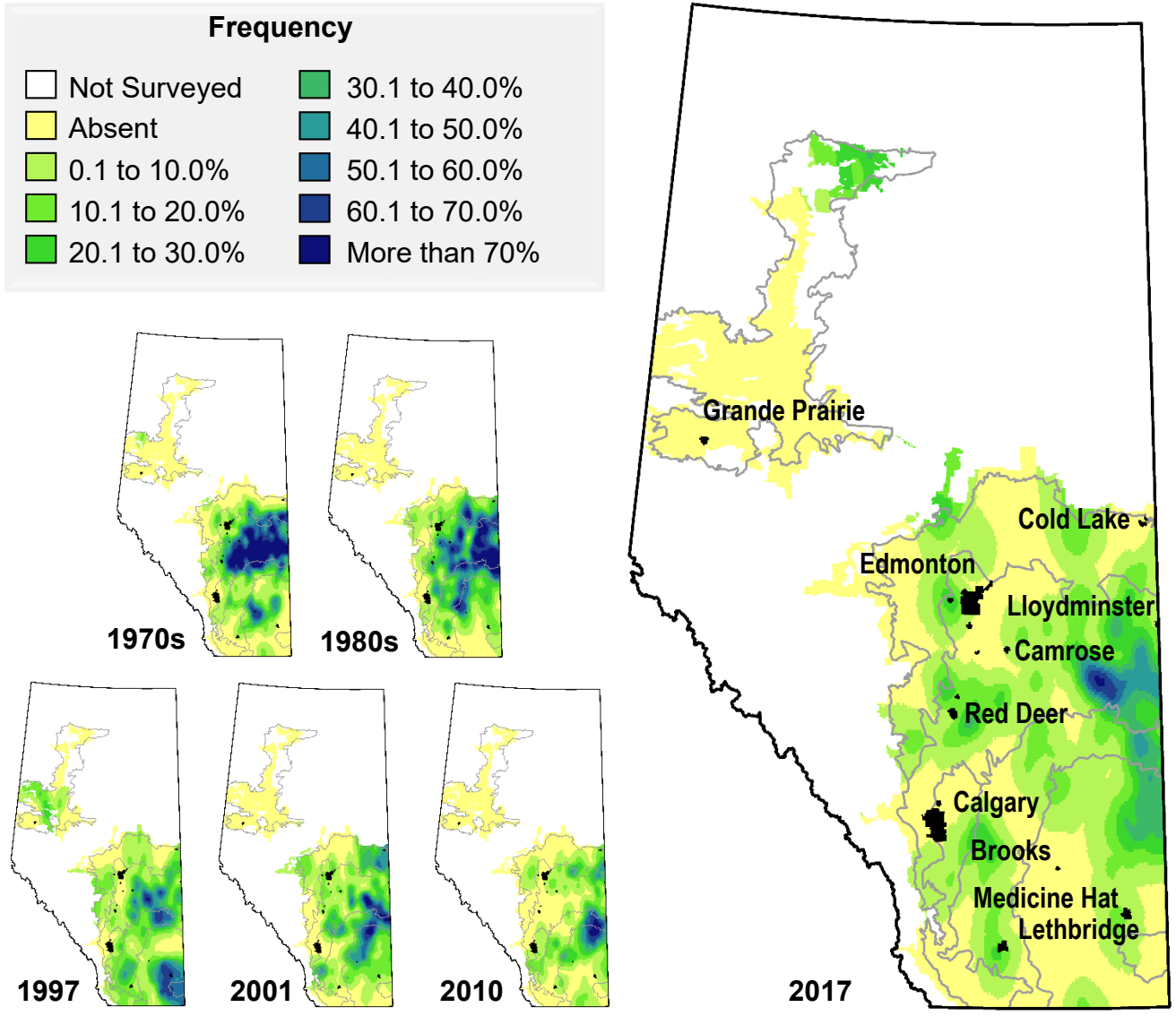
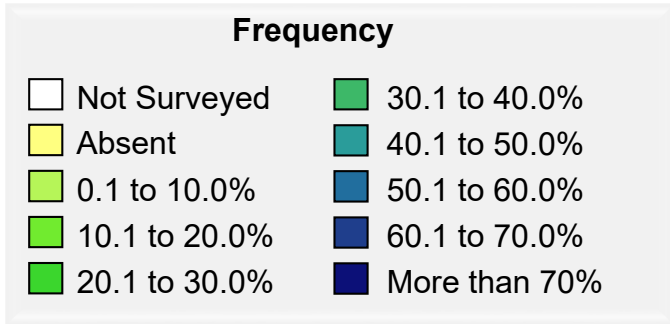
Foxtail barley, *Hordeum jubatum*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All Occurrence	High	All Occurrence	High		
1973-77	-	-	-	-	-	-	-	-
1987-89	92	0.3	< 0.1	7.7	< 0.1	0.6	0.8	< 0.1
1997	40	2.7	0.2	7.8	< 0.1	0.8	3.6	0.6
2001	31	3.9	0.6	14.8	0.1	1.8	19.8	1.3
2009-10	26	5.8	0.8	13.7	0.1	2.0	15.2	2.6
2017	22	5.3	0.7	12.3	0.1	1.6	13.8	2.5

Species not surveyed in 1973-77

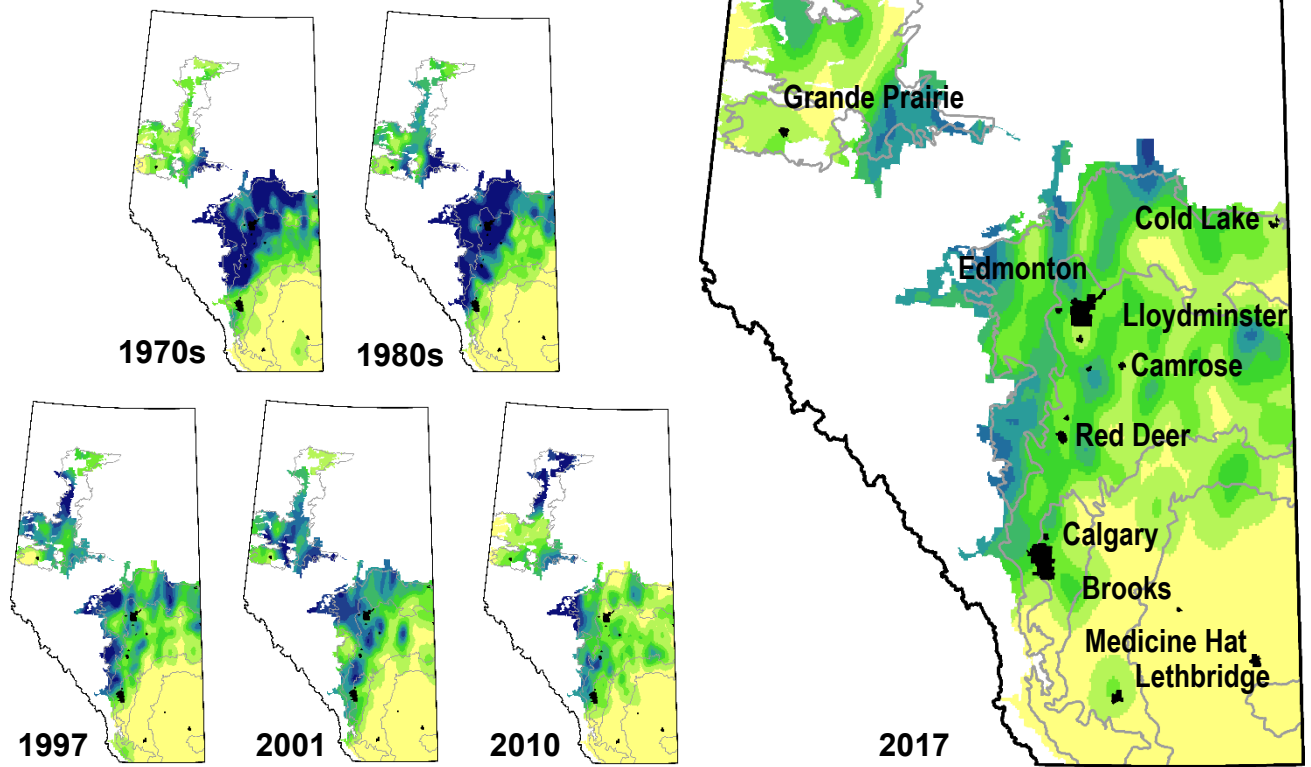
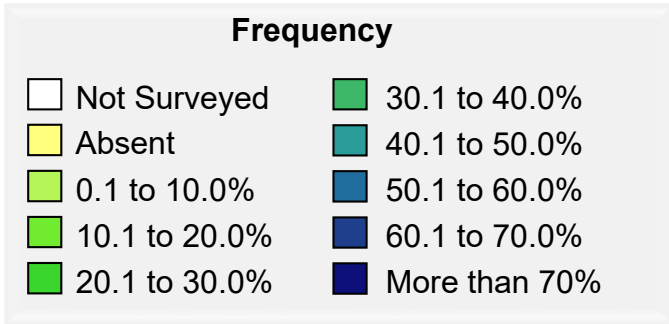
Green foxtail, *Setaria viridis*



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	4	21.6	-	-	5.2	23.9	237.8	24.5
1987-89	4	22.3	10.5	46.9	12.2	54.6	1185.4	19.6
1997	17	15.0	3.8	25.0	0.7	4.5	68.2	5.9
2001	8	12.4	4.9	39.1	2.3	18.6	469.9	11.7
2009-10	18	6.8	2.0	29.6	0.7	9.8	186.0	6.6
2017	8	6.6	2.4	36.0	1.9	28.7	592.8	11.8

Field uniformity is not available for 1973-77

Hemp-nettle, *Galeopsis tetrahit**

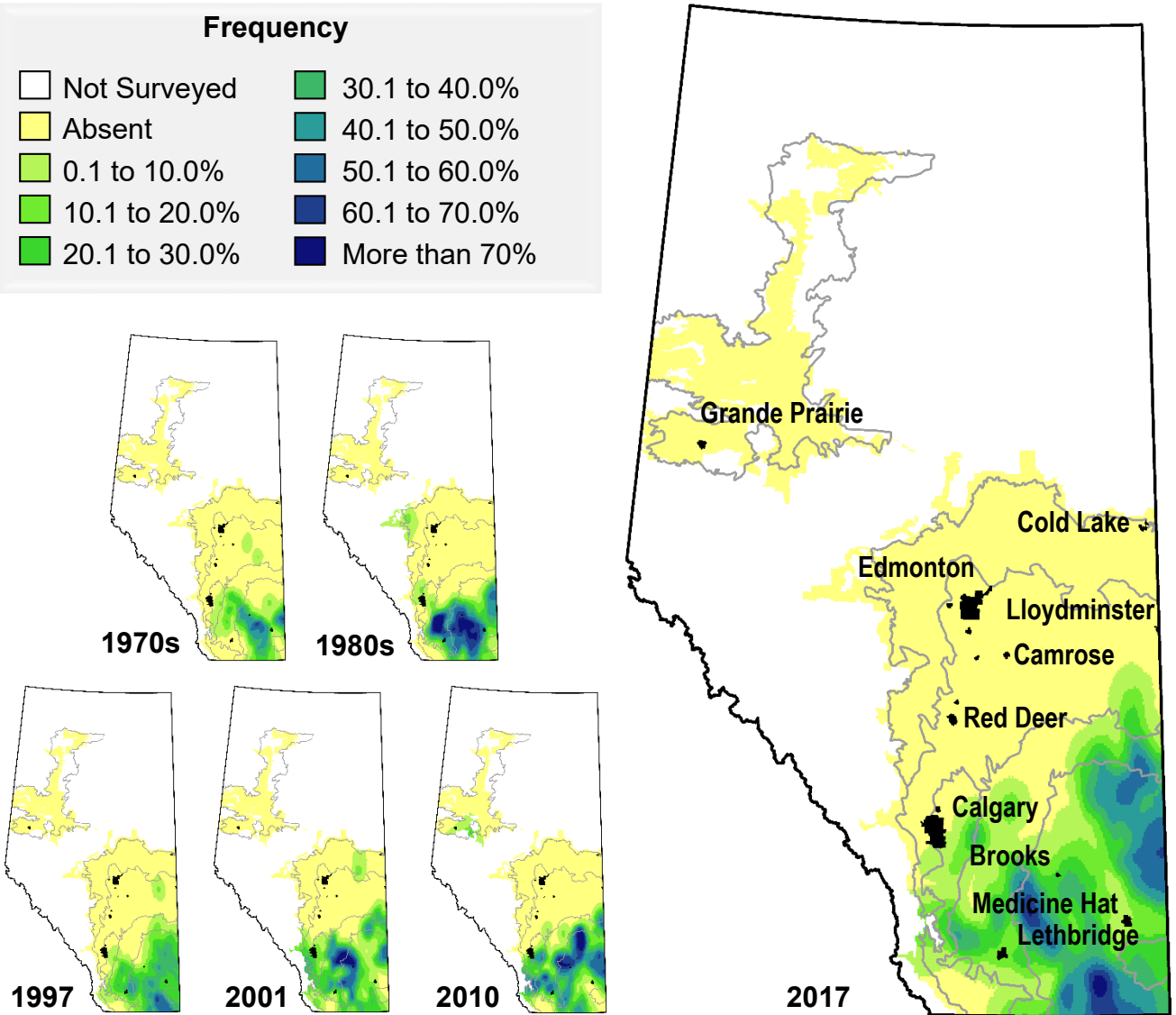
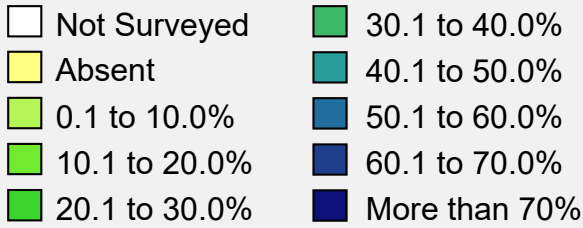


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	7	28.0	-	-	1.7	5.9	200.6	15.9
1987-89	8	28.1	10.4	37.0	3.5	12.3	272.0	11.4
1997	7	22.3	7.9	35.4	1.5	6.6	48.0	11.2
2001	9	18.5	5.5	29.8	1.3	6.9	199.2	10.5
2009-10	9	14.0	3.2	23.1	1.0	7.0	184.8	10.8
2017	13	11.2	2.6	23.4	0.6	5.0	136.8	8.0

* Includes large-flowered hemp-nettle (*Galeopsis speciosa*)
 Field uniformity is not available for 1973-77

Kochia, *Bassia scoparia*

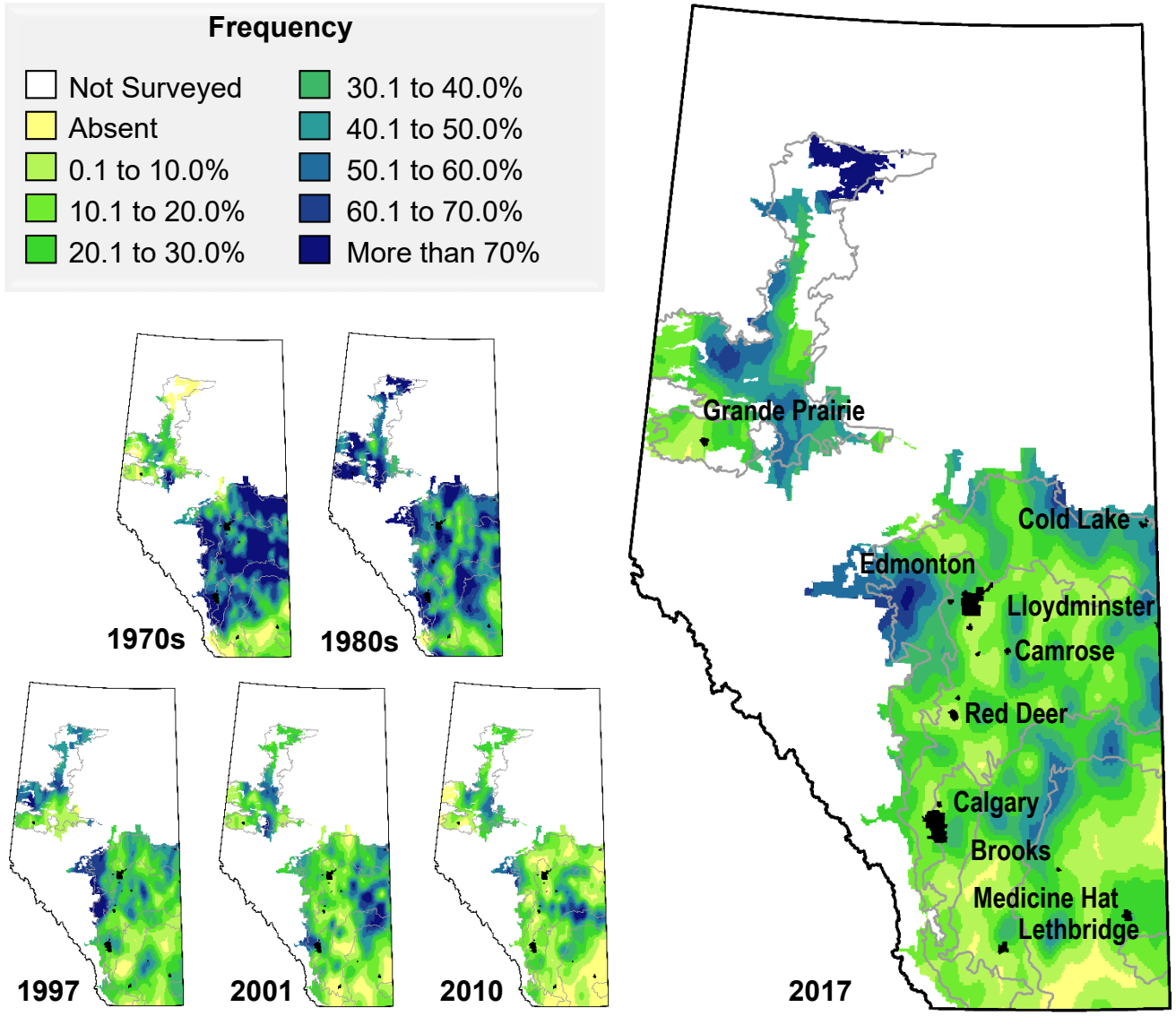
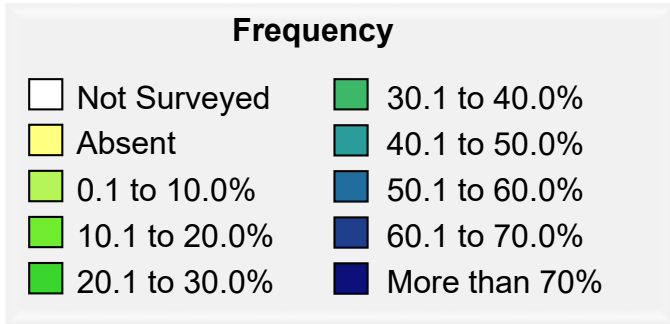
Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	25	3.5	-	-	0.1	2.1	23.6	1.6
1987-89	23	9.4	2.8	30.3	0.8	8.6	122.4	3.2
1997	23	6.9	1.8	26.0	0.3	4.8	27.8	2.8
2001	19	9.0	2.8	30.9	0.5	5.0	145.0	4.8
2009-10	17	12.2	2.3	19.1	0.4	3.0	89.6	6.8
2017	15	7.9	1.8	22.9	0.6	7.7	255.8	6.5

Field uniformity is not available for 1973-77

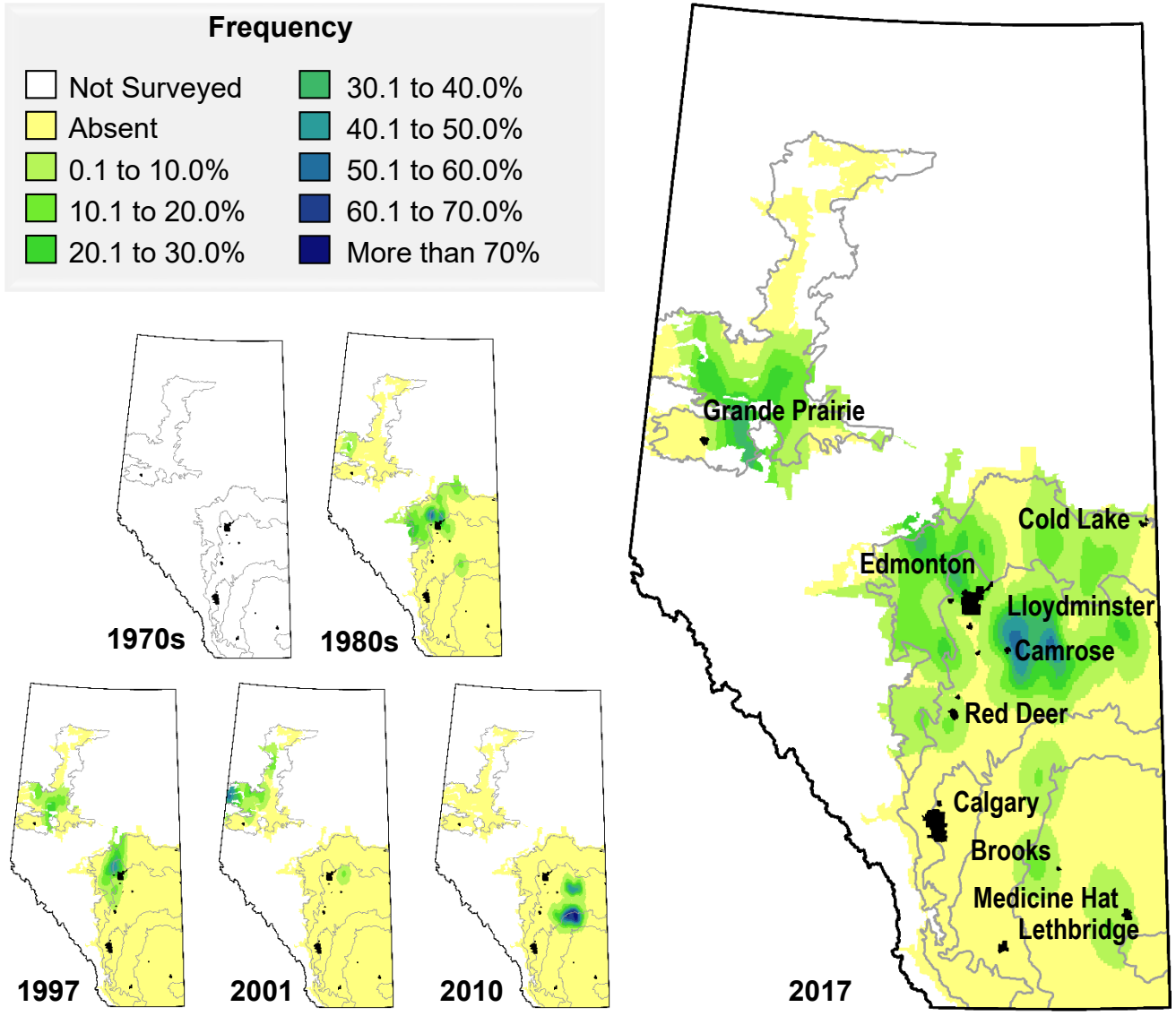
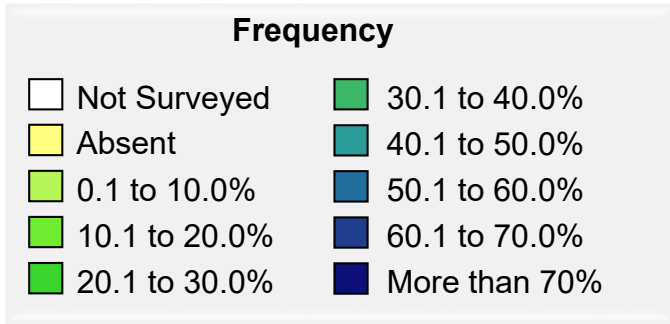
Lamb's-quarters, *Chenopodium album**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	5	47.0	-	-	2.1	4.4	179.9	24.4
1987-89	6	46.4	14.6	31.5	5.6	12.0	478.6	17.7
1997	8	26.2	6.6	25.0	1.2	4.5	141.2	10.4
2001	6	24.4	6.5	26.4	1.4	5.6	268.8	12.6
2009-10	8	17.1	3.6	21.0	0.9	5.2	328.8	11.5
2017	3	21.8	6.7	30.7	2.8	12.9	766.4	24.3

* Includes net-seeded lamb's-quarters (*Chenopodium berlandieri* var. *zschackei*)
 Field uniformity is not available for 1973-77

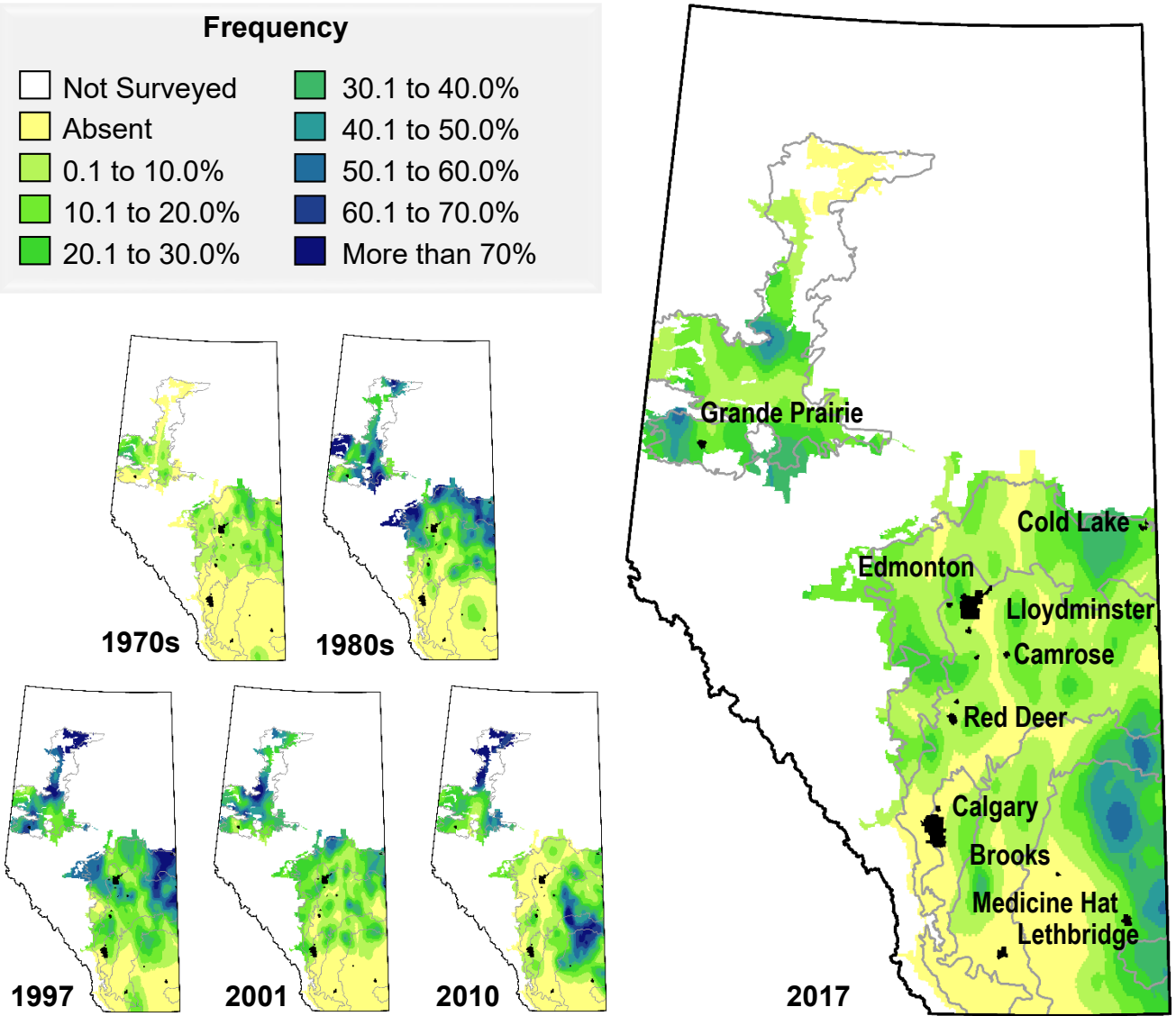
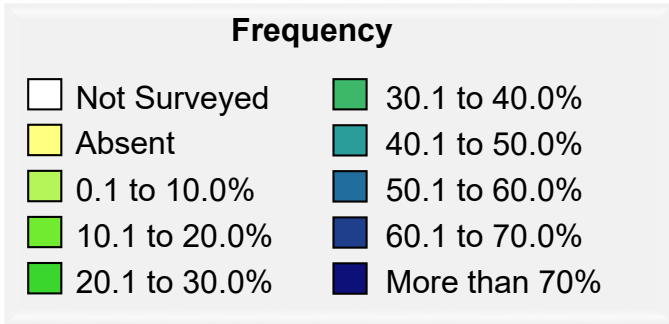
Low cudweed, *Gnaphalium uliginosum**



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	47	1.4	0.3	20.9	0.1	9.4	68.2	0.4
1997	25	1.5	0.5	33.3	0.8	52.8	363.8	2.3
2001	39	0.8	0.2	24.5	0.1	17.1	121.2	0.6
2009-10	12	2.4	0.9	36.6	1.7	72.2	709.8	9.2
2017	19	6.6	1.1	16.7	0.5	7.6	219.2	5.0

* Includes western marsh cudweed (*Gnaphalium palustre*)
 Species not surveyed in 1973-77

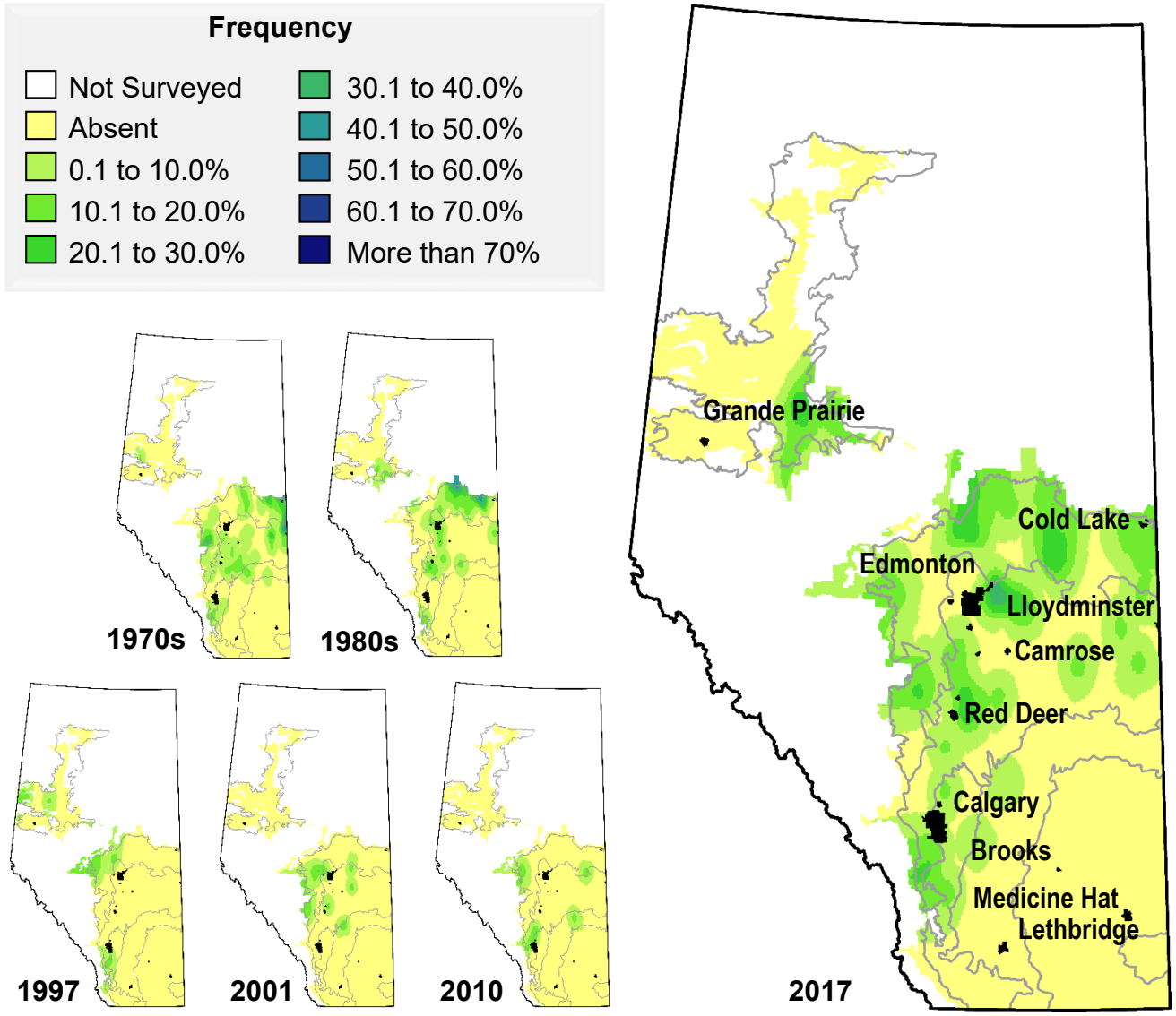
Narrow-leaved hawk's-beard, *Crepis tectorum*



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	22	4.5	-	-	0.1	1.9	40.5	2.0
1987-89	13	19.6	5.7	29.2	2.3	12.0	390.6	7.3
1997	12	23.4	6.0	25.6	1.0	4.1	51.6	9.1
2001	17	13.9	3.3	23.9	0.7	5.0	137.2	6.7
2009-10	11	14.2	3.4	23.9	0.6	4.2	148.2	9.3
2017	16	9.1	1.9	20.3	0.3	3.8	70.8	5.9

Field uniformity is not available for 1973-77

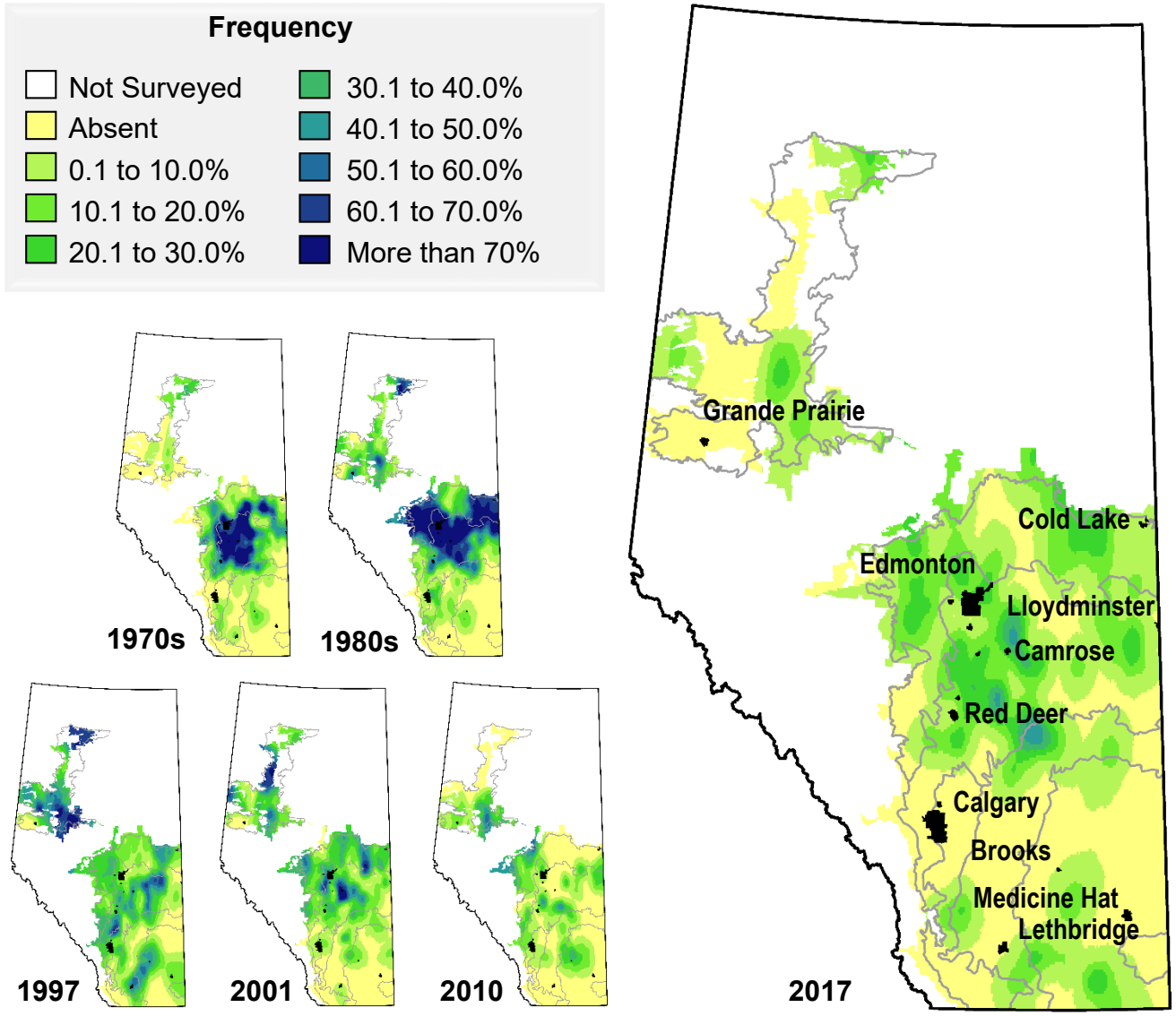
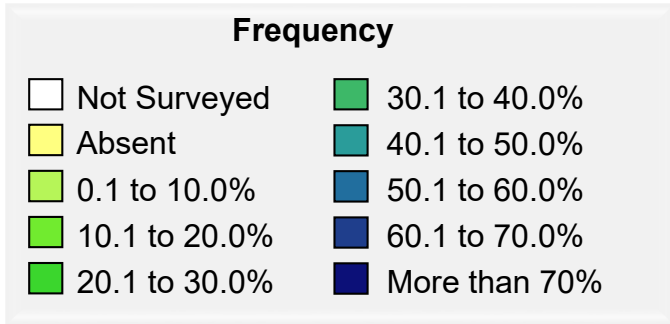
Night-flowering catchfly, *Silene noctiflora*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	27	2.5	-	-	< 0.1	1.7	27.6	1.1
1987-89	44	1.7	0.4	26.9	0.1	7.3	57.6	0.5
1997	46	0.7	0.3	45.3	< 0.1	5.6	10.0	0.4
2001	42	0.8	0.2	29.2	< 0.1	5.5	31.6	0.4
2009-10	78	0.4	< 0.1	12.0	< 0.1	1.6	8.6	0.2
2017	35	2.9	0.4	15.2	< 0.1	1.7	11.0	1.4

Field uniformity is not available for 1973-77

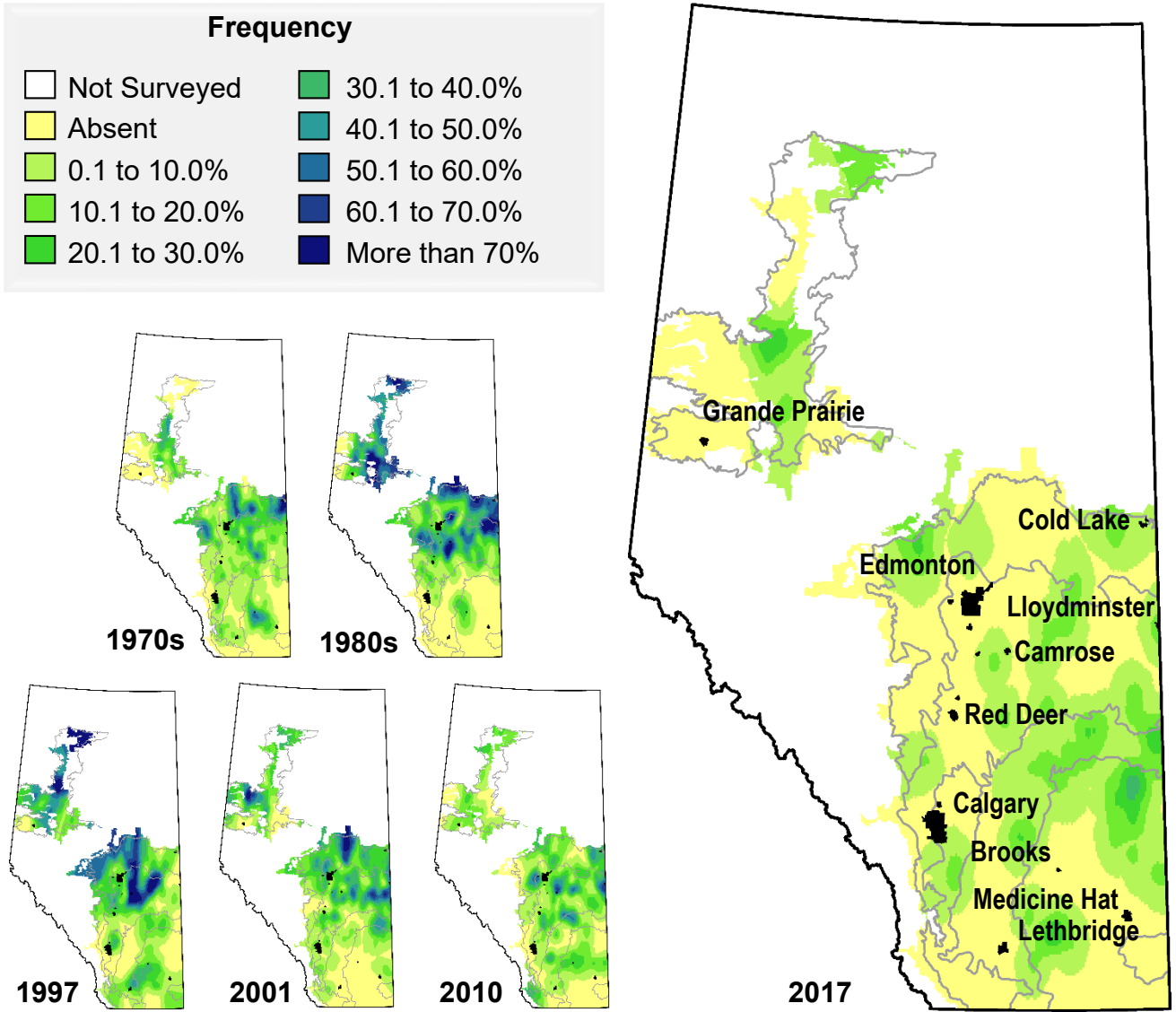
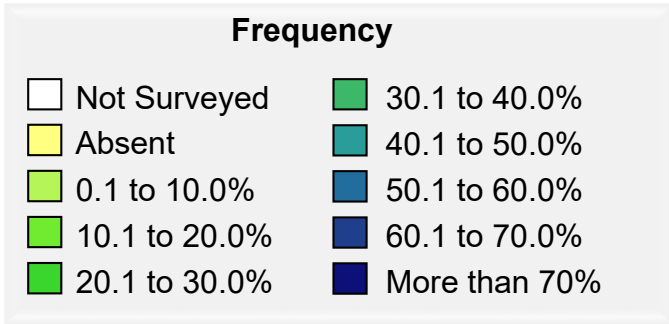
Pale smartweed, *Persicaria lapathifolia*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	8	21.8	-	-	2.0	9.4	237.8	14.7
1987-89	11	30.0	10.3	34.4	2.2	7.2	74.8	10.3
1997	13	22.9	5.7	24.9	1.0	4.2	133.0	8.9
2001	12	15.0	4.3	28.6	1.0	6.6	145.2	8.3
2009-10	22	7.5	1.4	19.0	0.4	4.7	151.0	4.8
2017	20	6.8	1.3	18.9	0.3	4.5	91.4	4.4

Field uniformity is not available for 1973-77

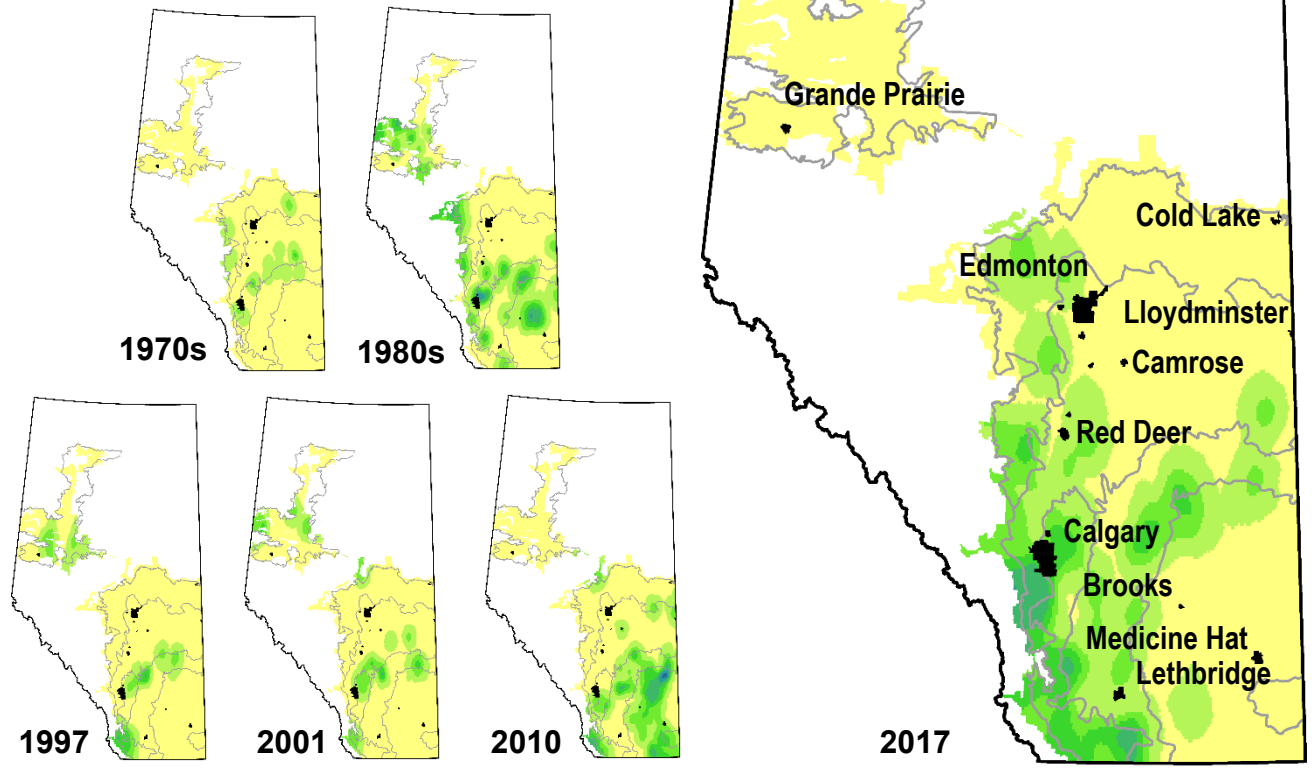
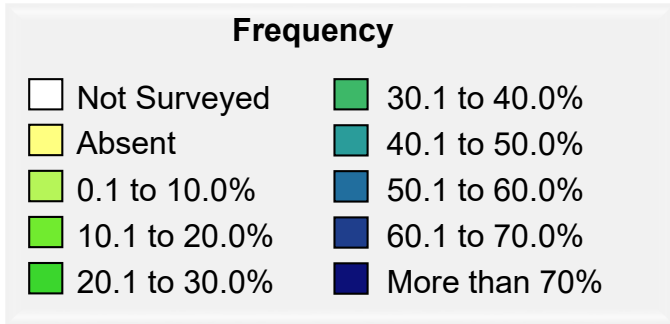
Perennial sow-thistle, *Sonchus arvensis*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	17	11.2	-	-	0.1	0.9	16.2	4.6
1987-89	17	21.8	4.8	22.0	0.7	3.2	51.4	5.5
1997	14	23.4	5.8	24.7	0.8	3.5	74.0	8.7
2001	18	16.2	3.9	23.8	0.4	2.5	64.8	6.7
2009-10	14	12.1	2.7	22.0	0.5	4.0	189.4	7.6
2017	28	3.4	0.6	16.5	0.1	2.2	16.2	1.8

Field uniformity is not available for 1973-77

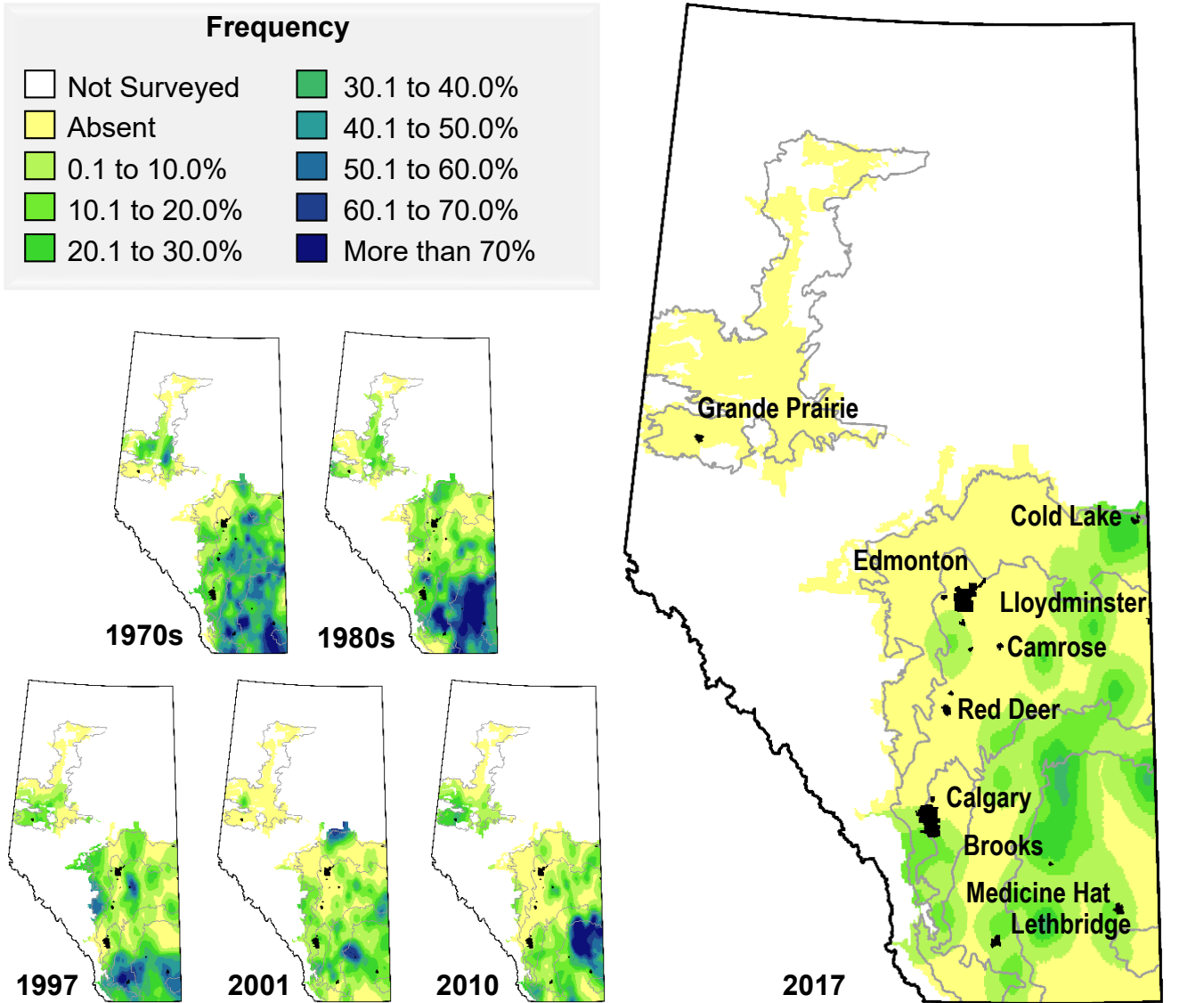
Prostrate knotweed, *Polygonum aviculare**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	40	0.5	-	-	< 0.1	0.3	1.0	0.2
1987-89	38	4.1	0.7	16.3	0.1	2.0	17.0	0.9
1997	44	1.6	0.3	17.1	< 0.1	1.1	6.6	0.5
2001	34	1.9	0.7	34.9	0.1	4.4	55.8	1.0
2009-10	32	3.2	0.6	19.8	0.1	1.6	7.6	1.6
2017	34	3.3	0.4	12.7	< 0.1	0.8	6.0	1.4

* Includes striate and erect knotweed (*Polygonum achoreum* and *P. erectum*)
 Field uniformity is not available for 1973-77

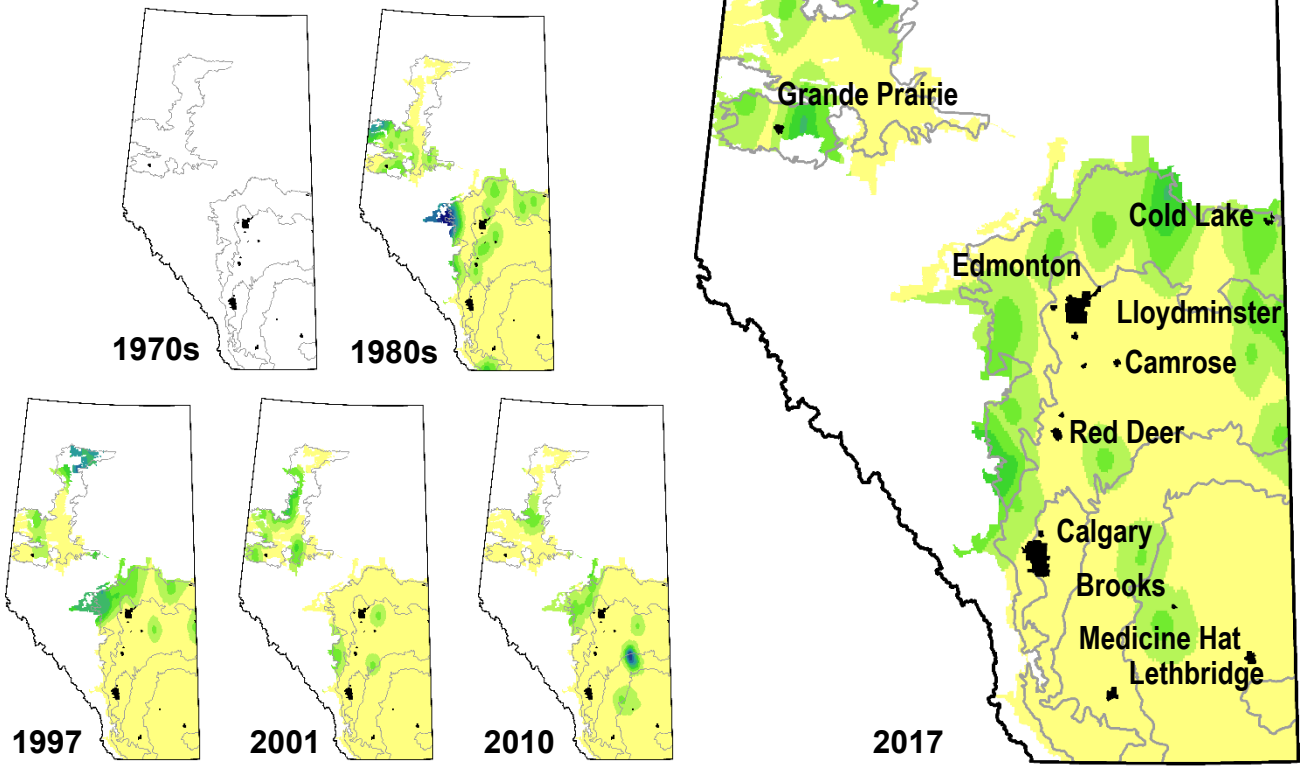
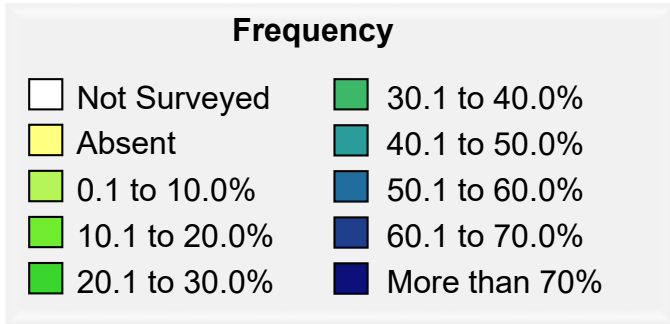
Redroot pigweed, *Amaranthus retroflexus**



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	10	25.4	-	-	0.7	2.7	90.0	11.8
1987-89	14	21.9	6.0	27.3	1.9	8.6	417.6	7.2
1997	19	15.5	3.5	22.3	0.4	2.8	32.4	5.3
2001	21	9.1	2.5	27.5	0.4	4.2	111.6	4.4
2009-10	20	11.1	1.9	16.6	0.3	2.5	73.4	5.7
2017	23	3.0	0.9	28.8	0.2	6.2	33.0	2.4

* Includes green pigweed (*Amaranthus powellii*)
 Field uniformity is not available for 1973-77

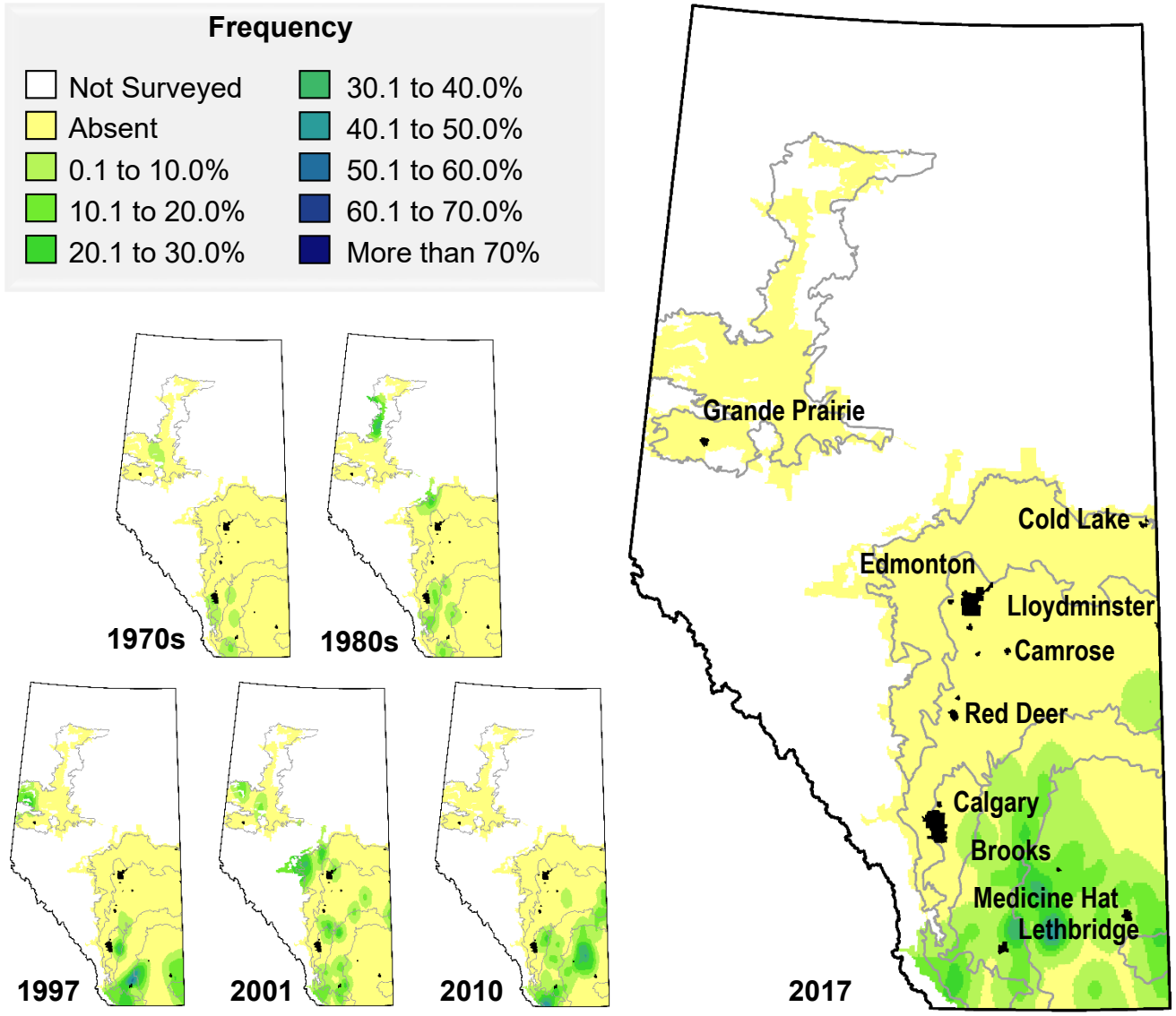
Rough cinquefoil, *Potentilla norvegica**



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	39	2.5	0.8	30.6	0.3	10.2	179.8	0.9
1997	41	2.3	0.3	14.7	< 0.1	1.0	3.8	0.6
2001	40	1.0	0.2	24.9	0.1	6.6	38.6	0.5
2009-10	49	1.1	0.2	17.2	< 0.1	1.4	7.4	0.5
2017	33	1.9	0.5	23.7	0.1	5.8	33.6	1.4

* Includes other cinquefoil species (*Potentilla spp.*)
Species not surveyed in 1973-77

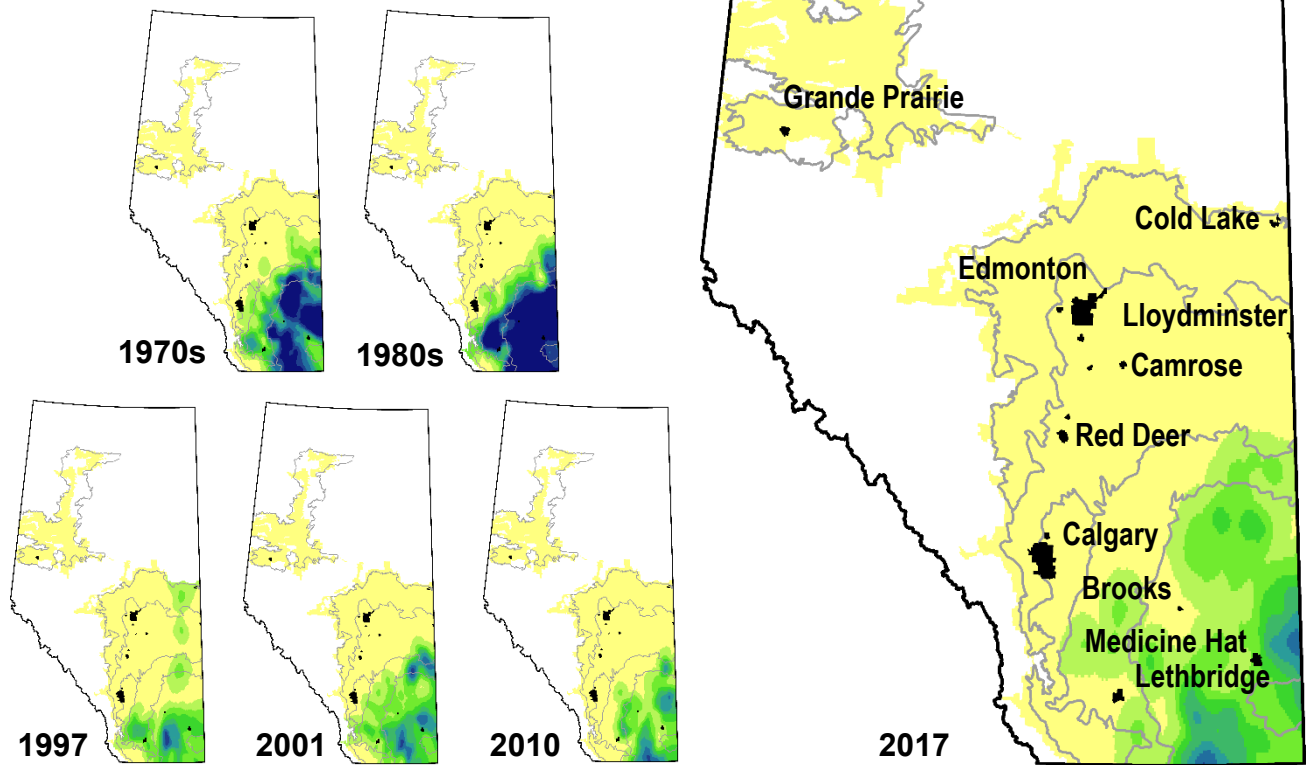
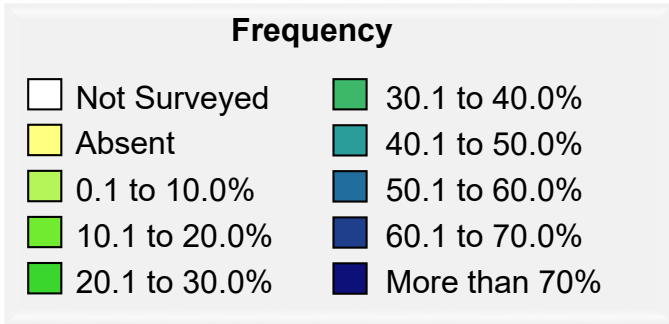
Round-leaved mallow, *Malva pusilla*



Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	42	0.3	-	-	< 0.1	0.5	1.0	0.1
1987-89	56	1.1	0.1	11.4	< 0.1	2.2	25.8	0.2
1997	30	3.2	1.2	37.5	0.2	6.0	25.6	1.6
2001	33	2.6	0.6	21.6	< 0.1	1.8	9.6	1.0
2009-10	33	3.4	0.5	15.5	0.1	1.5	28.6	1.5
2017	38	2.4	0.4	17.1	< 0.1	1.9	17.0	1.3

Field uniformity is not available for 1973-77

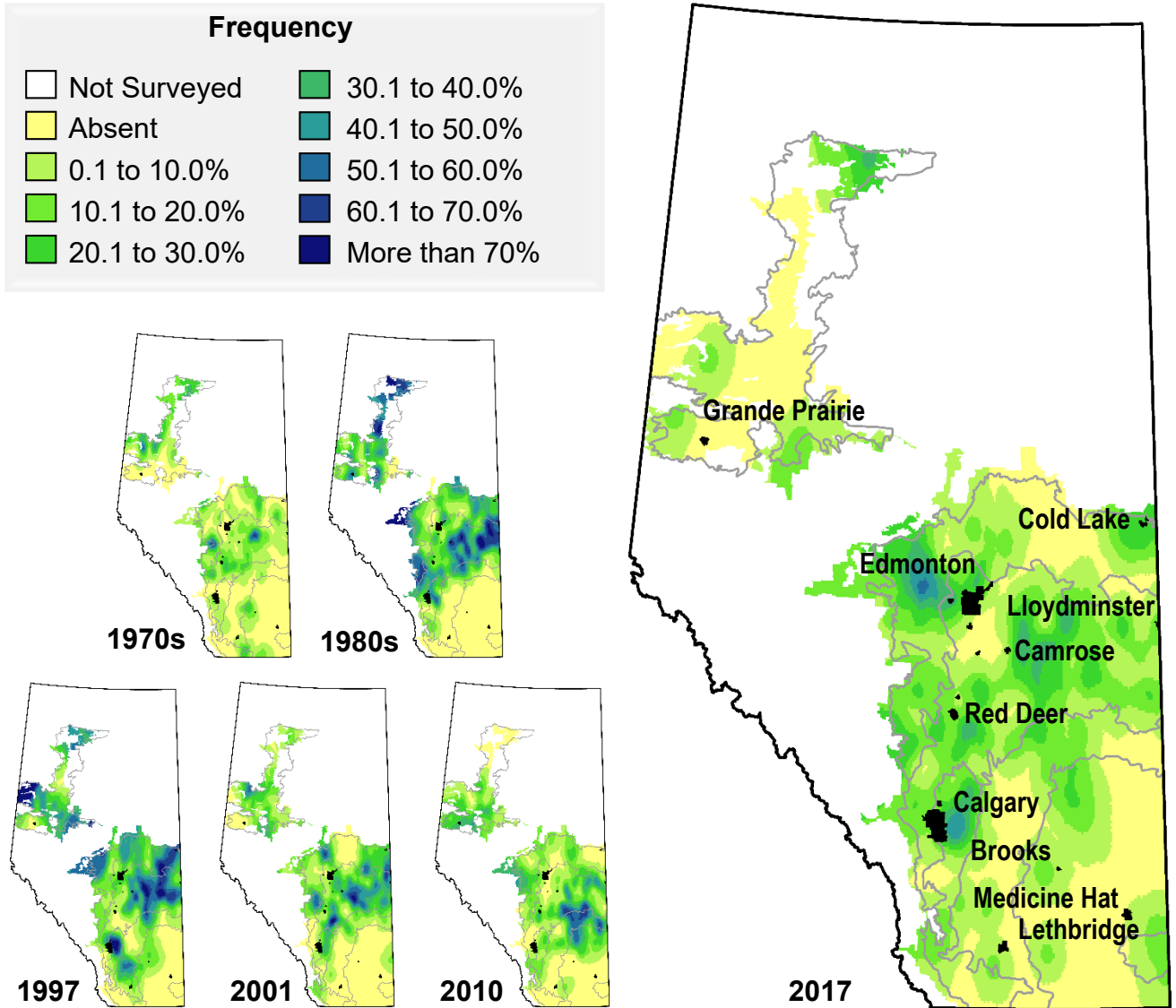
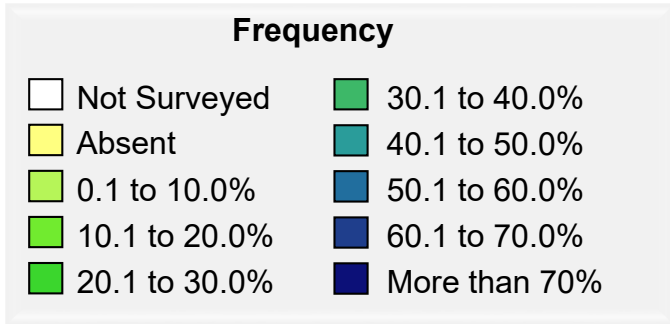
Russian thistle, *Salsola tragus*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	13	13.6	-	-	0.6	4.2	85.4	7.0
1987-89	7	18.5	9.9	53.6	6.5	34.9	518.4	13.0
1997	29	4.8	1.1	23.2	0.1	2.9	14.4	1.7
2001	22	6.5	2.5	37.2	0.4	5.9	120.4	3.8
2009-10	28	3.8	1.0	26.1	0.2	4.2	35.4	2.6
2017	29	3.1	0.6	18.5	0.1	2.6	25.0	1.8

Field uniformity is not available for 1973-77

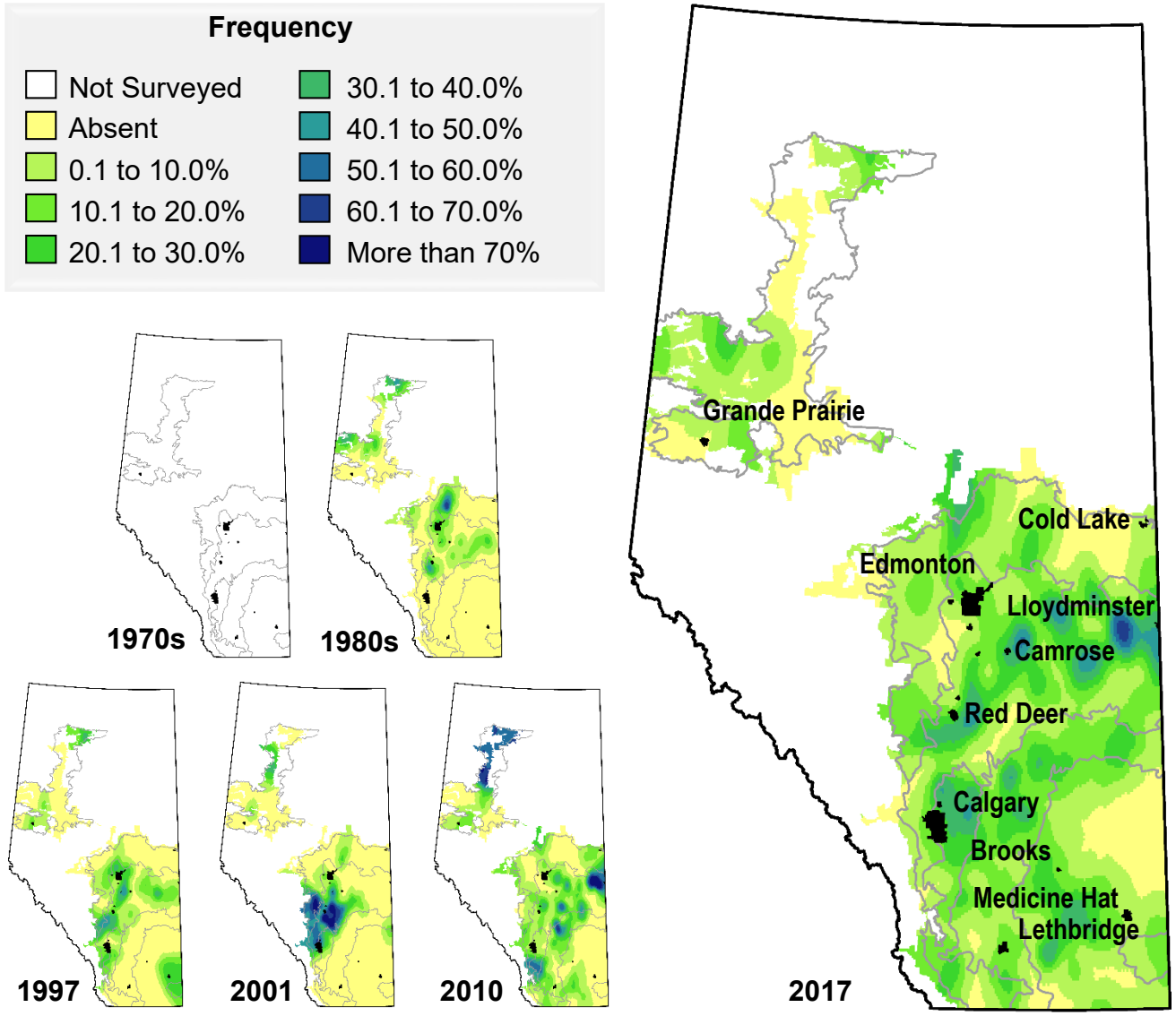
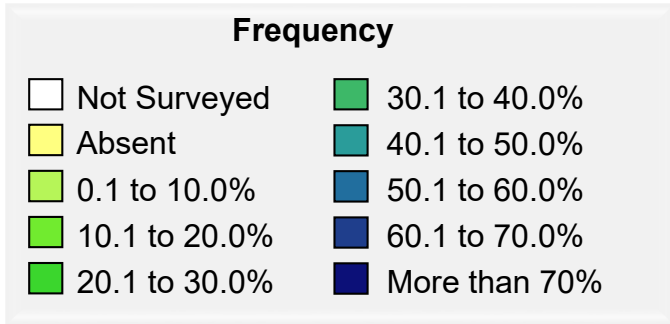
Shepherd's-purse, *Capsella bursa-pastoris*



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	21	6.1	-	-	0.1	2.4	75.0	2.8
1987-89	9	23.0	8.0	34.9	4.9	21.2	988.0	11.3
1997	6	25.1	7.6	30.0	1.9	7.6	198.8	12.4
2001	11	16.4	4.8	29.0	0.8	4.8	90.4	8.3
2009-10	16	12.1	2.6	21.5	0.4	3.5	32.2	7.3
2017	17	8.9	1.8	20.1	0.3	3.5	108.2	5.5

Field uniformity is not available for 1973-77

Spiny annual sow-thistle, *Sonchus asper**

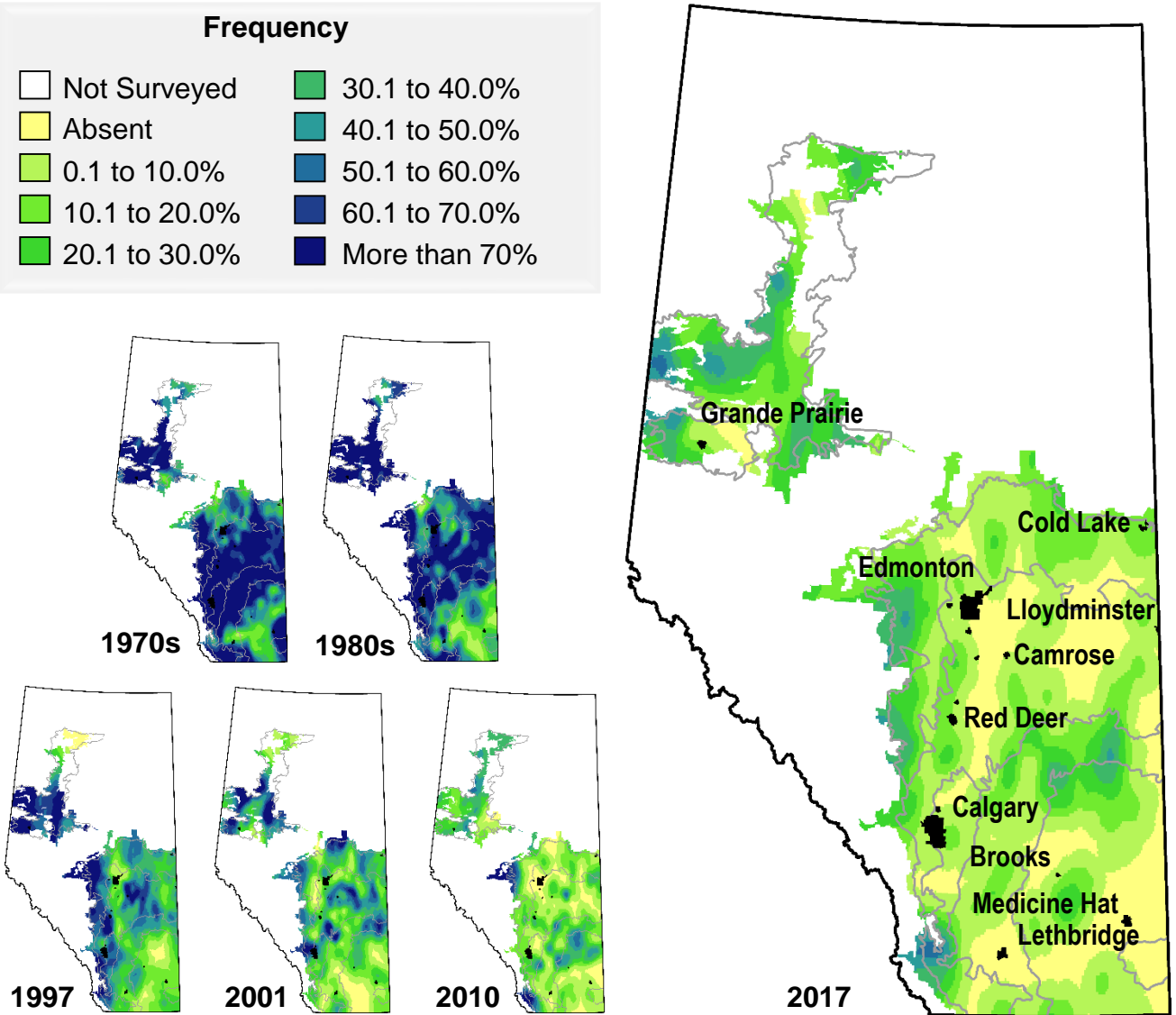
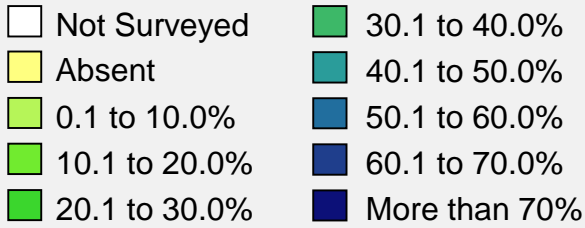


Survey	Rank	Frequency	Field Uniformity		Field Density (#/m ²)			Relative Abundance
		(%)	All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	37	3.7	0.8	21.9	0.1	2.2	20.4	0.9
1997	27	5.6	1.3	23.3	0.2	2.9	29.4	2.0
2001	15	9.1	3.4	36.8	1.2	13.1	275.2	7.1
2009-10	10	12.5	3.6	29.0	0.7	5.6	101.0	9.7
2017	11	13.8	2.8	20.5	0.4	2.9	55.0	8.3

* Includes annual sow-thistle (*Sonchus oleraceus*)
Species not surveyed in 1973-77

Stinkweed, *Thlaspi arvense*

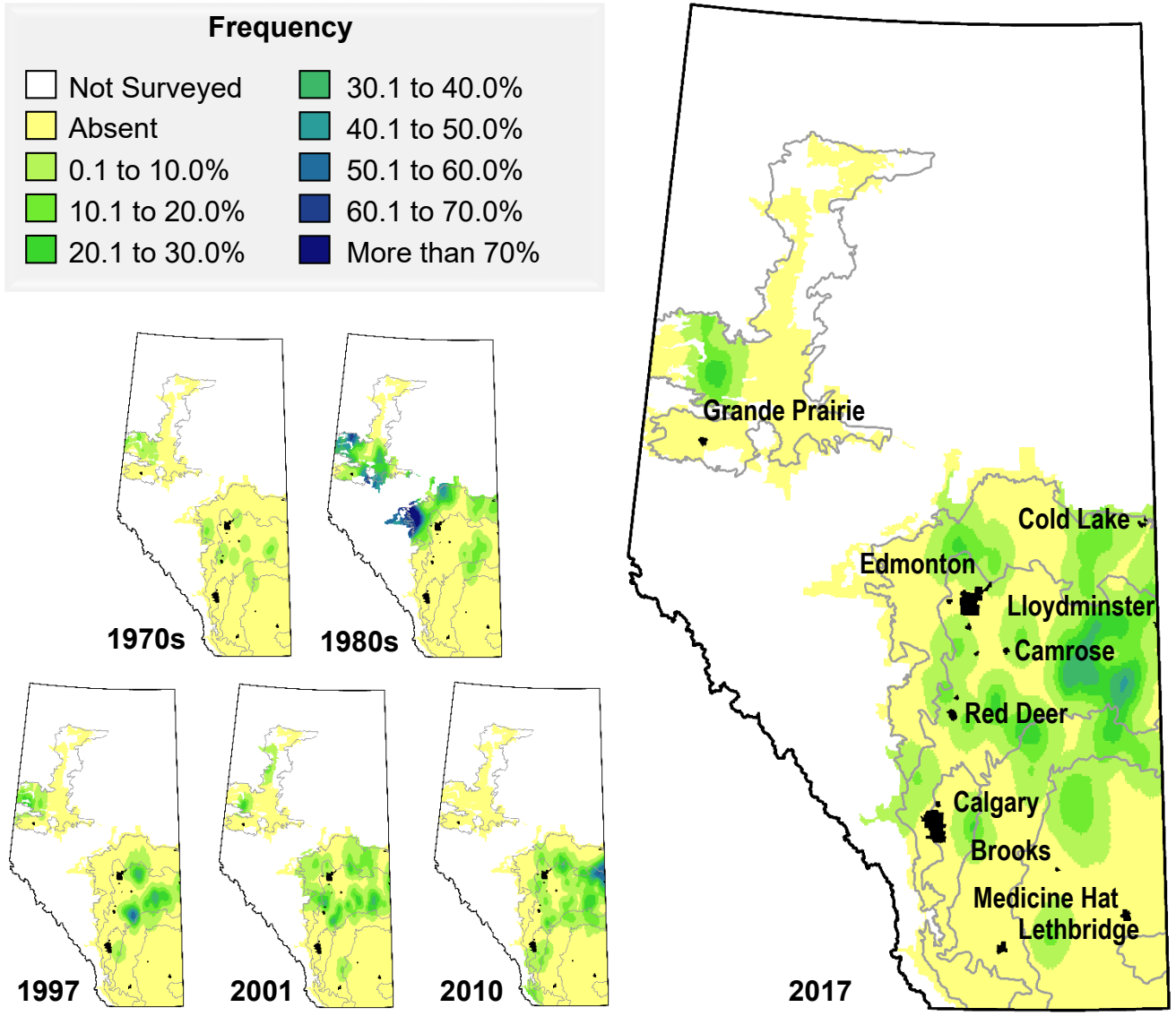
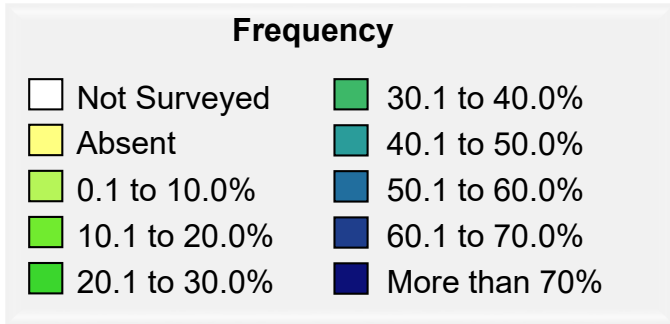
Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	1	69.9	-	-	5.0	7.2	237.8	42.4
1987-89	2	63.3	26.5	41.8	11.3	17.8	1048.4	30.6
1997	4	41.1	14.8	36.1	4.6	11.2	269.4	24.9
2001	4	30.9	9.3	29.9	1.9	6.2	203.2	17.0
2009-10	13	14.3	3.0	20.8	0.6	4.3	57.6	9.0
2017	14	8.7	2.2	24.8	0.6	6.4	194.8	6.9

Field uniformity is not available for 1973-77

Stork's bill, *Erodium cicutarium*

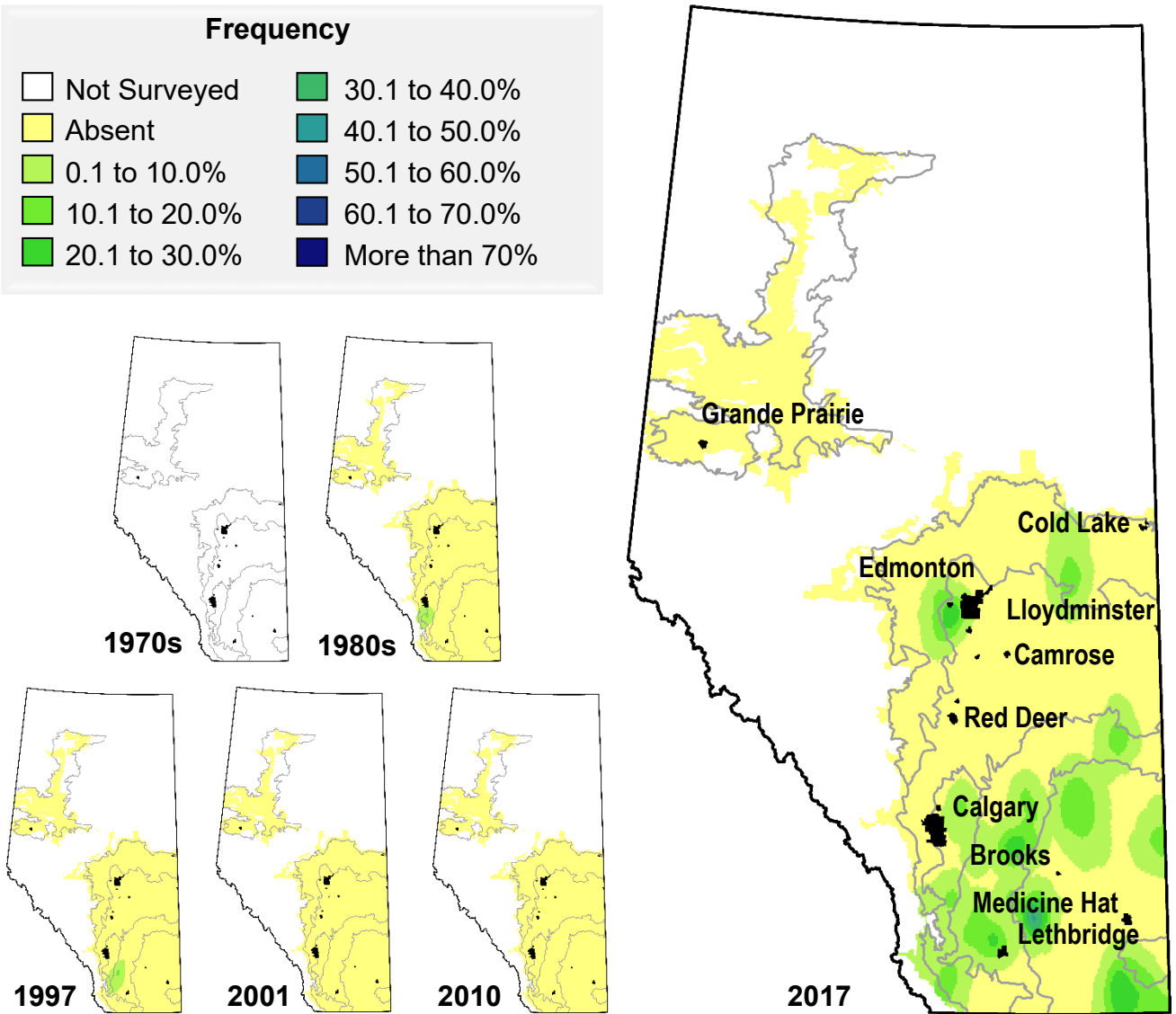
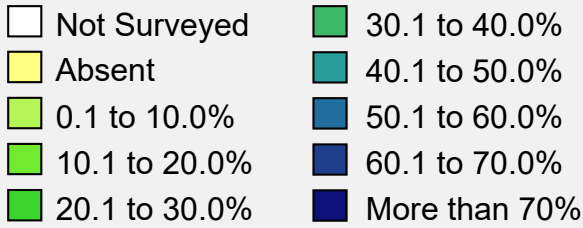


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	37	0.5	-	-	< 0.1	5.2	23.6	0.3
1987-89	32	5.1	1.1	22.4	0.2	3.5	48.4	1.3
1997	31	3.3	0.9	27.2	0.1	3.4	17.8	1.3
2001	29	3.5	1.0	27.9	0.2	4.4	52.2	1.7
2009-10	27	4.2	0.9	22.7	0.2	3.7	57.0	2.6
2017	21	4.1	0.9	21.7	0.2	3.9	59.2	2.7

Field uniformity is not available for 1973-77

Tumble pigweed, *Amaranthus albus*

Frequency

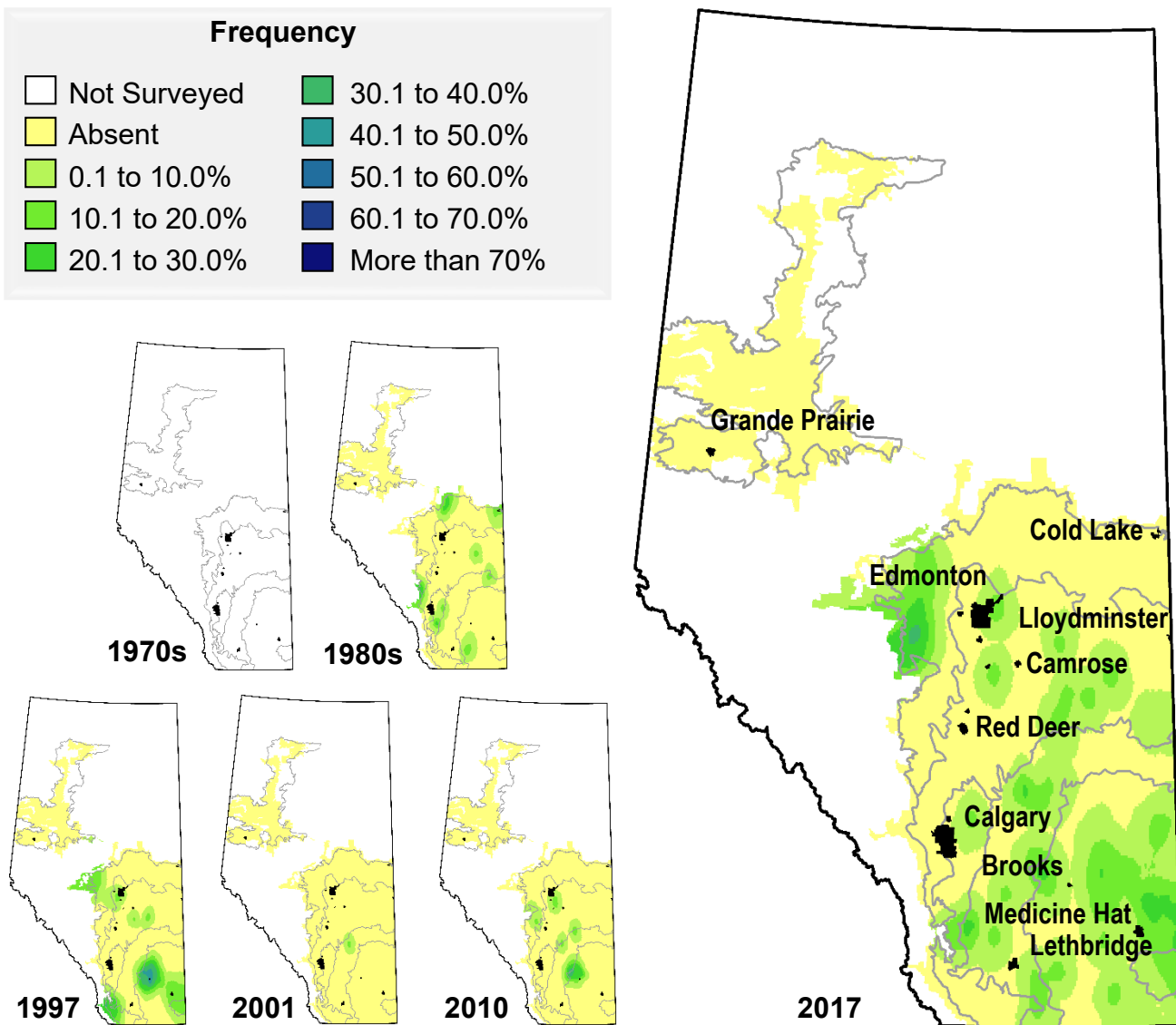
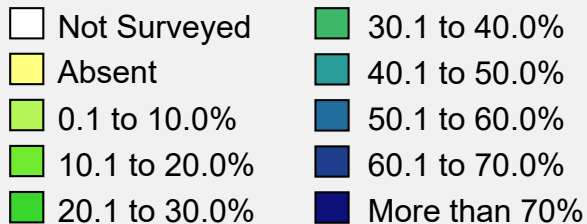


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)		Relative Abundance
			All Occurrence	High	All Occurrence	High	
1973-77	-	-	-	-	-	-	-
1987-89	104	0.1	< 0.1	15.0	< 0.1	8.2	< 0.1
1997	99	0.1	< 0.1	10.0	< 0.1	0.6	< 0.1
2001	-	-	-	-	-	-	-
2009-10	-	-	-	-	-	-	-
2017	39	2.0	0.3	13.0	< 0.1	1.1	0.9

Species not surveyed in 1973-77

Western barnyard grass, *Echinochloa muricata**

Frequency

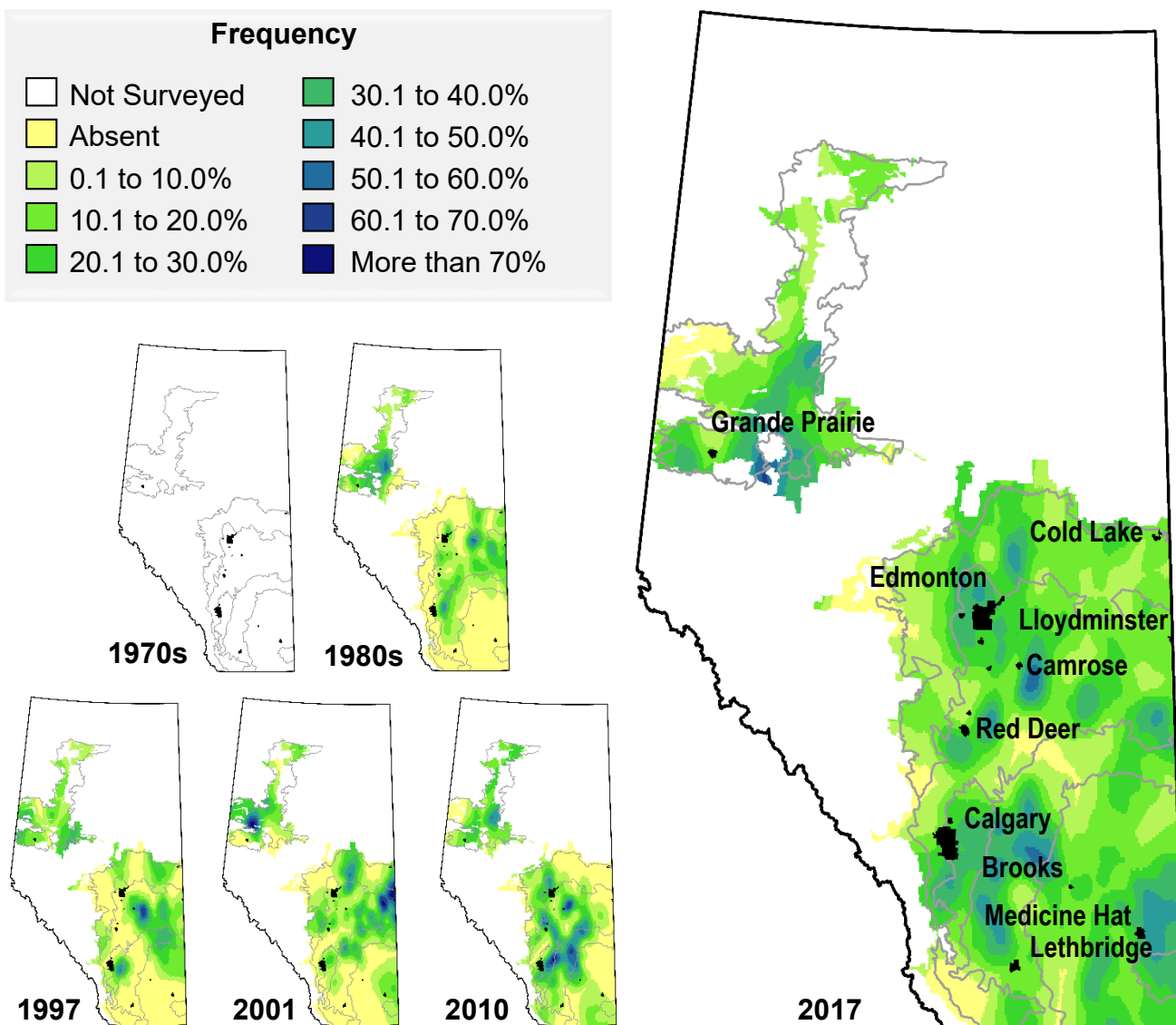
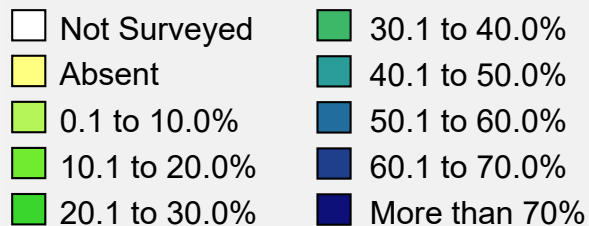


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	48	1.0	0.3	31.1	0.2	17.4	125.6	0.4
1997	42	1.9	0.4	20.2	< 0.1	2.0	7.4	0.6
2001	70	0.1	< 0.1	40.0	< 0.1	27.4	27.4	0.1
2009-10	54	0.7	0.1	19.2	< 0.1	3.9	15.8	0.4
2017	30	2.8	0.4	16.0	0.1	3.3	45.8	1.6

* May include barnyard grass (*Echinochloa crus-galli*)
Species not surveyed in 1973-77

Wheat, *Triticum aestivum**

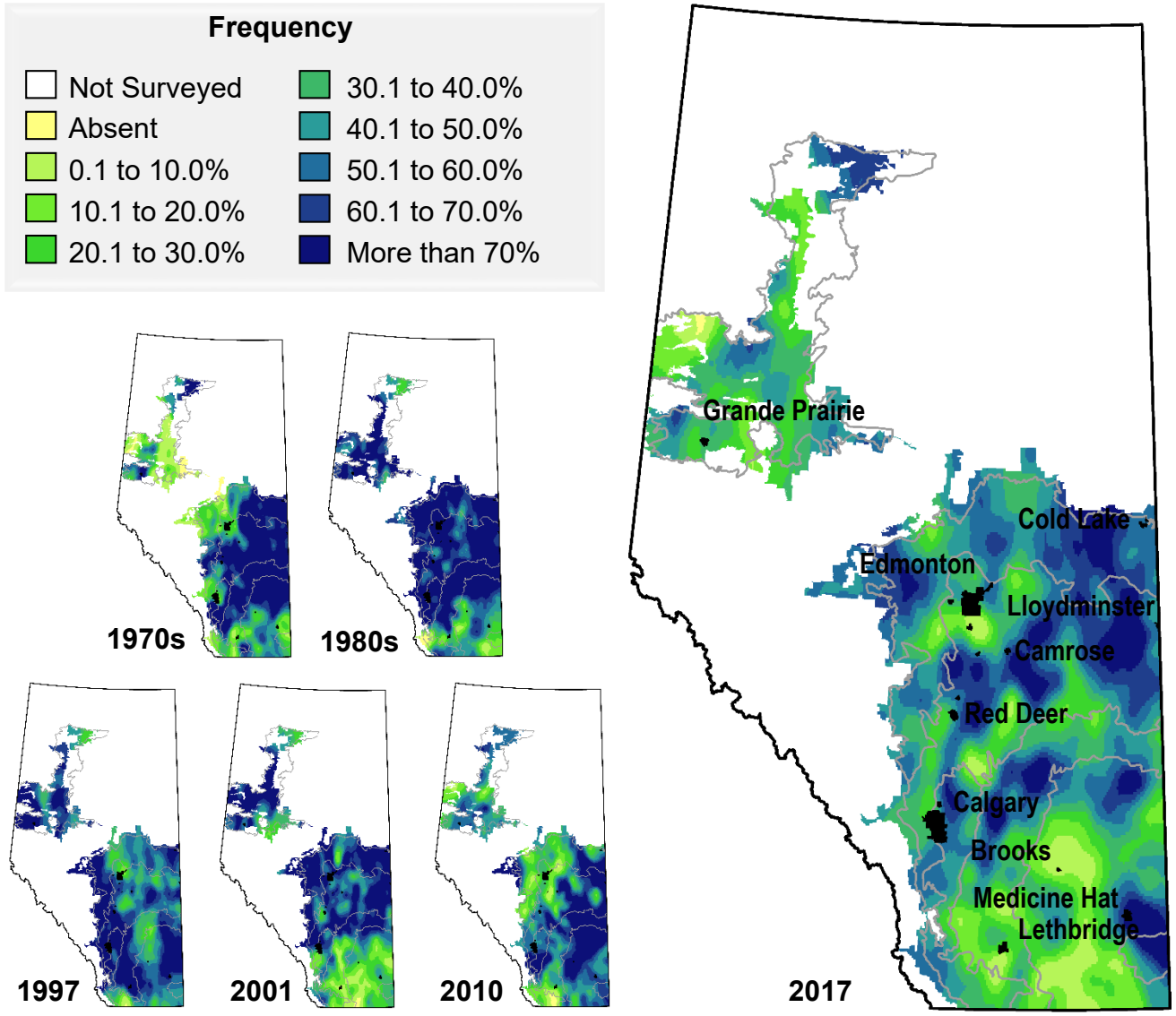
Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	-	-	-	-	-	-	-	-
1987-89	29	6.1	1.6	26.4	0.3	4.1	43.8	1.7
1997	21	7.0	2.2	31.2	0.6	8.7	131.6	3.7
2001	20	8.5	2.7	31.5	0.5	5.5	128.2	4.6
2009-10	19	9.1	2.4	26.4	0.4	3.9	31.8	6.1
2017	7	13.7	4.4	31.8	0.9	6.9	106.6	12.2

* Includes durum (*Triticum durum*)
Species not surveyed in 1973-77

Wild buckwheat, *Fallopia convolvulus*

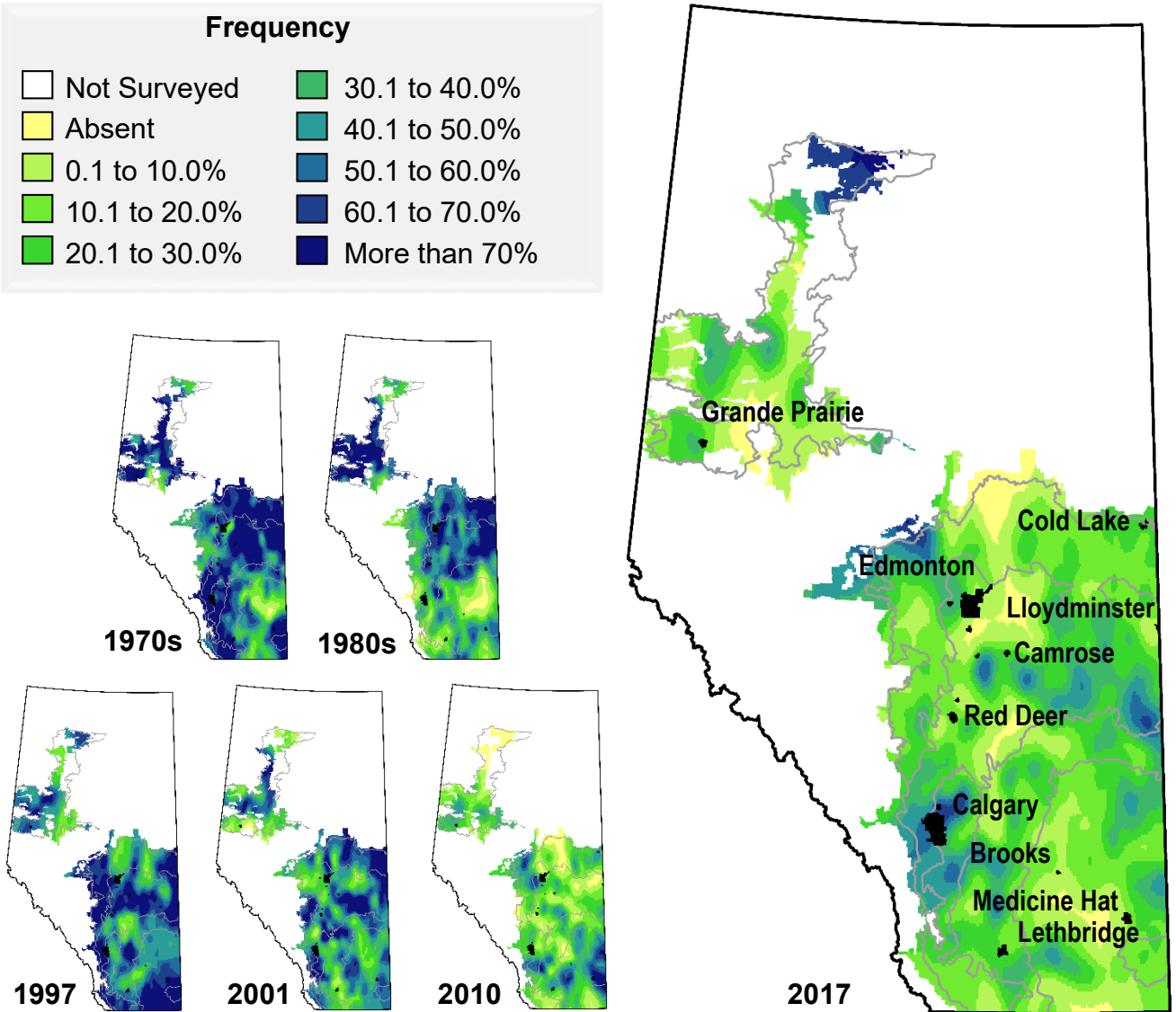
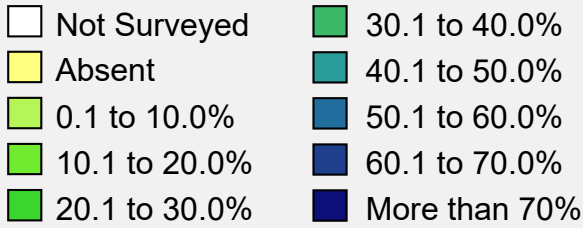


Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	3	57.9	-	-	2.1	3.6	160.2	28.7
1987-89	1	71.4	32.8	46.0	9.4	13.2	445.8	32.3
1997	3	60.6	20.8	34.3	2.8	4.7	115.6	27.3
2001	1	53.8	22.6	41.9	4.0	7.5	175.0	35.5
2009-10	1	49.7	15.2	30.6	2.2	4.5	313.6	36.8
2017	2	41.7	11.9	28.6	1.6	3.7	80.4	30.3

Field uniformity is not available for 1973-77

Wild oats, *Avena fatua*

Frequency



Survey	Rank	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1973-77	2	62.2	-	-	3.1	4.9	237.8	33.3
1987-89	3	49.2	18.3	37.3	7.6	15.5	643.6	21.7
1997	2	54.6	19.0	34.7	4.8	8.8	403.4	29.7
2001	2	45.7	17.9	39.1	5.0	10.9	379.6	33.5
2009-10	2	22.8	6.1	26.6	2.2	9.7	284.6	21.2
2017	5	21.4	6.0	28.0	1.9	9.0	186.2	19.9

Field uniformity is not available for 1973-77