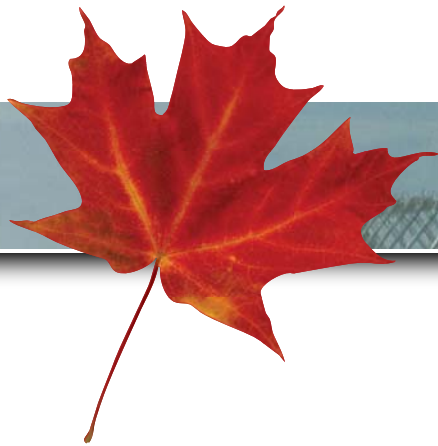




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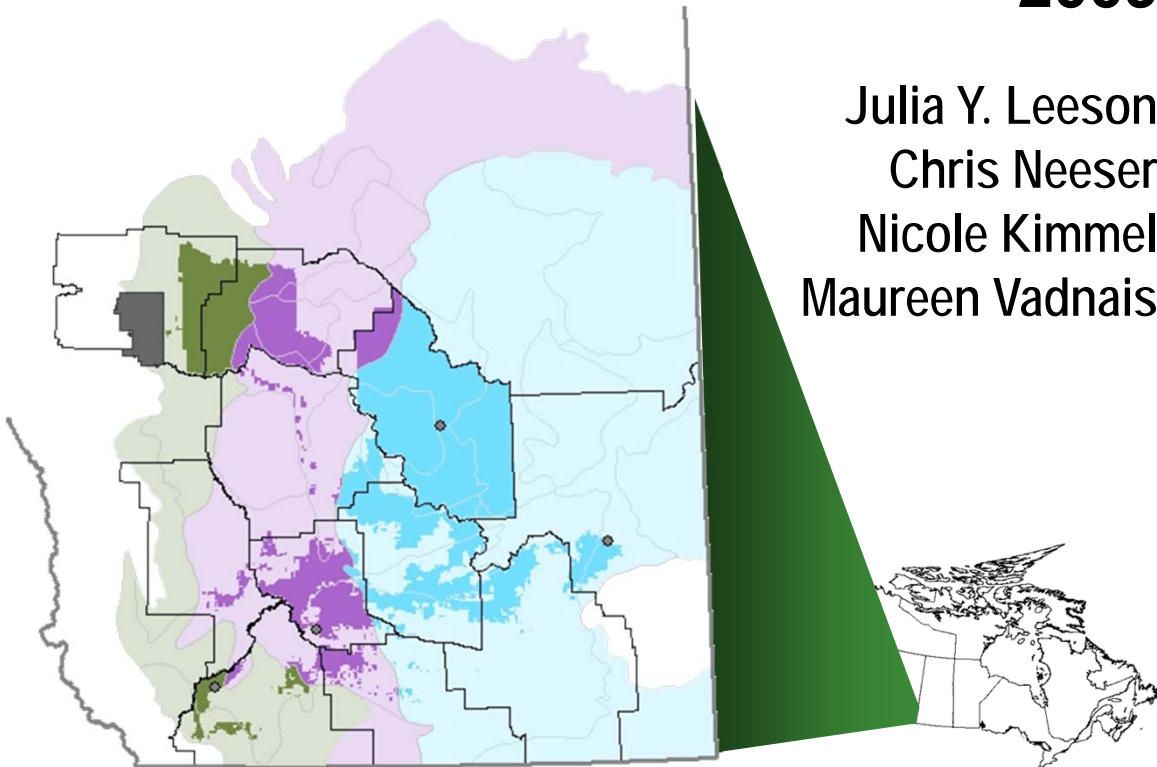
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Alberta Weed Survey

Irrigation 2009

Julia Y. Leeson
Chris Neeser
Nicole Kimmel
Maureen Vadnais



Weed Survey Series

Government of Alberta



Canada

Alberta Weed Survey of Irrigated fields in 2009

by

JULIA Y. LEESON

Agriculture and Agri-Food Canada

and

CHRIS NEESER, NICOLE KIMMEL and MAUREEN VADNAIS

Alberta Agriculture and Rural Development

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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	Dewas 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
98-5	Manitoba weed survey: herbicide-resistant wild oat 1997
99-3	Farm management practices in Manitoba - 1997 weed survey questionnaire results
99-4	Saskatchewan weed survey: herbicide-resistant wild oat 1997

(Table continued on next page)

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

Number	Title
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.



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- E.I. duPont Canada Company
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- Nufarm Agriculture Inc.

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<u>County/MD</u>	<u>Ag Fieldmen</u>	<u>Surveyors</u>
Cardston	Rod Foggin	Sarah Cook
Cypress		Chris Neeser
Forty Mile	Dave Matz	Blair Seward
Lethbridge	Don Bodner	Don Bodnar, Dwayne Rogness, Eli Calmar
Newell	Todd Green	Andrew Lester, Elan Jalbert
Taber	Jon Hood	Doug Jensen, Jared Pierson, Jason Bullock, Pete Hudson
Vulcan	Kelly Malmberg	Avery Brigden, Chris Neeser
Warner	James Meeks	Roberta Lindenen
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Willow Creek	Ron MacKay	Oscar Anderson
Rocky View	Tim Dietzler	Bowen Clausen

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It is with special pleasure that we acknowledge the contribution made by 571 producers who agreed to co-operate in the project by permitting survey staff to count weeds in their fields.

Julia Y. Leeson, Chris Neeser, Nicole Kimmel and Maureen Vadnais



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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 postemergent 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 – 2009 Alberta Weed Survey Project

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 last 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).

The 2009 Alberta Weed Survey Project

Rationale

While irrigated fields were included in weed surveys prior to 2001, a separate weed survey of irrigated fields has not been conducted in Alberta. Previous weed surveys have only included major dryland crops; therefore, no data are available for crops grown only under irrigation. This survey will provide a baseline to enable the detection of future changes in weed populations in irrigated land in Alberta. A comparison with dryland survey data (planned for 2010) will emphasize unique weed problems facing producers on irrigated land. These weeds 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 a separate weed survey of irrigated land to measure the species compositions and population densities of the weed communities in the major crops grown under irrigation in Alberta in 2009.

Expected benefits of the 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, extension 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.

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.

3. Comparison of weed populations with information from dryland surveys will indicate problematic weeds unique to irrigated land.
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.



Irrigation Districts

The survey covered 0.5 million hectares of irrigated land within twelve irrigation districts in the province of Alberta⁹ (Figure 1). These irrigation districts are all located in the South Saskatchewan River Basin in southern Alberta. The districts are located within an area extending from the border with the United States in the south to approximately 51.5E N in the north, and from near the Saskatchewan border in the east to the foothills of the Rocky Mountains on the west side of the province.

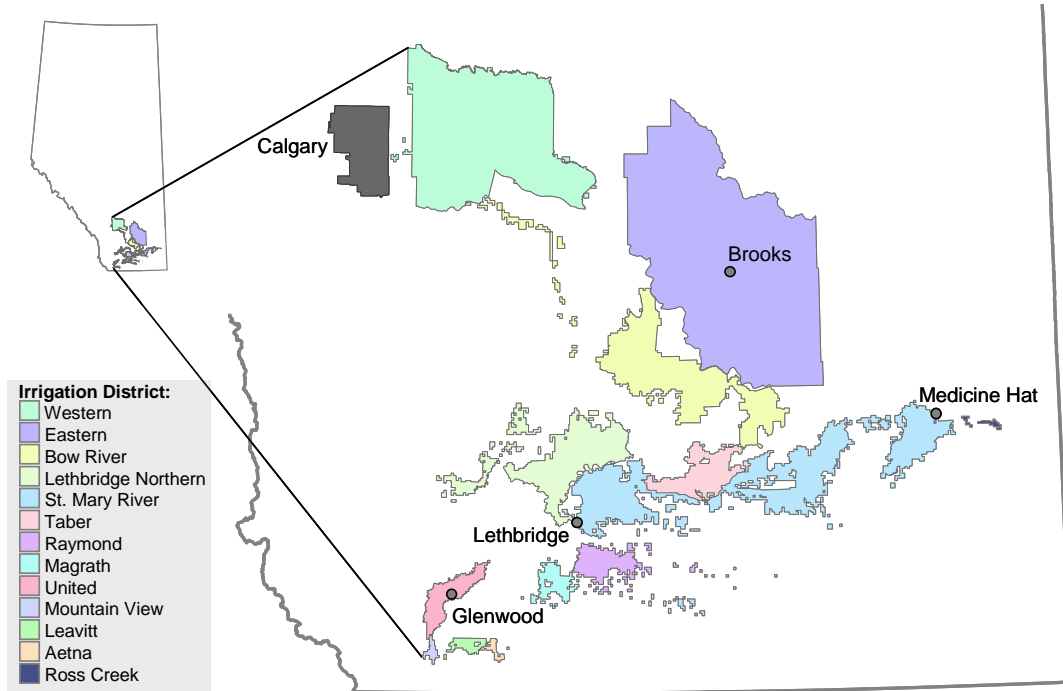


Figure 1. Alberta irrigation districts.

The majority of the fields surveyed (98%) are located in eight irrigation districts. The other surveyed fields were distributed amongst four smaller irrigation districts. The Ross Creek Irrigation District was too small to have any sites represented in the survey.

Western Irrigation District is located in the north western area of the South Saskatchewan River Basin. It is one of three irrigation districts with water from the Bow River. The water for this irrigation district originates the furthest upstream from a diversion weir near Calgary. The infrastructure was established between 1904 and 1910, with the first water drawn in 1907.

Eastern Irrigation District has the largest land base and the second largest number of irrigated acres. All irrigation water is diverted from the Bow River at the Bassano Dam. This is the furthest down stream of the three irrigation districts with water from the Bow River. The first water was drawn in 1914.

Bow River Irrigation District is located south of the Eastern Irrigation District. The water is also diverted from the Bow River, in this case at the Careland Weir. Infrastructure was established between 1909 and 1920.

⁹ **Grinder, B.** 2000. Irrigation in Alberta. Alberta, Agriculture and Food, Technology & Innovation Branch. Lethbridge, Alberta. [Online] Available: [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/irr7197](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/irr7197) [2 September 2009]

Lethbridge Northern Irrigation District is the only district to obtain water from the Oldman River. First water was drawn in 1923.

St. Mary River Irrigation District has the largest number of irrigated acres. It is one of five irrigation districts to obtain water from the Waterton St. Mary headworks system which interconnects the Belly, Waterton and St. Mary's Rivers. The infrastructure began in the late 1800's and the first water was drawn in 1900; however, the main conveyance system, the St Mary River Irrigation District Main Canal, was not completed until 1954. The district consists of three separate regions. The westernmost Lethbridge area is a major producer of sugar beets and potatoes. The Bow Island area, further downstream, is well known for bean and corn production. The easternmost Medicine Hat area produces alfalfa and canola.

Taber Irrigation District is located between Lethbridge area and Bow Island area of the St. Mary River Irrigation District. The irrigation water also originates from the St Mary River Irrigation District Main Canal. The first water was drawn in 1917.

Raymond Irrigation District water originates from the St Mary River Irrigation District Main Canal, further upstream than either the St. Mary River Irrigation District or Taber Irrigation District. The first water was drawn in 1900. The Magrath Irrigation District, located to the southwest of the Raymond Irrigation District, also shares the same water source. The Magrath Irrigation District is relatively small; therefore, data for this district is combined with that from Raymond Irrigation District.

United Irrigation District is located in south west Alberta with water drawn from the Belly and Waterton Rivers, at the Waterton Reservoir. This is part of the Waterton St. Mary headworks system. The first water was drawn in 1923. The smaller Mountain View Irrigation District, Leavitt Irrigation District and Aetna Irrigation District are also in the south west. These three districts share a headworks system drawing water from the Belly River. This system was established later with the first water being drawn in 1931, 1944 and 1959, in each district respectively. The data from these four irrigation districts are combined in the summaries.

Description of Surveyed Area – Ecoregions

Ecoregions

The irrigation districts surveyed are located in three grassland ecoregions¹⁰ (Figure 2). Ecoregions are areas of similar landforms, climate, natural vegetation, soils and land use.

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.

The **Moist Mixed Grassland Ecoregion** includes 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. 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.

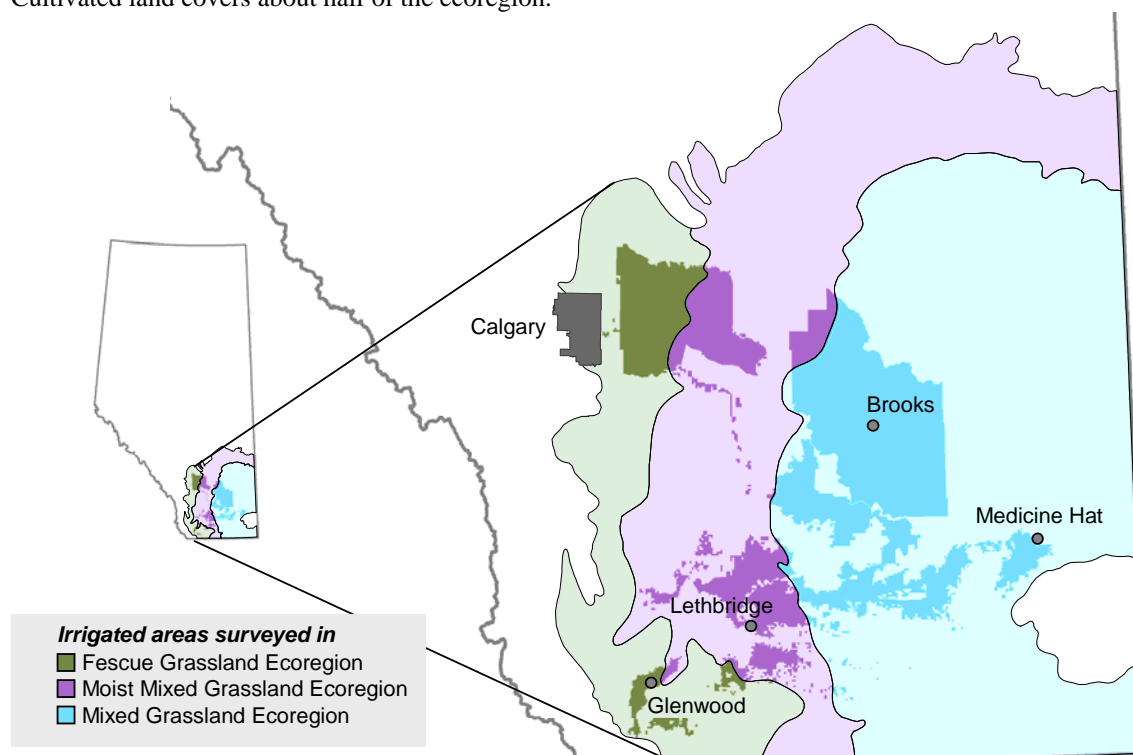


Figure 2. Area surveyed in ecoregions included in the weed survey.

¹⁰**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 5000 000 scale.

Ecodistricts

Each ecoregion consists of one or more ecodistricts (Figure 3). Ecodistricts are similar in landform, relief, surficial material, soil, vegetation and land use. Ecodistricts with less than ten sites were combined with adjacent ecodistricts in the summaries. Climate information for major ecodistricts included in the survey is given in Table 1.

Table 1. Climate normals for the ecodistricts included in the Alberta survey^{1,2}

Ecoregion and Ecodistrict ³ (days)	Average Daily Temperature (°C)		Annual Precipitation (mm)	Precipitation Surplus/ Deficit (mm)	Growing Season Length
	January	July			
Fescue Grassland					
Delacour Plain (798)	-11.2	16.6	416	-108	183
Cardston Plain (800)	-7.3	17.1	518	-9	189
Twin Butte Foothills (801)	-7.3	16.2	656	148	184
Moist Mixed Grassland					
Majorville Upland (787)	-11.2	17.7	393	-148	186
Drumheller Plain (781)	-12.9	17.0	380	-153	182
Wintering Hills (786)	-13.3	17.2	384	-149	182
Standard Plain (788)	-11.9	17.1	374	-159	183
Blackfoot Plain (790)	-11.2	17.3	382	-154	186
Lethbridge Plain (793)	-8.5	18.1	403	-148	195
Mixed Grassland					
Brooks Plain (812)	-13.3	18.4	336	-213	187
Berry Creek Plain (806)	-14.4	18.2	334	-211	184
Bindloss Plain (815)	-11.6	19.7	300	-277	194
Bow City Plain (818)	-12	18.3	348	-204	189
Vauxhall Plain (823)	-10.8	18.4	331	-223	192
Foremost Plain (828)	-10.1	19.0	341	-221	195
Purple Springs Plain (829)	-9.8	18.7	352	-209	196

¹ **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> [2 September 2009]

² Ecodistrict names provided by **Tony Brierley**, Land Resource Unit, Agriculture and Agri-Food Canada, Edmonton, Alberta

³ Indented ecodistricts are combined with preceding ecodistricts in summaries

Description of Surveyed Area – Ecodistricts

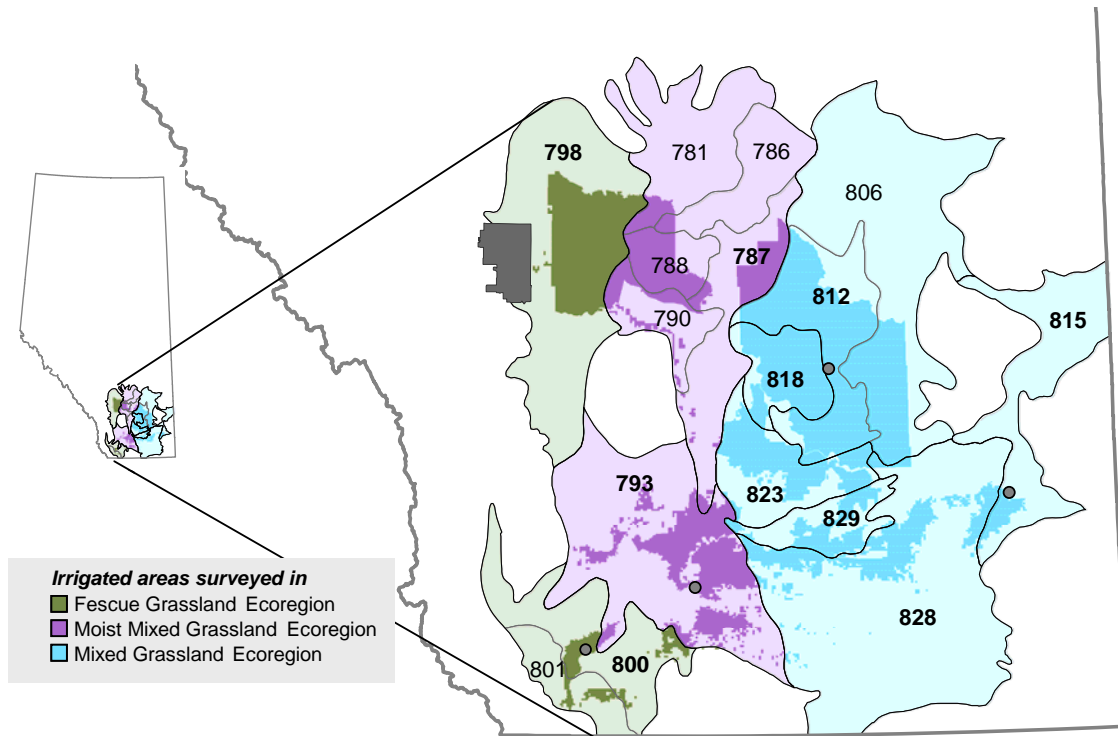


Figure 3. Ecodistricts included in the weed survey. Ecodistricts that are surrounded by a black line on the map are grouped in summaries. When ecodistricts are grouped, the ecodistrict with the most fields is indicated by bold font. Ecodistrict names are found in Table 1.



Crop Selection

The selection of crops to be included in the 2009 survey was based on the crops grown within the irrigation districts in 2007 (Table 2). It was assumed that a similar proportion of crops would be grown in 2009. Pasture was not included. A minimum of 20 fields was set as the limit for inclusion of a crop in the survey. Based on a survey target of 600 fields, three cereal crops, four annual broad-leaved crops, and two perennial crops were selected.

Table 2. Area of the nine crops selected for the survey and the number of fields allocated to each crop

Crop	Irrigated area ¹ (1,000 ha)	Proportion of area (%)	Expected number of fields
Annual			
Cereal			
Barley (<i>includes malt and silage</i>)	95	23.7	142
Spring wheat (<i>includes CPS, hard spring, durum and soft</i>)	78	19.5	117
Corn (<i>includes fresh, grain and silage</i>)	20	5.1	30
Broad-leaved annual			
Canola	47	11.7	70
Dry beans	18	4.5	27
Potatoes	17	4.1	25
Sugar beets	14	3.5	21
Perennial			
Alfalfa (<i>includes hay, seed and silage</i>)	89	22.1	133
Grass (<i>includes hay, seed, brome and timothy</i>)	24	5.9	35
Total	402	100.0	600

¹ **Alberta Agriculture and Rural Development.** 2008. Alberta Irrigation Information – Facts and Figures for the Year 2007. Lethbridge, Canada.

Stratification of Sites

Irrigation districts were used as the strata in a stratified random-sampling procedure. The number of fields in an irrigation district was allocated in proportion to the seeded area of the selected crops in the irrigation district, relative to the total area seeded to selected crops in all irrigation districts (Table 3). Hectarage of field crops derived from the 2007 irrigation information¹¹. To facilitate the organization of the survey, fields allocated to irrigation districts were subsequently allocated to counties based on proportion of each irrigation district's area cultivated in each municipality or county (Figure 4).

¹¹ **Alberta Agriculture and Rural Development.** 2008. Alberta Irrigation Information – Facts and Figures for the Year 2007. Lethbridge, Canada.

Methodology – Stratification of Sites

Table 3. Allocation of sites based on crop area in irrigation districts and number of sites actually surveyed in each irrigation district.

Irrigation District and County	Allocated	Surveyed
Aetna Irrigation District	1	1
Cardston	1	1
Bow River Irrigation District	105	101
Taber	76	76
Vulcan	29	25
Eastern Irrigation District	121	121
Newell	121	121
Leavitt Irrigation District	2	2
Cardston	2	2
Lethbridge Northern Irrigation District	95	79
Lethbridge	85	69
Willow Creek	10	10
Magrath Irrigation District	7	7
Cardston	7	7
Mountain View Irrigation District	1	1
Cardston	1	1
Raymond Irrigation District	21	15
Cardston	2	2
Warner	19	13
St. Mary River Irrigation District	178	179
Cypress	32	23
Forty Mile	53	47
Lethbridge	56	72
Taber	35	35
Warner	2	2
Taber Irrigation District	41	41
Taber	41	41
United Irrigation District	8	11
Cardston	8	11
Western Irrigation District	20	13
Rocky View	3	3
Wheatland	17	10
Total	600	571

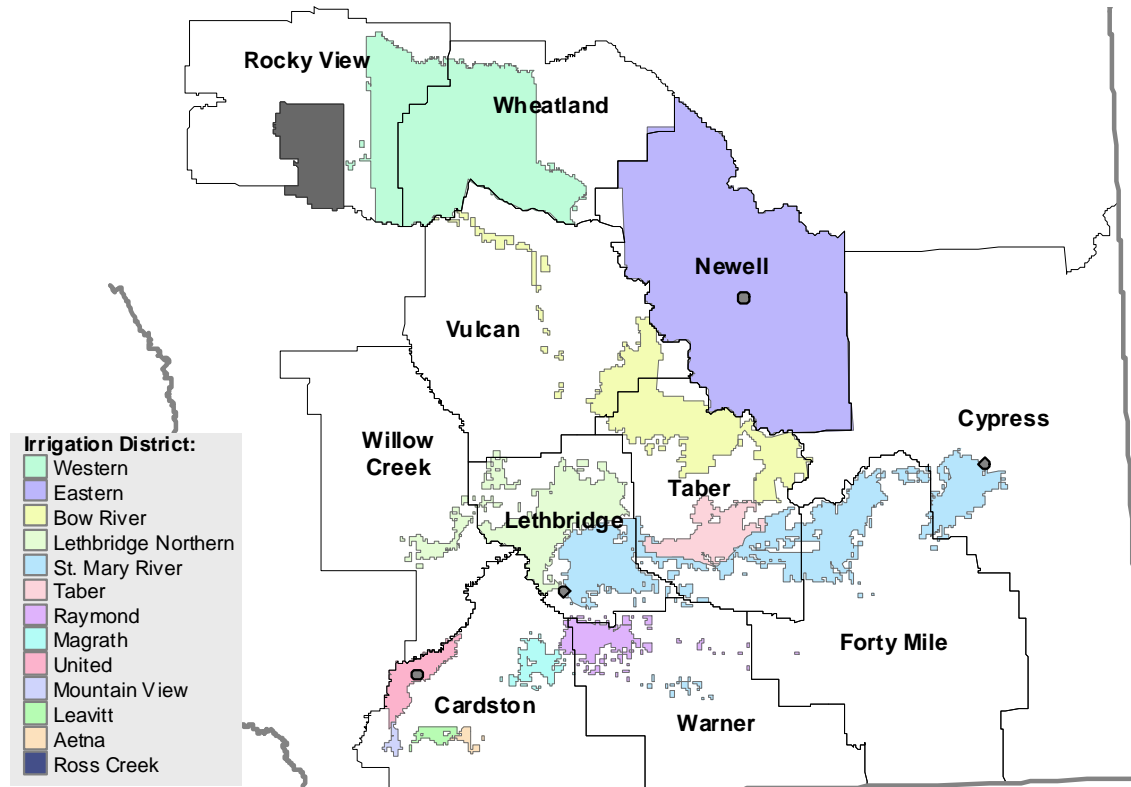


Figure 4. Counties included in the weed survey.

Random Site Selection

The random selection of sites used the grid established by the Dominion Land Survey System¹² in western Canada. A dataset with the locations of all irrigated fields was provided by Larry Kwasny, GIS Program Coordinator Basin Water Management. A random sample was selected from all quarter sections (65 ha) that had a field with greater than 16 cultivated hectares within each target irrigation district and municipality or county. A list that contained ten times the allocated number of sites was developed for each irrigation district and county.

Ownership of the land was determined using the Alberta land titles database¹³. 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 field at least 16 hectares in size?
4. Have you farmed the identified field for a minimum of five years (including 2009)?
5. Is the identified field accessible by road?
6. Is the field irrigated?
7. 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 but the producer was willing to participate, an attempt was made to qualify a field in another quarter of the same section. This step was followed only if the land was farmed by the

¹² **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.

¹³ **Government of Alberta.** 2009. SPIN2 Spatial Information System. [Online] Available: <http://www.spin.gov.ab.ca> [4 September 2009]

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same person as the preselected quarter section. Producer responses to the qualifying questions were recorded in a Microsoft® Access form; as well the following information for qualified fields:

- (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,
- (d) the number of acres 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 fields were allocated to survey personnel by the Agricultural Fieldmen in each county or municipal district. In some cases the Agricultural Fieldmen opted to hire a contractor to carry out the survey; however, in most cases the task was carried out by county weed inspectors or other temporary staff. Training material was provided to each county office and the Agricultural Fieldmen were asked to insure that their staff understood the material and was competent to correctly carry out the survey. Alberta Agriculture and Rural Development provided additional training on a regional basis in conjunction with the training offered to weed inspectors.

Timing of Weed Counts

Weeds that had not been controlled in the fields were counted in the summer survey (July 7 to August 13). 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 the 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 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.

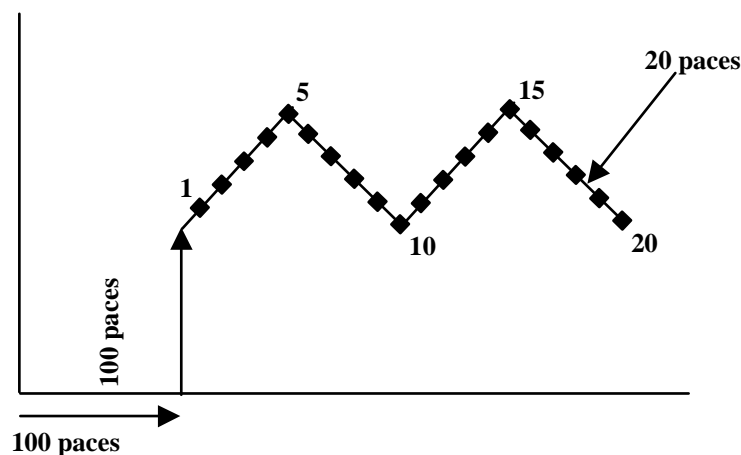


Figure 5. W pattern used for field counts.

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.

Weed Species

Any plant found in the field that could not be identified, or that the surveyor was unsure of, was tagged, pressed, and submitted for identification. Infrequently occurring species were identified in this way. The common and botanical names of 73 weeds found in 2009 are listed in Table 4.

Table 4. Common and scientific names of plants that appear in this report¹

Common Name	Scientific Name
Alfalfa	<i>Medicago sativa</i> L.
Annual sow-thistle	<i>Sonchus oleraceus</i> L.
Ball mustard	<i>Neslia paniculata</i> (L.) Desv.
Barley	<i>Hordeum vulgare</i> L.
Barnyard grass (includes western barnyard grass)	<i>Echinochloa crusgalli</i> (L.) P. Beauv. & <i>E. muricata</i> var. <i>microstachya</i> Wiegand
Black medick	<i>Medicago lupulina</i> L.
Bluebur	<i>Lappula squarrosa</i> (Retz.) Dumort.
Broad-leaved plantain	<i>Plantago major</i> L.
Bull thistle	<i>Cirsium vulgare</i> (Savi) Ten.
Canada thistle	<i>Cirsium arvense</i> (L.) Scop.
Canola (Argentine)	<i>Brassica napus</i> L.
Chickweed	<i>Stellaria media</i> (L.) Vill.
Cleavers	<i>Galium aparine</i> L.
Common burdock	<i>Arctium minus</i> Bernh. subsp. <i>minus</i>
Common groundsel	<i>Senecio vulgaris</i> L.
Corn	<i>Zea mays</i> L.
Corn spurry	<i>Spergula arvensis</i> L.
Cow cockle	<i>Vaccaria hispanica</i> (Mill.) Rauschert
Curled dock	<i>Rumex crispus</i> L.
Dandelion	<i>Taraxacum officinale</i> G. H. Weber ex Wiggers
Downy brome	<i>Bromus tectorum</i> L.
Field bindweed	<i>Convolvulus arvensis</i> L.
Field dock	<i>Rumex pseudonatronatus</i> (Borbas) Murb.
Flixweed	<i>Descurainia sophia</i> (L.) Webb ex Prantl
Foxtail barley	<i>Hordeum jubatum</i> L.
Goat's-beard	<i>Tragopogon dubius</i> Scop.
Green foxtail	<i>Setaria viridis</i> (L.) P. Beauv.
Hemp-nettle	<i>Galeopsis tetrahit</i> L.
Japanese brome	<i>Bromus japonicus</i> Thunb. Ex Murray
Kochia	<i>Kochia scoparia</i> (L.) Schrad.
Lamb's-quarters (may include net-seeded lamb's-quarters)	<i>Chenopodium album</i> L. & <i>C. berlandieri</i> var. <i>zschackei</i> (Murr) Murr ex Asch.
Millet	<i>Panicum miliaceum</i> L or <i>Setaria italica</i> (L.) P. Beauv.
Narrow-leaved hawk's-beard	<i>Crepis tectorum</i> L.
Oats	<i>Avena sativa</i> L.
Pale smartweed (includes green smartweed)	<i>Polygonum lapathifolium</i> L. & <i>P. scabrum</i> Moench
Pasture sage (may include other wormwood species)	<i>Artemisia frigida</i> Willd.
Perennial sow-thistle	<i>Sonchus arvensis</i> L.
Persian darnel	<i>Lolium persicum</i> Boiss. & Hohen. ex Boiss.

(Table continued on next page)

Table 4. Common and scientific names of plants that appear in this report¹ (*continued*)

Common Name	Scientific Name
Prickly lettuce	<i>Lactuca serriola</i> L.
Prickly rose	<i>Rosa acicularis</i> Lindl.
Prostrate knotweed (may include striate and erect knotweed)	<i>Polygonum aviculare</i> L., <i>P. achoreum</i> S.F. Blake & <i>P. erectum</i> L.
Prostrate pigweed	<i>Amaranthus blitoides</i> S. Watson
Purslane	<i>Portulaca oleracea</i> L.
Quack grass	<i>Elytrigia repens</i> (L.) Desv. ex B. D. Jacks
Redroot pigweed	<i>Amaranthus retroflexus</i> L.
Rough cinquefoil	<i>Potentilla norvegica</i> L.
Round-leaved mallow	<i>Malva pusilla</i> Sm.
Russian thistle	<i>Salsola tragus</i> L.
Shepherd's-purse	<i>Capsella bursa-pastoris</i> (L.) Medik.
Showy milkweed	<i>Asclepias speciosa</i> Torr.
Silky lupin	<i>Lupinus sericeus</i> Pursh
Silver sagebrush	<i>Artemisia cana</i> Pursh
Smooth brome (includes Nodding brome and may include other perennial brome species)	<i>Bromus inermis</i> Leyss. & <i>B. anomalus</i> Rupr.
Spiny annual sow-thistle	<i>Sonchus asper</i> (L.) Hill
Wheat	<i>Triticum aestivum</i> L.
Stinkweed	<i>Thlaspi arvense</i> L.
Stork's-bill	<i>Erodium cicutarium</i> (L.) L'Her.ex Aiton
Sunflower species	<i>Helianthus</i> spp.
Tartary buckwheat	<i>Fagopyrum tataricum</i> (L.) Gaertn.
Timothy	<i>Phleum pratense</i> L.
White clover	<i>Trifolium repens</i> L.
White cockle	<i>Silene pratensis</i> (Raf.) Godr. & Gren.
White mustard	<i>Sinapis alba</i> L.
White sweet-clover	<i>Melilotus albus</i> Medik.
Wild buckwheat	<i>Polygonum convolvulus</i> L.
Wild mustard	<i>Sinapis arvensis</i> L.
Wild oats	<i>Avena fatua</i> L.
Wild tomato	<i>Solanum triflorum</i> Nutt.
Wormseed mustard	<i>Erysimum cheiranthoides</i> L.
Yellow sweet-clover	<i>Melilotus officinalis</i> (L.) Pall.

¹Common and botanical names used in this report are those listed in:

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.

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 irrigation district to the number of fields surveyed in the irrigation district. The median density, mean density, mean number of species per field and percentage of weed free quadrats were calculated for each crop, ecoregion, county and irrigation district 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 ecological, agronomic, and jurisdictional variables including, ecoregion, ecodistrict, crop, irrigation districts and counties. 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 sugar beets in the Moist Mixed Grassland was not provided; however, the fields were included in the overall summary for irrigated sugar beets. Geographic areas (ecoregions, ecodistricts, irrigation districts and municipalities) with fewer fields than required were combined with adjacent areas.

Data were summarized using seven quantitative variables. Details for the calculation of these variables are described elsewhere¹¹.

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, ecoregions, or ecodistricts, 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, ecoregions, or ecodistricts, 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, ecoregions, or ecodistricts, 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, ecoregions, or ecodistrict, and in the province.

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, ecoregions, or ecodistrict, and in the province.

High density. The highest field density values recorded for a species in groups such as in groups such as crops, ecoregions, or ecodistricts, and in the province.

Relative abundance. A combination of the relative 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.

¹¹ **Thomas, A.G.** 1985. Weed survey system used in Saskatchewan for cereal and oilseed crops. *Weed Science* 33: 34-43.

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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.

The geographic distribution of each species is presented in maps produced with ArcMap GIS 9.3 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 0.05° (approximately 5.5 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.

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For the purposes of illustration, the meaning of the variables is explained for the species dandelion in the provincial summary table (Table 6). A **frequency** of 36.8% shows that dandelion occurred at least once in 210 of the 571 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 dandelion occurred in 14.9% 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 dandelion was present in 40.6% of the quadrats when considering only the 210 occurrence fields.

Three density variables are included in the tables. Dandelion had an **occurrence field density** of 8.2 plants per square metre and an **all field density** of 3.0 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 98.6 dandelion 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 dandelion and wild buckwheat. Because all field uniformity and all field density values of dandelion are larger than that for wild buckwheat, dandelion is ranked higher, even though wild buckwheat has a slightly higher frequency. The relative abundance value of 53.3 for dandelion is higher than the value of 30.1 for wild buckwheat.

Limitations, Constraints and Biases

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 farmer. 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 irrigated area of the province. Private irrigation and reserve land was omitted. Only the major irrigated crops were considered. Other crops may have different weed floras. Fields were limited to those with an area greater than 16 ha. Fields were only surveyed if producers had used the field for a minimum of five years, 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 crop types were excluded from the summaries. The exclusion of fields may have slightly altered the weed spectrum, as areas with excluded fields are underrepresented (Table 3). In four cases, the field was planted to crop types being surveyed. These included two cereals crops (triticale and oats) and two annual broad-leaved crops (field peas and flax). These fields were included in 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 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.

The identification of some weed species is difficult in the field. Surveyors were trained, and asked to send in unknowns for identification. However, mistakes may have been made. In some cases, the common names of species differ in different areas. For instance, this might have caused some confusion between lambs-quarters and redroot pigweed. The distinction between spiny annual sow-thistle, annual sow-thistle and perennial sow-thistle may have been difficult for some surveyors as the annual sow-thistles are often not distinguished from each other. Generally, the identification and counts by the field surveyors were used without alteration.

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 there, 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.

The results in this report provide a snapshot of the size and extent of weed populations in agricultural ecoregions of Alberta in 2009. In general, the precipitation was low in the winter of 2008/2009¹⁴, growing season was very dry until July and the temperatures tended to be average to low until September¹⁵. Differences in snow cover, 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.

¹⁴ **National Agroclimate Information Service (NAIS)**. 2009. Precipitation Compared to Historical Distribution (Prairie Region) - Static Scale - November 1, 2008 to March 31, 2009 [Online] Available: http://www.agr.gc.ca/pfra/drought/prpwi09_e.html [11 January 2010]

¹⁵ **National Agroclimate Information Service (NAIS)**. 2009. Monthly Mean Temperature Difference from Normal (Prairie Region) [Online] Available: http://www.agr.gc.ca/pfra/drought/ArcPrTemp2009_e.html [11 January 2010]



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Table 5. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed crops

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Annual crops	436	11.5	1.1	3.8	3.5	0.1	51.3	2.4
Cereal crops	303	14.7	1.5	5.4	4.0	0.1	43.2	2.8
Spring wheat	155	12.7	1.7	5.0	4.0	0.2	45.6	4.0
Barley	107	18.5	3.5	6.3	3.9	0.2	41.1	4.8
Corn	39	11.6	2.5	4.7	4.5	0.4	41.0	7.9
Broad-leaved crops	133	4.1	0.7	1.4	2.4	0.2	70.1	4.0
Canola	68	5.2	1.2	1.9	2.8	0.3	64.1	5.8
Dry beans	27	2.1	0.8	0.7	1.4	0.3	81.9	7.4
Potatoes	19	1.0	0.2	0.8	1.9	0.3	81.5	8.9
Sugar beets	17	3.0	1.3	0.2	2.3	0.7	73.4	10.7
Perennial crops	135	17.6	1.9	9.2	2.8	0.2	34.2	4.1
Alfalfa	89	19.3	2.6	10.6	2.9	0.2	30.7	4.9
Grass hay	46	14.3	2.8	6.4	2.7	0.3	40.9	7.2
All crops	571	12.9	1.0	4.5	3.4	0.1	47.3	2.1

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Table 6. 2009 irrigated crops in Alberta (571 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	36.8	14.9	40.6	3.0	8.2	98.6	53.3
2	Wild buckwheat	37.4	9.2	24.7	0.9	2.5	28.0	30.1
3	Wild oats	29.7	6.9	23.4	1.2	3.9	49.2	26.7
4	Redroot pigweed	22.6	5.8	25.9	1.4	6.2	73.4	25.0
5	Kochia	34.8	5.9	16.8	0.9	2.5	89.6	24.5
6	Lamb's-quarters	25.1	5.6	22.4	0.8	3.0	35.8	20.5
7	Canada thistle	22.7	3.7	16.1	0.4	1.6	26.8	14.2
8	Canola (Argentine)	13.0	4.2	32.5	0.6	4.4	36.4	13.7
9	Round-leaved mallow	14.6	2.7	18.2	0.2	1.6	28.6	9.6
10	Green foxtail	8.5	2.2	26.2	0.5	5.3	84.6	8.8
11	Alfalfa	7.1	1.9	26.6	0.4	5.9	106.2	7.7
12	Chickweed	2.9	0.7	24.4	0.6	22.0	206.0	6.7
13	Stinkweed	6.8	1.1	16.0	0.3	3.8	41.4	5.4
14	Quack grass	6.9	1.2	17.1	0.2	3.2	28.4	5.3
15	Annual sow-thistle	6.8	1.4	21.2	0.2	2.3	27.2	5.1
16	Smooth brome	2.9	0.9	32.0	0.2	7.9	61.6	3.8
17	Shepherd's-purse	5.5	1.0	18.0	0.1	2.1	16.6	3.8
18	Perennial sow-thistle	4.5	1.1	23.9	0.1	3.0	19.6	3.8
19	Foxtail barley	5.3	0.7	12.6	0.1	2.3	15.2	3.4
20	Wheat	2.7	0.8	30.4	0.2	5.9	30.0	3.0
21	Barnyard grass	2.6	0.7	26.8	0.1	3.0	11.8	2.2
22	Field bindweed	3.5	0.5	15.4	0.1	1.4	6.2	2.1
23	Spiny annual sow-thistle	1.9	0.5	25.0	0.1	5.6	57.6	2.0
24	Pale smartweed	3.1	0.3	11.0	< 0.1	1.0	3.8	1.6
25	Flixweed	2.5	0.3	12.4	< 0.1	1.1	11.6	1.3
26	Cleavers	1.9	0.4	21.3	< 0.1	1.3	3.6	1.2
27	Downy brome	1.5	0.3	20.9	< 0.1	2.8	18.0	1.2
28	Barley	0.7	0.3	36.8	0.1	8.5	28.0	1.1
29	Narrow-leaved hawk's-beard	1.8	0.3	15.7	< 0.1	1.1	3.0	1.0
30	Russian thistle	2.3	0.2	8.5	< 0.1	0.6	3.4	1.0
31	Prostrate knotweed	1.4	0.3	20.6	< 0.1	2.1	7.6	1.0
32	Stork's-bill	2.1	0.2	9.7	< 0.1	0.6	1.6	1.0
33	Prickly lettuce	1.1	0.3	23.8	< 0.1	1.8	5.4	0.8
34	Persian darnel	0.6	0.3	45.0	< 0.1	6.8	15.2	0.8
35	Wild mustard	0.8	0.2	25.9	< 0.1	1.7	5.6	0.6
36	Wild tomato	1.1	0.1	8.6	< 0.1	0.9	1.4	0.5
37	Pasture sage	0.3	0.2	55.0	< 0.1	5.7	6.8	0.5
38	White sweet-clover	0.3	0.2	45.0	< 0.1	5.0	8.0	0.4
39	Tartary buckwheat	0.7	0.1	14.6	< 0.1	1.4	2.2	0.4
40	Goat's-beard	0.9	0.1	7.8	< 0.1	0.6	1.8	0.4
41	Broad-leaved plantain	0.8	0.1	9.2	< 0.1	0.7	2.2	0.4
42	Yellow sweet-clover	0.7	0.1	12.5	< 0.1	1.0	2.0	0.4
43	Hemp-nettle	0.3	0.1	45.0	< 0.1	4.6	4.6	0.3
44	White mustard	0.2	0.1	60.0	< 0.1	9.4	9.4	0.3
45	Sunflower species	0.5	0.1	13.3	< 0.1	1.1	1.6	0.3
46	White clover	0.5	< 0.1	8.3	< 0.1	0.4	0.6	0.2
47	Showy milkweed	0.5	< 0.1	6.7	< 0.1	0.6	0.8	0.2
48	Corn spurry	0.4	< 0.1	7.5	< 0.1	0.3	0.4	0.2
49	Japanese brome	0.3	< 0.1	12.5	< 0.1	0.7	1.2	0.2
50	Cow cockle	0.2	0.1	35.0	< 0.1	1.8	1.8	0.2
51	Curled dock	0.3	< 0.1	7.5	< 0.1	0.3	0.4	0.1
52	Bull thistle	0.3	< 0.1	5.0	< 0.1	0.3	0.4	0.1

(Table continued on next page)

Table 6. 2009 irrigated crops in Alberta (571 fields) (continued)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Ball mustard	0.3	< 0.1	5.0	< 0.1	0.3	0.4	0.1
54	Prickly rose	0.2	< 0.1	20.0	< 0.1	2.2	2.2	0.1
55	Prostrate pigweed	0.2	< 0.1	15.0	< 0.1	0.6	0.6	0.1
56	Purslane	0.2	< 0.1	15.0	< 0.1	1.4	1.4	0.1
57	Bluebur	0.2	< 0.1	15.0	< 0.1	1.2	1.2	0.1
58	Oats	0.2	< 0.1	5.0	< 0.1	0.4	0.4	0.1
59	Black medick	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
60	Common groundsel	0.2	< 0.1	15.0	< 0.1	0.8	0.8	0.1
61	Common burdock	0.2	< 0.1	10.0	< 0.1	1.4	1.4	0.1
62	White cockle	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
63	Timothy	0.2	< 0.1	10.0	< 0.1	0.6	0.6	0.1
64	Silky lupin	0.1	< 0.1	20.0	< 0.1	1.0	1.0	0.1
65	Silver sagebrush	0.2	< 0.1	10.0	< 0.1	0.4	0.4	0.1
66	Rough cinquefoil	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Wormseed mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Corn	0.1	< 0.1	10.0	< 0.1	0.4	0.4	0.1
69	Field dock	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
70	Millet	0.1	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Field Survey Summary Tables – Alberta

Table 7. 2009 irrigated annual crops in Alberta (436 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	46.4	11.1	23.9	1.1	2.4	28.0	37.4
2	Wild oats	37.0	8.8	23.8	1.5	4.0	49.2	35.2
3	Redroot pigweed	26.9	6.9	25.7	1.7	6.3	73.4	31.6
4	Kochia	40.8	7.1	17.4	1.0	2.4	89.6	29.6
5	Lamb's-quarters	27.5	6.2	22.4	0.8	2.9	35.8	22.9
6	Canola (Argentine)	16.1	5.5	33.8	0.8	4.7	36.4	18.4
7	Dandelion	23.3	4.7	20.1	0.4	1.7	13.4	16.3
8	Round-leaved mallow	18.6	3.5	18.6	0.3	1.6	28.6	12.5
9	Canada thistle	18.6	2.8	15.0	0.3	1.4	13.2	11.2
10	Alfalfa	8.8	2.4	27.7	0.5	6.2	106.2	10.5
11	Chickweed	3.8	0.9	24.4	0.8	22.0	206.0	9.7
12	Green foxtail	10.0	2.3	22.8	0.3	2.8	28.8	8.3
13	Annual sow-thistle	7.8	1.7	21.8	0.2	2.5	27.2	6.2
14	Quack grass	5.6	1.1	18.8	0.2	3.9	28.4	4.9
15	Stinkweed	7.0	0.9	13.1	0.2	2.6	41.4	4.8
16	Wheat	3.2	1.0	31.9	0.2	6.2	30.0	4.0
17	Shepherd's-purse	5.8	1.0	18.1	0.1	1.8	15.8	3.9
18	Perennial sow-thistle	3.9	0.9	24.5	0.1	3.4	19.6	3.5
19	Smooth brome	1.4	0.6	40.1	0.2	13.6	61.6	2.8
20	Spiny annual sow-thistle	1.6	0.5	33.9	0.1	8.7	57.6	2.3
21	Foxtail barley	3.2	0.4	11.7	0.1	2.8	15.2	2.2
22	Barnyard grass	2.3	0.6	28.3	0.1	3.4	11.8	2.2
23	Field bindweed	3.6	0.6	15.5	< 0.1	1.1	6.0	2.1
24	Pale smartweed	3.6	0.4	9.9	< 0.1	0.9	3.8	1.7
25	Cleavers	2.4	0.5	21.3	< 0.1	1.3	3.6	1.6
26	Barley	1.0	0.4	36.8	0.1	8.5	28.0	1.5
27	Stork's-bill	2.7	0.3	9.7	< 0.1	0.6	1.6	1.2
28	Persian darnel	0.8	0.3	45.0	0.1	6.8	15.2	1.1
29	Prostrate knotweed	1.6	0.3	18.0	< 0.1	1.9	7.6	1.1
30	Russian thistle	2.0	0.2	10.1	< 0.1	0.8	3.4	1.0
31	Prickly lettuce	1.1	0.3	28.7	< 0.1	2.2	5.4	1.0
32	Flixweed	2.5	0.2	6.1	< 0.1	0.3	1.2	1.0
33	Downy brome	1.3	0.2	12.6	< 0.1	0.8	1.6	0.7
34	Wild mustard	0.8	0.2	32.1	< 0.1	2.1	5.6	0.7
35	Wild tomato	1.4	0.1	8.6	< 0.1	0.9	1.4	0.7
36	Narrow-leaved hawk's-beard	1.2	0.1	12.0	< 0.1	0.7	1.6	0.6
37	Hemp-nettle	0.4	0.2	45.0	< 0.1	4.6	4.6	0.5
38	White mustard	0.2	0.1	60.0	< 0.1	9.4	9.4	0.4
39	Sunflower species	0.7	0.1	13.3	< 0.1	1.1	1.6	0.4
40	Broad-leaved plantain	0.5	0.1	13.4	< 0.1	1.2	2.2	0.3
41	Tartary buckwheat	0.5	< 0.1	7.5	< 0.1	1.0	1.4	0.2
42	Cow cockle	0.2	0.1	35.0	< 0.1	1.8	1.8	0.2
43	Corn spurry	0.5	< 0.1	7.5	< 0.1	0.3	0.4	0.2
44	Showy milkweed	0.4	< 0.1	7.5	< 0.1	0.7	0.8	0.2
45	Goat's-beard	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
46	Purslane	0.2	< 0.1	15.0	< 0.1	1.4	1.4	0.1
47	Prostrate pigweed	0.2	< 0.1	15.0	< 0.1	0.6	0.6	0.1
48	Oats	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
49	Common groundsel	0.2	< 0.1	15.0	< 0.1	0.8	0.8	0.1
50	Timothy	0.2	< 0.1	10.0	< 0.1	0.6	0.6	0.1
51	Silky lupin	0.2	< 0.1	20.0	< 0.1	1.0	1.0	0.1
52	Ball mustard	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1

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Table 7. 2009 irrigated annual crops in Alberta (436 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Japanese brome	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
54	Wormseed mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1
55	Corn	0.2	< 0.1	10.0	< 0.1	0.4	0.4	0.1
56	Millet	0.2	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Alberta

Table 8. 2009 irrigated cereal crops in Alberta (303 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	53.0	13.9	26.2	1.5	2.8	28.0	38.4
2	Wild oats	43.6	10.6	24.3	1.9	4.3	49.2	35.3
3	Redroot pigweed	30.4	8.7	28.7	2.3	7.7	73.4	33.1
4	Kochia	43.0	8.3	19.4	1.3	3.0	89.6	28.6
5	Lamb's-quarters	31.4	7.2	22.9	1.0	3.3	35.8	22.8
6	Canola (Argentine)	21.0	7.5	35.7	1.1	5.1	36.4	20.7
7	Dandelion	27.8	5.9	21.0	0.5	1.9	13.4	16.9
8	Round-leaved mallow	21.7	4.1	19.0	0.4	1.8	28.6	12.5
9	Alfalfa	11.4	3.2	28.3	0.8	6.7	106.2	11.6
10	Canada thistle	21.7	3.4	15.7	0.3	1.5	13.2	11.3
11	Chickweed	4.9	1.2	25.2	1.2	24.4	206.0	10.8
12	Green foxtail	12.0	2.6	22.0	0.3	2.7	28.8	8.0
13	Annual sow-thistle	9.1	2.0	22.4	0.3	2.9	27.2	6.2
14	Stinkweed	8.3	1.2	14.2	0.3	3.1	41.4	5.1
15	Quack grass	5.8	1.3	22.4	0.3	5.2	28.4	4.9
16	Shepherd's-purse	6.6	1.4	21.1	0.1	2.1	15.8	4.1
17	Perennial sow-thistle	4.8	1.2	25.9	0.2	3.8	19.6	3.8
18	Spiny annual sow-thistle	1.9	0.7	36.6	0.2	10.1	57.6	2.5
19	Wheat	1.7	0.7	43.1	0.2	10.1	30.0	2.4
20	Field bindweed	4.8	0.7	15.6	0.1	1.1	6.0	2.4
21	Foxtail barley	3.2	0.4	14.0	0.1	3.9	15.2	2.1
22	Pale smartweed	4.8	0.5	9.9	< 0.1	0.9	3.8	2.0
23	Prostrate knotweed	2.3	0.4	18.0	< 0.1	1.9	7.6	1.3
24	Prickly lettuce	1.6	0.5	28.7	< 0.1	2.2	5.4	1.2
25	Stork's-bill	3.0	0.3	9.6	< 0.1	0.5	1.6	1.2
26	Cleavers	1.7	0.4	26.0	< 0.1	1.5	3.6	1.1
27	Flixweed	2.9	0.2	6.4	< 0.1	0.4	1.2	1.0
28	Persian darnel	0.7	0.4	52.5	0.1	7.7	15.2	1.0
29	Wild mustard	1.1	0.4	32.1	< 0.1	2.1	5.6	0.8
30	Smooth brome	1.3	0.3	20.6	< 0.1	1.7	3.2	0.8
31	Narrow-leaved hawk's-beard	1.8	0.2	12.0	< 0.1	0.7	1.6	0.8
32	Russian thistle	1.7	0.1	8.3	< 0.1	0.5	1.2	0.6
33	Barnyard grass	1.2	0.1	10.2	< 0.1	1.5	6.2	0.6
34	Hemp-nettle	0.5	0.2	45.0	< 0.1	4.6	4.6	0.6
35	White mustard	0.3	0.2	60.0	< 0.1	9.4	9.4	0.5
36	Wild tomato	1.1	0.1	10.1	< 0.1	1.0	1.4	0.5
37	Downy brome	1.2	0.1	10.0	< 0.1	0.5	0.6	0.5
38	Broad-leaved plantain	0.8	0.1	13.4	< 0.1	1.2	2.2	0.4
39	Tartary buckwheat	0.7	0.1	7.5	< 0.1	1.0	1.4	0.3
40	Cow cockle	0.4	0.1	35.0	< 0.1	1.8	1.8	0.3
41	Oats	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2
42	Corn spurry	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.1
43	Barley	0.3	< 0.1	15.0	< 0.1	0.6	0.6	0.1
44	Goat's-beard	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
45	Sunflower species	0.3	< 0.1	10.0	< 0.1	0.8	0.8	0.1
46	Timothy	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.1
47	Silky lupin	0.2	< 0.1	20.0	< 0.1	1.0	1.0	0.1
48	Showy milkweed	0.3	< 0.1	5.0	< 0.1	0.6	0.6	0.1
49	Wormseed mustard	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 9. 2009 irrigated spring wheat in Alberta (155 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	50.8	15.3	30.1	1.8	3.6	28.0	44.7
2	Wild oats	50.3	10.2	20.3	2.0	3.9	49.2	40.1
3	Kochia	44.5	8.2	18.3	1.3	3.0	89.6	31.0
4	Canola (Argentine)	25.2	9.3	37.2	1.6	6.2	36.4	29.5
5	Lamb's-quarters	27.0	5.4	20.0	0.6	2.4	19.8	18.1
6	Dandelion	27.9	5.9	21.2	0.5	1.8	11.0	17.8
7	Redroot pigweed	20.0	3.9	19.5	1.0	4.8	73.4	17.1
8	Canada thistle	26.4	4.5	17.0	0.4	1.4	13.2	14.8
9	Round-leaved mallow	19.2	3.8	19.7	0.4	2.2	28.6	12.5
10	Alfalfa	11.0	3.4	31.0	0.7	6.6	36.8	12.4
11	Green foxtail	13.9	3.1	22.6	0.3	2.0	6.4	9.3
12	Annual sow-thistle	8.9	2.7	30.3	0.4	4.8	27.2	8.7
13	Stinkweed	8.2	1.1	12.9	0.4	5.1	41.4	6.5
14	Spiny annual sow-thistle	3.1	1.2	40.0	0.4	11.9	57.6	5.1
15	Perennial sow-thistle	3.9	1.3	34.3	0.2	5.4	19.6	4.2
16	Foxtail barley	4.9	0.7	15.2	0.2	4.8	15.2	3.9
17	Quack grass	4.4	0.5	12.0	0.1	2.9	22.0	2.7
18	Field bindweed	5.4	0.5	10.1	< 0.1	0.5	1.6	2.2
19	Pale smartweed	4.9	0.5	10.9	< 0.1	0.9	2.0	2.2
20	Shepherd's-purse	4.4	0.5	11.9	< 0.1	1.0	3.0	2.1
21	Chickweed	3.9	0.4	9.8	< 0.1	0.8	2.4	1.7
22	Flixweed	4.3	0.3	6.8	< 0.1	0.4	1.2	1.6
23	Cleavers	2.1	0.6	28.1	< 0.1	1.5	2.4	1.5
24	Narrow-leaved hawk's-beard	2.9	0.3	9.3	< 0.1	0.5	1.2	1.2
25	Smooth brome	1.2	0.4	35.0	< 0.1	2.8	3.2	1.1
26	Russian thistle	2.7	0.2	9.0	< 0.1	0.6	1.2	1.1
27	Stork's-bill	2.4	0.3	11.4	< 0.1	0.6	1.6	1.0
28	Prickly lettuce	1.2	0.4	32.5	< 0.1	2.2	3.6	1.0
29	Broad-leaved plantain	1.5	0.2	13.4	< 0.1	1.2	2.2	0.7
30	Downy brome	1.6	0.2	12.2	< 0.1	0.5	0.6	0.7
31	Prostrate knotweed	1.3	0.2	16.9	< 0.1	0.8	1.2	0.6
32	Wild tomato	1.4	0.1	7.5	< 0.1	0.8	1.2	0.6
33	Cow cockle	0.7	0.2	35.0	< 0.1	1.8	1.8	0.6
34	Goat's-beard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
35	Wild mustard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
36	Timothy	0.6	0.1	10.0	< 0.1	0.6	0.6	0.3
37	Barnyard grass	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2
38	Persian darnel	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.2
39	Showy milkweed	0.6	< 0.1	5.0	< 0.1	0.6	0.6	0.2

Field Survey Summary Tables – Alberta

Table 10. 2009 irrigated barley in Alberta (107 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	35.1	12.7	36.1	4.0	11.3	73.4	44.1
2	Wild oats	47.1	13.8	29.3	2.4	5.0	34.6	39.7
3	Wild buckwheat	52.0	11.5	22.2	1.1	2.1	17.2	31.5
4	Kochia	41.5	9.6	23.1	1.6	3.8	44.0	29.5
5	Lamb's-quarters	33.7	9.4	28.0	1.7	5.0	35.8	27.7
6	Chickweed	6.1	2.7	44.6	3.3	54.4	206.0	22.3
7	Dandelion	22.7	4.0	17.8	0.3	1.5	7.4	12.0
8	Canola (Argentine)	12.0	4.7	39.3	0.5	4.6	19.8	11.1
9	Alfalfa	9.5	2.7	28.2	1.0	10.4	106.2	10.6
10	Round-leaved mallow	20.2	2.6	13.0	0.2	1.0	5.0	9.1
11	Canada thistle	17.9	2.4	13.6	0.3	1.7	10.0	8.9
12	Green foxtail	9.8	2.0	20.8	0.3	3.4	28.8	6.5
13	Shepherd's-purse	7.4	2.0	27.4	0.2	3.0	15.8	5.3
14	Stinkweed	9.7	1.7	17.6	0.1	1.4	3.8	5.1
15	Quack grass	6.1	1.5	25.4	0.3	5.1	13.0	4.9
16	Perennial sow-thistle	7.9	1.6	20.0	0.2	2.7	15.6	4.8
17	Annual sow-thistle	8.7	1.2	14.1	0.1	1.0	4.2	4.0
18	Prostrate knotweed	4.8	0.9	18.4	0.1	2.2	7.6	2.7
19	Pale smartweed	5.4	0.5	9.6	0.1	1.1	3.8	2.3
20	Persian darnel	1.0	1.0	100.0	0.2	15.2	15.2	2.2
21	Field bindweed	2.6	0.8	31.7	0.1	3.0	6.0	2.0
22	Prickly lettuce	2.8	0.7	26.4	0.1	2.3	5.4	1.9
23	Wild mustard	1.9	0.9	49.5	0.1	3.4	5.6	1.8
24	Hemp-nettle	1.5	0.7	45.0	0.1	4.6	4.6	1.5
25	White mustard	0.9	0.5	60.0	0.1	9.4	9.4	1.2
26	Stork's-bill	2.9	0.2	7.3	< 0.1	0.3	0.6	1.0
27	Cleavers	1.8	0.4	22.4	< 0.1	1.5	3.6	1.0
28	Barnyard grass	1.7	0.2	13.0	< 0.1	2.7	6.2	0.9
29	Tartary buckwheat	2.0	0.2	7.5	< 0.1	1.0	1.4	0.8
30	Wild tomato	1.1	0.2	15.0	< 0.1	1.4	1.4	0.5
31	Foxtail barley	1.0	0.2	15.0	< 0.1	1.2	1.2	0.5
32	Corn spurry	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
33	Sunflower species	0.9	0.1	10.0	< 0.1	0.8	0.8	0.4
34	Flixweed	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
35	Smooth brome	1.0	0.1	5.0	< 0.1	0.4	0.4	0.3
36	Silky lupin	0.6	0.1	20.0	< 0.1	1.0	1.0	0.3
37	Wheat	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3
38	Wormseed mustard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
39	Russian thistle	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Alberta

Table 11. 2009 irrigated corn in Alberta (39 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	56.9	16.5	29.0	3.2	5.7	55.8	57.3
2	Wild buckwheat	64.7	15.8	24.5	1.3	2.0	11.8	41.8
3	Round-leaved mallow	36.8	9.9	27.0	0.7	2.0	11.0	24.7
4	Dandelion	38.2	8.1	21.1	0.8	2.1	13.4	23.7
5	Lamb's-quarters	39.4	6.4	16.3	0.7	1.7	12.2	21.2
6	Canola (Argentine)	31.0	8.4	27.2	0.6	1.9	6.0	20.6
7	Wheat	10.8	5.6	51.6	1.3	12.3	30.0	19.5
8	Kochia	38.9	5.4	13.8	0.4	1.0	4.8	17.5
9	Quack grass	10.6	3.6	34.2	1.0	9.1	28.4	14.3
10	Alfalfa	18.9	4.2	22.3	0.4	1.9	9.0	11.7
11	Green foxtail	11.2	2.4	21.7	0.5	4.1	13.0	9.0
12	Wild oats	10.0	3.6	36.1	0.3	2.5	7.0	8.0
13	Shepherd's-purse	8.6	2.4	28.0	0.2	2.6	4.2	6.3
14	Canada thistle	12.5	1.4	10.9	0.1	0.5	1.0	4.8
15	Field bindweed	8.9	1.4	15.3	0.1	0.9	1.2	4.1
16	Annual sow-thistle	8.6	1.1	13.3	0.1	0.7	1.4	3.6
17	Chickweed	5.9	0.6	10.0	< 0.1	0.4	0.4	2.1
18	Stork's-bill	5.9	0.6	10.0	< 0.1	0.4	0.6	2.1
19	Stinkweed	5.2	0.3	5.0	< 0.1	0.2	0.2	1.5
20	Oats	3.5	0.2	5.0	< 0.1	0.4	0.4	1.1
21	Barley	2.4	0.4	15.0	< 0.1	0.6	0.6	1.0
22	Downy brome	2.8	0.1	5.0	< 0.1	0.4	0.4	0.9
23	Foxtail barley	2.8	0.1	5.0	< 0.1	0.2	0.2	0.8
24	Flixweed	2.8	0.1	5.0	< 0.1	0.2	0.2	0.8
25	Pale smartweed	2.8	0.1	5.0	< 0.1	0.2	0.2	0.8
26	Barnyard grass	2.4	0.1	5.0	< 0.1	0.2	0.2	0.7

Field Survey Summary Tables – Alberta

Table 12. 2009 irrigated broad-leaved annual crops in Alberta (133 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	22.0	4.8	21.7	0.6	2.7	24.2	35.8
2	Kochia	35.8	4.2	11.8	0.3	0.9	13.6	33.5
3	Wild buckwheat	31.3	4.7	15.0	0.2	0.8	5.0	30.8
4	Lamb's-quarters	18.5	3.7	20.3	0.3	1.4	7.2	23.3
5	Redroot pigweed	18.8	2.7	14.6	0.2	1.2	13.4	20.1
6	Smooth brome	1.7	1.3	75.0	0.6	34.9	61.6	18.2
7	Dandelion	13.0	2.0	15.5	0.1	1.0	4.4	13.4
8	Wheat	6.6	1.6	25.1	0.3	3.8	13.4	13.0
9	Round-leaved mallow	11.6	2.0	16.8	0.1	1.1	5.0	12.9
10	Barnyard grass	4.6	1.8	39.4	0.2	4.6	11.8	11.6
11	Canada thistle	11.6	1.4	11.8	0.1	1.2	7.0	11.6
12	Green foxtail	5.6	1.5	26.9	0.2	3.2	15.8	10.6
13	Barley	2.5	1.1	43.1	0.3	10.7	28.0	10.3
14	Annual sow-thistle	4.9	1.0	19.6	0.1	1.2	4.8	5.8
15	Canola (Argentine)	4.9	0.8	15.7	0.1	1.0	4.8	5.2
16	Cleavers	4.1	0.7	16.8	< 0.1	1.1	2.0	4.5
17	Quack grass	5.2	0.5	9.7	< 0.1	0.7	1.6	4.4
18	Alfalfa	2.9	0.6	22.5	< 0.1	1.2	2.4	3.6
19	Russian thistle	2.9	0.4	12.6	< 0.1	1.2	3.4	3.0
20	Stinkweed	4.0	0.3	7.6	< 0.1	0.4	0.8	2.8
21	Shepherd's-purse	3.9	0.2	6.1	< 0.1	0.5	1.4	2.7
22	Foxtail barley	3.1	0.2	6.3	< 0.1	0.4	1.0	2.1
23	Downy brome	1.7	0.3	16.6	< 0.1	1.4	1.6	2.0
24	Persian darnel	0.8	0.3	30.0	< 0.1	5.0	5.0	2.0
25	Stork's-bill	1.9	0.2	10.0	< 0.1	1.0	1.2	1.8
26	Wild tomato	2.2	0.2	6.9	< 0.1	0.8	1.4	1.7
27	Perennial sow-thistle	1.7	0.3	15.0	< 0.1	0.8	0.8	1.6
28	Sunflower species	1.4	0.2	15.0	< 0.1	1.3	1.6	1.6
29	Chickweed	1.3	0.2	17.8	< 0.1	0.8	1.0	1.4
30	Spiny annual sow-thistle	0.8	0.2	20.0	< 0.1	1.2	1.2	1.0
31	Field bindweed	0.7	0.1	15.0	< 0.1	1.6	1.6	0.9
32	Flixweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.8
33	Purslane	0.7	0.1	15.0	< 0.1	1.4	1.4	0.8
34	Prostrate pigweed	0.8	0.1	15.0	< 0.1	0.6	0.6	0.8
35	Common groundsel	0.7	0.1	15.0	< 0.1	0.8	0.8	0.7
36	Showy milkweed	0.7	0.1	10.0	< 0.1	0.8	0.8	0.6
37	Pale smartweed	0.7	0.1	10.0	< 0.1	0.4	0.4	0.5
38	Corn spurry	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.5
39	Ball mustard	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.5
40	Corn	0.6	0.1	10.0	< 0.1	0.4	0.4	0.4
41	Japanese brome	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.4
42	Goat's-beard	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.4
43	Millet	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Table 13. 2009 irrigated canola in Alberta (68 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	26.4	5.6	21.3	0.9	3.4	24.2	38.3
2	Wild buckwheat	37.7	6.4	17.1	0.4	0.9	5.0	33.7
3	Kochia	43.9	5.7	13.0	0.3	0.7	3.2	33.3
4	Smooth brome	3.1	2.4	75.0	1.1	34.9	61.6	27.1
5	Lamb's-quarters	20.8	4.8	23.1	0.3	1.6	7.2	23.7
6	Dandelion	17.6	2.9	16.3	0.2	1.1	4.4	15.8
7	Barley	4.7	2.0	43.1	0.5	10.7	28.0	15.5
8	Redroot pigweed	21.3	2.2	10.1	0.1	0.5	1.4	14.2
9	Round-leaved mallow	13.6	2.0	14.5	0.1	0.9	2.4	11.4
10	Green foxtail	6.8	1.9	28.0	0.2	3.6	15.8	11.1
11	Canada thistle	14.1	1.8	12.7	0.1	0.8	4.6	11.0
12	Wheat	5.9	1.7	28.0	0.3	4.5	13.4	10.7
13	Barnyard grass	3.2	1.0	32.2	0.2	5.1	11.8	6.5
14	Annual sow-thistle	8.2	1.1	13.7	0.1	0.7	1.2	6.3
15	Quack grass	7.4	0.8	10.5	0.1	0.9	1.6	5.5
16	Cleavers	5.3	0.8	16.0	0.1	1.1	2.0	4.8
17	Russian thistle	5.5	0.7	12.6	0.1	1.2	3.4	4.6
18	Shepherd's-purse	7.2	0.4	6.1	< 0.1	0.5	1.4	4.2
19	Stinkweed	4.9	0.4	9.1	< 0.1	0.4	0.8	3.1
20	Perennial sow-thistle	3.1	0.5	15.0	< 0.1	0.8	0.8	2.6
21	Downy brome	1.9	0.5	25.0	< 0.1	1.6	1.6	2.2
22	Wild tomato	3.0	0.2	7.5	< 0.1	1.0	1.4	2.1
23	Stork's-bill	2.3	0.2	10.0	< 0.1	1.2	1.2	1.8
24	Spiny annual sow-thistle	1.6	0.3	20.0	< 0.1	1.2	1.2	1.6
25	Foxtail barley	2.7	0.1	5.0	< 0.1	0.6	1.0	1.5
26	Sunflower species	1.4	0.3	20.0	< 0.1	1.6	1.6	1.5
27	Chickweed	1.4	0.3	20.0	< 0.1	1.0	1.0	1.3
28	Alfalfa	1.4	0.3	20.0	< 0.1	0.8	0.8	1.3
29	Corn spurry	1.7	0.1	5.0	< 0.1	0.2	0.2	0.8
30	Ball mustard	1.6	0.1	5.0	< 0.1	0.2	0.2	0.8
31	Japanese brome	1.4	0.1	5.0	< 0.1	0.2	0.2	0.7
32	Flixweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.7
33	Millet	1.1	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Alberta

Table 14. 2009 irrigated dry beans in Alberta (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	25.6	4.5	17.5	0.3	1.1	4.8	50.4
2	Kochia	29.7	3.2	10.8	0.2	0.7	1.2	44.4
3	Wild buckwheat	22.4	2.4	10.9	0.1	0.5	1.6	31.5
4	Canada thistle	10.1	1.2	11.8	0.4	3.5	7.0	29.5
5	Wheat	3.6	1.3	35.0	0.3	8.0	8.0	22.1
6	Canola (Argentine)	6.5	1.3	20.3	0.1	2.2	4.8	17.1
7	Annual sow-thistle	2.8	1.8	65.0	0.1	4.8	4.8	16.4
8	Barnyard grass	3.6	1.8	50.0	0.1	3.2	3.2	16.0
9	Lamb's-quarters	2.8	1.0	35.0	0.1	3.8	3.8	11.4
10	Redroot pigweed	6.5	0.7	10.6	< 0.1	0.5	0.8	9.2
11	Round-leaved mallow	4.1	0.8	20.0	< 0.1	1.0	1.0	8.4
12	Cleavers	2.8	0.9	30.0	0.1	1.8	1.8	8.1
13	Field bindweed	3.6	0.5	15.0	0.1	1.6	1.6	7.7
14	Prostrate pigweed	4.1	0.6	15.0	< 0.1	0.6	0.6	6.7
15	Dandelion	3.6	0.5	15.0	< 0.1	0.8	0.8	6.3
16	Sunflower species	3.6	0.4	10.0	< 0.1	1.0	1.0	5.9
17	Showy milkweed	3.6	0.4	10.0	< 0.1	0.8	0.8	5.5
18	Green foxtail	2.8	0.1	5.0	< 0.1	0.6	0.6	3.4

Table 15. 2009 irrigated potatoes in Alberta (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	30.8	2.8	9.2	0.1	0.4	0.8	43.6
2	Wild buckwheat	25.4	2.9	11.3	0.1	0.5	1.4	40.6
3	Kochia	27.8	1.7	6.0	0.1	0.2	0.4	29.4
4	Canola (Argentine)	10.8	1.9	17.5	0.1	0.8	1.0	23.8
5	Wheat	5.4	1.1	20.0	0.1	2.0	2.0	18.8
6	Round-leaved mallow	10.8	1.1	10.0	0.1	0.7	0.8	18.5
7	Redroot pigweed	16.3	0.8	5.0	< 0.1	0.2	0.2	15.7
8	Purslane	5.4	0.8	15.0	0.1	1.4	1.4	14.3
9	Canada thistle	9.6	1.0	10.6	< 0.1	0.4	0.6	14.2
10	Barnyard grass	5.4	0.8	15.0	0.1	1.2	1.2	13.3
11	Common groundsel	5.4	0.8	15.0	< 0.1	0.8	0.8	11.2
12	Downy brome	5.4	0.3	5.0	0.1	1.2	1.2	10.4
13	Wild oats	5.4	0.8	15.0	< 0.1	0.6	0.6	10.2
14	Alfalfa	5.4	0.8	15.0	< 0.1	0.6	0.6	10.2
15	Corn	4.2	0.4	10.0	< 0.1	0.4	0.4	6.0
16	Dandelion	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
17	Flixweed	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
18	Goat's-beard	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
19	Wild tomato	4.2	0.2	5.0	< 0.1	0.2	0.2	4.1

Table 16. 2009 irrigated sugar beets in Alberta (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	12.1	6.6	55.0	0.8	6.4	7.8	46.6
2	Redroot pigweed	27.5	6.7	24.5	0.5	1.7	5.0	43.8
3	Lamb's-quarters	22.8	5.1	22.2	0.4	1.6	3.8	34.4
4	Round-leaved mallow	17.5	4.9	28.3	0.4	2.2	5.0	32.0
5	Wild buckwheat	28.2	3.3	11.7	0.2	0.6	1.0	25.8
6	Alfalfa	12.1	3.3	27.5	0.2	1.6	2.4	19.6
7	Canola (Argentine)	18.1	2.1	11.7	0.1	0.5	0.6	15.8
8	Dandelion	10.7	2.4	22.5	0.1	1.3	2.6	14.9
9	Wheat	9.4	1.6	17.5	0.2	2.0	2.4	14.3
10	Kochia	16.7	1.1	6.4	0.1	0.3	0.6	11.7
11	Quack grass	10.7	0.8	7.2	< 0.1	0.4	0.6	7.9
12	Wild oats	4.7	1.2	25.0	0.1	1.2	1.2	6.7
13	Foxtail barley	6.8	0.7	10.0	< 0.1	0.4	0.4	5.5
14	Pale smartweed	6.0	0.6	10.0	< 0.1	0.4	0.4	4.9
15	Chickweed	4.7	0.7	15.0	< 0.1	0.6	0.6	4.7
16	Green foxtail	6.0	0.3	5.0	< 0.1	0.2	0.2	3.8
17	Stinkweed	6.0	0.3	5.0	< 0.1	0.2	0.2	3.8
18	Canada thistle	6.0	0.3	5.0	< 0.1	0.2	0.2	3.8

Field Survey Summary Tables – Alberta

Table 17. 2009 irrigated perennial crops in Alberta (135 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	79.7	47.7	59.8	11.4	14.3	98.6	147.7
2	Canada thistle	35.9	6.4	18.0	0.7	1.9	26.8	24.0
3	Lamb's-quarters	17.5	4.0	22.6	0.6	3.4	31.2	14.1
4	Kochia	15.7	1.9	12.2	0.4	2.7	31.4	10.1
5	Green foxtail	3.5	2.0	58.4	1.0	29.0	84.6	9.2
6	Wild buckwheat	8.4	3.2	37.9	0.4	5.0	15.8	9.0
7	Redroot pigweed	8.7	2.4	27.7	0.4	5.1	26.4	8.4
8	Foxtail barley	12.0	1.6	13.3	0.2	1.9	12.8	7.3
9	Smooth brome	7.7	2.1	27.3	0.4	4.6	30.6	7.1
10	Quack grass	11.0	1.6	14.2	0.2	2.1	13.0	7.0
11	Stinkweed	6.2	1.7	26.6	0.5	7.9	28.2	6.9
12	Perennial sow-thistle	6.6	1.5	22.8	0.1	2.2	7.6	4.9
13	Wild oats	6.0	0.9	14.4	0.1	2.0	7.6	3.8
14	Shepherd's-purse	4.6	0.8	17.4	0.2	3.3	16.6	3.4
15	Barnyard grass	3.6	0.9	23.7	0.1	2.2	5.2	2.7
16	Narrow-leaved hawk's-beard	3.5	0.7	20.0	0.1	1.6	3.0	2.4
17	Downy brome	1.9	0.8	39.8	0.1	7.2	18.0	2.3
18	Field bindweed	3.4	0.5	14.9	0.1	2.5	6.2	2.3
19	Flixweed	2.4	0.8	33.1	0.1	3.6	11.6	2.3
20	Annual sow-thistle	3.5	0.6	17.0	< 0.1	1.0	2.4	2.1
21	Pasture sage	1.4	0.8	55.0	0.1	5.7	6.8	1.8
22	White sweet-clover	1.4	0.6	45.0	0.1	5.0	8.0	1.6
23	Spiny annual sow-thistle	3.1	0.3	10.7	< 0.1	0.7	1.4	1.6
24	Yellow sweet-clover	2.8	0.4	12.5	< 0.1	1.0	2.0	1.6
25	Canola (Argentine)	3.1	0.3	9.3	< 0.1	0.4	0.8	1.5
26	Russian thistle	3.0	0.1	5.0	< 0.1	0.2	0.2	1.3
27	Goat's-beard	2.1	0.2	10.0	< 0.1	0.9	1.8	1.1
28	Pale smartweed	1.5	0.3	18.6	< 0.1	1.6	2.0	1.0
29	White clover	2.1	0.2	8.3	< 0.1	0.4	0.6	1.0
30	Tartary buckwheat	1.3	0.3	23.4	< 0.1	2.0	2.2	1.0
31	Round-leaved mallow	1.7	0.1	5.0	< 0.1	0.2	0.2	0.7
32	Broad-leaved plantain	1.7	0.1	5.0	< 0.1	0.3	0.4	0.7
33	Wheat	1.0	0.1	15.0	< 0.1	3.2	3.2	0.7
34	Curled dock	1.4	0.1	7.5	< 0.1	0.3	0.4	0.6
35	Prostrate knotweed	0.5	0.2	45.0	< 0.1	4.2	4.2	0.6
36	Bull thistle	1.4	0.1	5.0	< 0.1	0.3	0.4	0.6
37	Alfalfa	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
38	Prickly rose	0.7	0.1	20.0	< 0.1	2.2	2.2	0.5
39	Wild mustard	1.0	0.1	10.0	< 0.1	0.6	0.6	0.5
40	Japanese brome	0.7	0.1	20.0	< 0.1	1.2	1.2	0.5
41	Black medick	1.0	0.1	5.0	< 0.1	0.2	0.2	0.4
42	Bluebur	0.7	0.1	15.0	< 0.1	1.2	1.2	0.4
43	White cockle	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.4
44	Prickly lettuce	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.4
45	Common burdock	0.7	0.1	10.0	< 0.1	1.4	1.4	0.4
46	Silver sagebrush	0.7	0.1	10.0	< 0.1	0.4	0.4	0.3
47	Rough cinquefoil	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
48	Showy milkweed	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.3
49	Field dock	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	Ball mustard	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.2

Table 18. 2009 irrigated alfalfa in Alberta (89 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	86.0	52.9	61.5	12.5	14.5	98.6	150.5
2	Canada thistle	32.5	5.7	17.6	0.5	1.5	9.4	19.8
3	Lamb's-quarters	20.4	4.9	24.0	0.8	4.1	31.2	16.6
4	Green foxtail	5.2	3.1	58.4	1.5	29.0	84.6	13.0
5	Kochia	15.3	2.3	14.7	0.5	3.3	31.4	10.3
6	Wild buckwheat	8.3	3.9	47.5	0.6	6.9	15.8	10.0
7	Quack grass	14.3	2.1	14.7	0.3	2.3	13.0	8.9
8	Redroot pigweed	9.3	2.8	30.2	0.5	5.6	26.4	8.9
9	Smooth brome	9.6	2.7	28.3	0.5	5.2	30.6	8.8
10	Perennial sow-thistle	10.0	2.3	22.8	0.2	2.2	7.6	7.0
11	Stinkweed	5.3	1.5	28.9	0.5	8.5	28.2	5.8
12	Wild oats	7.8	1.1	13.5	0.2	2.1	7.6	4.7
13	Foxtail barley	8.2	0.9	10.8	0.1	1.0	3.0	4.2
14	Barnyard grass	4.7	1.2	26.1	0.1	2.4	5.2	3.5
15	Field bindweed	4.4	0.7	16.7	0.1	2.6	6.2	2.9
16	Shepherd's-purse	4.8	0.7	14.0	< 0.1	1.0	3.4	2.6
17	Narrow-leaved hawk's-beard	3.2	0.8	26.7	< 0.1	1.5	2.2	2.2
18	Spiny annual sow-thistle	3.6	0.3	9.4	< 0.1	0.5	0.8	1.7
19	Canola (Argentine)	3.4	0.2	7.3	< 0.1	0.3	0.4	1.5
20	Pale smartweed	2.3	0.4	18.6	< 0.1	1.6	2.0	1.4
21	Annual sow-thistle	2.1	0.4	17.5	< 0.1	1.3	2.4	1.3
22	Flixweed	2.6	0.2	8.0	< 0.1	0.3	0.4	1.2
23	Yellow sweet-clover	2.1	0.3	12.5	< 0.1	0.8	1.4	1.1
24	Round-leaved mallow	2.6	0.1	5.0	< 0.1	0.2	0.2	1.1
25	Tartary buckwheat	1.2	0.4	35.0	< 0.1	2.2	2.2	1.0
26	Wheat	1.5	0.2	15.0	< 0.1	3.2	3.2	1.0
27	Curled dock	2.1	0.2	7.5	< 0.1	0.3	0.4	0.9
28	Russian thistle	2.1	0.1	5.0	< 0.1	0.2	0.2	0.9
29	Prostrate knotweed	0.8	0.4	45.0	< 0.1	4.2	4.2	0.9
30	Downy brome	1.1	0.3	25.0	< 0.1	1.2	1.2	0.7
31	Wild mustard	1.5	0.1	10.0	< 0.1	0.6	0.6	0.7
32	Goat's-beard	1.1	0.2	15.0	< 0.1	1.8	1.8	0.6
33	Broad-leaved plantain	1.5	0.1	5.0	< 0.1	0.4	0.4	0.6
34	White cockle	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
35	Prickly lettuce	1.5	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Common burdock	1.1	0.1	10.0	< 0.1	1.4	1.4	0.6
37	Silver sagebrush	1.1	0.1	10.0	< 0.1	0.4	0.4	0.5
38	White clover	1.1	0.1	10.0	< 0.1	0.4	0.4	0.5
39	Showy milkweed	1.1	0.1	5.0	< 0.1	0.4	0.4	0.4
40	Bull thistle	1.1	0.1	5.0	< 0.1	0.4	0.4	0.4

Field Survey Summary Tables – Alberta

Table 19. 2009 irrigated grass hay in Alberta (46 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	67.5	37.6	55.7	9.3	13.8	51.6	141.5
2	Canada thistle	42.4	7.9	18.6	1.0	2.5	26.8	33.8
3	Foxtail barley	19.2	2.9	15.3	0.5	2.7	12.8	14.7
4	Stinkweed	8.1	1.9	23.8	0.6	7.2	27.0	9.6
5	Kochia	16.4	1.2	7.6	0.3	1.5	10.2	9.5
6	Lamb's-quarters	12.0	2.1	17.9	0.1	1.1	2.0	8.3
7	Redroot pigweed	7.6	1.6	21.7	0.3	3.9	11.0	7.1
8	Wild buckwheat	8.7	1.8	20.4	0.1	1.5	3.8	6.6
9	Downy brome	3.6	1.7	48.4	0.4	10.7	18.0	6.3
10	Pasture sage	4.1	2.3	55.0	0.2	5.7	6.8	6.2
11	White sweet-clover	4.1	1.9	45.0	0.2	5.0	8.0	5.5
12	Shepherd's-purse	4.1	1.0	25.0	0.4	8.7	16.6	5.4
13	Flixweed	2.1	2.0	95.0	0.2	11.6	11.6	5.1
14	Annual sow-thistle	6.2	1.0	16.7	< 0.1	0.8	1.6	4.0
15	Smooth brome	4.1	0.9	22.5	0.1	1.6	2.0	3.2
16	Quack grass	4.6	0.5	11.5	< 0.1	0.9	1.0	2.7
17	Narrow-leaved hawk's-beard	4.1	0.4	10.0	0.1	1.7	3.0	2.6
18	Yellow sweet-clover	4.1	0.5	12.5	< 0.1	1.2	2.0	2.6
19	Russian thistle	4.6	0.2	5.0	< 0.1	0.2	0.2	2.1
20	Goat's-beard	4.1	0.3	7.5	< 0.1	0.4	0.4	2.1
21	White clover	4.1	0.3	7.5	< 0.1	0.4	0.6	2.1
22	Alfalfa	4.1	0.2	5.0	< 0.1	0.2	0.2	1.9
23	Wild oats	2.3	0.5	20.0	< 0.1	1.0	1.0	1.7
24	Prickly rose	2.1	0.4	20.0	< 0.1	2.2	2.2	1.6
25	Japanese brome	2.1	0.4	20.0	< 0.1	1.2	1.2	1.5
26	Canola (Argentine)	2.3	0.3	15.0	< 0.1	0.8	0.8	1.5
27	Spiny annual sow-thistle	2.1	0.3	15.0	< 0.1	1.4	1.4	1.4
28	Black medick	3.0	0.2	5.0	< 0.1	0.2	0.2	1.4
29	Bluebur	2.1	0.3	15.0	< 0.1	1.2	1.2	1.4
30	Rough cinquefoil	2.4	0.1	5.0	< 0.1	0.2	0.2	1.1
31	Broad-leaved plantain	2.1	0.1	5.0	< 0.1	0.2	0.2	0.9
32	Bull thistle	2.1	0.1	5.0	< 0.1	0.2	0.2	0.9
33	Barnyard grass	1.6	0.2	10.0	< 0.1	0.6	0.6	0.9
34	Field bindweed	1.5	0.1	5.0	< 0.1	1.8	1.8	0.8
35	Tartary buckwheat	1.5	0.1	5.0	< 0.1	1.6	1.6	0.8
36	Field dock	1.6	0.1	5.0	< 0.1	0.2	0.2	0.7
37	Ball mustard	1.5	0.1	5.0	< 0.1	0.4	0.4	0.7

Table 20. Number of fields surveyed by crop in each ecoregion

	Annual crops									Perennial crops	
	Cereal crops				Broad-leaved annual crops					Alfalfa	Grass hay
	Spring wheat	Barley	Corn	Other	Canola	Potatoes	Sugar beets	Dry beans	Other		
Moist Mixed Grassland	47	56	17	-	18	-	2	1	-	14	13
Fescue Grassland	4	9	-	-	4	-	-	-	-	3	8
Mixed Grassland	104	42	22	2	46	19	15	26	2	72	25
Alberta	155	107	39	2	68	19	17	27	2	89	46

Table 21. Density, species richness and weed-free quadrats in the surveyed crops in each ecoregion

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Fescue Grassland	28	12.6	3.6	4.7	2.9	0.4	46.7	9.4
Annual crops	17	7.2	2.4	1.9	2.5	0.5	60.6	11.9
Cereal crops	13	7.1	2.7	2.6	2.2	0.6	60.4	13.6
Perennial crops	11	23.6	8.2	20.2	3.6	0.7	18.5	11.7
Moist Mixed Grassland	168	17.4	2.5	7.0	3.8	0.2	39.0	3.8
Annual crops	141	17.9	2.9	7.0	4.1	0.2	39.0	4.1
Cereal crops	120	20.3	3.3	8.1	4.2	0.2	36.4	4.4
Spring wheat	47	18.3	3.7	9.7	4.0	0.3	32.7	6.8
Barley	56	23.6	6.1	7.8	4.2	0.3	38.8	6.5
Corn	17	14.5	4.5	4.9	4.9	0.5	38.0	11.8
Broad-leaved annual crops	21	4.6	1.1	3.2	3.6	0.5	53.5	10.9
Canola	18	3.9	0.8	2.7	3.2	0.5	56.1	11.7
Perennial crops	27	14.8	4.0	6.3	2.3	0.3	39.1	9.4
Alfalfa	14	17.6	6.7	5.5	2.2	0.4	34.0	12.7
Grass hay	13	11.8	3.8	4.6	2.5	0.4	44.6	13.8
Mixed Grassland	375	11.0	0.9	3.8	3.2	0.1	51.0	2.6
Annual crops	278	8.5	0.9	3.0	3.3	0.2	56.9	3.0
Cereal crops	170	11.5	1.4	4.4	4.0	0.2	46.4	3.8
Spring wheat	104	10.5	1.7	4.1	4.0	0.3	50.4	4.9
Barley	42	14.7	3.2	5.1	3.7	0.3	39.8	7.6
Corn	22	9.4	2.6	4.4	4.1	0.6	43.4	10.6
Broad-leaved annual crops	108	3.8	0.9	1.0	2.1	0.2	74.0	4.2
Canola	46	5.4	1.8	1.8	2.6	0.3	67.7	6.9
Dry beans	26	1.5	0.5	0.6	1.2	0.2	84.3	7.1
Potatoes	19	1.0	0.2	0.8	1.9	0.3	81.5	8.9
Sugar beets	15	2.9	1.4	0.2	1.9	0.6	76.0	11.0
Perennial crops	97	17.8	2.3	9.5	2.9	0.2	34.3	4.8
Alfalfa	72	20.0	2.9	10.9	3.1	0.3	30.1	5.4
Grass hay	25	11.4	3.0	5.0	2.4	0.3	46.7	10.0

Field Survey Summary Tables – Fescue Grassland Ecoregion

Table 22. 2009 irrigated crops in the Fescue Grassland Ecoregion (28 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	45.2	22.8	50.5	4.5	10.0	35.8	81.6
2	Wild buckwheat	28.0	5.4	19.4	0.6	2.2	8.0	21.8
3	Stinkweed	13.3	4.1	31.0	1.0	7.6	27.0	18.0
4	Canola (Argentine)	5.4	5.4	100.0	1.1	20.8	20.8	17.9
5	Lamb's-quarters	17.2	4.0	23.5	0.3	1.9	4.4	13.8
6	Downy brome	8.7	3.5	39.8	0.6	7.2	18.0	12.5
7	Wild oats	16.2	2.7	16.7	0.4	2.3	6.4	12.2
8	Canada thistle	15.0	3.2	21.3	0.3	2.3	4.2	12.2
9	Barley	3.2	2.4	75.0	0.9	28.0	28.0	11.3
10	Shepherd's-purse	11.8	1.9	15.8	0.5	4.6	16.6	10.9
11	Annual sow-thistle	20.5	2.1	10.4	0.1	0.5	1.6	10.8
12	Field bindweed	11.0	3.0	27.5	0.3	2.9	6.0	10.4
13	Kochia	14.0	2.3	16.6	0.1	1.0	2.2	9.0
14	Chickweed	5.4	2.4	45.0	0.4	8.2	8.2	8.6
15	Flixweed	3.2	3.0	95.0	0.4	11.6	11.6	8.0
16	Hemp-nettle	5.4	2.4	45.0	0.2	4.6	4.6	7.0
17	Foxtail barley	12.4	0.7	5.9	0.1	0.6	1.6	5.9
18	Cleavers	8.6	1.0	11.9	0.1	1.1	2.0	5.1
19	Narrow-leaved hawk's-beard	6.4	0.6	10.0	0.1	1.7	3.0	3.9
20	Stork's-bill	5.4	0.5	10.0	0.1	1.2	1.2	3.1
21	Round-leaved mallow	5.4	0.3	5.0	< 0.1	0.2	0.2	2.3
22	Russian thistle	5.4	0.3	5.0	< 0.1	0.2	0.2	2.3
23	Japanese brome	3.2	0.6	20.0	< 0.1	1.2	1.2	2.2
24	Wild mustard	3.2	0.6	20.0	< 0.1	0.8	0.8	2.1
25	Bluebur	3.2	0.5	15.0	< 0.1	1.2	1.2	2.0
26	Wormseed mustard	3.2	0.2	5.0	< 0.1	0.2	0.2	1.4
27	Quack grass	2.3	0.1	5.0	< 0.1	2.0	2.0	1.3
28	Tartary buckwheat	2.3	0.1	5.0	< 0.1	1.6	1.6	1.3
29	Ball mustard	2.3	0.1	5.0	< 0.1	0.4	0.4	1.0

Field Survey Summary Tables – Fescue Grassland Ecoregion

Table 23. 2009 irrigated annual crops in the Fescue Grassland Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola (Argentine)	8.1	8.1	100.0	1.7	20.8	20.8	41.7
2	Wild buckwheat	37.0	7.6	20.6	0.9	2.3	8.0	40.9
3	Barley	4.7	3.6	75.0	1.3	28.0	28.0	27.1
4	Wild oats	24.2	4.0	16.7	0.6	2.3	6.4	25.0
5	Lamb's-quarters	20.9	5.1	24.3	0.4	1.8	4.4	23.1
6	Chickweed	8.1	3.6	45.0	0.7	8.2	8.2	19.2
7	Field bindweed	12.9	4.3	33.5	0.4	3.3	6.0	19.1
8	Kochia	20.9	3.5	16.6	0.2	1.0	2.2	17.6
9	Dandelion	27.8	2.0	7.1	0.2	0.5	1.4	16.8
10	Hemp-nettle	8.1	3.6	45.0	0.4	4.6	4.6	15.2
11	Cleavers	12.8	1.5	11.9	0.1	1.1	2.0	9.9
12	Annual sow-thistle	16.3	0.8	5.0	< 0.1	0.3	0.4	8.6
13	Stinkweed	4.7	1.9	40.0	0.2	3.8	3.8	8.0
14	Shepherd's-purse	12.8	0.6	5.0	< 0.1	0.2	0.2	6.6
15	Stork's-bill	8.1	0.8	10.0	0.1	1.2	1.2	6.1
16	Wild mustard	4.7	0.9	20.0	< 0.1	0.8	0.8	4.2
17	Round-leaved mallow	8.1	0.4	5.0	< 0.1	0.2	0.2	4.2
18	Russian thistle	8.1	0.4	5.0	< 0.1	0.2	0.2	4.2
19	Wormseed mustard	4.7	0.2	5.0	< 0.1	0.2	0.2	2.5

Table 24. 2009 irrigated cereal crops in the Fescue Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola (Argentine)	11.3	11.3	100.0	2.4	20.8	20.8	58.8
2	Wild buckwheat	40.7	10.2	25.0	1.1	2.7	8.0	52.3
3	Wild oats	22.7	5.1	22.5	0.8	3.4	6.4	30.3
4	Field bindweed	18.2	6.1	33.5	0.6	3.3	6.0	27.5
5	Chickweed	11.3	5.1	45.0	0.9	8.2	8.2	27.4
6	Hemp-nettle	11.3	5.1	45.0	0.5	4.6	4.6	21.7
7	Kochia	18.0	4.3	23.9	0.3	1.5	2.2	19.6
8	Dandelion	21.1	1.5	7.3	0.1	0.5	1.4	13.7
9	Annual sow-thistle	22.9	1.1	5.0	0.1	0.3	0.4	13.3
10	Stinkweed	6.7	2.7	40.0	0.3	3.8	3.8	11.4
11	Round-leaved mallow	11.3	0.6	5.0	< 0.1	0.2	0.2	6.4
12	Wild mustard	6.7	1.3	20.0	0.1	0.8	0.8	6.2
13	Lamb's-quarters	6.7	0.3	5.0	< 0.1	0.2	0.2	3.8
14	Wormseed mustard	6.7	0.3	5.0	< 0.1	0.2	0.2	3.8
15	Shepherd's-purse	6.7	0.3	5.0	< 0.1	0.2	0.2	3.8

Field Survey Summary Tables – Fescue Grassland Ecoregion

Table 25. 2009 irrigated perennial crops in the Fescue Grassland Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	80.7	65.3	80.9	13.5	16.7	35.8	132.2
2	Stinkweed	30.8	8.7	28.1	2.7	8.8	27.0	27.0
3	Canada thistle	45.7	9.7	21.3	1.0	2.3	4.2	25.1
4	Downy brome	26.4	10.5	39.8	1.9	7.2	18.0	23.9
5	Flixweed	9.7	9.2	95.0	1.1	11.6	11.6	14.9
6	Foxtail barley	37.8	2.2	5.9	0.2	0.6	1.6	13.4
7	Annual sow-thistle	29.0	4.8	16.7	0.2	0.8	1.6	13.0
8	Shepherd's-purse	9.7	4.4	45.0	1.6	16.6	16.6	13.0
9	Narrow-leaved hawk's-beard	19.3	1.9	10.0	0.3	1.7	3.0	8.4
10	Lamb's-quarters	9.7	1.9	20.0	0.2	2.0	2.0	5.1
11	Japanese brome	9.7	1.9	20.0	0.1	1.2	1.2	4.8
12	Bluebur	9.7	1.5	15.0	0.1	1.2	1.2	4.4
13	Wild buckwheat	9.7	1.0	10.0	0.1	1.4	1.4	4.1
14	Quack grass	7.0	0.4	5.0	0.1	2.0	2.0	2.9
15	Field bindweed	7.0	0.4	5.0	0.1	1.8	1.8	2.8
16	Tartary buckwheat	7.0	0.4	5.0	0.1	1.6	1.6	2.7
17	Ball mustard	7.0	0.4	5.0	< 0.1	0.4	0.4	2.4

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 26. 2009 irrigated crops in the Moist Mixed Grassland Ecoregion (168 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	39.2	12.4	31.7	3.3	8.5	73.4	42.5
2	Dandelion	37.2	12.3	33.0	2.4	6.4	98.6	36.4
3	Wild buckwheat	45.4	12.3	27.1	1.4	3.1	25.6	33.1
4	Wild oats	31.0	8.8	28.3	1.5	4.9	47.0	26.1
5	Kochia	34.6	6.9	20.1	1.3	3.8	89.6	24.0
6	Canola (Argentine)	20.0	7.7	38.4	1.1	5.7	36.4	19.9
7	Lamb's-quarters	27.4	6.3	22.9	0.7	2.5	34.8	17.8
8	Round-leaved mallow	28.4	5.7	19.9	0.6	2.0	28.6	16.7
9	Chickweed	7.3	1.8	24.7	2.1	28.8	206.0	15.8
10	Canada thistle	21.9	4.4	20.2	0.5	2.3	26.8	13.3
11	Annual sow-thistle	15.1	3.8	25.4	0.5	3.2	27.2	10.8
12	Quack grass	9.9	2.1	21.1	0.5	4.8	28.4	7.5
13	Alfalfa	8.2	1.5	18.4	0.5	6.6	106.2	6.8
14	Shepherd's-purse	7.3	1.4	19.5	0.2	2.2	15.8	4.3
15	Perennial sow-thistle	5.2	0.9	16.7	0.1	2.4	19.6	3.0
16	Prostrate knotweed	4.7	1.0	20.6	0.1	2.1	7.6	2.8
17	Cleavers	3.6	1.1	29.5	0.1	1.7	3.6	2.4
18	Stinkweed	6.0	0.5	8.9	< 0.1	0.5	1.6	2.3
19	Field bindweed	4.1	0.6	16.0	< 0.1	0.9	1.6	1.9
20	Pale smartweed	3.3	0.4	12.6	< 0.1	0.8	2.0	1.5
21	Wheat	1.1	0.6	49.8	0.1	8.8	13.4	1.5
22	Stork's-bill	4.0	0.3	7.9	< 0.1	0.3	0.6	1.4
23	Prickly lettuce	1.8	0.5	26.4	< 0.1	2.3	5.4	1.2
24	Green foxtail	2.4	0.2	8.3	< 0.1	0.6	1.0	0.9
25	Russian thistle	1.4	0.2	17.5	< 0.1	1.8	3.4	0.8
26	Foxtail barley	0.4	0.2	40.0	0.1	15.2	15.2	0.6
27	Spiny annual sow-thistle	0.7	0.2	30.0	< 0.1	6.2	6.2	0.6
28	Barnyard grass	0.9	0.2	17.5	< 0.1	3.4	6.2	0.6
29	Flixweed	1.5	0.1	7.7	< 0.1	0.3	0.4	0.5
30	Corn spurry	1.4	0.1	7.5	< 0.1	0.3	0.4	0.5
31	Barley	0.8	0.2	20.0	< 0.1	1.2	1.2	0.4
32	Wild tomato	0.7	0.1	15.0	< 0.1	1.4	1.4	0.3
33	Downy brome	0.8	0.1	10.0	< 0.1	0.4	0.4	0.3
34	Narrow-leaved hawk's-beard	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.3
35	Oats	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.3
36	Black medick	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
37	Silky lupin	0.4	0.1	20.0	< 0.1	1.0	1.0	0.2
38	Field dock	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
39	Millet	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 27. 2009 irrigated annual crops in the Moist Mixed Grassland Ecoregion (141 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	44.5	14.4	32.3	3.9	8.8	73.4	47.0
2	Wild buckwheat	52.6	14.3	27.2	1.7	3.2	25.6	36.3
3	Wild oats	37.5	10.6	28.3	1.8	4.9	47.0	29.9
4	Kochia	39.2	8.1	20.8	1.5	3.9	89.6	26.2
5	Canola (Argentine)	22.6	9.2	40.5	1.4	6.0	36.4	22.3
6	Round-leaved mallow	33.3	6.8	20.3	0.7	2.1	28.6	18.7
7	Chickweed	8.8	2.2	24.7	2.5	28.8	206.0	18.4
8	Lamb's-quarters	28.9	6.9	23.7	0.8	2.8	34.8	18.3
9	Dandelion	30.7	5.3	17.1	0.4	1.3	13.4	15.0
10	Annual sow-thistle	18.3	4.6	25.4	0.6	3.2	27.2	12.3
11	Canada thistle	19.0	3.9	20.6	0.4	2.0	13.2	10.6
12	Quack grass	10.5	2.4	22.5	0.6	5.3	28.4	8.0
13	Alfalfa	8.5	1.7	20.6	0.6	7.6	106.2	7.4
14	Shepherd's-purse	7.1	1.4	20.1	0.2	2.4	15.8	4.1
15	Perennial sow-thistle	5.3	1.0	18.9	0.1	2.8	19.6	3.1
16	Cleavers	4.4	1.3	29.5	0.1	1.7	3.6	2.8
17	Prostrate knotweed	5.1	0.9	18.0	0.1	1.9	7.6	2.7
18	Field bindweed	4.9	0.8	16.0	< 0.1	0.9	1.6	2.2
19	Stinkweed	5.3	0.5	9.5	< 0.1	0.6	1.6	1.9
20	Wheat	1.4	0.7	49.8	0.1	8.8	13.4	1.7
21	Stork's-bill	4.8	0.4	7.9	< 0.1	0.3	0.6	1.6
22	Prickly lettuce	2.2	0.6	26.4	0.1	2.3	5.4	1.4
23	Pale smartweed	3.5	0.4	10.8	< 0.1	0.7	1.2	1.4
24	Green foxtail	2.9	0.2	8.3	< 0.1	0.6	1.0	1.0
25	Foxtail barley	0.5	0.2	40.0	0.1	15.2	15.2	0.7
26	Spiny annual sow-thistle	0.8	0.2	30.0	< 0.1	6.2	6.2	0.7
27	Russian thistle	0.8	0.3	30.0	< 0.1	3.4	3.4	0.6
28	Corn spurry	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
29	Barley	1.0	0.2	20.0	< 0.1	1.2	1.2	0.5
30	Barnyard grass	0.5	0.1	25.0	< 0.1	6.2	6.2	0.4
31	Wild tomato	0.8	0.1	15.0	< 0.1	1.4	1.4	0.4
32	Downy brome	1.0	0.1	10.0	< 0.1	0.4	0.4	0.4
33	Narrow-leaved hawk's-beard	1.2	0.1	5.0	< 0.1	0.2	0.2	0.4
34	Oats	1.0	< 0.1	5.0	< 0.1	0.4	0.4	0.3
35	Flixweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
36	Silky lupin	0.5	0.1	20.0	< 0.1	1.0	1.0	0.2
37	Millet	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 28. 2009 irrigated cereal crops in the Moist Mixed Grassland Ecoregion (120 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	43.5	16.0	36.8	4.6	10.5	73.4	47.8
2	Wild buckwheat	55.9	16.2	29.0	1.9	3.5	25.6	37.9
3	Wild oats	40.4	11.3	28.0	2.1	5.1	47.0	30.4
4	Kochia	37.8	8.2	21.8	1.7	4.5	89.6	25.1
5	Canola (Argentine)	26.0	10.5	40.5	1.6	6.1	36.4	23.8
6	Round-leaved mallow	35.3	7.8	22.0	0.8	2.3	28.6	19.6
7	Chickweed	9.7	2.5	25.3	3.0	30.6	206.0	19.2
8	Lamb's-quarters	30.6	6.7	22.0	0.8	2.7	34.8	17.7
9	Dandelion	33.8	5.7	16.7	0.5	1.3	13.4	15.5
10	Annual sow-thistle	16.0	4.4	27.4	0.6	3.9	27.2	10.9
11	Canada thistle	17.3	3.8	21.6	0.4	2.2	13.2	9.5
12	Alfalfa	10.0	2.1	20.6	0.8	7.6	106.2	8.0
13	Quack grass	9.7	2.6	26.9	0.6	6.7	28.4	7.9
14	Shepherd's-purse	5.4	1.5	27.5	0.2	3.3	15.8	3.5
15	Perennial sow-thistle	6.2	1.2	18.9	0.2	2.8	19.6	3.4
16	Prostrate knotweed	6.0	1.1	18.0	0.1	1.9	7.6	3.0
17	Field bindweed	5.8	0.9	16.0	0.1	0.9	1.6	2.5
18	Cleavers	3.5	1.1	30.7	0.1	1.8	3.6	2.2
19	Stork's-bill	5.7	0.4	7.9	< 0.1	0.3	0.6	1.8
20	Prickly lettuce	2.6	0.7	26.4	0.1	2.3	5.4	1.6
21	Pale smartweed	4.1	0.4	10.8	< 0.1	0.7	1.2	1.5
22	Stinkweed	4.2	0.4	8.8	< 0.1	0.6	1.6	1.5
23	Green foxtail	2.8	0.3	9.0	< 0.1	0.6	1.0	1.0
24	Foxtail barley	0.6	0.2	40.0	0.1	15.2	15.2	0.8
25	Spiny annual sow-thistle	0.9	0.3	30.0	0.1	6.2	6.2	0.8
26	Barnyard grass	0.6	0.2	25.0	< 0.1	6.2	6.2	0.5
27	Wild tomato	1.0	0.1	15.0	< 0.1	1.4	1.4	0.4
28	Downy brome	1.2	0.1	10.0	< 0.1	0.4	0.4	0.4
29	Narrow-leaved hawk's-beard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
30	Oats	1.2	0.1	5.0	< 0.1	0.4	0.4	0.4
31	Corn spurry	1.0	0.1	10.0	< 0.1	0.4	0.4	0.3
32	Flixweed	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.3
33	Silky lupin	0.6	0.1	20.0	< 0.1	1.0	1.0	0.3

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 29. 2009 irrigated spring wheat in the Moist Mixed Grassland Ecoregion (47 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	56.5	22.2	39.2	2.8	5.0	25.6	49.5
2	Canola (Argentine)	39.8	17.4	43.8	2.9	7.4	36.4	41.7
3	Wild oats	48.5	12.5	25.8	2.5	5.2	47.0	37.2
4	Redroot pigweed	22.2	8.8	39.6	2.8	12.6	73.4	28.7
5	Kochia	35.3	7.5	21.1	1.8	5.1	89.6	25.4
6	Annual sow-thistle	23.8	8.2	34.3	1.4	5.9	27.2	21.0
7	Round-leaved mallow	28.1	7.5	26.7	1.1	3.8	28.6	19.7
8	Canada thistle	26.0	7.0	27.0	0.8	2.9	13.2	17.0
9	Dandelion	38.2	5.1	13.3	0.3	0.8	2.0	15.8
10	Lamb's-quarters	15.5	3.8	24.1	0.3	1.8	7.2	8.8
11	Quack grass	10.8	1.4	12.7	0.4	3.8	22.0	6.1
12	Perennial sow-thistle	4.3	1.8	42.9	0.3	8.1	19.6	4.6
13	Chickweed	9.2	1.0	10.8	0.1	1.0	2.4	3.7
14	Cleavers	5.1	1.9	37.7	0.1	2.1	2.4	3.6
15	Field bindweed	6.9	1.2	17.2	0.1	0.9	1.6	3.1
16	Foxtail barley	1.6	0.6	40.0	0.2	15.2	15.2	2.2
17	Pale smartweed	5.0	0.7	15.0	< 0.1	0.8	1.2	2.1
18	Spiny annual sow-thistle	2.5	0.7	30.0	0.2	6.2	6.2	2.1
19	Prostrate knotweed	4.3	0.7	16.9	< 0.1	0.8	1.2	1.9
20	Alfalfa	4.8	0.3	6.7	< 0.1	0.3	0.4	1.6
21	Downy brome	3.1	0.3	10.0	< 0.1	0.4	0.4	1.1
22	Narrow-leaved hawk's-beard	3.6	0.2	5.0	< 0.1	0.2	0.2	1.1
23	Green foxtail	2.6	0.3	10.0	< 0.1	1.0	1.0	1.0
24	Stork's-bill	2.6	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 30. 2009 irrigated barley in the Moist Mixed Grassland Ecoregion (56 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	48.4	18.2	37.6	5.4	11.1	73.4	51.9
2	Wild oats	43.0	12.8	29.8	2.3	5.3	34.6	32.4
3	Chickweed	8.8	3.9	44.4	6.1	69.3	206.0	31.9
4	Wild buckwheat	54.3	12.2	22.5	1.4	2.6	17.2	30.9
5	Kochia	39.0	9.0	23.1	2.0	5.1	44.0	26.4
6	Lamb's-quarters	41.0	10.0	24.5	1.4	3.5	34.8	25.6
7	Canola (Argentine)	19.7	8.1	40.8	1.0	5.0	19.8	16.7
8	Round-leaved mallow	33.3	4.5	13.4	0.4	1.1	5.0	13.8
9	Dandelion	24.8	4.7	19.0	0.4	1.5	7.0	12.0
10	Alfalfa	10.9	2.8	25.8	1.5	13.7	106.2	11.7
11	Shepherd's-purse	9.2	2.9	31.4	0.4	4.0	15.8	6.6
12	Canada thistle	13.4	2.1	15.6	0.2	1.5	5.0	6.1
13	Quack grass	6.4	2.1	32.2	0.4	6.1	13.0	5.2
14	Prostrate knotweed	9.2	1.7	18.4	0.2	2.2	7.6	4.7
15	Annual sow-thistle	8.8	2.0	22.5	0.1	1.6	4.2	4.6
16	Perennial sow-thistle	9.6	1.0	10.4	0.1	0.9	2.2	3.6
17	Prickly lettuce	5.5	1.4	26.4	0.1	2.3	5.4	3.2
18	Stinkweed	8.8	0.8	8.8	< 0.1	0.6	1.6	3.1
19	Stork's-bill	5.6	0.4	7.3	< 0.1	0.3	0.6	1.8
20	Cleavers	3.4	0.8	22.4	0.1	1.5	3.6	1.8
21	Pale smartweed	4.7	0.3	7.2	< 0.1	0.6	1.0	1.6
22	Barnyard grass	1.3	0.3	25.0	0.1	6.2	6.2	1.0
23	Wild tomato	2.1	0.3	15.0	< 0.1	1.4	1.4	0.9
24	Field bindweed	2.1	0.2	10.0	< 0.1	0.4	0.4	0.7
25	Corn spurry	2.1	0.2	10.0	< 0.1	0.4	0.4	0.7
26	Flixweed	2.1	0.1	5.0	< 0.1	0.2	0.2	0.6
27	Silky lupin	1.2	0.2	20.0	< 0.1	1.0	1.0	0.6

Table 31. 2009 irrigated corn in the Moist Mixed Grassland Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	82.2	27.6	33.5	6.5	7.9	55.8	87.2
2	Round-leaved mallow	60.2	19.3	32.1	1.5	2.5	11.0	40.6
3	Wild buckwheat	59.4	14.1	23.7	1.3	2.2	11.8	33.9
4	Dandelion	51.6	10.1	19.7	1.1	2.2	13.4	27.7
5	Quack grass	17.8	7.6	42.8	2.1	11.9	28.4	25.2
6	Kochia	40.6	7.7	18.9	0.6	1.5	4.8	19.6
7	Lamb's-quarters	35.6	3.6	10.2	0.3	0.8	2.0	12.7
8	Alfalfa	20.3	4.1	20.0	0.3	1.3	3.6	9.8
9	Annual sow-thistle	19.6	2.6	13.3	0.1	0.7	1.4	7.3
10	Wild oats	11.0	3.5	31.6	0.2	1.6	2.8	6.7
11	Field bindweed	14.8	2.6	17.3	0.2	1.1	1.2	6.5
12	Chickweed	13.5	1.4	10.0	0.1	0.4	0.4	4.4
13	Stork's-bill	13.5	1.4	10.0	0.1	0.4	0.6	4.4
14	Green foxtail	12.3	1.0	8.5	0.1	0.4	0.8	3.8
15	Canola (Argentine)	11.0	0.8	6.9	< 0.1	0.3	0.4	3.2
16	Canada thistle	8.0	0.8	10.0	< 0.1	0.4	0.4	2.6
17	Oats	8.0	0.4	5.0	< 0.1	0.4	0.4	2.2
18	Shepherd's-purse	6.8	0.7	10.0	< 0.1	0.4	0.4	2.2

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 32. 2009 irrigated broad-leaved annual crops in the Moist Mixed Grassland Ecoregion (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	47.2	7.7	16.3	0.5	1.0	3.2	35.8
2	Lamb's-quarters	19.3	7.6	39.1	0.6	3.2	7.2	31.2
3	Redroot pigweed	50.3	5.2	10.4	0.3	0.5	1.4	28.0
4	Wild oats	20.8	6.5	31.5	0.5	2.5	4.8	27.7
5	Wheat	9.1	4.6	49.8	0.8	8.8	13.4	27.4
6	Annual sow-thistle	31.0	6.1	19.6	0.4	1.2	4.8	26.2
7	Canada thistle	28.7	4.9	17.0	0.3	1.1	4.6	23.0
8	Wild buckwheat	34.1	3.3	9.8	0.2	0.5	1.6	18.8
9	Dandelion	13.5	3.1	22.9	0.2	1.4	2.6	12.9
10	Cleavers	9.1	2.5	26.9	0.1	1.3	1.8	9.1
11	Round-leaved mallow	22.4	1.1	5.0	< 0.1	0.2	0.2	9.0
12	Shepherd's-purse	16.7	1.1	6.7	0.1	0.7	1.4	8.9
13	Russian thistle	5.6	1.7	30.0	0.2	3.4	3.4	8.4
14	Canola (Argentine)	3.5	1.4	40.0	0.2	4.8	4.8	6.9
15	Quack grass	14.7	0.9	6.2	0.1	0.4	0.6	6.7
16	Stinkweed	11.2	1.2	10.9	0.1	0.6	0.8	6.4
17	Barley	6.7	1.3	20.0	0.1	1.2	1.2	5.7
18	Chickweed	3.5	0.5	15.0	< 0.1	0.6	0.6	2.3
19	Corn spurry	5.6	0.3	5.0	< 0.1	0.2	0.2	2.3
20	Green foxtail	3.5	0.2	5.0	< 0.1	0.6	0.6	1.7
21	Millet	3.5	0.2	5.0	< 0.1	0.2	0.2	1.4

Table 33. 2009 irrigated canola in the Moist Mixed Grassland Ecoregion (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	44.9	8.0	17.8	0.5	1.1	3.2	42.1
2	Wheat	6.3	4.7	75.0	0.8	13.4	13.4	32.4
3	Lamb's-quarters	13.7	6.9	50.2	0.5	3.9	7.2	31.3
4	Redroot pigweed	44.4	5.1	11.4	0.3	0.6	1.4	30.1
5	Canada thistle	32.1	5.5	17.0	0.4	1.1	4.6	29.9
6	Annual sow-thistle	30.8	4.2	13.7	0.2	0.7	1.2	23.1
7	Wild oats	15.3	4.1	27.1	0.3	2.3	3.8	21.6
8	Wild buckwheat	26.3	1.9	7.4	0.1	0.4	0.6	14.6
9	Shepherd's-purse	18.6	1.2	6.7	0.1	0.7	1.4	11.5
10	Russian thistle	6.3	1.9	30.0	0.2	3.4	3.4	11.0
11	Round-leaved mallow	21.2	1.1	5.0	< 0.1	0.2	0.2	9.7
12	Dandelion	11.1	1.7	15.0	0.1	1.0	2.2	9.5
13	Stinkweed	12.5	1.4	10.9	0.1	0.6	0.8	8.3
14	Barley	7.4	1.5	20.0	0.1	1.2	1.2	7.5
15	Cleavers	6.3	1.6	25.0	0.1	1.0	1.0	6.6
16	Quack grass	12.5	0.6	5.0	< 0.1	0.3	0.4	6.0
17	Corn spurry	6.3	0.3	5.0	< 0.1	0.2	0.2	2.9
18	Millet	4.0	0.2	5.0	< 0.1	0.2	0.2	1.8

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 34. 2009 irrigated perennial crops in the Moist Mixed Grassland Ecoregion (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	68.4	46.0	67.3	11.8	17.3	98.6	174.4
2	Canada thistle	35.7	6.8	19.1	1.1	3.1	26.8	32.5
3	Lamb's-quarters	20.2	3.5	17.2	0.2	1.1	4.8	15.1
4	Redroot pigweed	14.0	3.0	21.3	0.5	3.4	11.0	13.4
5	Wild buckwheat	10.6	2.7	25.1	0.3	2.7	9.8	10.3
6	Kochia	12.1	1.1	9.1	0.4	3.0	10.2	9.2
7	Shepherd's-purse	8.4	1.4	17.2	0.1	1.5	3.4	6.5
8	Stinkweed	9.6	0.7	7.5	< 0.1	0.3	0.4	5.3
9	Quack grass	7.4	0.8	11.5	0.1	0.9	1.0	4.8
10	Canola (Argentine)	7.4	0.6	8.3	< 0.1	0.3	0.4	4.2
11	Prostrate knotweed	2.6	1.1	45.0	0.1	4.2	4.2	3.4
12	Alfalfa	6.6	0.3	5.0	< 0.1	0.2	0.2	3.4
13	Flixweed	4.8	0.5	10.0	< 0.1	0.4	0.4	2.9
14	Round-leaved mallow	4.8	0.2	5.0	< 0.1	0.2	0.2	2.5
15	Black medick	4.8	0.2	5.0	< 0.1	0.2	0.2	2.5
16	Perennial sow-thistle	4.8	0.2	5.0	< 0.1	0.2	0.2	2.5
17	Pale smartweed	2.6	0.6	25.0	0.1	2.0	2.0	2.3
18	Russian thistle	4.0	0.2	5.0	< 0.1	0.2	0.2	2.1
19	Barnyard grass	2.6	0.3	10.0	< 0.1	0.6	0.6	1.6
20	Field dock	2.6	0.1	5.0	< 0.1	0.2	0.2	1.3

Table 35. 2009 irrigated alfalfa in the Moist Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	85.8	57.6	67.1	15.9	18.5	98.6	204.0
2	Lamb's-quarters	22.0	3.1	14.0	0.3	1.2	4.8	15.6
3	Wild buckwheat	12.7	4.8	37.4	0.5	4.3	9.8	15.1
4	Canada thistle	14.2	2.1	14.8	0.1	1.0	1.4	10.0
5	Shepherd's-purse	9.8	2.5	25.0	0.2	1.9	3.4	8.8
6	Canola (Argentine)	14.2	1.2	8.3	< 0.1	0.3	0.4	8.3
7	Prostrate knotweed	4.9	2.2	45.0	0.2	4.2	4.2	6.3
8	Redroot pigweed	9.8	1.0	10.0	< 0.1	0.4	0.6	6.0
9	Flixweed	9.2	0.9	10.0	< 0.1	0.4	0.4	5.7
10	Stinkweed	9.2	0.9	10.0	< 0.1	0.4	0.4	5.7
11	Round-leaved mallow	9.2	0.5	5.0	< 0.1	0.2	0.2	5.0
12	Perennial sow-thistle	9.2	0.5	5.0	< 0.1	0.2	0.2	5.0
13	Pale smartweed	4.9	1.2	25.0	0.1	2.0	2.0	4.4

Field Survey Summary Tables – Moist Mixed Grassland Ecoregion

Table 36. 2009 irrigated grass hay in the Moist Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	49.5	33.5	67.6	7.4	15.0	47.0	136.1
2	Canada thistle	58.9	11.9	20.3	2.2	3.7	26.8	60.9
3	Redroot pigweed	18.4	5.1	27.9	0.9	5.1	11.0	23.5
4	Kochia	25.2	2.3	9.1	0.8	3.0	10.2	20.0
5	Lamb's-quarters	18.4	3.9	21.3	0.2	1.0	1.6	15.0
6	Quack grass	15.3	1.8	11.5	0.1	0.9	1.0	10.1
7	Alfalfa	13.7	0.7	5.0	< 0.1	0.2	0.2	6.7
8	Black medick	10.0	0.5	5.0	< 0.1	0.2	0.2	4.9
9	Stinkweed	10.0	0.5	5.0	< 0.1	0.2	0.2	4.9
10	Wild buckwheat	8.4	0.4	5.0	< 0.1	0.2	0.2	4.1
11	Russian thistle	8.4	0.4	5.0	< 0.1	0.2	0.2	4.1
12	Shepherd's-purse	6.8	0.3	5.0	0.1	0.8	0.8	3.7
13	Barnyard grass	5.3	0.5	10.0	< 0.1	0.6	0.6	3.2
14	Field dock	5.3	0.3	5.0	< 0.1	0.2	0.2	2.6

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 37. 2009 irrigated crops in the Mixed Grassland Ecoregion (375 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	35.9	15.5	43.1	3.2	8.9	73.8	62.0
2	Wild buckwheat	34.5	8.2	23.6	0.7	2.1	28.0	29.0
3	Wild oats	30.1	6.4	21.3	1.1	3.6	49.2	28.2
4	Kochia	36.6	5.7	15.5	0.7	1.9	41.6	25.9
5	Lamb's-quarters	24.7	5.5	22.1	0.8	3.3	35.8	22.8
6	Redroot pigweed	16.8	3.3	19.8	0.6	3.8	58.6	15.9
7	Canada thistle	23.7	3.3	14.1	0.3	1.3	10.0	14.8
8	Green foxtail	11.9	3.3	27.9	0.7	5.8	84.6	14.6
9	Canola (Argentine)	10.5	2.6	24.5	0.3	2.7	32.4	9.5
10	Alfalfa	7.1	2.2	30.8	0.4	5.5	36.8	8.9
11	Smooth brome	4.5	1.4	32.0	0.4	7.9	61.6	6.6
12	Stinkweed	6.6	1.1	16.5	0.3	4.5	41.4	6.4
13	Round-leaved mallow	9.1	1.5	16.6	0.1	1.1	5.0	5.9
14	Foxtail barley	6.9	0.9	12.8	0.2	2.2	15.0	4.8
15	Perennial sow-thistle	4.6	1.3	27.6	0.2	3.3	15.6	4.6
16	Wheat	3.6	1.0	27.6	0.2	5.5	30.0	4.3
17	Quack grass	5.9	0.8	14.3	0.1	2.1	13.0	4.2
18	Barnyard grass	3.6	1.0	27.8	0.1	2.9	11.8	3.5
19	Spiny annual sow-thistle	2.6	0.6	24.5	0.1	5.6	57.6	3.1
20	Shepherd's-purse	4.2	0.7	17.2	0.1	1.4	4.2	2.8
21	Pale smartweed	3.2	0.3	10.2	< 0.1	1.0	3.8	1.8
22	Field bindweed	2.7	0.3	11.0	< 0.1	1.3	6.2	1.6
23	Persian darnel	0.9	0.4	45.0	0.1	6.8	15.2	1.4
24	Narrow-leaved hawk's-beard	1.8	0.4	20.0	< 0.1	1.1	2.2	1.2
25	Flixweed	2.8	0.2	6.1	< 0.1	0.3	1.2	1.2
26	Annual sow-thistle	1.9	0.3	15.6	< 0.1	1.0	2.4	1.2
27	Russian thistle	2.4	0.2	6.8	< 0.1	0.4	1.2	1.1
28	Wild mustard	1.0	0.3	27.4	< 0.1	1.9	5.6	0.9
29	Pasture sage	0.5	0.3	55.0	< 0.1	5.7	6.8	0.8
30	White sweet-clover	0.5	0.2	45.0	< 0.1	5.0	8.0	0.7
31	Downy brome	1.2	0.2	13.4	< 0.1	1.0	1.6	0.7
32	Wild tomato	1.3	0.1	7.1	< 0.1	0.8	1.4	0.7
33	Goat's-beard	1.4	0.1	7.8	< 0.1	0.6	1.8	0.7
34	Prickly lettuce	0.9	0.2	21.2	< 0.1	1.4	3.6	0.6
35	Broad-leaved plantain	1.2	0.1	9.2	< 0.1	0.7	2.2	0.6
36	Tartary buckwheat	0.9	0.1	16.7	< 0.1	1.4	2.2	0.6
37	Yellow sweet-clover	1.0	0.1	12.5	< 0.1	1.0	2.0	0.6
38	Barley	0.5	0.2	30.0	< 0.1	4.0	7.4	0.6
39	Stork's-bill	0.9	0.1	13.2	< 0.1	0.8	1.6	0.5
40	White mustard	0.3	0.2	60.0	< 0.1	9.4	9.4	0.5
41	Sunflower species	0.8	0.1	13.3	< 0.1	1.1	1.6	0.5
42	Chickweed	0.8	0.1	11.7	< 0.1	0.7	1.0	0.4
43	White clover	0.8	0.1	8.3	< 0.1	0.4	0.6	0.4
44	Showy milkweed	0.8	0.1	6.7	< 0.1	0.6	0.8	0.4
45	Cow cockle	0.3	0.1	35.0	< 0.1	1.8	1.8	0.3
46	Cleavers	0.5	< 0.1	7.5	< 0.1	0.3	0.4	0.2
47	Curled dock	0.5	< 0.1	7.5	< 0.1	0.3	0.4	0.2
48	Bull thistle	0.5	< 0.1	5.0	< 0.1	0.3	0.4	0.2
49	Prickly rose	0.3	0.1	20.0	< 0.1	2.2	2.2	0.2
50	Prostrate pigweed	0.3	< 0.1	15.0	< 0.1	0.6	0.6	0.2
51	Purslane	0.3	< 0.1	15.0	< 0.1	1.4	1.4	0.2
52	Common groundsel	0.3	< 0.1	15.0	< 0.1	0.8	0.8	0.2

(Table continued on next page)

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 37. 2009 irrigated crops in the Mixed Grassland Ecoregion (375 fields) (*continued*)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Common burdock	0.3	< 0.1	10.0	< 0.1	1.4	1.4	0.1
54	White cockle	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
55	Timothy	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.1
56	Silver sagebrush	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
57	Rough cinquefoil	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
58	Ball mustard	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
59	Japanese brome	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
60	Corn	0.2	< 0.1	10.0	< 0.1	0.4	0.4	0.1

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 38. 2009 irrigated annual crops in the Mixed Grassland Ecoregion (278 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	37.8	8.3	21.9	1.4	3.7	49.2	40.4
2	Wild buckwheat	44.0	9.8	22.2	0.8	1.9	28.0	38.0
3	Kochia	43.1	6.8	15.9	0.8	1.8	41.6	32.8
4	Lamb's-quarters	27.3	5.9	21.6	0.8	3.1	35.8	27.0
5	Redroot pigweed	20.0	3.6	18.2	0.7	3.5	58.6	19.9
6	Dandelion	19.3	4.6	23.8	0.4	2.2	13.0	17.8
7	Green foxtail	14.4	3.5	24.3	0.4	3.0	28.8	14.8
8	Alfalfa	9.6	3.0	30.8	0.5	5.5	36.8	13.8
9	Canola (Argentine)	13.4	3.4	25.3	0.4	2.8	32.4	13.7
10	Canada thistle	19.7	2.4	12.2	0.2	1.1	10.0	12.3
11	Round-leaved mallow	12.0	2.0	16.9	0.1	1.1	5.0	8.3
12	Stinkweed	8.0	1.1	13.1	0.3	3.3	41.4	7.1
13	Wheat	4.3	1.3	29.0	0.3	5.8	30.0	6.2
14	Smooth brome	2.2	0.9	40.1	0.3	13.6	61.6	5.6
15	Perennial sow-thistle	3.4	1.0	28.8	0.1	3.9	15.6	4.1
16	Spiny annual sow-thistle	2.0	0.7	34.7	0.2	9.2	57.6	3.9
17	Barnyard grass	3.3	0.9	28.6	0.1	3.2	11.8	3.7
18	Shepherd's-purse	4.6	0.9	19.2	0.1	1.6	4.2	3.6
19	Foxtail barley	4.8	0.5	10.2	0.1	2.2	15.0	3.4
20	Quack grass	3.6	0.5	13.2	0.1	1.9	7.4	2.6
21	Pale smartweed	3.8	0.4	9.6	< 0.1	1.0	3.8	2.2
22	Persian darnel	1.2	0.5	45.0	0.1	6.8	15.2	2.1
23	Flixweed	3.5	0.2	6.3	< 0.1	0.4	1.2	1.5
24	Annual sow-thistle	1.9	0.3	15.0	< 0.1	0.9	2.2	1.2
25	Russian thistle	2.2	0.2	7.7	< 0.1	0.4	1.2	1.0
26	Field bindweed	2.2	0.2	7.3	< 0.1	0.5	1.6	1.0
27	Wild mustard	0.9	0.3	36.8	< 0.1	2.7	5.6	1.0
28	Downy brome	1.6	0.2	13.4	< 0.1	1.0	1.6	1.0
29	Wild tomato	1.8	0.1	7.1	< 0.1	0.8	1.4	0.9
30	Narrow-leaved hawk's-beard	1.4	0.2	15.0	< 0.1	0.9	1.6	0.9
31	Barley	0.7	0.2	30.0	< 0.1	4.0	7.4	0.9
32	White mustard	0.3	0.2	60.0	< 0.1	9.4	9.4	0.8
33	Stork's-bill	1.3	0.2	13.2	< 0.1	0.8	1.6	0.7
34	Prickly lettuce	0.7	0.2	32.5	< 0.1	2.2	3.6	0.7
35	Sunflower species	1.0	0.1	13.3	< 0.1	1.1	1.6	0.7
36	Chickweed	1.0	0.1	11.7	< 0.1	0.7	1.0	0.6
37	Broad-leaved plantain	0.8	0.1	13.4	< 0.1	1.2	2.2	0.5
38	Tartary buckwheat	0.8	0.1	7.5	< 0.1	1.0	1.4	0.4
39	Cow cockle	0.4	0.1	35.0	< 0.1	1.8	1.8	0.4
40	Showy milkweed	0.7	0.1	7.5	< 0.1	0.7	0.8	0.3
41	Goat's-beard	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
42	Cleavers	0.7	0.1	7.5	< 0.1	0.3	0.4	0.3
43	Purslane	0.3	0.1	15.0	< 0.1	1.4	1.4	0.2
44	Prostrate pigweed	0.4	0.1	15.0	< 0.1	0.6	0.6	0.2
45	Common groundsel	0.3	0.1	15.0	< 0.1	0.8	0.8	0.2
46	Timothy	0.3	< 0.1	10.0	< 0.1	0.6	0.6	0.2
47	Ball mustard	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Japanese brome	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
49	Corn	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 39. 2009 irrigated cereal crops in the Mixed Grassland Ecoregion (170 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	47.5	10.5	22.1	1.8	3.9	49.2	40.5
2	Wild buckwheat	52.0	12.6	24.2	1.2	2.3	28.0	38.3
3	Kochia	48.7	8.8	18.0	1.1	2.2	41.6	32.0
4	Lamb's-quarters	34.1	8.1	23.8	1.3	3.7	35.8	29.2
5	Redroot pigweed	23.9	4.4	18.5	1.0	4.2	58.6	19.9
6	Dandelion	24.3	6.4	26.2	0.6	2.5	13.0	19.0
7	Canola (Argentine)	18.4	5.1	27.7	0.6	3.3	32.4	15.9
8	Alfalfa	13.4	4.3	32.2	0.8	6.3	36.8	15.8
9	Green foxtail	19.3	4.5	23.3	0.6	2.9	28.8	15.1
10	Canada thistle	26.5	3.4	13.0	0.3	1.1	10.0	13.3
11	Stinkweed	11.2	1.6	14.4	0.4	3.7	41.4	8.4
12	Round-leaved mallow	13.2	1.9	14.5	0.1	0.9	3.4	6.6
13	Wheat	3.1	1.3	43.1	0.3	10.1	30.0	5.0
14	Shepherd's-purse	7.4	1.4	19.2	0.1	1.6	4.2	4.6
15	Perennial sow-thistle	4.2	1.4	33.0	0.2	4.8	15.6	4.5
16	Spiny annual sow-thistle	2.7	1.0	38.3	0.3	11.1	57.6	4.5
17	Foxtail barley	5.3	0.6	12.0	0.2	3.0	15.0	3.5
18	Pale smartweed	5.6	0.5	9.5	0.1	1.1	3.8	2.6
19	Quack grass	3.5	0.5	13.7	0.1	2.4	7.4	2.2
20	Persian darnel	1.3	0.7	52.5	0.1	7.7	15.2	2.0
21	Flixweed	4.5	0.3	6.6	< 0.1	0.4	1.2	1.6
22	Annual sow-thistle	3.1	0.5	15.0	< 0.1	0.9	2.2	1.6
23	Smooth brome	2.3	0.5	20.6	< 0.1	1.7	3.2	1.5
24	Wild mustard	1.4	0.5	36.8	< 0.1	2.7	5.6	1.3
25	Russian thistle	3.0	0.2	8.3	< 0.1	0.5	1.2	1.2
26	Narrow-leaved hawk's-beard	2.2	0.3	15.0	< 0.1	0.9	1.6	1.1
27	Field bindweed	3.0	0.2	5.9	< 0.1	0.3	0.4	1.0
28	White mustard	0.6	0.3	60.0	0.1	9.4	9.4	1.0
29	Prickly lettuce	1.1	0.4	32.5	< 0.1	2.2	3.6	0.9
30	Stork's-bill	1.5	0.2	14.4	< 0.1	0.9	1.6	0.7
31	Broad-leaved plantain	1.3	0.2	13.4	< 0.1	1.2	2.2	0.7
32	Barnyard grass	1.8	0.1	6.6	< 0.1	0.3	0.4	0.6
33	Tartary buckwheat	1.3	0.1	7.5	< 0.1	1.0	1.4	0.6
34	Downy brome	1.3	0.1	9.9	< 0.1	0.5	0.6	0.5
35	Cow cockle	0.6	0.2	35.0	< 0.1	1.8	1.8	0.5
36	Wild tomato	1.3	0.1	7.5	< 0.1	0.8	1.2	0.5
37	Chickweed	1.1	0.1	7.5	< 0.1	0.5	0.8	0.4
38	Barley	0.6	0.1	15.0	< 0.1	0.6	0.6	0.3
39	Goat's-beard	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
40	Sunflower species	0.6	0.1	10.0	< 0.1	0.8	0.8	0.2
41	Timothy	0.6	0.1	10.0	< 0.1	0.6	0.6	0.2
42	Showy milkweed	0.6	< 0.1	5.0	< 0.1	0.6	0.6	0.2
43	Cleavers	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 40. 2009 irrigated spring wheat in the Mixed Grassland Ecoregion (104 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	53.3	9.7	18.2	1.8	3.4	49.2	43.3
2	Wild buckwheat	48.9	12.0	24.6	1.3	2.7	28.0	40.4
3	Kochia	50.3	8.8	17.5	1.2	2.3	41.6	35.1
4	Lamb's-quarters	33.0	6.3	19.2	0.8	2.5	19.8	24.4
5	Alfalfa	14.1	4.9	34.5	1.1	7.6	36.8	20.1
6	Dandelion	23.2	6.5	27.8	0.6	2.6	11.0	19.9
7	Canola (Argentine)	18.4	4.7	25.6	0.7	3.9	32.4	17.7
8	Green foxtail	19.3	4.5	23.3	0.4	2.1	6.4	14.5
9	Canada thistle	27.7	3.6	13.0	0.2	0.8	2.4	13.6
10	Stinkweed	12.0	1.6	12.9	0.6	5.1	41.4	10.8
11	Redroot pigweed	19.9	2.0	9.9	0.2	1.1	7.2	9.6
12	Round-leaved mallow	14.6	2.2	15.4	0.2	1.1	3.4	8.0
13	Spiny annual sow-thistle	3.5	1.5	43.1	0.5	13.7	57.6	7.3
14	Foxtail barley	6.6	0.8	12.7	0.2	3.7	15.0	5.0
15	Perennial sow-thistle	3.9	1.2	30.3	0.2	4.2	14.2	4.1
16	Shepherd's-purse	6.4	0.8	11.9	0.1	1.0	3.0	3.2
17	Flixweed	6.3	0.4	6.8	< 0.1	0.4	1.2	2.4
18	Pale smartweed	5.1	0.5	9.2	< 0.1	0.9	2.0	2.3
19	Smooth brome	1.8	0.6	35.0	0.1	2.8	3.2	1.8
20	Russian thistle	3.9	0.4	9.0	< 0.1	0.6	1.2	1.7
21	Prickly lettuce	1.8	0.6	32.5	< 0.1	2.2	3.6	1.6
22	Annual sow-thistle	2.9	0.5	16.2	< 0.1	0.8	1.4	1.5
23	Field bindweed	4.0	0.2	5.0	< 0.1	0.2	0.4	1.4
24	Narrow-leaved hawk's-beard	2.8	0.3	11.7	< 0.1	0.7	1.2	1.3
25	Stork's-bill	2.4	0.3	14.4	< 0.1	0.9	1.6	1.2
26	Broad-leaved plantain	2.2	0.3	13.4	< 0.1	1.2	2.2	1.2
27	Cow cockle	1.0	0.4	35.0	< 0.1	1.8	1.8	0.9
28	Wild tomato	2.1	0.2	7.5	< 0.1	0.8	1.2	0.9
29	Quack grass	1.8	0.2	10.0	< 0.1	0.8	1.4	0.8
30	Chickweed	1.8	0.1	7.5	< 0.1	0.5	0.8	0.7
31	Downy brome	1.0	0.2	15.0	< 0.1	0.6	0.6	0.5
32	Goat's-beard	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
33	Wild mustard	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4
34	Timothy	0.9	0.1	10.0	< 0.1	0.6	0.6	0.4
35	Barnyard grass	0.9	0.1	10.0	< 0.1	0.4	0.4	0.4
36	Persian darnel	1.1	0.1	5.0	< 0.1	0.2	0.2	0.4
37	Showy milkweed	0.9	< 0.1	5.0	< 0.1	0.6	0.6	0.3
38	Cleavers	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 41. 2009 irrigated barley in the Mixed Grassland Ecoregion (42 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	55.7	16.5	29.7	2.8	5.0	32.6	51.6
2	Redroot pigweed	25.7	8.3	32.4	3.1	12.0	58.6	36.8
3	Lamb's-quarters	29.4	10.6	36.1	2.4	8.1	35.8	35.5
4	Kochia	48.3	11.1	23.0	1.3	2.8	14.6	34.1
5	Wild buckwheat	51.0	12.1	23.7	0.8	1.6	5.2	32.1
6	Green foxtail	24.9	5.2	20.8	0.9	3.4	28.8	18.1
7	Canada thistle	28.0	3.4	12.3	0.5	1.9	10.0	14.8
8	Dandelion	21.8	3.7	17.0	0.4	1.6	7.4	12.2
9	Alfalfa	9.8	3.1	31.8	0.5	5.4	19.2	9.6
10	Perennial sow-thistle	7.4	2.7	36.4	0.4	5.7	15.6	7.8
11	Stinkweed	10.9	2.4	22.4	0.2	1.8	2.8	6.9
12	Persian darnel	2.6	2.6	100.0	0.4	15.2	15.2	6.2
13	Quack grass	7.0	1.2	17.3	0.3	3.8	7.4	5.0
14	Pale smartweed	7.6	0.9	11.5	0.1	1.6	3.8	3.8
15	Wild mustard	2.6	1.9	75.0	0.1	5.6	5.6	3.8
16	White mustard	2.2	1.3	60.0	0.2	9.4	9.4	3.5
17	Canola (Argentine)	4.5	1.3	30.0	0.1	2.1	2.2	3.3
18	Round-leaved mallow	7.6	0.8	10.6	< 0.1	0.5	0.6	3.2
19	Shepherd's-purse	4.5	1.2	27.5	0.1	1.8	3.0	3.1
20	Tartary buckwheat	5.2	0.4	7.5	0.1	1.0	1.4	2.2
21	Foxtail barley	2.6	0.4	15.0	< 0.1	1.2	1.2	1.3
22	Annual sow-thistle	3.1	0.2	5.0	< 0.1	0.2	0.2	1.0
23	Sunflower species	2.2	0.2	10.0	< 0.1	0.8	0.8	1.0
24	Smooth brome	2.6	0.1	5.0	< 0.1	0.4	0.4	0.9
25	Barnyard grass	2.6	0.1	5.0	< 0.1	0.4	0.4	0.9
26	Wheat	2.2	0.1	5.0	< 0.1	0.4	0.4	0.8
27	Russian thistle	2.2	0.1	5.0	< 0.1	0.2	0.2	0.7

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 42. 2009 irrigated corn in the Mixed Grassland Ecoregion (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	68.8	17.3	25.1	1.3	1.9	8.2	49.8
2	Wheat	19.3	9.9	51.6	2.4	12.3	30.0	40.8
3	Canola (Argentine)	46.6	14.4	31.0	1.0	2.2	6.0	38.1
4	Lamb's-quarters	42.4	8.6	20.3	1.0	2.3	12.2	30.2
5	Redroot pigweed	37.0	7.8	21.1	0.7	1.8	7.6	24.6
6	Dandelion	27.7	6.4	23.1	0.6	2.0	8.4	19.8
7	Kochia	37.6	3.6	9.5	0.2	0.5	0.8	15.3
8	Green foxtail	10.3	3.5	34.1	0.8	7.6	13.0	14.7
9	Alfalfa	17.9	4.4	24.4	0.4	2.4	9.0	13.8
10	Shepherd's-purse	10.0	3.7	37.5	0.4	3.8	4.2	10.6
11	Wild oats	9.1	3.7	40.3	0.3	3.4	7.0	9.6
12	Round-leaved mallow	18.4	2.6	13.9	0.1	0.7	1.2	8.7
13	Canada thistle	16.0	1.8	11.3	0.1	0.6	1.0	6.9
14	Stinkweed	9.3	0.5	5.0	< 0.1	0.2	0.2	3.0
15	Quack grass	5.0	0.5	10.0	0.1	1.2	1.2	2.4
16	Barley	4.3	0.6	15.0	< 0.1	0.6	0.6	2.0
17	Field bindweed	4.3	0.4	10.0	< 0.1	0.4	0.4	1.7
18	Downy brome	5.0	0.2	5.0	< 0.1	0.4	0.4	1.7
19	Foxtail barley	5.0	0.2	5.0	< 0.1	0.2	0.2	1.6
20	Flixweed	5.0	0.2	5.0	< 0.1	0.2	0.2	1.6
21	Pale smartweed	5.0	0.2	5.0	< 0.1	0.2	0.2	1.6
22	Barnyard grass	4.3	0.2	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 43. 2009 irrigated broad-leaved annual crops in the Mixed Grassland Ecoregion (108 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	21.9	4.6	21.1	0.6	3.0	24.2	40.5
2	Wild buckwheat	31.0	5.2	16.6	0.3	0.9	5.0	36.0
3	Kochia	34.0	3.7	10.9	0.3	0.9	13.6	34.8
4	Smooth brome	2.1	1.6	75.0	0.7	34.9	61.6	24.8
5	Redroot pigweed	13.6	2.4	17.7	0.2	1.7	13.4	19.2
6	Lamb's-quarters	16.2	2.3	14.0	0.1	0.8	3.8	17.4
7	Barnyard grass	5.8	2.3	39.4	0.3	4.6	11.8	16.1
8	Round-leaved mallow	10.1	2.2	22.0	0.2	1.5	5.0	15.1
9	Green foxtail	6.3	1.9	29.3	0.2	3.5	15.8	14.1
10	Dandelion	11.1	1.7	15.6	0.1	0.9	4.4	12.8
11	Wheat	6.4	1.2	18.1	0.2	2.4	8.0	10.3
12	Canada thistle	8.8	0.7	8.5	0.1	1.2	7.0	9.1
13	Canola (Argentine)	5.4	0.7	12.5	< 0.1	0.5	1.0	5.2
14	Alfalfa	3.6	0.8	22.5	< 0.1	1.2	2.4	5.1
15	Quack grass	3.6	0.5	12.5	< 0.1	1.1	1.6	4.0
16	Barley	0.9	0.4	45.0	0.1	7.4	7.4	3.3
17	Foxtail barley	3.9	0.2	6.3	< 0.1	0.4	1.0	3.0
18	Downy brome	2.2	0.4	16.6	< 0.1	1.4	1.6	2.8
19	Persian darnel	1.0	0.3	30.0	0.1	5.0	5.0	2.8
20	Wild tomato	2.7	0.2	6.9	< 0.1	0.8	1.4	2.4
21	Perennial sow-thistle	2.1	0.3	15.0	< 0.1	0.8	0.8	2.3
22	Sunflower species	1.8	0.3	15.0	< 0.1	1.3	1.6	2.2
23	Stinkweed	2.8	0.1	5.0	< 0.1	0.2	0.2	1.9
24	Spiny annual sow-thistle	1.0	0.2	20.0	< 0.1	1.2	1.2	1.4
25	Flixweed	1.8	0.1	5.0	< 0.1	0.2	0.2	1.2
26	Field bindweed	0.9	0.1	15.0	< 0.1	1.6	1.6	1.2
27	Chickweed	0.9	0.2	20.0	< 0.1	1.0	1.0	1.2
28	Purslane	0.9	0.1	15.0	< 0.1	1.4	1.4	1.1
29	Prostrate pigweed	1.0	0.2	15.0	< 0.1	0.6	0.6	1.1
30	Common groundsel	0.9	0.1	15.0	< 0.1	0.8	0.8	1.0
31	Showy milkweed	0.9	0.1	10.0	< 0.1	0.8	0.8	0.9
32	Stork's-bill	0.9	0.1	10.0	< 0.1	0.6	0.6	0.8
33	Cleavers	0.9	0.1	10.0	< 0.1	0.4	0.4	0.8
34	Pale smartweed	0.9	0.1	10.0	< 0.1	0.4	0.4	0.8
35	Ball mustard	1.0	0.1	5.0	< 0.1	0.2	0.2	0.7
36	Russian thistle	1.0	0.1	5.0	< 0.1	0.2	0.2	0.7
37	Corn	0.7	0.1	10.0	< 0.1	0.4	0.4	0.6
38	Japanese brome	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.6
39	Goat's-beard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.6

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 44. 2009 irrigated canola in the Mixed Grassland Ecoregion (46 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	30.8	6.8	22.0	1.2	4.0	24.2	48.9
2	Wild buckwheat	43.7	8.9	20.4	0.5	1.1	5.0	44.8
3	Smooth brome	4.8	3.6	75.0	1.7	34.9	61.6	40.5
4	Kochia	45.5	5.3	11.7	0.3	0.6	2.0	33.5
5	Dandelion	16.9	3.3	19.8	0.2	1.2	4.4	17.5
6	Green foxtail	10.4	2.9	28.0	0.4	3.6	15.8	17.2
7	Lamb's-quarters	19.2	2.5	12.8	0.1	0.6	2.6	14.8
8	Round-leaved mallow	12.2	2.6	21.2	0.2	1.4	2.4	13.5
9	Barnyard grass	5.0	1.6	32.2	0.3	5.1	11.8	10.0
10	Redroot pigweed	14.5	1.2	8.6	0.1	0.5	1.2	9.4
11	Quack grass	6.2	0.9	15.0	0.1	1.3	1.6	5.9
12	Barley	2.1	0.9	45.0	0.2	7.4	7.4	5.6
13	Wheat	6.6	0.6	9.7	0.1	1.0	2.0	5.1
14	Canada thistle	8.6	0.5	6.2	< 0.1	0.3	0.4	4.9
15	Perennial sow-thistle	4.8	0.7	15.0	< 0.1	0.8	0.8	4.1
16	Downy brome	2.9	0.7	25.0	< 0.1	1.6	1.6	3.5
17	Wild tomato	4.7	0.4	7.5	< 0.1	1.0	1.4	3.4
18	Spiny annual sow-thistle	2.4	0.5	20.0	< 0.1	1.2	1.2	2.5
19	Foxtail barley	4.1	0.2	5.0	< 0.1	0.6	1.0	2.5
20	Sunflower species	2.1	0.4	20.0	< 0.1	1.6	1.6	2.3
21	Chickweed	2.1	0.4	20.0	< 0.1	1.0	1.0	2.1
22	Alfalfa	2.1	0.4	20.0	< 0.1	0.8	0.8	2.0
23	Ball mustard	2.4	0.1	5.0	< 0.1	0.2	0.2	1.3
24	Stinkweed	2.3	0.1	5.0	< 0.1	0.2	0.2	1.2
25	Russian thistle	2.3	0.1	5.0	< 0.1	0.2	0.2	1.2
26	Japanese brome	2.1	0.1	5.0	< 0.1	0.2	0.2	1.1
27	Flixweed	2.1	0.1	5.0	< 0.1	0.2	0.2	1.1

Table 45. 2009 irrigated dry beans in the Mixed Grassland Ecoregion (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	27.7	3.2	11.4	0.2	0.7	1.2	56.3
2	Wild oats	23.5	3.0	12.8	0.1	0.6	1.2	47.8
3	Canada thistle	10.4	1.2	11.8	0.4	3.5	7.0	41.3
4	Wheat	3.7	1.3	35.0	0.3	8.0	8.0	31.7
5	Wild buckwheat	20.2	1.6	8.1	0.1	0.3	0.8	31.3
6	Barnyard grass	3.7	1.9	50.0	0.1	3.2	3.2	22.8
7	Round-leaved mallow	4.2	0.8	20.0	< 0.1	1.0	1.0	11.6
8	Field bindweed	3.7	0.6	15.0	0.1	1.6	1.6	10.7
9	Prostrate pigweed	4.2	0.6	15.0	< 0.1	0.6	0.6	9.1
10	Dandelion	3.7	0.6	15.0	< 0.1	0.8	0.8	8.6
11	Redroot pigweed	3.7	0.6	15.0	< 0.1	0.8	0.8	8.6
12	Sunflower species	3.7	0.4	10.0	< 0.1	1.0	1.0	8.0
13	Showy milkweed	3.7	0.4	10.0	< 0.1	0.8	0.8	7.5
14	Canola (Argentine)	3.7	0.2	5.0	< 0.1	0.2	0.2	4.8

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 46. 2009 irrigated potatoes in the Mixed Grassland Ecoregion (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	30.8	2.8	9.2	0.1	0.4	0.8	43.6
2	Wild buckwheat	25.4	2.9	11.3	0.1	0.5	1.4	40.6
3	Kochia	27.8	1.7	6.0	0.1	0.2	0.4	29.4
4	Canola (Argentine)	10.8	1.9	17.5	0.1	0.8	1.0	23.8
5	Wheat	5.4	1.1	20.0	0.1	2.0	2.0	18.8
6	Round-leaved mallow	10.8	1.1	10.0	0.1	0.7	0.8	18.5
7	Redroot pigweed	16.3	0.8	5.0	< 0.1	0.2	0.2	15.7
8	Purslane	5.4	0.8	15.0	0.1	1.4	1.4	14.3
9	Canada thistle	9.6	1.0	10.6	< 0.1	0.4	0.6	14.2
10	Barnyard grass	5.4	0.8	15.0	0.1	1.2	1.2	13.3
11	Common groundsel	5.4	0.8	15.0	< 0.1	0.8	0.8	11.2
12	Downy brome	5.4	0.3	5.0	0.1	1.2	1.2	10.4
13	Wild oats	5.4	0.8	15.0	< 0.1	0.6	0.6	10.2
14	Alfalfa	5.4	0.8	15.0	< 0.1	0.6	0.6	10.2
15	Corn	4.2	0.4	10.0	< 0.1	0.4	0.4	6.0
16	Dandelion	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
17	Flixweed	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
18	Goat's-beard	5.4	0.3	5.0	< 0.1	0.2	0.2	5.2
19	Wild tomato	4.2	0.2	5.0	< 0.1	0.2	0.2	4.1

Table 47. 2009 irrigated sugar beets in the Mixed Grassland Ecoregion (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	13.3	7.3	55.0	0.9	6.4	7.8	55.9
2	Redroot pigweed	20.0	6.7	33.3	0.5	2.5	5.0	45.2
3	Lamb's-quarters	20.0	5.3	26.7	0.4	2.0	3.8	38.5
4	Round-leaved mallow	14.2	5.2	36.8	0.4	2.9	5.0	35.4
5	Alfalfa	13.3	3.7	27.5	0.2	1.6	2.4	24.1
6	Wild buckwheat	20.8	2.9	13.8	0.1	0.6	1.0	23.1
7	Canola (Argentine)	20.0	2.3	11.7	0.1	0.5	0.6	20.0
8	Wheat	5.2	1.3	25.0	0.1	2.4	2.4	10.5
9	Kochia	13.3	0.7	5.0	< 0.1	0.2	0.2	9.8
10	Foxtail barley	7.5	0.8	10.0	< 0.1	0.4	0.4	7.0
11	Pale smartweed	6.7	0.7	10.0	< 0.1	0.4	0.4	6.2
12	Dandelion	6.7	0.3	5.0	< 0.1	0.2	0.2	4.9
13	Green foxtail	6.7	0.3	5.0	< 0.1	0.2	0.2	4.9
14	Quack grass	6.7	0.3	5.0	< 0.1	0.2	0.2	4.9
15	Stinkweed	6.7	0.3	5.0	< 0.1	0.2	0.2	4.9
16	Canada thistle	6.7	0.3	5.0	< 0.1	0.2	0.2	4.9

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 48. 2009 irrigated perennial crops in the Mixed Grassland Ecoregion (97 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	83.0	46.4	55.9	11.0	13.3	73.8	143.3
2	Canada thistle	34.9	6.0	17.2	0.5	1.5	9.4	21.7
3	Lamb's-quarters	17.5	4.3	24.6	0.7	4.2	31.2	15.1
4	Green foxtail	4.8	2.8	58.4	1.4	29.0	84.6	12.8
5	Kochia	18.3	2.3	12.8	0.5	2.6	31.4	11.7
6	Smooth brome	10.8	2.9	27.3	0.5	4.6	30.6	9.8
7	Wild buckwheat	7.6	3.6	46.8	0.5	6.4	15.8	9.4
8	Foxtail barley	12.9	2.0	15.4	0.3	2.3	12.8	8.4
9	Redroot pigweed	8.0	2.5	31.0	0.5	6.0	26.4	8.3
10	Quack grass	12.5	1.9	15.2	0.3	2.3	13.0	8.1
11	Perennial sow-thistle	7.8	2.0	26.1	0.2	2.5	7.6	6.1
12	Wild oats	8.3	1.2	14.4	0.2	2.0	7.6	5.2
13	Stinkweed	2.7	1.2	45.0	0.4	15.0	28.2	4.6
14	Barnyard grass	4.3	1.1	26.1	0.1	2.4	5.2	3.3
15	Field bindweed	4.1	0.7	16.7	0.1	2.6	6.2	2.8
16	Pasture sage	2.0	1.1	55.0	0.1	5.7	6.8	2.5
17	White sweet-clover	2.0	0.9	45.0	0.1	5.0	8.0	2.2
18	Spiny annual sow-thistle	4.3	0.5	10.7	< 0.1	0.7	1.4	2.2
19	Narrow-leaved hawk's-beard	2.9	0.8	26.7	< 0.1	1.5	2.2	2.1
20	Yellow sweet-clover	3.9	0.5	12.5	< 0.1	1.0	2.0	2.1
21	Goat's-beard	2.9	0.3	10.0	< 0.1	0.9	1.8	1.5
22	Shepherd's-purse	2.9	0.2	8.3	< 0.1	0.5	0.8	1.4
23	White clover	2.9	0.2	8.3	< 0.1	0.4	0.6	1.4
24	Russian thistle	2.9	0.1	5.0	< 0.1	0.2	0.2	1.2
25	Annual sow-thistle	2.0	0.3	17.5	< 0.1	1.3	2.4	1.2
26	Canola (Argentine)	2.1	0.2	10.3	< 0.1	0.5	0.8	1.0
27	Tartary buckwheat	1.1	0.4	35.0	< 0.1	2.2	2.2	1.0
28	Broad-leaved plantain	2.3	0.1	5.0	< 0.1	0.3	0.4	1.0
29	Wheat	1.4	0.2	15.0	< 0.1	3.2	3.2	0.9
30	Curled dock	2.0	0.1	7.5	< 0.1	0.3	0.4	0.9
31	Bull thistle	2.0	0.1	5.0	< 0.1	0.3	0.4	0.8
32	Pale smartweed	1.4	0.2	15.0	< 0.1	1.4	1.4	0.8
33	Prickly rose	1.0	0.2	20.0	< 0.1	2.2	2.2	0.7
34	Wild mustard	1.4	0.1	10.0	< 0.1	0.6	0.6	0.7
35	White cockle	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Prickly lettuce	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Common burdock	1.0	0.1	10.0	< 0.1	1.4	1.4	0.5
38	Silver sagebrush	1.0	0.1	10.0	< 0.1	0.4	0.4	0.5
39	Rough cinquefoil	1.1	0.1	5.0	< 0.1	0.2	0.2	0.5
40	Showy milkweed	1.0	< 0.1	5.0	< 0.1	0.4	0.4	0.4
41	Flixweed	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.4
42	Round-leaved mallow	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 49. 2009 irrigated alfalfa in the Mixed Grassland Ecoregion (72 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	85.6	51.5	60.2	11.9	13.9	73.8	140.3
2	Canada thistle	36.0	6.5	18.1	0.6	1.6	9.4	21.3
3	Lamb's-quarters	20.7	5.4	26.3	1.0	4.7	31.2	17.2
4	Green foxtail	6.5	3.8	58.4	1.9	29.0	84.6	15.5
5	Kochia	19.0	2.8	14.7	0.6	3.3	31.4	12.2
6	Smooth brome	11.9	3.4	28.3	0.6	5.2	30.6	10.4
7	Quack grass	16.8	2.6	15.2	0.4	2.3	13.0	10.1
8	Redroot pigweed	9.5	3.3	34.6	0.6	6.7	26.4	9.6
9	Wild buckwheat	7.6	3.9	50.9	0.6	7.8	15.8	9.4
10	Perennial sow-thistle	10.5	2.7	26.1	0.3	2.5	7.6	7.6
11	Stinkweed	3.7	1.6	45.0	0.5	15.0	28.2	5.6
12	Wild oats	9.7	1.3	13.5	0.2	2.1	7.6	5.6
13	Foxtail barley	9.2	1.1	11.4	0.1	1.0	3.0	4.6
14	Barnyard grass	5.8	1.5	26.1	0.1	2.4	5.2	4.1
15	Field bindweed	5.5	0.9	16.7	0.1	2.6	6.2	3.5
16	Narrow-leaved hawk's-beard	4.0	1.1	26.7	0.1	1.5	2.2	2.7
17	Spiny annual sow-thistle	4.5	0.4	9.4	< 0.1	0.5	0.8	2.0
18	Shepherd's-purse	4.0	0.3	8.3	< 0.1	0.5	0.8	1.7
19	Annual sow-thistle	2.6	0.5	17.5	< 0.1	1.3	2.4	1.5
20	Yellow sweet-clover	2.6	0.3	12.5	< 0.1	0.8	1.4	1.3
21	Tartary buckwheat	1.5	0.5	35.0	< 0.1	2.2	2.2	1.2
22	Wheat	1.8	0.3	15.0	0.1	3.2	3.2	1.2
23	Curled dock	2.6	0.2	7.5	< 0.1	0.3	0.4	1.1
24	Russian thistle	2.6	0.1	5.0	< 0.1	0.2	0.2	1.0
25	Pale smartweed	1.8	0.3	15.0	< 0.1	1.4	1.4	1.0
26	Wild mustard	1.8	0.2	10.0	< 0.1	0.6	0.6	0.8
27	Goat's-beard	1.3	0.2	15.0	< 0.1	1.8	1.8	0.8
28	Broad-leaved plantain	1.8	0.1	5.0	< 0.1	0.4	0.4	0.7
29	White cockle	1.8	0.1	5.0	< 0.1	0.2	0.2	0.7
30	Prickly lettuce	1.8	0.1	5.0	< 0.1	0.2	0.2	0.7
31	Common burdock	1.3	0.1	10.0	< 0.1	1.4	1.4	0.7
32	Silver sagebrush	1.3	0.1	10.0	< 0.1	0.4	0.4	0.6
33	White clover	1.3	0.1	10.0	< 0.1	0.4	0.4	0.6
34	Showy milkweed	1.3	0.1	5.0	< 0.1	0.4	0.4	0.5
35	Bull thistle	1.3	0.1	5.0	< 0.1	0.4	0.4	0.5
36	Flixweed	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
37	Round-leaved mallow	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5
38	Canola (Argentine)	1.3	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Mixed Grassland Ecoregion

Table 50. 2009 irrigated grass hay in the Mixed Grassland Ecoregion (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	75.4	31.4	41.6	8.5	11.3	51.6	157.3
2	Foxtail barley	23.6	4.7	20.0	0.9	3.7	12.8	25.1
3	Canada thistle	31.7	4.5	14.3	0.3	1.0	2.2	23.3
4	Pasture sage	7.7	4.2	55.0	0.4	5.7	6.8	13.9
5	White sweet-clover	7.7	3.4	45.0	0.4	5.0	8.0	12.2
6	Wild buckwheat	7.7	2.7	35.0	0.2	2.4	3.8	9.2
7	Kochia	16.4	1.0	6.4	< 0.1	0.3	0.4	8.9
8	Smooth brome	7.7	1.7	22.5	0.1	1.6	2.0	7.0
9	Lamb's-quarters	8.1	1.0	12.7	0.1	0.8	0.8	5.6
10	Yellow sweet-clover	7.7	1.0	12.5	0.1	1.2	2.0	5.5
11	Goat's-beard	7.7	0.6	7.5	< 0.1	0.4	0.4	4.3
12	White clover	7.7	0.6	7.5	< 0.1	0.4	0.6	4.3
13	Wild oats	4.3	0.9	20.0	< 0.1	1.0	1.0	3.6
14	Prickly rose	3.8	0.8	20.0	0.1	2.2	2.2	3.6
15	Canola (Argentine)	4.3	0.6	15.0	< 0.1	0.8	0.8	3.1
16	Spiny annual sow-thistle	3.8	0.6	15.0	0.1	1.4	1.4	3.0
17	Rough cinquefoil	4.4	0.2	5.0	< 0.1	0.2	0.2	2.3
18	Redroot pigweed	3.8	0.2	5.0	< 0.1	0.6	0.6	2.1
19	Broad-leaved plantain	3.8	0.2	5.0	< 0.1	0.2	0.2	1.9
20	Bull thistle	3.8	0.2	5.0	< 0.1	0.2	0.2	1.9
21	Russian thistle	3.8	0.2	5.0	< 0.1	0.2	0.2	1.9

Field Survey Summary Tables – Ecodistricts

Table 51. Number of fields surveyed by crop in each ecodistrict

	Annual crops									Perennial crops	
	Cereal crops				Broad-leaved annual crops					Alfalfa	Grass hay
	Spring wheat	Barley	Corn	Other	Canola	Potatoes	Sugar beets	Dry beans	Other		
Delacour Plain (798)	1	3	-	-	4	-	-	-	-	-	3
Cardston Plain (800)	3	6	-	-	-	-	-	-	-	2	3
Twin Butte Foothills (801)	-	-	-	-	-	-	-	-	-	1	2
Majorville Upland (787)	1	4	1	-	3	-	-	-	-	-	1
Standard Plain (788)	1	-	-	-	-	-	-	-	-	-	-
Blackfoot Plain (790)	2	-	-	-	1	-	-	-	-	1	-
Lethbridge Plain (793)	43	52	16	-	14	-	2	1	-	13	12
Brooks Plain (812)	29	11	5	1	14	2	-	1	1	40	5
Berry Creek Plain (806)	-	1	-	1	-	-	-	-	-	-	3
Bindloss Plain (815)	3	5	-	-	1	-	-	-	-	4	1
Bow City Plain (818)	3	1	3	-	3	-	2	-	-	7	1
Vauxhall Plain (823)	27	10	2	-	11	1	7	9	1	10	3
Foremost Plain (828)	33	13	9	-	16	9	3	14	-	8	6
Purple Springs Plain (829)	9	1	3	-	1	7	3	2	-	3	6

Table 52. Density, species richness and weed-free quadrats in the surveyed crops in each ecodistrict

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Delacour Plain (798)	11	18.0	7.3	4.7	3.3	0.7	41.3	14.8
Cardston Plain & Twin Butte Foothills (800 & 801)	17	6.6	1.8	3.3	2.4	0.5	52.9	12.1
Majorville Upland, Standard Plain & Blackfoot Plain (787, 788 & 790)	15	6.7	2.3	1.8	2.9	0.6	57.9	12.7
Annual crops	13	6.1	2.5	1.5	3.1	0.6	59.4	13.6
Lethbridge Plain (793)	153	18.7	2.7	7.5	3.9	0.2	36.7	3.9
Annual crops	128	19.4	3.2	7.7	4.3	0.2	36.4	4.3
Cereal crops	111	21.4	3.6	8.4	4.3	0.2	35.3	4.5
Spring wheat	43	18.6	4.1	8.4	3.8	0.3	34.2	7.2
Barley	52	25.5	6.6	8.5	4.3	0.3	36.6	6.7
Corn	16	15.5	4.7	5.1	5.2	0.4	33.9	11.8
Broad-leaved annual crops	17	5.8	1.2	4.3	4.2	0.6	43.7	12.0
Canola	14	5.0	1.0	4.3	3.7	0.5	45.7	13.3
Perennial crops	25	15.1	4.3	5.5	2.4	0.3	38.3	9.7
Alfalfa	13	17.7	7.2	5.5	2.2	0.4	33.9	13.1
Grass hay	12	12.4	4.1	3.2	2.6	0.4	43.2	14.3
Brooks Plain & Berry Creek Plain (812 & 806)	114	14.1	1.4	7.4	3.8	0.2	33.6	4.4
Annual crops	66	12.0	1.8	4.6	4.6	0.2	38.8	6.0
Cereal crops	48	14.0	2.2	7.3	4.9	0.3	33.6	6.8
Spring wheat	29	13.6	2.4	7.7	5.0	0.4	33.8	8.8
Barley	12	18.9	6.2	3.8	4.6	0.4	30.0	13.2
Broad-leaved annual crops	18	6.4	2.0	2.3	3.9	0.5	52.5	11.8
Canola	14	6.4	2.2	2.3	4.4	0.4	48.9	13.4
Perennial crops	48	17.2	2.3	11.4	2.7	0.2	26.5	6.4
Alfalfa	40	17.3	2.4	11.6	2.9	0.3	23.0	6.7
Bindloss Plain (815)	14	43.2	11.8	13.2	5.6	1.0	31.4	12.4

(Table continued on next page)

Table 52. Density, species richness and weed-free quadrats in the surveyed crops in each ecodistrict
(continued)

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Bow City Plain (818)	20	15.9	3.4	11.0	5.0	0.8	26.8	9.9
Annual crops	12	18.9	5.3	10.2	6.7	1.0	24.9	12.5
Vauxhall Plain (823)	81	6.7	1.3	1.3	2.4	0.2	62.9	5.4
Annual crops	68	7.0	1.6	0.9	2.4	0.3	64.6	5.8
Cereal crops	39	8.1	1.8	1.6	3.0	0.4	53.9	8.0
Spring wheat	27	6.5	2.0	1.2	2.8	0.5	60.4	9.4
Barley	10	12.8	4.0	7.7	4.0	0.5	36.4	15.2
Broad-leaved annual crops	29	5.5	2.7	0.1	1.6	0.4	79.0	7.6
Canola	11	10.2	6.5	0.0	1.2	0.6	78.8	12.3
Perennial crops	13	5.2	1.3	3.2	2.3	0.4	54.4	13.8
Alfalfa	10	6.4	1.5	7.0	2.4	0.5	48.0	15.8
Foremost Plain (828)	111	6.7	1.2	2.6	2.7	0.2	61.6	4.6
Annual crops	97	4.6	0.9	2.4	2.7	0.2	65.1	4.8
Cereal crops	55	6.7	1.5	3.8	3.5	0.3	54.0	6.7
Spring wheat	33	6.4	2.2	3.7	3.9	0.4	55.9	8.6
Barley	13	8.5	2.4	4.8	2.4	0.4	49.5	13.9
Broad-leaved annual crops	42	1.7	0.4	1.0	1.7	0.2	80.3	6.1
Canola	16	1.9	0.5	1.7	1.9	0.3	76.1	10.7
Dry beans	14	2.0	0.8	0.7	1.3	0.3	82.3	10.2
Perennial crops	14	20.2	6.2	6.8	2.5	0.6	38.5	13.0
Purple Springs Plain (829)	35	4.1	0.7	2.5	2.2	0.3	69.4	7.8
Annual crops	26	3.5	0.9	2.1	1.7	0.2	76.2	8.4
Cereal crops	13	6.2	1.3	3.5	2.2	0.2	65.4	13.2
Broad-leaved annual crops	13	0.8	0.3	0.3	1.2	0.3	87.2	9.3

Field Survey Summary Tables – Ecodistricts 800 & 801

Table 53. 2009 irrigated crops in the Delacour Plain (798) Ecodistrict in the Fescue Grassland Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	48.8	21.5	44.1	5.9	12.0	35.8	70.7
2	Wild buckwheat	47.0	8.8	18.7	1.0	2.2	8.0	29.7
3	Canola (Argentine)	10.2	10.2	100.0	2.1	20.8	20.8	26.0
4	Lamb's-quarters	26.5	7.3	27.7	0.6	2.2	4.4	19.4
5	Wild oats	30.7	5.1	16.7	0.7	2.3	6.4	18.9
6	Barley	6.0	4.5	75.0	1.7	28.0	28.0	16.1
7	Stinkweed	6.0	4.5	75.0	1.6	27.0	27.0	15.8
8	Shepherd's-purse	16.3	3.2	19.8	1.0	6.3	16.6	14.1
9	Chickweed	10.2	4.6	45.0	0.8	8.2	8.2	12.8
10	Kochia	20.5	4.1	20.0	0.2	1.2	2.2	12.1
11	Flixweed	6.0	5.7	95.0	0.7	11.6	11.6	11.9
12	Hemp-nettle	10.2	4.6	45.0	0.5	4.6	4.6	10.7
13	Canada thistle	12.0	2.1	17.5	0.4	3.2	4.2	8.1
14	Cleavers	16.3	1.9	11.9	0.2	1.1	2.0	8.1
15	Annual sow-thistle	16.3	0.8	5.0	0.1	0.3	0.4	6.2
16	Stork's-bill	10.2	1.0	10.0	0.1	1.2	1.2	4.9
17	Round-leaved mallow	10.2	0.5	5.0	< 0.1	0.2	0.2	3.8
18	Russian thistle	10.2	0.5	5.0	< 0.1	0.2	0.2	3.8
19	Narrow-leaved hawk's-beard	6.0	0.6	10.0	0.2	3.0	3.0	3.5
20	Bluebur	6.0	0.9	15.0	0.1	1.2	1.2	3.2

Table 54. 2009 irrigated crops in the Cardston Plain & Twin Butte Foothills (800 & 801) Ecodistricts in the Fescue Grassland Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	41.1	24.2	59.0	3.1	7.5	18.0	105.1
2	Downy brome	18.4	7.3	39.8	1.3	7.2	18.0	40.3
3	Field bindweed	23.3	6.4	27.5	0.7	2.9	6.0	31.0
4	Stinkweed	21.5	3.7	17.1	0.3	1.5	3.8	19.9
5	Canada thistle	18.4	4.4	24.0	0.3	1.6	3.0	19.6
6	Annual sow-thistle	25.2	3.6	14.4	0.2	0.7	1.6	19.2
7	Foxtail barley	26.4	1.6	5.9	0.2	0.6	1.6	15.9
8	Wild buckwheat	6.7	1.7	25.0	0.1	2.0	2.0	7.7
9	Japanese brome	6.7	1.3	20.0	0.1	1.2	1.2	6.3
10	Wild mustard	6.7	1.3	20.0	0.1	0.8	0.8	5.9
11	Narrow-leaved hawk's-beard	6.7	0.7	10.0	< 0.1	0.4	0.4	4.3
12	Quack grass	4.9	0.2	5.0	0.1	2.0	2.0	3.9
13	Tartary buckwheat	4.9	0.2	5.0	0.1	1.6	1.6	3.6
14	Kochia	6.7	0.3	5.0	< 0.1	0.2	0.2	3.6
15	Lamb's-quarters	6.7	0.3	5.0	< 0.1	0.2	0.2	3.6
16	Wormseed mustard	6.7	0.3	5.0	< 0.1	0.2	0.2	3.6
17	Shepherd's-purse	6.7	0.3	5.0	< 0.1	0.2	0.2	3.6
18	Ball mustard	4.9	0.2	5.0	< 0.1	0.4	0.4	2.7

Field Survey Summary Tables – Ecodistricts 787, 788 & 801

Table 55. 2009 irrigated crops in the Majorville Upland, Standard Plain & Blackfoot Plain (787, 788 & 790) Ecodistricts in the Moist Mixed Grassland Ecoregion (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	40.7	13.3	32.6	1.1	2.6	5.8	51.4
2	Canola (Argentine)	25.2	10.5	41.7	1.4	5.5	15.4	46.5
3	Dandelion	21.6	8.0	37.3	1.4	6.4	16.4	41.4
4	Wild oats	26.8	5.0	18.6	1.0	3.6	7.0	31.9
5	Canada thistle	28.1	4.9	17.3	0.4	1.3	2.6	23.0
6	Annual sow-thistle	30.2	4.1	13.4	0.3	1.0	1.6	21.3
7	Chickweed	18.7	1.9	9.9	0.2	1.0	2.4	12.4
8	Kochia	13.0	3.2	25.0	0.2	1.2	2.0	12.1
9	Redroot pigweed	19.5	2.3	11.7	0.1	0.5	0.8	12.0
10	Spiny annual sow-thistle	6.1	1.8	30.0	0.4	6.2	6.2	10.8
11	Lamb's-quarters	15.5	2.1	13.7	0.1	0.7	1.0	10.3
12	Shepherd's-purse	15.5	1.1	7.1	0.1	0.8	1.4	9.0
13	Cleavers	6.1	1.8	30.0	0.1	1.8	1.8	6.7
14	Quack grass	9.0	0.4	5.0	< 0.1	0.2	0.2	4.1
15	Narrow-leaved hawk's-beard	9.0	0.4	5.0	< 0.1	0.2	0.2	4.1
16	Round-leaved mallow	6.5	0.3	5.0	< 0.1	0.4	0.4	3.1

Table 56. 2009 irrigated annual crops in the Majorville Upland, Standard Plain & Blackfoot Plain (787, 788 & 790) Ecodistricts in the Moist Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	46.5	15.2	32.6	1.2	2.6	5.8	59.2
2	Canola (Argentine)	28.9	12.0	41.7	1.6	5.5	15.4	54.6
3	Wild oats	30.7	5.7	18.6	1.1	3.6	7.0	37.4
4	Annual sow-thistle	34.5	4.6	13.4	0.3	1.0	1.6	24.0
5	Canada thistle	24.7	4.8	19.5	0.3	1.4	2.6	21.2
6	Chickweed	21.4	2.1	9.9	0.2	1.0	2.4	14.0
7	Kochia	14.9	3.7	25.0	0.2	1.2	2.0	13.7
8	Redroot pigweed	22.3	2.6	11.7	0.1	0.5	0.8	13.3
9	Spiny annual sow-thistle	7.0	2.1	30.0	0.4	6.2	6.2	12.8
10	Lamb's-quarters	17.7	2.4	13.7	0.1	0.7	1.0	11.5
11	Shepherd's-purse	17.7	1.3	7.1	0.1	0.8	1.4	10.1
12	Dandelion	10.3	2.1	20.0	0.1	1.0	1.0	8.3
13	Cleavers	7.0	2.1	30.0	0.1	1.8	1.8	7.7
14	Quack grass	10.3	0.5	5.0	< 0.1	0.2	0.2	4.5
15	Narrow-leaved hawk's-beard	10.3	0.5	5.0	< 0.1	0.2	0.2	4.5
16	Round-leaved mallow	7.4	0.4	5.0	< 0.1	0.4	0.4	3.5

Field Survey Summary Tables – Ecodistrict 793

Table 57. 2009 irrigated crops in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (153 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	41.6	13.6	32.8	3.7	8.9	73.4	44.2
2	Dandelion	39.1	12.8	32.7	2.5	6.4	98.6	36.2
3	Wild buckwheat	46.0	12.2	26.5	1.5	3.2	25.6	31.9
4	Wild oats	31.5	9.2	29.3	1.6	5.0	47.0	25.8
5	Kochia	37.2	7.4	19.9	1.5	4.0	89.6	24.8
6	Lamb's-quarters	28.9	6.8	23.5	0.8	2.7	34.8	18.3
7	Canola (Argentine)	19.4	7.3	37.9	1.1	5.7	36.4	18.3
8	Round-leaved mallow	31.1	6.3	20.2	0.6	2.1	28.6	17.7
9	Chickweed	5.9	1.8	30.3	2.3	39.5	206.0	15.7
10	Canada thistle	21.2	4.4	20.6	0.5	2.5	26.8	12.6
11	Annual sow-thistle	13.3	3.8	28.7	0.5	3.8	27.2	9.9
12	Quack grass	10.0	2.3	22.9	0.5	5.3	28.4	7.7
13	Alfalfa	9.1	1.7	18.4	0.6	6.6	106.2	7.2
14	Shepherd's-purse	6.3	1.5	23.2	0.2	2.6	15.8	4.0
15	Perennial sow-thistle	5.8	1.0	16.7	0.1	2.4	19.6	3.2
16	Prostrate knotweed	5.2	1.1	20.6	0.1	2.1	7.6	3.0
17	Stinkweed	6.7	0.6	8.9	< 0.1	0.5	1.6	2.5
18	Cleavers	3.3	1.0	29.4	0.1	1.6	3.6	2.1
19	Field bindweed	4.5	0.7	16.0	< 0.1	0.9	1.6	2.1
20	Pale smartweed	3.7	0.5	12.6	< 0.1	0.8	2.0	1.6
21	Wheat	1.3	0.6	49.8	0.1	8.8	13.4	1.6
22	Stork's-bill	4.5	0.3	7.9	< 0.1	0.3	0.6	1.6
23	Prickly lettuce	2.1	0.5	26.4	< 0.1	2.3	5.4	1.3
24	Green foxtail	2.7	0.2	8.3	< 0.1	0.6	1.0	1.0
25	Russian thistle	1.6	0.3	17.5	< 0.1	1.8	3.4	0.8
26	Foxtail barley	0.5	0.2	40.0	0.1	15.2	15.2	0.7
27	Barnyard grass	1.0	0.2	17.5	< 0.1	3.4	6.2	0.6
28	Flixweed	1.7	0.1	7.7	< 0.1	0.3	0.4	0.6
29	Corn spurry	1.6	0.1	7.5	< 0.1	0.3	0.4	0.5
30	Barley	0.9	0.2	20.0	< 0.1	1.2	1.2	0.5
31	Wild tomato	0.8	0.1	15.0	< 0.1	1.4	1.4	0.4
32	Downy brome	0.9	0.1	10.0	< 0.1	0.4	0.4	0.3
33	Oats	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.3
34	Black medick	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
35	Silky lupin	0.5	0.1	20.0	< 0.1	1.0	1.0	0.2
36	Field dock	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2
37	Millet	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 58. 2009 irrigated annual crops in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (128 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	47.3	15.9	33.6	4.4	9.3	73.4	48.9
2	Wild buckwheat	53.4	14.2	26.6	1.7	3.2	25.6	34.9
3	Wild oats	38.3	11.2	29.3	1.9	5.0	47.0	29.6
4	Kochia	42.3	8.7	20.6	1.7	4.0	89.6	27.0
5	Canola (Argentine)	21.8	8.8	40.2	1.3	6.1	36.4	20.4
6	Round-leaved mallow	36.7	7.6	20.7	0.8	2.1	28.6	19.8
7	Lamb's-quarters	30.4	7.4	24.5	0.9	2.9	34.8	18.8
8	Chickweed	7.1	2.2	30.3	2.8	39.5	206.0	18.3
9	Dandelion	33.3	5.7	17.0	0.5	1.4	13.4	15.6
10	Annual sow-thistle	16.2	4.6	28.7	0.6	3.8	27.2	11.4
11	Canada thistle	18.3	3.8	20.8	0.4	2.1	13.2	9.9
12	Quack grass	10.5	2.6	24.7	0.6	6.0	28.4	8.2
13	Alfalfa	9.6	2.0	20.6	0.7	7.6	106.2	7.9
14	Shepherd's-purse	5.7	1.4	25.3	0.2	3.0	15.8	3.6
15	Perennial sow-thistle	5.9	1.1	18.9	0.2	2.8	19.6	3.3
16	Prostrate knotweed	5.8	1.0	18.0	0.1	1.9	7.6	2.9
17	Cleavers	4.0	1.2	29.4	0.1	1.6	3.6	2.4
18	Field bindweed	5.5	0.9	16.0	< 0.1	0.9	1.6	2.4
19	Stinkweed	5.9	0.6	9.5	< 0.1	0.6	1.6	2.1
20	Wheat	1.5	0.8	49.8	0.1	8.8	13.4	1.8
21	Stork's-bill	5.4	0.4	7.9	< 0.1	0.3	0.6	1.8
22	Prickly lettuce	2.5	0.7	26.4	0.1	2.3	5.4	1.5
23	Pale smartweed	3.9	0.4	10.8	< 0.1	0.7	1.2	1.5
24	Green foxtail	3.3	0.3	8.3	< 0.1	0.6	1.0	1.1
25	Foxtail barley	0.6	0.2	40.0	0.1	15.2	15.2	0.8
26	Russian thistle	0.9	0.3	30.0	< 0.1	3.4	3.4	0.7
27	Corn spurry	1.9	0.1	7.5	< 0.1	0.3	0.4	0.6
28	Barley	1.1	0.2	20.0	< 0.1	1.2	1.2	0.5
29	Barnyard grass	0.6	0.1	25.0	< 0.1	6.2	6.2	0.5
30	Wild tomato	0.9	0.1	15.0	< 0.1	1.4	1.4	0.4
31	Downy brome	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
32	Oats	1.1	0.1	5.0	< 0.1	0.4	0.4	0.3
33	Flixweed	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
34	Silky lupin	0.6	0.1	20.0	< 0.1	1.0	1.0	0.3
35	Millet	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Ecodistrict 793

Table 59. 2009 irrigated cereal crops in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (111 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	46.7	17.4	37.3	5.0	10.7	73.4	50.2
2	Wild buckwheat	55.7	15.7	28.1	1.9	3.5	25.6	36.5
3	Wild oats	39.9	11.6	29.1	2.1	5.3	47.0	29.8
4	Kochia	40.5	8.6	21.3	1.9	4.6	89.6	26.1
5	Canola (Argentine)	24.3	9.8	40.2	1.5	6.2	36.4	21.7
6	Round-leaved mallow	37.7	8.5	22.5	0.9	2.3	28.6	20.7
7	Chickweed	7.5	2.4	31.8	3.2	43.0	206.0	19.0
8	Lamb's-quarters	31.1	7.1	22.7	0.9	2.9	34.8	17.9
9	Dandelion	35.6	5.9	16.6	0.5	1.4	13.4	16.0
10	Annual sow-thistle	14.0	4.4	31.1	0.6	4.6	27.2	10.3
11	Alfalfa	11.0	2.3	20.6	0.8	7.6	106.2	8.5
12	Canada thistle	15.4	3.4	22.1	0.4	2.4	13.2	8.5
13	Quack grass	9.2	2.8	30.5	0.7	7.7	28.4	8.0
14	Shepherd's-purse	5.9	1.6	27.5	0.2	3.3	15.8	3.8
15	Perennial sow-thistle	6.8	1.3	18.9	0.2	2.8	19.6	3.7
16	Prostrate knotweed	6.6	1.2	18.0	0.1	1.9	7.6	3.2
17	Field bindweed	6.3	1.0	16.0	0.1	0.9	1.6	2.7
18	Stork's-bill	6.2	0.5	7.9	< 0.1	0.3	0.6	2.0
19	Cleavers	2.9	0.9	31.0	0.1	1.9	3.6	1.7
20	Prickly lettuce	2.9	0.8	26.4	0.1	2.3	5.4	1.7
21	Pale smartweed	4.5	0.5	10.8	< 0.1	0.7	1.2	1.6
22	Stinkweed	4.6	0.4	8.8	< 0.1	0.6	1.6	1.6
23	Green foxtail	3.1	0.3	9.0	< 0.1	0.6	1.0	1.1
24	Foxtail barley	0.6	0.3	40.0	0.1	15.2	15.2	0.8
25	Barnyard grass	0.7	0.2	25.0	< 0.1	6.2	6.2	0.5
26	Wild tomato	1.1	0.2	15.0	< 0.1	1.4	1.4	0.5
27	Downy brome	1.3	0.1	10.0	< 0.1	0.4	0.4	0.4
28	Oats	1.3	0.1	5.0	< 0.1	0.4	0.4	0.4
29	Corn spurry	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
30	Flixweed	1.1	0.1	5.0	< 0.1	0.2	0.2	0.3
31	Silky lupin	0.6	0.1	20.0	< 0.1	1.0	1.0	0.3

Table 60. 2009 irrigated spring wheat in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (43 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	53.7	19.7	36.7	2.7	5.1	25.6	47.2
2	Canola (Argentine)	39.0	15.8	40.5	2.7	7.0	36.4	39.7
3	Wild oats	45.1	12.0	26.7	2.5	5.5	47.0	36.5
4	Redroot pigweed	24.8	9.8	39.6	3.1	12.6	73.4	32.5
5	Kochia	39.6	8.4	21.1	2.0	5.1	89.6	29.1
6	Round-leaved mallow	31.5	8.4	26.7	1.2	3.8	28.6	22.6
7	Annual sow-thistle	17.1	7.9	46.4	1.5	8.7	27.2	19.9
8	Canada thistle	22.3	6.8	30.6	0.8	3.6	13.2	16.6
9	Dandelion	38.7	4.9	12.6	0.3	0.8	2.0	16.4
10	Lamb's-quarters	13.3	3.4	25.4	0.3	2.1	7.2	8.1
11	Quack grass	8.0	1.3	16.7	0.4	5.6	22.0	5.7
12	Perennial sow-thistle	4.8	2.1	42.9	0.4	8.1	19.6	5.3
13	Field bindweed	7.8	1.3	17.2	0.1	0.9	1.6	3.7
14	Foxtail barley	1.7	0.7	40.0	0.3	15.2	15.2	2.5
15	Pale smartweed	5.6	0.8	15.0	< 0.1	0.8	1.2	2.5
16	Cleavers	2.9	1.3	45.0	0.1	2.4	2.4	2.4
17	Prostrate knotweed	4.8	0.8	16.9	< 0.1	0.8	1.2	2.2
18	Alfalfa	5.4	0.4	6.7	< 0.1	0.3	0.4	1.8
19	Chickweed	4.8	0.4	8.9	< 0.1	0.4	0.6	1.8
20	Downy brome	3.5	0.3	10.0	< 0.1	0.4	0.4	1.3
21	Green foxtail	2.9	0.3	10.0	< 0.1	1.0	1.0	1.2
22	Stork's-bill	2.9	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Ecodistrict 793

Table 61. 2009 irrigated barley in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (52 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	50.5	19.5	38.6	5.8	11.6	73.4	52.4
2	Wild oats	44.7	13.7	30.8	2.4	5.4	34.6	32.5
3	Chickweed	7.4	4.2	56.5	6.7	90.5	206.0	31.8
4	Wild buckwheat	54.7	12.8	23.3	1.5	2.8	17.2	30.3
5	Lamb's-quarters	42.5	10.8	25.5	1.5	3.6	34.8	25.8
6	Kochia	40.2	8.9	22.1	2.1	5.3	44.0	25.8
7	Canola (Argentine)	19.3	8.1	42.1	1.0	5.4	19.8	16.0
8	Round-leaved mallow	34.0	4.7	13.9	0.4	1.1	5.0	13.7
9	Dandelion	27.1	5.2	19.0	0.4	1.5	7.0	12.5
10	Alfalfa	11.9	3.1	25.8	1.6	13.7	106.2	12.0
11	Shepherd's-purse	10.1	3.2	31.4	0.4	4.0	15.8	6.8
12	Quack grass	7.0	2.2	32.2	0.4	6.1	13.0	5.3
13	Canada thistle	12.3	1.6	13.0	0.2	1.3	5.0	4.9
14	Prostrate knotweed	10.1	1.9	18.4	0.2	2.2	7.6	4.9
15	Annual sow-thistle	9.6	2.1	22.5	0.2	1.6	4.2	4.8
16	Perennial sow-thistle	10.5	1.1	10.4	0.1	0.9	2.2	3.8
17	Prickly lettuce	6.0	1.6	26.4	0.1	2.3	5.4	3.3
18	Stinkweed	9.6	0.8	8.8	0.1	0.6	1.6	3.2
19	Stork's-bill	6.1	0.4	7.3	< 0.1	0.3	0.6	1.9
20	Cleavers	3.7	0.8	22.4	0.1	1.5	3.6	1.8
21	Pale smartweed	5.1	0.4	7.2	< 0.1	0.6	1.0	1.6
22	Barnyard grass	1.4	0.4	25.0	0.1	6.2	6.2	1.0
23	Wild tomato	2.3	0.3	15.0	< 0.1	1.4	1.4	1.0
24	Field bindweed	2.3	0.2	10.0	< 0.1	0.4	0.4	0.8
25	Corn spurry	2.3	0.2	10.0	< 0.1	0.4	0.4	0.8
26	Flixweed	2.3	0.1	5.0	< 0.1	0.2	0.2	0.6
27	Silky lupin	1.3	0.3	20.0	< 0.1	1.0	1.0	0.6

Table 62. 2009 irrigated corn in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	88.2	29.6	33.5	7.0	7.9	55.8	87.5
2	Round-leaved mallow	64.5	20.7	32.1	1.6	2.5	11.0	40.8
3	Wild buckwheat	63.7	15.1	23.7	1.4	2.2	11.8	34.2
4	Dandelion	55.4	10.9	19.7	1.2	2.2	13.4	27.9
5	Quack grass	19.1	8.2	42.8	2.3	11.9	28.4	25.3
6	Kochia	43.5	8.2	18.9	0.6	1.5	4.8	19.7
7	Lamb's-quarters	38.2	3.9	10.2	0.3	0.8	2.0	12.8
8	Alfalfa	21.8	4.4	20.0	0.3	1.3	3.6	9.8
9	Annual sow-thistle	21.0	2.8	13.3	0.1	0.7	1.4	7.4
10	Wild oats	11.8	3.7	31.6	0.2	1.6	2.8	6.7
11	Field bindweed	15.9	2.7	17.3	0.2	1.1	1.2	6.5
12	Chickweed	14.5	1.5	10.0	0.1	0.4	0.4	4.4
13	Stork's-bill	14.5	1.5	10.0	0.1	0.4	0.6	4.4
14	Green foxtail	13.2	1.1	8.5	0.1	0.4	0.8	3.9
15	Canada thistle	8.6	0.9	10.0	< 0.1	0.4	0.4	2.6
16	Oats	8.6	0.4	5.0	< 0.1	0.4	0.4	2.3
17	Shepherd's-purse	7.3	0.7	10.0	< 0.1	0.4	0.4	2.2
18	Canola (Argentine)	4.6	0.5	10.0	< 0.1	0.4	0.4	1.4

Table 63. 2009 irrigated broad-leaved annual crops in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	55.1	9.4	17.1	0.6	1.1	3.2	35.9
2	Lamb's-quarters	25.6	10.0	39.1	0.8	3.2	7.2	33.6
3	Wild oats	27.5	8.7	31.5	0.7	2.5	4.8	29.9
4	Wheat	12.1	6.0	49.8	1.1	8.8	13.4	29.3
5	Canada thistle	38.0	6.5	17.0	0.4	1.1	4.6	25.1
6	Redroot pigweed	51.8	5.4	10.5	0.3	0.5	1.4	24.1
7	Annual sow-thistle	30.9	6.5	21.1	0.4	1.2	4.8	22.4
8	Wild buckwheat	37.8	4.0	10.7	0.2	0.6	1.6	18.3
9	Dandelion	17.9	4.1	22.9	0.3	1.4	2.6	14.0
10	Round-leaved mallow	29.8	1.5	5.0	0.1	0.2	0.2	10.1
11	Cleavers	12.1	3.3	26.9	0.2	1.3	1.8	9.9
12	Russian thistle	7.4	2.2	30.0	0.3	3.4	3.4	9.1
13	Canola (Argentine)	4.7	1.9	40.0	0.2	4.8	4.8	7.5
14	Quack grass	19.5	1.2	6.2	0.1	0.4	0.6	7.5
15	Stinkweed	14.8	1.6	10.9	0.1	0.6	0.8	7.1
16	Barley	8.8	1.8	20.0	0.1	1.2	1.2	6.2
17	Chickweed	4.7	0.7	15.0	< 0.1	0.6	0.6	2.5
18	Corn spurry	7.4	0.4	5.0	< 0.1	0.2	0.2	2.5
19	Green foxtail	4.7	0.2	5.0	< 0.1	0.6	0.6	1.9
20	Millet	4.7	0.2	5.0	< 0.1	0.2	0.2	1.6
21	Shepherd's-purse	4.4	0.2	5.0	< 0.1	0.2	0.2	1.5

Table 64. 2009 irrigated canola in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	53.2	10.2	19.1	0.7	1.2	3.2	42.8
2	Wheat	8.6	6.5	75.0	1.2	13.4	13.4	35.4
3	Lamb's-quarters	18.9	9.5	50.2	0.7	3.9	7.2	34.5
4	Canada thistle	44.2	7.5	17.0	0.5	1.1	4.6	33.5
5	Redroot pigweed	43.9	5.2	11.9	0.3	0.6	1.4	25.1
6	Wild oats	21.1	5.7	27.1	0.5	2.3	3.8	24.0
7	Annual sow-thistle	30.5	4.0	13.2	0.2	0.6	1.2	17.8
8	Wild buckwheat	27.6	2.2	8.1	0.1	0.5	0.6	13.3
9	Russian thistle	8.6	2.6	30.0	0.3	3.4	3.4	12.2
10	Round-leaved mallow	29.2	1.5	5.0	0.1	0.2	0.2	11.2
11	Dandelion	15.4	2.3	15.0	0.2	1.0	2.2	10.7
12	Stinkweed	17.3	1.9	10.9	0.1	0.6	0.8	9.4
13	Barley	10.3	2.1	20.0	0.1	1.2	1.2	8.4
14	Cleavers	8.6	2.2	25.0	0.1	1.0	1.0	7.4
15	Quack grass	17.3	0.9	5.0	< 0.1	0.3	0.4	6.9
16	Corn spurry	8.6	0.4	5.0	< 0.1	0.2	0.2	3.3
17	Millet	5.5	0.3	5.0	< 0.1	0.2	0.2	2.1
18	Shepherd's-purse	5.1	0.3	5.0	< 0.1	0.2	0.2	2.0

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Table 65. 2009 irrigated perennial crops in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	65.7	45.7	69.6	12.0	18.2	98.6	169.8
2	Canada thistle	34.3	7.0	20.3	1.2	3.4	26.8	31.7
3	Lamb's-quarters	22.0	3.8	17.2	0.2	1.1	4.8	16.0
4	Redroot pigweed	15.1	3.2	21.3	0.5	3.4	11.0	14.2
5	Wild buckwheat	11.6	2.9	25.1	0.3	2.7	9.8	10.9
6	Kochia	13.2	1.2	9.1	0.4	3.0	10.2	9.7
7	Shepherd's-purse	9.1	1.6	17.2	0.1	1.5	3.4	6.8
8	Stinkweed	10.4	0.8	7.5	< 0.1	0.3	0.4	5.6
9	Quack grass	8.0	0.9	11.5	0.1	0.9	1.0	5.1
10	Canola (Argentine)	8.0	0.7	8.3	< 0.1	0.3	0.4	4.4
11	Prostrate knotweed	2.8	1.2	45.0	0.1	4.2	4.2	3.7
12	Alfalfa	7.2	0.4	5.0	< 0.1	0.2	0.2	3.6
13	Flixweed	5.2	0.5	10.0	< 0.1	0.4	0.4	3.0
14	Round-leaved mallow	5.2	0.3	5.0	< 0.1	0.2	0.2	2.6
15	Black medick	5.2	0.3	5.0	< 0.1	0.2	0.2	2.6
16	Perennial sow-thistle	5.2	0.3	5.0	< 0.1	0.2	0.2	2.6
17	Pale smartweed	2.8	0.7	25.0	0.1	2.0	2.0	2.5
18	Russian thistle	4.4	0.2	5.0	< 0.1	0.2	0.2	2.2
19	Barnyard grass	2.8	0.3	10.0	< 0.1	0.6	0.6	1.6
20	Field dock	2.8	0.1	5.0	< 0.1	0.2	0.2	1.4

Table 66. 2009 irrigated alfalfa in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	84.7	57.0	67.3	15.9	18.7	98.6	199.5
2	Lamb's-quarters	23.7	3.3	14.0	0.3	1.2	4.8	16.4
3	Wild buckwheat	13.7	5.1	37.4	0.6	4.3	9.8	15.9
4	Canada thistle	15.3	2.3	14.8	0.2	1.0	1.4	10.5
5	Shepherd's-purse	10.6	2.7	25.0	0.2	1.9	3.4	9.2
6	Canola (Argentine)	15.3	1.3	8.3	0.1	0.3	0.4	8.7
7	Prostrate knotweed	5.3	2.4	45.0	0.2	4.2	4.2	6.6
8	Redroot pigweed	10.6	1.1	10.0	< 0.1	0.4	0.6	6.3
9	Flixweed	10.0	1.0	10.0	< 0.1	0.4	0.4	5.9
10	Stinkweed	10.0	1.0	10.0	< 0.1	0.4	0.4	5.9
11	Round-leaved mallow	10.0	0.5	5.0	< 0.1	0.2	0.2	5.2
12	Perennial sow-thistle	10.0	0.5	5.0	< 0.1	0.2	0.2	5.2
13	Pale smartweed	5.3	1.3	25.0	0.1	2.0	2.0	4.6

Table 67. 2009 irrigated grass hay in the Lethbridge Plain (793) Ecodistrict in the Moist Mixed Grassland Ecoregion (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	44.9	33.4	74.3	7.7	17.1	47.0	131.6
2	Canada thistle	55.1	12.1	22.0	2.3	4.2	26.8	58.8
3	Redroot pigweed	20.1	5.6	27.9	1.0	5.1	11.0	24.9
4	Kochia	27.6	2.5	9.1	0.8	3.0	10.2	21.2
5	Lamb's-quarters	20.1	4.3	21.3	0.2	1.0	1.6	16.0
6	Quack grass	16.7	1.9	11.5	0.2	0.9	1.0	10.7
7	Alfalfa	15.0	0.7	5.0	< 0.1	0.2	0.2	7.2
8	Black medick	10.9	0.5	5.0	< 0.1	0.2	0.2	5.2
9	Stinkweed	10.9	0.5	5.0	< 0.1	0.2	0.2	5.2
10	Wild buckwheat	9.2	0.5	5.0	< 0.1	0.2	0.2	4.4
11	Russian thistle	9.2	0.5	5.0	< 0.1	0.2	0.2	4.4
12	Shepherd's-purse	7.5	0.4	5.0	0.1	0.8	0.8	4.0
13	Barnyard grass	5.8	0.6	10.0	< 0.1	0.6	0.6	3.4
14	Field dock	5.8	0.3	5.0	< 0.1	0.2	0.2	2.8

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 68. 2009 irrigated fields in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (114 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	64.9	32.3	49.7	5.9	9.0	51.6	91.0
2	Wild buckwheat	43.0	9.9	23.0	0.6	1.5	11.2	25.8
3	Lamb's-quarters	32.5	8.3	25.7	1.2	3.7	31.2	25.5
4	Wild oats	28.1	5.6	19.8	0.9	3.3	32.6	19.4
5	Kochia	34.2	4.7	13.8	0.5	1.5	31.4	17.4
6	Redroot pigweed	21.1	3.9	18.8	0.8	3.7	58.6	15.0
7	Alfalfa	10.5	4.4	41.7	1.0	9.6	36.8	14.3
8	Canada thistle	25.4	4.8	19.0	0.3	1.3	9.4	13.9
9	Canola (Argentine)	14.0	5.0	35.3	0.7	5.1	32.4	13.7
10	Green foxtail	18.4	5.0	26.9	0.5	2.5	15.8	13.0
11	Smooth brome	11.4	3.2	27.7	0.5	4.3	30.6	9.6
12	Quack grass	7.9	1.3	16.1	0.2	3.1	13.0	5.1
13	Barnyard grass	6.1	1.6	25.7	0.2	3.2	11.8	4.6
14	Shepherd's-purse	7.9	1.1	13.9	0.1	0.9	3.0	3.7
15	Round-leaved mallow	7.0	1.2	16.9	0.1	1.3	3.4	3.7
16	Foxtail barley	6.1	0.7	11.4	0.1	1.6	5.6	3.0
17	Narrow-leaved hawk's-beard	5.3	1.1	20.8	0.1	1.2	2.2	2.9
18	Annual sow-thistle	4.4	0.9	21.0	0.1	1.4	2.4	2.5
19	Perennial sow-thistle	3.5	1.0	27.5	0.1	2.5	7.6	2.5
20	Spiny annual sow-thistle	4.4	0.8	18.0	0.1	1.2	2.8	2.3
21	Wheat	3.5	0.4	12.5	< 0.1	1.4	2.0	1.7
22	Pale smartweed	3.5	0.4	10.0	< 0.1	1.3	3.8	1.6
23	Russian thistle	4.4	0.2	5.0	< 0.1	0.2	0.4	1.4
24	Chickweed	2.6	0.3	11.7	< 0.1	0.7	1.0	1.1
25	Barley	0.9	0.4	45.0	0.1	7.4	7.4	1.1
26	Broad-leaved plantain	1.8	0.3	15.0	< 0.1	1.2	2.2	0.9
27	Stinkweed	2.6	0.1	5.0	< 0.1	0.2	0.2	0.9
28	Cleavers	1.8	0.1	7.5	< 0.1	0.3	0.4	0.6
29	Curled dock	1.8	0.1	7.5	< 0.1	0.3	0.4	0.6
30	White sweet-clover	0.9	0.1	15.0	< 0.1	2.0	2.0	0.5
31	Stork's-bill	0.9	0.1	10.0	< 0.1	0.6	0.6	0.4
32	Japanese brome	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 69. 2009 irrigated annual crops in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (66 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	68.2	15.7	23.0	1.0	1.5	11.2	38.7
2	Lamb's-quarters	42.4	11.1	26.3	1.5	3.5	29.4	32.4
3	Wild oats	40.9	8.8	21.5	1.5	3.7	32.6	30.3
4	Dandelion	43.9	11.0	25.0	1.0	2.2	13.0	28.4
5	Alfalfa	18.2	7.6	41.7	1.7	9.6	36.8	26.0
6	Redroot pigweed	33.3	6.6	19.8	1.3	4.0	58.6	24.9
7	Canola (Argentine)	24.2	8.6	35.3	1.2	5.1	32.4	24.0
8	Green foxtail	31.8	8.6	26.9	0.8	2.5	15.8	21.9
9	Kochia	45.5	5.6	12.3	0.3	0.6	2.4	17.6
10	Canada thistle	19.7	3.7	18.8	0.2	1.1	2.4	9.7
11	Round-leaved mallow	10.6	2.0	18.6	0.1	1.4	3.4	5.5
12	Shepherd's-purse	10.6	1.7	15.7	0.1	1.0	3.0	4.8
13	Barnyard grass	6.1	1.5	25.0	0.2	3.4	11.8	4.5
14	Foxtail barley	6.1	0.9	15.0	0.1	2.4	5.6	3.4
15	Smooth brome	4.5	1.2	26.7	0.1	2.1	3.2	3.0
16	Quack grass	4.5	0.5	11.7	0.2	3.5	7.4	2.8
17	Wheat	6.1	0.8	12.5	0.1	1.4	2.0	2.7
18	Annual sow-thistle	4.5	1.1	23.3	0.1	1.5	2.2	2.6
19	Pale smartweed	6.1	0.6	10.0	0.1	1.3	3.8	2.5
20	Spiny annual sow-thistle	4.5	1.0	21.7	0.1	1.5	2.8	2.5
21	Narrow-leaved hawk's-beard	4.5	0.7	15.0	< 0.1	1.0	1.6	2.0
22	Barley	1.5	0.7	45.0	0.1	7.4	7.4	1.9
23	Chickweed	4.5	0.5	11.7	< 0.1	0.7	1.0	1.8
24	Russian thistle	4.5	0.2	5.0	< 0.1	0.3	0.4	1.3
25	Stinkweed	4.5	0.2	5.0	< 0.1	0.2	0.2	1.3
26	Broad-leaved plantain	1.5	0.4	25.0	< 0.1	2.2	2.2	1.0
27	Cleavers	3.0	0.2	7.5	< 0.1	0.3	0.4	1.0
28	Stork's-bill	1.5	0.2	10.0	< 0.1	0.6	0.6	0.6
29	Perennial sow-thistle	1.5	0.2	10.0	< 0.1	0.4	0.4	0.5
30	Japanese brome	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 70. 2009 irrigated cereal crops in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (48 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	66.7	16.1	24.2	1.1	1.7	11.2	36.2
2	Lamb's-quarters	45.8	13.8	30.0	1.9	4.2	29.4	35.3
3	Alfalfa	25.0	10.4	41.7	2.4	9.6	36.8	31.4
4	Dandelion	47.9	13.1	27.4	1.2	2.5	13.0	30.0
5	Canola (Argentine)	33.3	11.8	35.3	1.7	5.1	32.4	29.3
6	Wild oats	37.5	8.2	21.9	1.7	4.5	32.6	27.1
7	Redroot pigweed	31.3	6.4	20.3	1.5	4.8	58.6	22.7
8	Green foxtail	31.3	7.6	24.3	0.6	1.8	5.6	17.2
9	Kochia	43.8	5.7	13.1	0.3	0.7	2.4	16.1
10	Canada thistle	22.9	4.9	21.4	0.3	1.2	2.4	11.1
11	Round-leaved mallow	14.6	2.7	18.6	0.2	1.4	3.4	6.9
12	Shepherd's-purse	14.6	2.3	15.7	0.1	1.0	3.0	6.1
13	Smooth brome	6.3	1.7	26.7	0.1	2.1	3.2	3.7
14	Foxtail barley	6.3	1.1	18.3	0.2	3.1	5.6	3.7
15	Annual sow-thistle	6.3	1.5	23.3	0.1	1.5	2.2	3.2
16	Pale smartweed	8.3	0.8	10.0	0.1	1.3	3.8	3.2
17	Spiny annual sow-thistle	6.3	1.4	21.7	0.1	1.5	2.8	3.2
18	Quack grass	4.2	0.6	15.0	0.2	4.4	7.4	2.7
19	Narrow-leaved hawk's-beard	6.3	0.9	15.0	0.1	1.0	1.6	2.6
20	Russian thistle	6.3	0.3	5.0	< 0.1	0.3	0.4	1.7
21	Chickweed	4.2	0.3	7.5	< 0.1	0.5	0.8	1.3
22	Barnyard grass	4.2	0.3	7.5	< 0.1	0.3	0.4	1.2
23	Broad-leaved plantain	2.1	0.5	25.0	< 0.1	2.2	2.2	1.2
24	Stinkweed	4.2	0.2	5.0	< 0.1	0.2	0.2	1.1
25	Perennial sow-thistle	2.1	0.2	10.0	< 0.1	0.4	0.4	0.7
26	Wheat	2.1	0.1	5.0	< 0.1	0.4	0.4	0.6
27	Cleavers	2.1	0.1	5.0	< 0.1	0.2	0.2	0.6

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 71. 2009 irrigated spring wheat in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Alfalfa	34.5	16.7	48.5	3.9	11.4	36.8	50.3
2	Canola (Argentine)	41.4	14.8	35.8	2.5	6.1	32.4	39.8
3	Dandelion	48.3	14.3	29.6	1.3	2.6	6.0	31.4
4	Wild buckwheat	58.6	14.0	23.8	1.0	1.7	11.2	31.2
5	Lamb's-quarters	41.4	9.5	22.9	1.1	2.7	15.8	24.8
6	Green foxtail	34.5	9.5	27.5	0.8	2.3	5.6	20.9
7	Wild oats	37.9	5.3	14.1	0.7	1.8	5.8	17.2
8	Kochia	44.8	5.5	12.3	0.3	0.7	2.4	16.0
9	Canada thistle	27.6	6.2	22.5	0.3	1.3	2.4	13.4
10	Round-leaved mallow	24.1	4.5	18.6	0.3	1.4	3.4	11.2
11	Redroot pigweed	17.2	2.1	12.0	0.2	1.2	4.8	6.8
12	Foxtail barley	10.3	1.9	18.3	0.3	3.1	5.6	6.0
13	Smooth brome	6.9	2.4	35.0	0.2	2.8	3.2	4.9
14	Spiny annual sow-thistle	6.9	1.6	22.5	0.1	1.6	2.8	3.5
15	Shepherd's-purse	10.3	0.9	8.3	0.1	0.7	1.0	3.4
16	Annual sow-thistle	6.9	1.6	22.5	0.1	1.1	1.4	3.3
17	Narrow-leaved hawk's-beard	6.9	0.7	10.0	< 0.1	0.7	1.2	2.3
18	Chickweed	6.9	0.5	7.5	< 0.1	0.5	0.8	2.1
19	Pale smartweed	6.9	0.5	7.5	< 0.1	0.5	0.6	2.1
20	Broad-leaved plantain	3.4	0.9	25.0	0.1	2.2	2.2	2.0
21	Russian thistle	6.9	0.3	5.0	< 0.1	0.3	0.4	1.8
22	Quack grass	3.4	0.5	15.0	< 0.1	1.4	1.4	1.5
23	Barnyard grass	3.4	0.3	10.0	< 0.1	0.4	0.4	1.1
24	Perennial sow-thistle	3.4	0.3	10.0	< 0.1	0.4	0.4	1.1
25	Cleavers	3.4	0.2	5.0	< 0.1	0.2	0.2	0.9
26	Stinkweed	3.4	0.2	5.0	< 0.1	0.2	0.2	0.9

Table 72. 2009 irrigated barley in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	58.3	20.0	34.3	5.2	8.9	32.6	57.6
2	Wild buckwheat	91.7	26.7	29.1	1.9	2.1	5.2	53.3
3	Lamb's-quarters	50.0	22.5	45.0	4.3	8.6	29.4	53.2
4	Redroot pigweed	50.0	14.2	28.3	5.2	10.3	58.6	50.5
5	Kochia	50.0	7.1	14.2	0.3	0.6	1.4	18.7
6	Dandelion	41.7	5.4	13.0	0.3	0.7	1.8	15.4
7	Green foxtail	33.3	7.1	21.3	0.3	1.0	1.6	15.2
8	Shepherd's-purse	16.7	4.6	27.5	0.3	1.8	3.0	9.2
9	Pale smartweed	16.7	2.1	12.5	0.3	2.0	3.8	7.2
10	Quack grass	8.3	1.3	15.0	0.6	7.4	7.4	6.2
11	Canada thistle	16.7	2.1	12.5	0.1	0.8	1.4	6.2
12	Alfalfa	8.3	0.8	10.0	0.1	0.6	0.6	2.8
13	Wheat	8.3	0.4	5.0	< 0.1	0.4	0.4	2.4
14	Russian thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	2.3

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 73. 2009 irrigated broad-leaved annual crops in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	72.2	14.4	20.0	0.7	0.9	2.0	49.1
2	Green foxtail	33.3	11.1	33.3	1.4	4.1	15.8	45.3
3	Wild oats	50.0	10.3	20.6	1.0	2.1	14.0	43.3
4	Redroot pigweed	38.9	7.2	18.6	0.9	2.3	13.4	34.0
5	Kochia	50.0	5.3	10.6	0.2	0.4	1.4	23.5
6	Dandelion	33.3	5.3	15.8	0.3	1.0	4.4	20.9
7	Barnyard grass	11.1	4.7	42.5	0.7	6.5	11.8	20.7
8	Lamb's-quarters	33.3	4.2	12.5	0.2	0.7	2.6	17.7
9	Wheat	16.7	2.5	15.0	0.3	1.7	2.0	12.0
10	Barley	5.6	2.5	45.0	0.4	7.4	7.4	11.3
11	Canada thistle	11.1	0.6	5.0	< 0.1	0.3	0.4	4.1
12	Chickweed	5.6	1.1	20.0	0.1	1.0	1.0	3.8
13	Quack grass	5.6	0.3	5.0	0.1	1.6	1.6	3.2
14	Stork's-bill	5.6	0.6	10.0	< 0.1	0.6	0.6	2.7
15	Cleavers	5.6	0.6	10.0	< 0.1	0.4	0.4	2.5
16	Foxtail barley	5.6	0.3	5.0	< 0.1	0.2	0.2	2.0
17	Japanese brome	5.6	0.3	5.0	< 0.1	0.2	0.2	2.0
18	Stinkweed	5.6	0.3	5.0	< 0.1	0.2	0.2	2.0

Table 74. 2009 irrigated canola in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	92.9	18.6	20.0	0.9	0.9	2.0	59.1
2	Wild oats	57.1	11.4	20.0	1.2	2.2	14.0	47.2
3	Green foxtail	35.7	10.0	28.0	1.3	3.6	15.8	41.5
4	Kochia	64.3	6.8	10.6	0.3	0.4	1.4	27.9
5	Dandelion	42.9	6.8	15.8	0.4	1.0	4.4	25.1
6	Barnyard grass	7.1	5.0	70.0	0.8	11.8	11.8	21.4
7	Lamb's-quarters	42.9	5.4	12.5	0.3	0.7	2.6	21.2
8	Redroot pigweed	35.7	3.6	10.0	0.2	0.5	1.2	15.7
9	Barley	7.1	3.2	45.0	0.5	7.4	7.4	14.1
10	Wheat	14.3	1.8	12.5	0.2	1.5	2.0	8.9
11	Canada thistle	14.3	0.7	5.0	< 0.1	0.3	0.4	4.8
12	Chickweed	7.1	1.4	20.0	0.1	1.0	1.0	4.6
13	Quack grass	7.1	0.4	5.0	0.1	1.6	1.6	3.9
14	Foxtail barley	7.1	0.4	5.0	< 0.1	0.2	0.2	2.3
15	Japanese brome	7.1	0.4	5.0	< 0.1	0.2	0.2	2.3

Field Survey Summary Tables – Ecodistricts 812 & 806

Table 75. 2009 irrigated perennial crops in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (48 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	93.8	61.6	65.7	12.6	13.5	51.6	172.2
2	Canada thistle	33.3	6.4	19.1	0.5	1.5	9.4	21.8
3	Smooth brome	20.8	5.8	28.0	1.0	4.9	30.6	19.7
4	Lamb's-quarters	18.8	4.5	23.9	0.9	4.7	31.2	16.6
5	Kochia	18.8	3.5	18.9	0.9	4.6	31.4	15.5
6	Quack grass	12.5	2.3	18.3	0.4	2.9	13.0	9.1
7	Wild buckwheat	8.3	1.9	22.5	0.1	1.6	2.6	5.8
8	Perennial sow-thistle	6.3	2.1	33.3	0.2	3.1	7.6	5.6
9	Wild oats	10.4	1.1	11.0	0.1	0.7	1.8	5.4
10	Barnyard grass	6.3	1.7	26.7	0.2	3.0	5.2	5.1
11	Narrow-leaved hawk's-beard	6.3	1.7	26.7	0.1	1.5	2.2	4.6
12	Foxtail barley	6.3	0.4	6.7	< 0.1	0.5	0.8	2.9
13	Annual sow-thistle	4.2	0.7	17.5	0.1	1.3	2.4	2.6
14	Spiny annual sow-thistle	4.2	0.5	12.5	< 0.1	0.7	0.8	2.2
15	Shepherd's-purse	4.2	0.3	7.5	< 0.1	0.5	0.8	2.0
16	Redroot pigweed	4.2	0.3	7.5	< 0.1	0.4	0.4	1.9
17	Curled dock	4.2	0.3	7.5	< 0.1	0.3	0.4	1.9
18	Russian thistle	4.2	0.2	5.0	< 0.1	0.2	0.2	1.8
19	White sweet-clover	2.1	0.3	15.0	< 0.1	2.0	2.0	1.3
20	Round-leaved mallow	2.1	0.1	5.0	< 0.1	0.2	0.2	0.9
21	Broad-leaved plantain	2.1	0.1	5.0	< 0.1	0.2	0.2	0.9

Table 76. 2009 irrigated alfalfa in the Brooks Plain & Berry Creek Plain Ecodistricts (812 & 806) in the Mixed Grassland Ecoregion (40 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	95.0	62.6	65.9	12.1	12.7	48.6	164.4
2	Canada thistle	35.0	7.1	20.4	0.6	1.7	9.4	22.5
3	Smooth brome	22.5	6.4	28.3	1.2	5.2	30.6	20.8
4	Lamb's-quarters	20.0	5.1	25.6	1.0	5.2	31.2	17.9
5	Kochia	22.5	4.3	18.9	1.0	4.6	31.4	17.9
6	Quack grass	15.0	2.8	18.3	0.4	2.9	13.0	10.4
7	Perennial sow-thistle	7.5	2.5	33.3	0.2	3.1	7.6	6.4
8	Wild oats	12.5	1.4	11.0	0.1	0.7	1.8	6.2
9	Barnyard grass	7.5	2.0	26.7	0.2	3.0	5.2	5.9
10	Narrow-leaved hawk's-beard	7.5	2.0	26.7	0.1	1.5	2.2	5.2
11	Wild buckwheat	7.5	1.6	21.7	0.1	1.7	2.6	4.9
12	Foxtail barley	7.5	0.5	6.7	< 0.1	0.5	0.8	3.3
13	Annual sow-thistle	5.0	0.9	17.5	0.1	1.3	2.4	3.0
14	Spiny annual sow-thistle	5.0	0.6	12.5	< 0.1	0.7	0.8	2.5
15	Shepherd's-purse	5.0	0.4	7.5	< 0.1	0.5	0.8	2.2
16	Redroot pigweed	5.0	0.4	7.5	< 0.1	0.4	0.4	2.2
17	Curled dock	5.0	0.4	7.5	< 0.1	0.3	0.4	2.2
18	Round-leaved mallow	2.5	0.1	5.0	< 0.1	0.2	0.2	1.0
19	Russian thistle	2.5	0.1	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – Ecodistrict 815

Table 77. 2009 irrigated fields in the Bindloss Plain Ecodistrict (815) in the Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	50.0	21.1	42.1	8.3	16.7	53.8	42.7
2	Wild buckwheat	64.3	28.6	44.4	4.5	7.0	25.6	41.5
3	Lamb's-quarters	64.3	21.1	32.8	5.7	8.9	35.8	39.2
4	Green foxtail	42.9	12.5	29.2	7.2	16.7	84.6	32.8
5	Redroot pigweed	35.7	16.8	47.0	6.2	17.4	52.4	32.3
6	Stinkweed	42.9	10.7	25.0	5.3	12.4	41.4	27.3
7	Kochia	14.3	6.8	47.5	3.1	21.7	41.6	14.4
8	Canada thistle	28.6	3.6	12.5	0.8	2.7	10.0	9.3
9	Pale smartweed	28.6	2.9	10.0	0.3	1.1	1.6	7.7
10	Wild oats	21.4	2.5	11.7	0.6	2.8	7.6	6.9
11	Field bindweed	21.4	1.8	8.3	0.1	0.6	1.2	5.3
12	Alfalfa	14.3	2.9	20.0	0.1	1.0	1.0	4.8
13	Barnyard grass	14.3	2.1	15.0	0.1	0.7	1.2	4.2
14	Shepherd's-purse	14.3	1.4	10.0	0.1	0.5	0.6	3.7
15	Round-leaved mallow	14.3	1.4	10.0	0.1	0.4	0.6	3.7
16	Wild mustard	14.3	1.1	7.5	0.1	0.4	0.6	3.4
17	Downy brome	7.1	1.8	25.0	0.1	1.6	1.6	2.8
18	Wheat	7.1	1.1	15.0	0.2	3.2	3.2	2.5
19	Perennial sow-thistle	7.1	1.1	15.0	0.1	1.6	1.6	2.3
20	Flixweed	7.1	0.7	10.0	0.1	1.2	1.2	2.0
21	Quack grass	7.1	0.7	10.0	< 0.1	0.4	0.4	1.8
22	Broad-leaved plantain	7.1	0.4	5.0	< 0.1	0.4	0.4	1.6
23	Canola (Argentine)	7.1	0.4	5.0	< 0.1	0.4	0.4	1.6
24	White cockle	7.1	0.4	5.0	< 0.1	0.2	0.2	1.5
25	Annual sow-thistle	7.1	0.4	5.0	< 0.1	0.2	0.2	1.5
26	Spiny annual sow-thistle	7.1	0.4	5.0	< 0.1	0.2	0.2	1.5
27	Stork's-bill	7.1	0.4	5.0	< 0.1	0.2	0.2	1.5

Table 78. 2009 irrigated fields in the Bow City Plain Ecodistrict (818) in the Mixed Grassland Ecoregion (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	68.8	29.9	43.5	4.6	6.6	16.6	67.1
2	Wild oats	25.0	10.1	40.2	3.3	13.2	49.2	34.0
3	Wheat	16.4	10.6	65.0	2.6	15.7	30.0	28.1
4	Wild buckwheat	45.3	10.6	23.5	1.0	2.1	7.8	23.9
5	Lamb's-quarters	45.3	8.0	17.7	0.6	1.3	4.8	19.5
6	Redroot pigweed	35.2	5.7	16.1	0.5	1.4	5.0	14.7
7	Kochia	44.5	5.2	11.6	0.2	0.6	1.0	14.7
8	Canada thistle	35.2	4.2	11.9	0.3	0.8	2.4	12.2
9	Alfalfa	28.9	4.8	16.5	0.2	0.9	2.4	11.3
10	Canola (Argentine)	10.9	6.0	55.0	0.5	4.9	6.0	10.5
11	Barnyard grass	9.4	5.2	55.0	0.6	6.4	7.8	9.9
12	Shepherd's-purse	15.6	4.6	29.2	0.4	2.8	4.2	9.6
13	Quack grass	19.5	2.7	13.6	0.2	1.0	1.4	7.3
14	Green foxtail	14.1	3.1	21.7	0.3	2.1	4.0	7.2
15	Round-leaved mallow	10.2	2.6	25.8	0.2	2.4	5.0	5.7
16	Foxtail barley	10.2	1.0	9.6	< 0.1	0.4	0.6	3.1
17	Pale smartweed	10.2	0.7	7.3	< 0.1	0.3	0.4	2.8
18	Flixweed	10.2	0.5	5.0	< 0.1	0.2	0.2	2.6
19	Smooth brome	4.7	0.9	20.0	0.1	1.2	1.2	2.1
20	Spiny annual sow-thistle	4.7	0.7	15.0	0.1	1.4	1.4	1.9
21	Prickly lettuce	4.7	0.7	15.0	< 0.1	0.8	0.8	1.8
22	Common burdock	4.7	0.5	10.0	0.1	1.4	1.4	1.7
23	Narrow-leaved hawk's-beard	4.7	0.7	15.0	< 0.1	0.6	0.6	1.7
24	Downy brome	5.5	0.3	5.0	< 0.1	0.4	0.4	1.4
25	Silver sagebrush	4.7	0.5	10.0	< 0.1	0.4	0.4	1.4
26	Stinkweed	5.5	0.3	5.0	< 0.1	0.2	0.2	1.4
27	Showy milkweed	4.7	0.2	5.0	< 0.1	0.4	0.4	1.2
28	Russian thistle	4.7	0.2	5.0	< 0.1	0.2	0.2	1.2

Field Survey Summary Tables – Ecodistrict 818

Table 79. 2009 irrigated annual crops in the Bow City Plain Ecodistrict (818) in the Mixed Grassland Ecoregion (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	41.6	16.7	40.2	5.5	13.2	49.2	46.4
2	Wheat	27.2	17.7	65.0	4.3	15.7	30.0	38.4
3	Wild buckwheat	75.3	17.7	23.5	1.6	2.1	7.8	31.6
4	Lamb's-quarters	66.3	12.9	19.4	1.0	1.5	4.8	23.7
5	Dandelion	57.2	13.2	23.0	1.1	1.9	8.4	23.0
6	Redroot pigweed	58.4	9.4	16.1	0.8	1.4	5.0	19.2
7	Kochia	66.3	8.2	12.4	0.4	0.5	1.0	17.3
8	Alfalfa	48.1	7.9	16.5	0.4	0.9	2.4	14.7
9	Canola (Argentine)	18.1	10.0	55.0	0.9	4.9	6.0	14.0
10	Barnyard grass	15.6	8.6	55.0	1.0	6.4	7.8	13.4
11	Shepherd's-purse	18.1	6.8	37.5	0.7	3.8	4.2	10.9
12	Quack grass	32.5	4.4	13.6	0.3	1.0	1.4	9.5
13	Canada thistle	33.8	3.9	11.5	0.2	0.6	1.0	8.7
14	Round-leaved mallow	16.9	4.4	25.8	0.4	2.4	5.0	7.6
15	Green foxtail	15.6	2.7	17.5	0.2	1.1	1.2	5.1
16	Pale smartweed	16.9	1.2	7.3	< 0.1	0.3	0.4	3.6
17	Flixweed	16.9	0.8	5.0	< 0.1	0.2	0.2	3.3
18	Prickly lettuce	7.8	1.2	15.0	0.1	0.8	0.8	2.3
19	Narrow-leaved hawk's-beard	7.8	1.2	15.0	< 0.1	0.6	0.6	2.2
20	Downy brome	9.1	0.5	5.0	< 0.1	0.4	0.4	1.9
21	Foxtail barley	9.1	0.5	5.0	< 0.1	0.2	0.2	1.8
22	Stinkweed	9.1	0.5	5.0	< 0.1	0.2	0.2	1.8

Table 80. 2009 irrigated fields in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (81 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	33.3	8.6	25.8	1.4	4.1	33.6	50.1
2	Wild buckwheat	26.4	4.9	18.7	0.4	1.6	12.4	26.4
3	Kochia	22.8	4.0	17.7	0.4	2.0	13.6	23.6
4	Dandelion	15.6	5.1	32.4	0.4	2.9	11.0	22.6
5	Smooth brome	4.2	2.2	51.7	1.0	23.4	61.6	20.3
6	Green foxtail	12.4	3.7	30.2	0.5	4.4	28.8	20.1
7	Perennial sow-thistle	10.7	3.7	34.6	0.5	4.4	15.6	18.4
8	Canada thistle	19.7	2.7	13.8	0.2	1.1	9.0	16.5
9	Redroot pigweed	13.6	2.2	16.4	0.2	1.5	9.0	12.9
10	Lamb's-quarters	7.7	2.4	31.2	0.3	3.4	11.8	11.5
11	Persian darnel	4.2	1.9	45.0	0.3	6.8	15.2	9.4
12	Canola (Argentine)	11.0	1.6	14.2	0.1	0.7	2.2	8.6
13	Foxtail barley	10.4	1.3	12.4	0.1	0.9	1.8	8.1
14	Stinkweed	6.8	1.7	24.5	0.1	1.9	4.6	7.8
15	Quack grass	7.4	1.1	14.6	0.2	2.4	4.2	7.7
16	Tartary buckwheat	4.2	0.7	16.7	0.1	1.4	2.2	3.9
17	Alfalfa	3.9	0.8	20.5	< 0.1	1.1	2.6	3.7
18	Wild mustard	1.4	1.0	75.0	0.1	5.6	5.6	3.7
19	White mustard	1.2	0.7	60.0	0.1	9.4	9.4	3.5
20	Spiny annual sow-thistle	2.6	0.8	29.3	0.1	2.3	3.6	3.4
21	Barnyard grass	2.6	0.7	25.8	< 0.1	1.7	3.2	3.0
22	Prickly lettuce	1.2	0.6	50.0	< 0.1	3.6	3.6	2.2
23	Wheat	2.8	0.3	12.5	< 0.1	0.9	1.6	2.2
24	Round-leaved mallow	2.4	0.4	15.0	< 0.1	1.0	1.4	2.0
25	Shepherd's-purse	1.5	0.4	25.0	< 0.1	3.0	3.0	2.0
26	Flixweed	3.6	0.2	5.0	< 0.1	0.2	0.2	1.9
27	Stork's-bill	1.5	0.4	25.0	< 0.1	1.6	1.6	1.7
28	Russian thistle	1.4	0.2	15.0	< 0.1	1.2	1.2	1.2
29	Rough cinquefoil	1.4	0.1	5.0	< 0.1	0.2	0.2	0.8
30	Ball mustard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Ecodistrict 823

Table 81. 2009 irrigated annual crops in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (68 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	38.4	10.1	26.4	1.6	4.2	33.6	58.0
2	Wild buckwheat	31.5	5.9	18.7	0.5	1.6	12.4	31.4
3	Kochia	24.2	4.6	19.0	0.5	2.2	13.6	26.2
4	Smooth brome	5.0	2.6	51.7	1.2	23.4	61.6	23.6
5	Green foxtail	13.1	3.5	27.0	0.6	4.4	28.8	20.4
6	Perennial sow-thistle	9.7	3.8	39.0	0.5	5.4	15.6	18.8
7	Dandelion	8.0	2.6	32.1	0.3	3.4	11.0	12.0
8	Canada thistle	19.1	1.5	7.6	0.1	0.5	1.4	12.0
9	Persian darnel	5.0	2.2	45.0	0.3	6.8	15.2	11.2
10	Redroot pigweed	14.9	1.5	10.3	0.1	0.8	2.2	10.8
11	Lamb's-quarters	7.7	1.9	24.1	0.2	3.2	11.8	10.3
12	Canola (Argentine)	11.7	1.8	15.3	0.1	0.8	2.2	9.5
13	Stinkweed	8.1	2.0	24.5	0.2	1.9	4.6	9.3
14	Foxtail barley	6.4	0.6	9.8	< 0.1	0.8	1.6	4.6
15	Alfalfa	4.6	0.9	20.5	< 0.1	1.1	2.6	4.4
16	Wild mustard	1.7	1.2	75.0	0.1	5.6	5.6	4.4
17	White mustard	1.4	0.9	60.0	0.1	9.4	9.4	4.1
18	Spiny annual sow-thistle	3.1	0.9	29.3	0.1	2.3	3.6	4.0
19	Barnyard grass	3.1	0.8	25.8	0.1	1.7	3.2	3.5
20	Quack grass	3.1	0.6	18.4	0.1	2.0	3.6	3.3
21	Prickly lettuce	1.4	0.7	50.0	0.1	3.6	3.6	2.7
22	Wheat	3.3	0.4	12.5	< 0.1	0.9	1.6	2.6
23	Round-leaved mallow	2.9	0.4	15.0	< 0.1	1.0	1.4	2.4
24	Tartary buckwheat	3.3	0.2	7.5	< 0.1	1.0	1.4	2.3
25	Shepherd's-purse	1.8	0.4	25.0	0.1	3.0	3.0	2.3
26	Stork's-bill	1.8	0.4	25.0	< 0.1	1.6	1.6	2.0
27	Flixweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.5
28	Russian thistle	1.7	0.2	15.0	< 0.1	1.2	1.2	1.4
29	Ball mustard	1.7	0.1	5.0	< 0.1	0.2	0.2	0.9

Table 82. 2009 irrigated cereal crops in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (39 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	48.5	13.0	26.9	1.9	3.8	33.6	57.4
2	Wild buckwheat	47.0	9.8	20.9	0.9	1.8	12.4	40.0
3	Green foxtail	20.3	6.0	29.7	1.0	4.9	28.8	27.5
4	Kochia	31.2	6.5	20.8	0.5	1.6	5.0	25.5
5	Perennial sow-thistle	11.1	5.7	51.4	0.9	7.9	15.6	22.6
6	Canada thistle	27.8	2.3	8.1	0.1	0.5	1.4	14.1
7	Lamb's-quarters	10.9	2.5	22.7	0.4	3.6	11.8	12.0
8	Stinkweed	11.5	3.3	28.8	0.3	2.3	4.6	11.8
9	Persian darnel	5.8	3.0	52.5	0.4	7.7	15.2	11.7
10	Dandelion	5.6	2.8	49.8	0.4	6.6	11.0	10.3
11	Redroot pigweed	18.4	1.3	7.0	0.1	0.7	1.6	9.5
12	Canola (Argentine)	10.4	2.1	20.4	0.1	1.1	2.2	7.8
13	Wild mustard	2.9	2.2	75.0	0.2	5.6	5.6	6.0
14	White mustard	2.5	1.5	60.0	0.2	9.4	9.4	5.8
15	Foxtail barley	8.3	1.0	11.5	0.1	1.0	1.6	5.1
16	Alfalfa	5.6	1.3	22.9	0.1	1.3	2.6	4.5
17	Prickly lettuce	2.5	1.2	50.0	0.1	3.6	3.6	3.7
18	Quack grass	2.9	0.9	30.0	0.1	3.6	3.6	3.5
19	Spiny annual sow-thistle	2.5	1.0	40.0	0.1	3.6	3.6	3.3
20	Round-leaved mallow	5.0	0.7	15.0	< 0.1	1.0	1.4	3.3
21	Shepherd's-purse	3.1	0.8	25.0	0.1	3.0	3.0	3.2
22	Tartary buckwheat	5.8	0.4	7.5	0.1	1.0	1.4	3.2
23	Stork's-bill	3.1	0.8	25.0	< 0.1	1.6	1.6	2.7
24	Russian thistle	2.9	0.4	15.0	< 0.1	1.2	1.2	2.0
25	Smooth brome	2.9	0.1	5.0	< 0.1	0.4	0.4	1.3
26	Barnyard grass	2.9	0.1	5.0	< 0.1	0.4	0.4	1.3
27	Flixweed	2.5	0.1	5.0	< 0.1	0.2	0.2	1.1

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Table 83. 2009 irrigated spring wheat in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	49.2	11.8	24.1	1.1	2.3	12.4	55.3
2	Wild oats	36.9	8.7	23.6	1.6	4.2	33.6	51.9
3	Kochia	34.1	6.7	19.8	0.4	1.3	2.6	30.4
4	Green foxtail	22.4	5.0	22.3	0.4	1.8	6.4	22.6
5	Perennial sow-thistle	7.8	4.2	53.0	0.6	7.8	14.2	19.2
6	Dandelion	8.1	4.0	49.8	0.5	6.6	11.0	17.9
7	Lamb's-quarters	8.7	2.9	33.3	0.5	6.2	11.8	16.2
8	Canada thistle	25.4	2.4	9.3	0.2	0.6	1.4	15.5
9	Redroot pigweed	19.6	1.2	5.9	0.1	0.7	1.6	11.2
10	Canola (Argentine)	11.5	2.2	18.9	0.1	1.1	2.2	9.8
11	Stinkweed	4.2	1.9	45.0	0.2	4.6	4.6	7.7
12	Prickly lettuce	3.6	1.8	50.0	0.1	3.6	3.6	6.4
13	Spiny annual sow-thistle	3.6	1.5	40.0	0.1	3.6	3.6	5.8
14	Round-leaved mallow	7.3	1.1	15.0	0.1	1.0	1.4	5.6
15	Shepherd's-purse	4.5	1.1	25.0	0.1	3.0	3.0	5.6
16	Foxtail barley	7.8	0.8	9.6	0.1	0.8	1.6	5.1
17	Stork's-bill	4.5	1.1	25.0	0.1	1.6	1.6	4.6
18	Russian thistle	4.2	0.6	15.0	0.1	1.2	1.2	3.4
19	Alfalfa	4.5	0.2	5.0	< 0.1	0.2	0.2	2.1
20	Persian darnel	4.2	0.2	5.0	< 0.1	0.2	0.2	2.0
21	Flixweed	3.6	0.2	5.0	< 0.1	0.2	0.2	1.7

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Table 84. 2009 irrigated barley in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	78.2	19.2	24.6	2.4	3.0	10.8	56.6
2	Green foxtail	18.8	9.9	52.5	2.7	14.5	28.8	35.6
3	Perennial sow-thistle	21.8	10.9	50.0	1.7	7.9	15.6	29.5
4	Persian darnel	10.9	10.9	100.0	1.7	15.2	15.2	26.3
5	Kochia	29.7	7.1	23.9	0.7	2.3	5.0	19.7
6	Stinkweed	32.7	7.6	23.3	0.5	1.5	2.8	19.5
7	Wild buckwheat	40.6	4.6	11.3	0.2	0.5	0.8	16.1
8	Wild mustard	10.9	8.2	75.0	0.6	5.6	5.6	15.5
9	White mustard	9.4	5.6	60.0	0.9	9.4	9.4	14.8
10	Canada thistle	39.1	2.4	6.2	0.2	0.4	0.6	13.3
11	Quack grass	10.9	3.3	30.0	0.4	3.6	3.6	9.0
12	Tartary buckwheat	21.8	1.6	7.5	0.2	1.0	1.4	8.7
13	Alfalfa	9.4	4.2	45.0	0.2	2.6	2.6	8.4
14	Redroot pigweed	18.8	1.9	10.0	0.1	0.6	1.0	7.4
15	Lamb's-quarters	18.8	1.9	10.0	0.1	0.5	0.8	7.2
16	Foxtail barley	10.9	1.6	15.0	0.1	1.2	1.2	5.3
17	Smooth brome	10.9	0.5	5.0	< 0.1	0.4	0.4	3.6
18	Barnyard grass	10.9	0.5	5.0	< 0.1	0.4	0.4	3.6

Table 85. 2009 irrigated broad-leaved annual crops in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Smooth brome	7.8	5.9	75.0	2.7	34.9	61.6	75.1
2	Wild oats	24.7	6.2	25.1	1.2	5.1	24.2	60.1
3	Kochia	14.6	2.0	13.8	0.6	3.9	13.6	26.9
4	Dandelion	11.2	2.3	20.2	0.1	1.3	2.8	17.7
5	Redroot pigweed	10.1	1.9	18.3	0.1	1.1	2.2	14.9
6	Canola (Argentine)	13.5	1.3	10.0	0.1	0.4	0.6	14.4
7	Perennial sow-thistle	7.8	1.2	15.0	0.1	0.8	0.8	10.3
8	Persian darnel	3.9	1.2	30.0	0.2	5.0	5.0	10.2
9	Barnyard grass	3.4	1.7	50.0	0.1	3.2	3.2	10.0
10	Wheat	7.8	1.0	12.5	0.1	0.9	1.6	9.7
11	Wild buckwheat	10.7	0.5	5.0	< 0.1	0.2	0.2	9.1
12	Lamb's-quarters	3.4	1.0	30.0	0.1	1.6	1.6	6.7
13	Canada thistle	7.3	0.4	5.0	< 0.1	0.2	0.2	6.2
14	Spiny annual sow-thistle	3.9	0.8	20.0	< 0.1	1.2	1.2	6.1
15	Alfalfa	3.4	0.5	15.0	< 0.1	0.6	0.6	4.3
16	Foxtail barley	3.9	0.2	5.0	< 0.1	0.2	0.2	3.3
17	Ball mustard	3.9	0.2	5.0	< 0.1	0.2	0.2	3.3
18	Flixweed	3.4	0.2	5.0	< 0.1	0.2	0.2	2.9
19	Green foxtail	3.4	0.2	5.0	< 0.1	0.2	0.2	2.9
20	Quack grass	3.4	0.2	5.0	< 0.1	0.2	0.2	2.9
21	Stinkweed	3.4	0.2	5.0	< 0.1	0.2	0.2	2.9

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Table 86. 2009 irrigated canola in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Smooth brome	20.2	15.2	75.0	7.1	34.9	61.6	132.2
2	Wild oats	10.1	6.1	60.0	2.4	24.2	24.2	50.9
3	Perennial sow-thistle	20.2	3.0	15.0	0.2	0.8	0.8	27.5
4	Dandelion	10.1	4.0	40.0	0.3	2.8	2.8	23.4
5	Spiny annual sow-thistle	10.1	2.0	20.0	0.1	1.2	1.2	15.7
6	Wild buckwheat	10.1	0.5	5.0	< 0.1	0.2	0.2	10.1
7	Kochia	10.1	0.5	5.0	< 0.1	0.2	0.2	10.1
8	Ball mustard	10.1	0.5	5.0	< 0.1	0.2	0.2	10.1
9	Canada thistle	10.1	0.5	5.0	< 0.1	0.2	0.2	10.1
10	Wheat	10.1	0.5	5.0	< 0.1	0.2	0.2	10.1

Table 87. 2009 irrigated perennial crops in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	54.8	17.9	32.6	1.4	2.5	5.8	79.3
2	Canada thistle	23.2	9.2	39.7	0.9	3.7	9.0	41.7
3	Quack grass	29.3	3.7	12.5	0.8	2.6	4.2	33.4
4	Foxtail barley	30.5	4.6	15.2	0.3	1.1	1.8	27.1
5	Redroot pigweed	7.3	5.9	80.0	0.7	9.0	9.0	25.5
6	Green foxtail	8.5	4.7	55.0	0.4	4.4	4.4	18.6
7	Lamb's-quarters	7.3	5.1	70.0	0.3	4.4	4.4	17.8
8	Perennial sow-thistle	15.8	3.3	20.7	0.2	1.0	1.4	15.4
9	Tartary buckwheat	8.5	3.0	35.0	0.2	2.2	2.2	12.2
10	Kochia	15.8	1.2	7.7	< 0.1	0.3	0.4	9.8
11	Wild oats	7.3	0.7	10.0	0.1	1.4	1.4	6.3
12	Rough cinquefoil	8.5	0.4	5.0	< 0.1	0.2	0.2	4.7
13	Flixweed	7.3	0.4	5.0	< 0.1	0.2	0.2	4.1
14	Canola (Argentine)	7.3	0.4	5.0	< 0.1	0.2	0.2	4.1

Table 88. 2009 irrigated alfalfa in the Vauxhall Plain Ecodistrict (823) in the Mixed Grassland Ecoregion (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	50.8	22.3	43.9	1.7	3.4	5.8	78.9
2	Quack grass	39.4	4.9	12.5	1.0	2.6	4.2	39.1
3	Canada thistle	19.7	8.4	42.5	0.9	4.7	9.0	34.3
4	Redroot pigweed	9.8	7.9	80.0	0.9	9.0	9.0	28.9
5	Foxtail barley	29.5	3.9	13.3	0.3	0.9	1.8	21.7
6	Green foxtail	11.4	6.3	55.0	0.5	4.4	4.4	21.3
7	Lamb's-quarters	9.8	6.9	70.0	0.4	4.4	4.4	20.5
8	Perennial sow-thistle	21.3	4.4	20.7	0.2	1.0	1.4	18.4
9	Tartary buckwheat	11.4	4.0	35.0	0.3	2.2	2.2	14.2
10	Wild oats	9.8	1.0	10.0	0.1	1.4	1.4	7.6
11	Flixweed	9.8	0.5	5.0	< 0.1	0.2	0.2	5.1
12	Kochia	9.8	0.5	5.0	< 0.1	0.2	0.2	5.1
13	Canola (Argentine)	9.8	0.5	5.0	< 0.1	0.2	0.2	5.1

Table 89. 2009 irrigated fields in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (111 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	16.9	6.8	40.1	2.3	13.5	73.8	55.3
2	Kochia	51.6	8.0	15.5	0.8	1.6	14.6	48.4
3	Wild oats	35.9	6.8	18.8	0.8	2.3	14.4	40.4
4	Wild buckwheat	33.1	6.3	19.1	0.5	1.6	28.0	33.8
5	Lamb's-quarters	23.0	3.1	13.6	0.3	1.1	12.2	19.1
6	Canada thistle	19.8	2.5	12.9	0.3	1.3	7.0	16.7
7	Round-leaved mallow	17.5	2.9	16.5	0.2	1.0	2.4	15.3
8	Spiny annual sow-thistle	0.7	0.7	100.0	0.4	57.6	57.6	7.3
9	Canola (Argentine)	8.6	1.2	14.0	0.1	1.0	2.6	7.0
10	Green foxtail	3.3	1.0	29.2	0.2	6.5	13.0	6.5
11	Redroot pigweed	8.5	1.0	11.7	0.1	0.6	1.6	6.1
12	Foxtail barley	3.5	0.6	18.5	0.2	4.6	12.8	5.1
13	Field bindweed	4.5	0.6	14.2	0.1	2.1	6.2	4.5
14	Alfalfa	2.3	0.5	21.2	0.2	7.0	19.2	4.4
15	Stinkweed	6.6	0.5	7.9	< 0.1	0.3	0.8	3.9
16	Wheat	2.3	0.5	21.4	0.1	3.8	8.0	3.3
17	Perennial sow-thistle	3.0	0.4	14.9	0.1	2.2	4.6	3.0
18	Wild tomato	4.5	0.3	7.1	< 0.1	0.8	1.4	2.9
19	Sunflower species	2.5	0.3	13.3	< 0.1	1.1	1.6	2.1
20	Flixweed	3.8	0.2	6.3	< 0.1	0.3	0.4	2.1
21	Quack grass	2.0	0.2	10.8	< 0.1	0.9	1.2	1.5
22	Cow cockle	0.9	0.3	35.0	< 0.1	1.8	1.8	1.3
23	Downy brome	1.8	0.2	10.3	< 0.1	0.9	1.2	1.3
24	White clover	1.7	0.2	10.0	< 0.1	0.5	0.6	1.1
25	Russian thistle	1.9	0.1	7.5	< 0.1	0.3	0.4	1.1
26	Goat's-beard	2.0	0.1	5.0	< 0.1	0.2	0.2	1.0
27	Yellow sweet-clover	0.8	0.2	20.0	< 0.1	1.4	1.4	0.9
28	Prostrate pigweed	0.9	0.1	15.0	< 0.1	0.6	0.6	0.7
29	Pale smartweed	0.7	0.1	20.0	< 0.1	2.0	2.0	0.7
30	Barley	0.8	0.1	15.0	< 0.1	0.6	0.6	0.7
31	Broad-leaved plantain	1.2	0.1	5.0	< 0.1	0.4	0.4	0.6
32	Prickly lettuce	1.2	0.1	5.0	< 0.1	0.2	0.2	0.6
33	Showy milkweed	0.8	0.1	10.0	< 0.1	0.8	0.8	0.6
34	Annual sow-thistle	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.5
35	Corn	0.7	0.1	10.0	< 0.1	0.4	0.4	0.4

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Table 90. 2009 irrigated annual crops in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (97 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	55.2	9.0	16.4	0.9	1.7	14.6	61.7
2	Wild oats	40.4	7.6	18.8	1.0	2.4	14.4	53.8
3	Wild buckwheat	37.3	6.9	18.4	0.6	1.5	28.0	42.4
4	Lamb's-quarters	24.1	3.4	14.1	0.3	1.2	12.2	23.0
5	Round-leaved mallow	20.2	3.3	16.5	0.2	1.0	2.4	19.7
6	Canada thistle	17.5	2.0	11.4	0.2	1.2	7.0	15.7
7	Spiny annual sow-thistle	0.8	0.8	100.0	0.4	57.6	57.6	11.6
8	Green foxtail	3.8	1.1	29.2	0.2	6.5	13.0	9.5
9	Canola (Argentine)	8.8	1.2	13.9	0.1	1.0	2.6	8.0
10	Redroot pigweed	9.9	1.2	11.7	0.1	0.6	1.6	7.7
11	Alfalfa	2.7	0.6	21.2	0.2	7.0	19.2	6.5
12	Dandelion	7.2	0.8	11.2	< 0.1	0.6	1.8	5.5
13	Stinkweed	7.7	0.6	7.9	< 0.1	0.3	0.8	4.8
14	Wheat	2.7	0.6	21.4	0.1	3.8	8.0	4.6
15	Wild tomato	5.1	0.4	7.1	< 0.1	0.8	1.4	3.6
16	Field bindweed	3.9	0.3	8.8	< 0.1	0.7	1.6	2.8
17	Sunflower species	2.9	0.4	13.3	< 0.1	1.1	1.6	2.7
18	Flixweed	4.4	0.3	6.3	< 0.1	0.3	0.4	2.5
19	Cow cockle	1.1	0.4	35.0	< 0.1	1.8	1.8	1.7
20	Downy brome	2.1	0.2	10.3	< 0.1	0.9	1.2	1.7
21	Foxtail barley	2.1	0.2	7.7	< 0.1	0.7	1.0	1.4
22	Russian thistle	2.2	0.2	7.5	< 0.1	0.3	0.4	1.3
23	Perennial sow-thistle	2.1	0.1	5.0	< 0.1	0.6	0.6	1.3
24	Goat's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	1.2
25	Pale smartweed	0.8	0.2	20.0	< 0.1	2.0	2.0	1.0
26	Prostrate pigweed	1.1	0.2	15.0	< 0.1	0.6	0.6	0.9
27	Barley	1.0	0.1	15.0	< 0.1	0.6	0.6	0.8
28	Showy milkweed	1.0	0.1	10.0	< 0.1	0.8	0.8	0.8
29	Annual sow-thistle	1.1	0.1	5.0	< 0.1	0.2	0.2	0.6
30	Quack grass	1.0	< 0.1	5.0	< 0.1	0.4	0.4	0.6
31	Corn	0.8	0.1	10.0	< 0.1	0.4	0.4	0.5

Table 91. 2009 irrigated cereal crops in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (55 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	62.1	12.1	19.5	1.6	2.6	14.4	62.9
2	Kochia	63.3	12.2	19.3	1.4	2.2	14.6	60.5
3	Wild buckwheat	40.5	7.9	19.4	0.8	1.9	28.0	36.8
4	Lamb's-quarters	33.5	5.1	15.3	0.5	1.4	12.2	25.4
5	Canada thistle	27.3	3.0	10.9	0.2	0.8	2.2	16.4
6	Spiny annual sow-thistle	1.3	1.3	100.0	0.8	57.6	57.6	14.0
7	Green foxtail	6.6	1.9	29.2	0.4	6.5	13.0	11.7
8	Round-leaved mallow	18.0	2.5	13.8	0.1	0.8	2.2	11.6
9	Canola (Argentine)	15.3	2.1	13.9	0.2	1.0	2.6	10.4
10	Redroot pigweed	17.1	2.0	11.7	0.1	0.6	1.6	10.0
11	Alfalfa	4.7	1.0	21.2	0.3	7.0	19.2	8.0
12	Dandelion	10.8	1.3	12.2	0.1	0.7	1.8	6.5
13	Stinkweed	11.4	1.0	8.3	< 0.1	0.4	0.8	5.6
14	Flixweed	7.6	0.5	6.3	< 0.1	0.3	0.4	3.3
15	Field bindweed	5.1	0.3	6.7	< 0.1	0.3	0.4	2.3
16	Cow cockle	1.9	0.7	35.0	< 0.1	1.8	1.8	2.2
17	Wild tomato	3.8	0.3	7.5	< 0.1	0.8	1.2	2.0
18	Perennial sow-thistle	3.6	0.2	5.0	< 0.1	0.6	0.6	1.7
19	Pale smartweed	1.3	0.3	20.0	< 0.1	2.0	2.0	1.2
20	Downy brome	1.9	0.3	15.0	< 0.1	0.6	0.6	1.2
21	Barley	1.7	0.3	15.0	< 0.1	0.6	0.6	1.1
22	Russian thistle	1.9	0.2	10.0	< 0.1	0.4	0.4	1.0
23	Sunflower species	1.7	0.2	10.0	< 0.1	0.8	0.8	1.0
24	Goat's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	0.9
25	Wheat	1.7	0.1	5.0	< 0.1	0.6	0.6	0.8
26	Annual sow-thistle	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
27	Quack grass	1.7	0.1	5.0	< 0.1	0.4	0.4	0.7

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Table 92. 2009 irrigated spring wheat in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	78.4	12.3	15.7	1.7	2.1	14.4	67.7
2	Kochia	63.8	10.7	16.8	1.0	1.5	7.2	50.4
3	Wild buckwheat	45.5	9.1	19.9	1.0	2.2	28.0	43.3
4	Lamb's-quarters	42.7	5.6	13.1	0.3	0.8	2.6	25.9
5	Spiny annual sow-thistle	2.1	2.1	100.0	1.2	57.6	57.6	23.8
6	Canada thistle	32.6	3.6	11.0	0.2	0.8	1.8	18.4
7	Redroot pigweed	21.8	2.2	10.0	0.1	0.5	0.8	11.0
8	Round-leaved mallow	15.2	2.2	14.2	0.1	0.9	2.2	9.7
9	Stinkweed	18.7	1.6	8.3	0.1	0.4	0.8	8.6
10	Green foxtail	7.0	1.0	15.0	0.2	3.0	4.4	6.9
11	Dandelion	9.1	1.4	15.9	0.1	0.9	1.8	6.1
12	Flixweed	12.5	0.8	6.3	< 0.1	0.3	0.4	5.0
13	Canola (Argentine)	9.7	0.5	5.0	< 0.1	0.4	1.0	4.0
14	Cow cockle	3.1	1.1	35.0	0.1	1.8	1.8	3.6
15	Wild tomato	6.2	0.5	7.5	< 0.1	0.8	1.2	3.2
16	Field bindweed	5.5	0.3	5.0	< 0.1	0.3	0.4	2.1
17	Pale smartweed	2.1	0.4	20.0	< 0.1	2.0	2.0	2.0
18	Downy brome	3.1	0.5	15.0	< 0.1	0.6	0.6	1.9
19	Russian thistle	3.1	0.3	10.0	< 0.1	0.4	0.4	1.5
20	Goat's-beard	3.8	0.2	5.0	< 0.1	0.2	0.2	1.4
21	Perennial sow-thistle	3.1	0.2	5.0	< 0.1	0.6	0.6	1.4
22	Annual sow-thistle	3.1	0.2	5.0	< 0.1	0.2	0.2	1.2
23	Alfalfa	2.1	0.1	5.0	< 0.1	0.2	0.2	0.8

Table 93. 2009 irrigated barley in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	68.9	21.6	31.4	3.4	4.9	14.6	105.0
2	Wild oats	54.7	20.0	36.6	2.6	4.8	10.0	87.3
3	Alfalfa	7.5	3.8	50.0	1.4	19.2	19.2	26.5
4	Canada thistle	22.6	3.0	13.3	0.3	1.4	2.2	18.3
5	Canola (Argentine)	15.1	4.5	30.0	0.3	2.1	2.2	17.7
6	Redroot pigweed	8.5	2.6	30.0	0.1	1.6	1.6	9.5
7	Round-leaved mallow	15.1	1.1	7.5	0.1	0.5	0.6	9.1
8	Sunflower species	7.5	0.8	10.0	0.1	0.8	0.8	5.2
9	Wild buckwheat	7.5	0.4	5.0	< 0.1	0.6	0.6	4.3
10	Lamb's-quarters	7.5	0.4	5.0	< 0.1	0.6	0.6	4.3
11	Perennial sow-thistle	7.5	0.4	5.0	< 0.1	0.6	0.6	4.3
12	Dandelion	7.5	0.4	5.0	< 0.1	0.4	0.4	4.2
13	Quack grass	7.5	0.4	5.0	< 0.1	0.4	0.4	4.2

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Table 94. 2009 irrigated broad-leaved annual crops in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (42 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	44.2	4.7	10.7	0.3	0.6	2.0	62.9
2	Wild buckwheat	32.9	5.5	16.7	0.3	1.0	5.0	62.8
3	Round-leaved mallow	23.3	4.5	19.3	0.3	1.2	2.4	50.6
4	Wheat	4.1	1.2	30.6	0.2	5.6	8.0	21.5
5	Wild oats	11.0	1.5	13.5	0.1	0.8	1.2	18.4
6	Canada thistle	4.1	0.6	15.6	0.2	4.7	7.0	16.8
7	Lamb's-quarters	11.3	1.0	9.2	< 0.1	0.4	0.6	13.9
8	Wild tomato	7.0	0.5	6.9	0.1	0.8	1.4	9.6
9	Sunflower species	4.6	0.7	15.0	0.1	1.3	1.6	9.4
10	Foxtail barley	4.9	0.4	7.7	< 0.1	0.7	1.0	6.6
11	Field bindweed	2.3	0.3	15.0	< 0.1	1.6	1.6	5.1
12	Prostrate pigweed	2.6	0.4	15.0	< 0.1	0.6	0.6	4.2
13	Downy brome	2.3	0.1	5.0	< 0.1	1.2	1.2	3.5
14	Showy milkweed	2.3	0.2	10.0	< 0.1	0.8	0.8	3.5
15	Stinkweed	2.6	0.1	5.0	< 0.1	0.2	0.2	2.4
16	Russian thistle	2.6	0.1	5.0	< 0.1	0.2	0.2	2.4
17	Corn	1.8	0.2	10.0	< 0.1	0.4	0.4	2.3
18	Dandelion	2.3	0.1	5.0	< 0.1	0.2	0.2	2.1
19	Goat's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	2.1

Table 95. 2009 irrigated canola in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	34.3	8.4	24.4	0.6	1.7	5.0	76.7
2	Kochia	56.8	7.3	12.9	0.4	0.7	2.0	75.7
3	Round-leaved mallow	34.3	7.3	21.2	0.5	1.4	2.4	68.7
4	Wild tomato	13.1	1.0	7.5	0.1	1.0	1.4	17.0
5	Wild oats	14.7	1.1	7.8	0.1	0.6	1.0	16.5
6	Lamb's-quarters	13.1	1.6	12.5	0.1	0.5	0.6	15.9
7	Sunflower species	5.8	1.2	20.0	0.1	1.6	1.6	11.9
8	Foxtail barley	5.8	0.3	5.0	0.1	1.0	1.0	7.1
9	Stinkweed	6.6	0.3	5.0	< 0.1	0.2	0.2	5.2
10	Russian thistle	6.6	0.3	5.0	< 0.1	0.2	0.2	5.2

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Table 96. 2009 irrigated dry beans in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	36.7	3.7	10.1	0.2	0.6	1.2	60.3
2	Canada thistle	12.1	1.9	15.6	0.6	4.7	7.0	48.9
3	Wheat	6.8	2.4	35.0	0.5	8.0	8.0	46.1
4	Wild oats	15.4	3.1	20.0	0.2	1.0	1.2	36.4
5	Wild buckwheat	23.1	2.3	10.0	0.1	0.4	0.8	35.0
6	Round-leaved mallow	7.7	1.5	20.0	0.1	1.0	1.0	18.2
7	Field bindweed	6.8	1.0	15.0	0.1	1.6	1.6	16.4
8	Prostrate pigweed	7.7	1.2	15.0	< 0.1	0.6	0.6	14.5
9	Sunflower species	6.8	0.7	10.0	0.1	1.0	1.0	12.4
10	Showy milkweed	6.8	0.7	10.0	0.1	0.8	0.8	11.7

Table 97. 2009 irrigated perennial crops in the Foremost Plain Ecodistrict (828) in the Mixed Grassland Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	79.6	45.4	57.1	16.8	21.1	73.8	176.3
2	Canada thistle	34.6	6.2	17.8	0.6	1.6	3.8	24.8
3	Foxtail barley	12.5	3.8	30.0	1.1	8.8	12.8	15.5
4	Kochia	28.3	1.4	5.0	0.1	0.2	0.2	13.4
5	Field bindweed	8.7	2.6	30.0	0.5	6.2	6.2	9.7
6	Perennial sow-thistle	8.7	2.6	30.0	0.4	4.6	4.6	9.0
7	Lamb's-quarters	15.8	1.5	9.5	0.1	0.5	0.8	8.6
8	Wild buckwheat	6.3	2.8	45.0	0.2	3.8	3.8	7.5
9	White clover	12.5	1.3	10.0	0.1	0.5	0.6	7.0
10	Quack grass	8.7	1.3	15.0	0.1	1.2	1.2	5.7
11	Wild oats	7.1	1.4	20.0	0.1	1.0	1.0	5.1
12	Yellow sweet-clover	6.3	1.3	20.0	0.1	1.4	1.4	4.6
13	Canola (Argentine)	7.1	1.1	15.0	0.1	0.8	0.8	4.5
14	Broad-leaved plantain	8.7	0.4	5.0	< 0.1	0.4	0.4	4.2
15	Prickly lettuce	8.7	0.4	5.0	< 0.1	0.2	0.2	4.1

Table 98. 2009 irrigated fields in the Purple Springs Plain Ecodistrict (829) in the Mixed Grassland Ecoregion (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	34.5	4.3	12.5	0.6	1.7	5.4	42.5
2	Wild oats	17.3	2.9	16.7	0.6	3.4	6.6	30.4
3	Dandelion	25.9	3.0	11.7	0.3	1.1	2.0	27.2
4	Foxtail barley	14.4	1.7	12.0	0.6	4.3	15.0	26.5
5	Canada thistle	31.0	2.1	6.9	0.2	0.8	2.2	25.9
6	Redroot pigweed	17.3	3.0	17.5	0.3	1.5	7.6	23.0
7	Wild buckwheat	8.0	3.6	44.8	0.3	3.6	8.2	20.9
8	Pasture sage	5.8	3.2	55.0	0.3	5.7	6.8	19.7
9	Alfalfa	2.9	2.3	80.0	0.3	9.0	9.0	14.2
10	White sweet-clover	2.9	2.2	75.0	0.2	8.0	8.0	13.1
11	Lamb's-quarters	11.5	1.2	10.0	0.1	0.5	0.8	9.9
12	Goat's-beard	8.6	0.9	10.0	0.1	0.9	1.8	8.2
13	Yellow sweet-clover	8.6	0.9	10.0	0.1	0.9	2.0	8.2
14	Canola (Argentine)	5.8	1.0	17.5	< 0.1	0.8	1.0	6.6
15	Prickly rose	2.9	0.6	20.0	0.1	2.2	2.2	4.5
16	Bull thistle	5.8	0.3	5.0	< 0.1	0.3	0.4	3.9
17	Purslane	2.9	0.4	15.0	< 0.1	1.4	1.4	3.5
18	Common groundsel	2.9	0.4	15.0	< 0.1	0.8	0.8	3.1
19	Timothy	2.9	0.3	10.0	< 0.1	0.6	0.6	2.6
20	Showy milkweed	2.9	0.1	5.0	< 0.1	0.6	0.6	2.1
21	Field bindweed	2.9	0.1	5.0	< 0.1	0.2	0.2	1.9
22	White clover	2.9	0.1	5.0	< 0.1	0.2	0.2	1.9

Table 99. 2009 irrigated annual crops in the Purple Springs Plain Ecodistrict (829) in the Mixed Grassland Ecoregion (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	38.8	4.8	12.5	0.6	1.5	3.0	56.0
2	Wild oats	23.3	3.9	16.7	0.8	3.4	6.6	49.7
3	Redroot pigweed	19.4	3.9	20.0	0.3	1.7	7.6	34.5
4	Wild buckwheat	10.8	4.8	44.8	0.4	3.6	8.2	34.3
5	Canada thistle	22.4	1.7	7.6	0.2	0.9	2.2	24.5
6	Foxtail barley	7.8	0.6	7.5	0.6	7.8	15.0	23.7
7	Alfalfa	3.9	3.1	80.0	0.3	9.0	9.0	23.2
8	Lamb's-quarters	15.5	1.6	10.0	0.1	0.5	0.8	16.7
9	Canola (Argentine)	7.8	1.4	17.5	0.1	0.8	1.0	11.1
10	Purslane	3.9	0.6	15.0	0.1	1.4	1.4	5.9
11	Common groundsel	3.9	0.6	15.0	< 0.1	0.8	0.8	5.2
12	Timothy	3.9	0.4	10.0	< 0.1	0.6	0.6	4.3
13	Dandelion	3.9	0.4	10.0	< 0.1	0.4	0.4	4.1
14	Showy milkweed	3.9	0.2	5.0	< 0.1	0.6	0.6	3.6
15	Field bindweed	3.9	0.2	5.0	< 0.1	0.2	0.2	3.2

Field Survey Summary Tables – Ecodistrict 829

Table 100. 2009 irrigated cereal crops in the Purple Springs Plain Ecodistrict (829) in the Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	46.2	7.7	16.7	1.6	3.4	6.6	64.4
2	Kochia	53.8	8.1	15.0	1.0	1.9	3.0	59.7
3	Wild buckwheat	15.4	8.1	52.5	0.7	4.4	8.2	37.0
4	Redroot pigweed	23.1	6.9	30.0	0.6	2.7	7.6	37.0
5	Alfalfa	7.7	6.2	80.0	0.7	9.0	9.0	29.2
6	Foxtail barley	15.4	1.2	7.5	1.2	7.8	15.0	29.1
7	Canada thistle	23.1	1.5	6.7	0.2	0.9	2.2	17.5
8	Timothy	7.7	0.8	10.0	< 0.1	0.6	0.6	6.0
9	Dandelion	7.7	0.8	10.0	< 0.1	0.4	0.4	5.8
10	Showy milkweed	7.7	0.4	5.0	< 0.1	0.6	0.6	5.1
11	Field bindweed	7.7	0.4	5.0	< 0.1	0.2	0.2	4.6
12	Lamb's-quarters	7.7	0.4	5.0	< 0.1	0.2	0.2	4.6

Table 101. 2009 irrigated broad-leaved annual crops in the Purple Springs Plain Ecodistrict (829) in the Mixed Grassland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	23.5	2.7	11.7	0.1	0.6	0.8	56.1
2	Canada thistle	21.7	1.9	8.6	0.2	0.8	1.4	51.5
3	Canola (Argentine)	15.7	2.7	17.5	0.1	0.8	1.0	47.8
4	Kochia	23.5	1.6	6.7	0.1	0.5	1.2	45.6
5	Purslane	7.8	1.2	15.0	0.1	1.4	1.4	28.0
6	Wild buckwheat	6.1	1.5	25.0	0.1	1.4	1.4	26.3
7	Common groundsel	7.8	1.2	15.0	0.1	0.8	0.8	22.5
8	Redroot pigweed	15.7	0.8	5.0	< 0.1	0.2	0.2	22.3

Table 102. Number of fields surveyed by crop in each county

	Annual crops									Perennial crops	
	Cereal crops				Broad-leaved annual crops					Alfalfa	Grass hay
	Spring wheat	Barley	Corn	Other	Canola	Potatoes	Sugar beets	Dry beans	Other		
Cardston	5	8	-	-	2	-	-	-	-	4	5
Cypress	6	5	1	-	2	-	-	-	-	8	1
Forty Mile	21	2	3	-	8	1	2	7	-	1	2
Lethbridge	43	47	15	-	14	3	3	2	-	7	7
Newell	28	13	5	2	16	1	2	1	1	43	9
Taber	43	18	9	-	15	14	10	17	-	16	10
Vulcan	5	4	3	-	4	-	-	-	1	5	3
Warner	1	3	3	-	2	-	-	-	-	4	2
Wheatland	2	3	-	-	4	-	-	-	-	-	1
Rocky View	-	-	-	-	1	-	-	-	-	-	2
Willow Creek	1	4	-	-	-	-	-	-	-	1	4

Field Survey Summary Tables – Counties

Table 103. Density, species richness and weed-free quadrats in the surveyed crops in each county

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Cardston	24	8.6	2.2	5.7	2.6	0.4	46.6	10.2
Annual crops	15	7.1	3.0	26.6	2.3	0.6	60.8	12.6
Cereal crops	13	7.3	3.5	2.6	2.0	0.7	64.6	13.3
Cypress	23	35.7	8.1	15.0	4.7	0.8	33.0	9.8
Annual crops	14	23.6	9.3	5.1	4.9	0.9	41.8	13.2
Cereal crops	12	26.7	10.6	8.1	5.3	1.0	40.0	14.1
Forty Mile	47	3.1	0.5	2.2	3.3	0.3	60.7	7.1
Annual crops	44	2.7	0.3	3.9	3.3	0.3	61.5	7.3
Cereal crops	26	3.7	0.5	3.1	4.2	0.4	51.5	9.8
Spring wheat	21	3.3	0.4	3.0	4.5	0.4	53.1	10.9
Broad-leaved annual crops	18	1.3	0.2	1.4	2.1	0.3	75.8	10.1
Lethbridge	141	18.6	2.9	7.1	3.8	0.2	40.4	4.1
Annual crops	127	19.5	3.2	12.0	4.0	0.2	38.6	4.3
Cereal crops	105	22.5	3.8	8.4	4.2	0.2	34.5	4.6
Spring wheat	43	21.0	4.3	10.0	3.9	0.3	30.9	7.0
Barley	47	25.5	7.2	8.0	4.3	0.4	36.9	7.0
Corn	15	16.5	5.1	5.1	4.7	0.5	36.2	12.4
Broad-leaved annual crops	22	4.2	1.1	2.5	2.9	0.5	60.0	10.4
Canola	14	3.9	1.1	2.7	2.6	0.4	59.5	13.1
Perennial crops	14	10.6	4.0	14.8	2.3	0.3	55.8	13.3
Newell	121	14.0	1.3	7.8	4.0	0.2	31.7	4.2
Annual crops	69	12.0	1.7	3.8	4.9	0.2	36.1	5.8
Cereal crops	48	13.9	2.2	7.3	5.0	0.3	32.2	6.7
Spring wheat	28	13.7	2.4	7.7	5.2	0.4	30.5	8.7
Barley	13	17.8	5.8	3.9	4.7	0.4	31.9	12.9
Broad-leaved annual crops	21	7.5	1.8	3.3	4.7	0.4	45.0	10.9
Canola	16	6.2	1.9	2.4	4.8	0.4	49.7	12.5
Perennial crops	52	16.6	2.1	14.3	2.8	0.3	25.8	6.1
Alfalfa	43	16.9	2.2	11.6	2.9	0.3	23.0	6.4
Taber	152	4.4	0.6	1.6	2.0	0.1	70.3	3.7
Annual crops	126	3.8	0.6	0.1	1.8	0.1	74.3	3.9
Cereal crops	70	6.2	1.0	2.5	2.4	0.2	62.6	5.8
Spring wheat	43	5.1	1.2	2.2	2.3	0.2	69.9	7.0
Barley	18	9.3	2.4	4.9	2.8	0.3	48.6	11.8
Broad-leaved annual crops	56	1.0	0.3	0.0	1.1	0.2	88.9	4.2
Canola	15	0.3	0.2	0.0	0.3	0.2	96.7	4.6
Dry beans	17	1.7	0.7	0.1	1.1	0.3	85.9	8.4
Potatoes	14	0.9	0.3	0.6	1.7	0.3	83.6	9.9
Sugar beets	10	0.7	0.5	0.0	1.2	0.6	90.0	9.5
Perennial crops	26	7.0	1.3	9.9	2.8	0.3	51.0	9.8
Alfalfa	16	6.1	1.4	3.7	2.6	0.4	54.7	12.4
Grass hay	10	8.4	2.3	5.0	3.1	0.6	45.0	15.7
Vulcan	25	19.8	3.6	14.2	4.5	0.6	28.4	9.0
Annual crops	17	25.3	4.6	39.4	5.7	0.7	18.2	9.4
Cereal crops	12	24.5	4.8	16.8	6.4	0.8	12.9	9.7
Warner	15	6.4	1.9	3.9	3.8	0.5	43.7	12.8
Wheatland and Rocky View	13	16.5	6.2	4.7	3.6	0.7	41.1	13.6
Annual crops	10	10.1	3.4	1.5	3.5	0.6	47.9	15.8
Willow Creek	10	24.8	9.1	9.1	3.4	0.8	33.0	14.9

Field Survey Summary Tables – Cardston County

Table 104. 2009 irrigated fields in Cardston County (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	42.0	22.7	54.1	2.6	6.2	18.0	82.0
2	Kochia	19.0	6.9	36.3	2.3	12.0	44.0	44.6
3	Canada thistle	29.4	7.2	24.3	0.6	1.9	4.6	29.1
4	Downy brome	13.0	5.2	39.8	0.9	7.2	18.0	23.9
5	Field bindweed	21.2	5.7	26.9	0.6	2.6	6.0	23.5
6	Foxtail barley	22.1	2.5	11.3	0.6	2.9	15.2	19.7
7	Annual sow-thistle	21.2	3.4	16.1	0.3	1.3	4.2	16.6
8	Stinkweed	19.9	2.8	14.2	0.2	1.2	3.8	14.7
9	Wild oats	14.3	1.0	6.7	0.1	0.7	1.6	8.2
10	Quack grass	8.2	0.4	5.0	0.1	1.1	2.0	4.8
11	Wild buckwheat	4.8	1.2	25.0	0.1	2.0	2.0	4.8
12	Japanese brome	4.8	1.0	20.0	0.1	1.2	1.2	4.0
13	Shepherd's-purse	8.2	0.4	5.0	< 0.1	0.2	0.2	4.0
14	Wild mustard	4.8	1.0	20.0	< 0.1	0.8	0.8	3.8
15	Silky lupin	3.5	0.7	20.0	< 0.1	1.0	1.0	2.8
16	Narrow-leaved hawk's-beard	4.8	0.5	10.0	< 0.1	0.4	0.4	2.8
17	Lamb's-quarters	4.8	0.2	5.0	< 0.1	0.2	0.2	2.3
18	Wormseed mustard	4.8	0.2	5.0	< 0.1	0.2	0.2	2.3
19	Canola (Argentine)	4.8	0.2	5.0	< 0.1	0.2	0.2	2.3
20	Tartary buckwheat	3.5	0.2	5.0	0.1	1.6	1.6	2.2
21	Ball mustard	3.5	0.2	5.0	< 0.1	0.4	0.4	1.8

Table 105. 2009 irrigated annual crops in Cardston County (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	29.9	10.9	36.3	3.6	12.0	44.0	87.6
2	Field bindweed	27.9	8.7	31.2	0.8	2.8	6.0	42.2
3	Canada thistle	25.9	6.4	24.6	0.6	2.2	4.6	33.2
4	Dandelion	23.8	3.6	15.0	0.3	1.1	2.2	21.7
5	Foxtail barley	5.4	2.2	40.0	0.8	15.2	15.2	18.8
6	Stinkweed	15.0	3.4	22.5	0.3	2.0	3.8	18.1
7	Annual sow-thistle	18.4	2.0	10.9	0.3	1.4	4.2	16.0
8	Wild oats	22.4	1.5	6.7	0.2	0.7	1.6	15.3
9	Wild buckwheat	7.5	1.9	25.0	0.1	2.0	2.0	9.5
10	Wild mustard	7.5	1.5	20.0	0.1	0.8	0.8	7.4
11	Shepherd's-purse	12.9	0.6	5.0	< 0.1	0.2	0.2	7.4
12	Silky lupin	5.4	1.1	20.0	0.1	1.0	1.0	5.5
13	Quack grass	7.5	0.4	5.0	< 0.1	0.4	0.4	4.5
14	Lamb's-quarters	7.5	0.4	5.0	< 0.1	0.2	0.2	4.3
15	Wormseed mustard	7.5	0.4	5.0	< 0.1	0.2	0.2	4.3
16	Canola (Argentine)	7.5	0.4	5.0	< 0.1	0.2	0.2	4.3

Field Survey Summary Tables – Cardston County

Table 106. 2009 irrigated cereal crops in Cardston County (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	25.8	8.6	33.3	3.9	14.9	44.0	85.7
2	Field bindweed	32.0	10.0	31.2	0.9	2.8	6.0	51.6
3	Canada thistle	14.8	4.4	29.5	0.3	2.3	3.4	22.4
4	Foxtail barley	6.3	2.5	40.0	1.0	15.2	15.2	22.0
5	Annual sow-thistle	21.1	2.3	10.9	0.3	1.4	4.2	19.8
6	Dandelion	21.1	2.5	12.0	0.2	0.7	1.4	18.4
7	Stinkweed	8.6	3.4	40.0	0.3	3.8	3.8	16.9
8	Wild oats	17.2	1.3	7.5	0.2	0.9	1.6	13.6
9	Wild buckwheat	8.6	2.1	25.0	0.2	2.0	2.0	11.7
10	Wild mustard	8.6	1.7	20.0	0.1	0.8	0.8	9.2
11	Silky lupin	6.3	1.3	20.0	0.1	1.0	1.0	6.9
12	Lamb's-quarters	8.6	0.4	5.0	< 0.1	0.2	0.2	5.5
13	Wormseed mustard	8.6	0.4	5.0	< 0.1	0.2	0.2	5.5
14	Shepherd's-purse	8.6	0.4	5.0	< 0.1	0.2	0.2	5.5
15	Canola (Argentine)	8.6	0.4	5.0	< 0.1	0.2	0.2	5.5

Table 107. 2009 irrigated fields in Cypress County (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	52.2	27.8	53.3	11.7	22.5	73.8	66.8
2	Wild buckwheat	52.2	22.2	42.5	3.1	5.9	25.6	38.0
3	Green foxtail	34.8	10.7	30.6	5.1	14.7	84.6	30.5
4	Lamb's-quarters	43.5	13.0	30.0	3.5	8.0	35.8	29.7
5	Redroot pigweed	21.7	10.2	47.0	3.8	17.4	52.4	23.6
6	Stinkweed	26.1	6.5	25.0	3.2	12.4	41.4	19.9
7	Kochia	17.4	6.1	35.0	2.2	12.7	41.6	14.9
8	Canada thistle	34.8	3.9	11.3	0.6	1.8	10.0	12.3
9	Wild oats	26.1	3.3	12.5	0.8	3.2	7.6	10.6
10	Field bindweed	17.4	2.4	13.8	0.3	2.0	6.2	6.6
11	Pale smartweed	17.4	1.7	10.0	0.2	1.1	1.6	5.6
12	Round-leaved mallow	13.0	2.0	15.0	0.1	1.1	2.4	4.8
13	Perennial sow-thistle	8.7	2.0	22.5	0.3	3.1	4.6	4.2
14	Alfalfa	8.7	1.7	20.0	0.1	1.0	1.0	3.5
15	Canola (Argentine)	13.0	0.7	5.0	< 0.1	0.3	0.4	3.4
16	Barnyard grass	8.7	1.3	15.0	0.1	0.7	1.2	3.1
17	Quack grass	8.7	1.1	12.5	0.1	0.8	1.2	2.9
18	Shepherd's-purse	8.7	0.9	10.0	< 0.1	0.5	0.6	2.7
19	Wild mustard	8.7	0.7	7.5	< 0.1	0.4	0.6	2.5
20	Broad-leaved plantain	8.7	0.4	5.0	< 0.1	0.4	0.4	2.3
21	Downy brome	4.3	1.1	25.0	0.1	1.6	1.6	2.0
22	Wheat	4.3	0.7	15.0	0.1	3.2	3.2	1.8
23	Flixweed	4.3	0.4	10.0	0.1	1.2	1.2	1.4
24	White cockle	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1
25	Goat's-beard	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1
26	Prickly lettuce	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1
27	Annual sow-thistle	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1
28	Spiny annual sow-thistle	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1
29	Stork's-bill	4.3	0.2	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables –Cypress County

Table 108. 2009 irrigated annual crops in Cypress County (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	71.4	24.6	34.5	3.0	4.3	25.6	51.7
2	Lamb's-quarters	42.9	14.6	34.2	4.3	10.0	35.8	41.3
3	Redroot pigweed	14.3	8.9	62.5	4.3	29.8	52.4	29.7
4	Kochia	21.4	9.6	45.0	3.6	16.9	41.6	29.1
5	Stinkweed	28.6	4.3	15.0	3.2	11.1	41.4	23.4
6	Green foxtail	42.9	7.5	17.5	1.5	3.6	13.0	22.6
7	Dandelion	35.7	8.9	25.0	1.0	2.9	7.4	20.4
8	Canada thistle	35.7	4.6	13.0	0.9	2.5	10.0	15.6
9	Wild oats	35.7	3.6	10.0	0.8	2.3	6.0	14.4
10	Round-leaved mallow	21.4	3.2	15.0	0.2	1.1	2.4	8.5
11	Pale smartweed	21.4	1.8	8.3	0.2	0.9	1.6	7.0
12	Alfalfa	14.3	2.9	20.0	0.1	1.0	1.0	6.3
13	Canola (Argentine)	21.4	1.1	5.0	0.1	0.3	0.4	5.7
14	Shepherd's-purse	14.3	1.4	10.0	0.1	0.5	0.6	4.6
15	Downy brome	7.1	1.8	25.0	0.1	1.6	1.6	3.7
16	Flixweed	7.1	0.7	10.0	0.1	1.2	1.2	2.5
17	Broad-leaved plantain	7.1	0.4	5.0	< 0.1	0.4	0.4	1.9
18	Field bindweed	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9
19	Goat's-beard	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9
20	Barnyard grass	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9
21	Wild mustard	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9
22	Annual sow-thistle	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9
23	Stork's-bill	7.1	0.4	5.0	< 0.1	0.2	0.2	1.9

Table 109. 2009 irrigated cereal crops in Cypress County (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	75.0	24.2	32.2	3.1	4.2	25.6	48.1
2	Lamb's-quarters	50.0	17.1	34.2	5.0	10.0	35.8	43.9
3	Redroot pigweed	16.7	10.4	62.5	5.0	29.8	52.4	31.3
4	Kochia	25.0	11.3	45.0	4.2	16.9	41.6	30.8
5	Stinkweed	33.3	5.0	15.0	3.7	11.1	41.4	24.7
6	Green foxtail	50.0	8.8	17.5	1.8	3.6	13.0	24.2
7	Dandelion	41.7	10.4	25.0	1.2	2.9	7.4	22.0
8	Canada thistle	41.7	5.4	13.0	1.0	2.5	10.0	16.8
9	Wild oats	33.3	3.3	10.0	0.9	2.7	6.0	12.7
10	Pale smartweed	25.0	2.1	8.3	0.2	0.9	1.6	7.5
11	Alfalfa	16.7	3.3	20.0	0.2	1.0	1.0	6.9
12	Canola (Argentine)	25.0	1.3	5.0	0.1	0.3	0.4	6.2
13	Shepherd's-purse	16.7	1.7	10.0	0.1	0.5	0.6	5.0
14	Round-leaved mallow	16.7	1.7	10.0	0.1	0.4	0.6	5.0
15	Flixweed	8.3	0.8	10.0	0.1	1.2	1.2	2.7
16	Broad-leaved plantain	8.3	0.4	5.0	< 0.1	0.4	0.4	2.1
17	Field bindweed	8.3	0.4	5.0	< 0.1	0.2	0.2	2.0
18	Goat's-beard	8.3	0.4	5.0	< 0.1	0.2	0.2	2.0
19	Wild mustard	8.3	0.4	5.0	< 0.1	0.2	0.2	2.0
20	Annual sow-thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	2.0
21	Stork's-bill	8.3	0.4	5.0	< 0.1	0.2	0.2	2.0

Field Survey Summary Tables – Forty Mile County

Table 110. 2009 irrigated fields in Forty Mile County (47 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	61.7	8.5	13.8	0.5	0.8	3.4	52.3
2	Wild oats	48.9	8.2	16.7	0.5	0.9	3.4	47.4
3	Lamb's-quarters	42.6	6.3	14.8	0.5	1.2	12.2	42.9
4	Wild buckwheat	46.8	6.6	14.1	0.3	0.7	3.0	39.0
5	Round-leaved mallow	23.4	4.7	20.0	0.2	1.1	2.2	25.1
6	Dandelion	6.4	2.7	41.7	0.5	8.3	22.8	24.6
7	Canada thistle	19.1	2.3	12.2	0.1	0.7	1.2	15.2
8	Redroot pigweed	19.1	2.2	11.7	0.1	0.6	1.6	14.5
9	Stinkweed	14.9	1.2	7.9	0.1	0.3	0.8	8.7
10	Wild tomato	8.5	0.6	7.5	0.1	0.9	1.4	6.4
11	Flixweed	8.5	0.5	6.3	< 0.1	0.3	0.4	4.4
12	Canola (Argentine)	6.4	0.6	10.0	< 0.1	0.5	0.8	4.3
13	Cow cockle	2.1	0.7	35.0	< 0.1	1.8	1.8	3.5
14	Russian thistle	4.3	0.3	7.5	< 0.1	0.3	0.4	2.4
15	Green foxtail	2.1	0.3	15.0	< 0.1	1.2	1.2	2.2
16	Downy brome	2.1	0.3	15.0	< 0.1	0.6	0.6	1.7
17	Prostrate pigweed	2.1	0.3	15.0	< 0.1	0.6	0.6	1.7
18	Foxtail barley	2.1	0.2	10.0	< 0.1	0.4	0.4	1.4
19	Perennial sow-thistle	2.1	0.1	5.0	< 0.1	0.6	0.6	1.3
20	Annual sow-thistle	2.1	0.1	5.0	< 0.1	0.2	0.2	1.0

Table 111. 2009 irrigated annual crops in Forty Mile County (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	63.6	9.0	14.1	0.5	0.8	3.4	56.8
2	Wild oats	50.0	8.3	16.6	0.5	0.9	3.4	50.2
3	Lamb's-quarters	43.2	6.4	14.7	0.5	1.2	12.2	46.0
4	Wild buckwheat	50.0	7.0	14.1	0.4	0.7	3.0	43.0
5	Round-leaved mallow	25.0	5.0	20.0	0.3	1.1	2.2	28.0
6	Redroot pigweed	20.5	2.4	11.7	0.1	0.6	1.6	16.0
7	Canada thistle	18.2	2.0	11.3	0.1	0.7	1.2	14.4
8	Stinkweed	15.9	1.3	7.9	0.1	0.3	0.8	9.5
9	Wild tomato	9.1	0.7	7.5	0.1	0.9	1.4	7.2
10	Flixweed	9.1	0.6	6.3	< 0.1	0.3	0.4	4.8
11	Dandelion	4.5	0.8	17.5	< 0.1	1.0	1.8	4.7
12	Cow cockle	2.3	0.8	35.0	< 0.1	1.8	1.8	3.9
13	Russian thistle	4.5	0.3	7.5	< 0.1	0.3	0.4	2.6
14	Canola (Argentine)	4.5	0.3	7.5	< 0.1	0.3	0.4	2.6
15	Green foxtail	2.3	0.3	15.0	< 0.1	1.2	1.2	2.4
16	Downy brome	2.3	0.3	15.0	< 0.1	0.6	0.6	1.9
17	Prostrate pigweed	2.3	0.3	15.0	< 0.1	0.6	0.6	1.9
18	Foxtail barley	2.3	0.2	10.0	< 0.1	0.4	0.4	1.5
19	Perennial sow-thistle	2.3	0.1	5.0	< 0.1	0.6	0.6	1.4
20	Annual sow-thistle	2.3	0.1	5.0	< 0.1	0.2	0.2	1.1

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Table 112. 2009 irrigated cereal crops in Forty Mile County (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	73.1	12.3	16.8	0.7	1.0	3.4	57.4
2	Lamb's-quarters	61.5	9.6	15.6	0.8	1.4	12.2	53.7
3	Kochia	69.2	10.4	15.0	0.6	0.9	3.4	51.0
4	Wild buckwheat	50.0	7.3	14.6	0.4	0.8	3.0	35.0
5	Redroot pigweed	34.6	4.0	11.7	0.2	0.6	1.6	20.8
6	Canada thistle	30.8	3.5	11.3	0.2	0.7	1.2	18.7
7	Round-leaved mallow	19.2	3.7	19.0	0.2	1.0	2.2	15.9
8	Stinkweed	23.1	1.9	8.3	0.1	0.4	0.8	11.0
9	Flixweed	15.4	1.0	6.3	< 0.1	0.3	0.4	6.3
10	Dandelion	7.7	1.3	17.5	0.1	1.0	1.8	6.2
11	Cow cockle	3.8	1.3	35.0	0.1	1.8	1.8	5.1
12	Wild tomato	7.7	0.6	7.5	0.1	0.8	1.2	4.5
13	Canola (Argentine)	7.7	0.6	7.5	< 0.1	0.3	0.4	3.4
14	Green foxtail	3.8	0.6	15.0	< 0.1	1.2	1.2	3.1
15	Downy brome	3.8	0.6	15.0	< 0.1	0.6	0.6	2.5
16	Russian thistle	3.8	0.4	10.0	< 0.1	0.4	0.4	2.0
17	Perennial sow-thistle	3.8	0.2	5.0	< 0.1	0.6	0.6	1.9
18	Annual sow-thistle	3.8	0.2	5.0	< 0.1	0.2	0.2	1.4

Table 113. 2009 irrigated spring wheat in Forty Mile County (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	71.4	11.0	15.3	0.7	1.0	3.4	55.5
2	Wild oats	76.2	11.2	14.7	0.6	0.8	1.6	54.0
3	Lamb's-quarters	61.9	7.9	12.7	0.4	0.7	1.6	40.2
4	Wild buckwheat	57.1	7.6	13.3	0.4	0.7	3.0	38.5
5	Canada thistle	38.1	4.3	11.3	0.3	0.7	1.2	23.6
6	Redroot pigweed	33.3	3.3	10.0	0.2	0.5	0.8	18.0
7	Round-leaved mallow	19.0	3.1	16.3	0.2	1.0	2.2	15.0
8	Stinkweed	28.6	2.4	8.3	0.1	0.4	0.8	13.6
9	Flixweed	19.0	1.2	6.3	< 0.1	0.3	0.4	7.7
10	Cow cockle	4.8	1.7	35.0	0.1	1.8	1.8	6.5
11	Dandelion	4.8	1.4	30.0	0.1	1.8	1.8	6.1
12	Wild tomato	9.5	0.7	7.5	0.1	0.8	1.2	5.7
13	Green foxtail	4.8	0.7	15.0	0.1	1.2	1.2	4.0
14	Downy brome	4.8	0.7	15.0	< 0.1	0.6	0.6	3.1
15	Russian thistle	4.8	0.5	10.0	< 0.1	0.4	0.4	2.5
16	Perennial sow-thistle	4.8	0.2	5.0	< 0.1	0.6	0.6	2.3
17	Annual sow-thistle	4.8	0.2	5.0	< 0.1	0.2	0.2	1.8
18	Canola (Argentine)	4.8	0.2	5.0	< 0.1	0.2	0.2	1.8

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Table 114. 2009 irrigated broad-leaved annual crops in Forty Mile County (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	55.6	6.9	12.5	0.3	0.6	1.0	75.6
2	Wild buckwheat	50.0	6.7	13.3	0.3	0.6	1.0	69.4
3	Round-leaved mallow	33.3	6.9	20.8	0.4	1.1	1.8	69.0
4	Wild oats	16.7	2.5	15.0	0.1	0.7	1.2	26.4
5	Lamb's-quarters	16.7	1.7	10.0	0.1	0.4	0.6	19.2
6	Wild tomato	11.1	0.8	7.5	0.1	1.0	1.4	16.8
7	Prostrate pigweed	5.6	0.8	15.0	< 0.1	0.6	0.6	8.2
8	Foxtail barley	5.6	0.6	10.0	< 0.1	0.4	0.4	6.4
9	Stinkweed	5.6	0.3	5.0	< 0.1	0.2	0.2	4.5
10	Russian thistle	5.6	0.3	5.0	< 0.1	0.2	0.2	4.5

Table 115. 2009 irrigated crops in Lethbridge County (141 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	44.5	15.2	34.2	4.1	9.3	73.4	49.4
2	Wild buckwheat	53.3	14.0	26.3	1.8	3.3	28.0	37.8
3	Wild oats	31.6	9.4	29.8	1.7	5.3	47.0	26.9
4	Dandelion	31.6	8.4	26.5	1.3	4.1	45.4	23.7
5	Kochia	34.3	6.9	20.1	1.2	3.4	89.6	22.4
6	Lamb's-quarters	31.2	7.1	22.9	0.9	2.9	34.8	20.4
7	Canola (Argentine)	20.3	7.1	35.1	1.0	5.1	36.4	18.1
8	Chickweed	7.4	2.0	27.4	2.6	34.9	206.0	18.0
9	Round-leaved mallow	29.1	6.2	21.5	0.7	2.3	28.6	17.6
10	Annual sow-thistle	14.4	4.1	28.8	0.5	3.7	27.2	10.9
11	Canada thistle	16.5	3.3	20.2	0.3	2.1	13.2	9.5
12	Alfalfa	9.2	1.8	19.5	0.7	7.1	106.2	7.8
13	Quack grass	7.0	2.3	32.1	0.6	8.2	28.4	7.2
14	Shepherd's-purse	6.9	1.8	26.3	0.2	3.1	15.8	4.8
15	Perennial sow-thistle	5.5	1.0	18.9	0.2	2.8	19.6	3.3
16	Prostrate knotweed	5.1	1.2	22.7	0.1	2.3	7.6	3.2
17	Cleavers	3.7	1.1	29.4	0.1	1.6	3.6	2.4
18	Spiny annual sow-thistle	0.6	0.6	100.0	0.3	57.6	57.6	2.4
19	Pale smartweed	4.7	0.6	13.5	< 0.1	1.0	2.0	2.1
20	Wheat	2.0	0.8	42.9	0.1	7.0	13.4	2.1
21	Stork's-bill	5.1	0.6	11.2	< 0.1	0.5	1.6	2.1
22	Prickly lettuce	2.3	0.6	26.4	0.1	2.3	5.4	1.5
23	Field bindweed	2.3	0.4	18.6	< 0.1	1.0	1.6	1.2
24	Russian thistle	1.7	0.3	17.5	< 0.1	1.8	3.4	0.9
25	Green foxtail	2.0	0.2	10.0	< 0.1	0.8	1.0	0.8
26	Stinkweed	2.3	0.1	5.0	< 0.1	0.3	0.6	0.8
27	Barnyard grass	1.1	0.2	17.5	< 0.1	3.4	6.2	0.7
28	Corn spurry	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
29	Wild tomato	1.4	0.2	11.1	< 0.1	0.9	1.4	0.6
30	Flixweed	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.3
31	Corn	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2
32	Field dock	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2
33	Millet	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Lethbridge County

Table 116. 2009 irrigated annual crops in Lethbridge County (127 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	47.4	16.3	34.4	4.5	9.5	73.4	50.8
2	Wild buckwheat	56.8	15.0	26.4	1.9	3.3	28.0	38.6
3	Wild oats	35.2	10.5	29.8	1.9	5.3	47.0	28.6
4	Kochia	37.3	7.6	20.5	1.3	3.5	89.6	23.5
5	Lamb's-quarters	32.2	7.6	23.6	1.0	3.1	34.8	20.5
6	Chickweed	8.3	2.3	27.4	2.9	34.9	206.0	19.1
7	Canola (Argentine)	22.0	7.9	35.9	1.1	5.2	36.4	19.1
8	Round-leaved mallow	32.4	7.0	21.5	0.7	2.3	28.6	18.7
9	Dandelion	28.2	5.7	20.2	0.5	1.9	13.4	15.3
10	Annual sow-thistle	16.0	4.6	28.8	0.6	3.7	27.2	11.6
11	Canada thistle	14.8	3.3	22.5	0.4	2.4	13.2	8.8
12	Alfalfa	8.7	1.9	22.2	0.7	8.4	106.2	7.8
13	Quack grass	7.2	2.5	34.4	0.6	8.8	28.4	7.5
14	Shepherd's-purse	6.5	1.7	26.6	0.2	3.4	15.8	4.4
15	Perennial sow-thistle	6.1	1.2	18.9	0.2	2.8	19.6	3.5
16	Prostrate knotweed	5.1	1.0	20.0	0.1	2.0	7.6	2.8
17	Cleavers	4.2	1.2	29.4	0.1	1.6	3.6	2.6
18	Spiny annual sow-thistle	0.6	0.6	100.0	0.4	57.6	57.6	2.6
19	Wheat	2.2	0.9	42.9	0.2	7.0	13.4	2.3
20	Stork's-bill	5.7	0.6	11.2	< 0.1	0.5	1.6	2.2
21	Pale smartweed	4.7	0.6	12.0	< 0.1	0.8	2.0	1.9
22	Prickly lettuce	2.6	0.7	26.4	0.1	2.3	5.4	1.6
23	Field bindweed	2.6	0.5	18.6	< 0.1	1.0	1.6	1.2
24	Green foxtail	2.2	0.2	10.0	< 0.1	0.8	1.0	0.9
25	Stinkweed	2.6	0.1	5.0	< 0.1	0.3	0.6	0.8
26	Russian thistle	1.0	0.3	30.0	< 0.1	3.4	3.4	0.7
27	Corn spurry	1.9	0.1	7.5	< 0.1	0.3	0.4	0.7
28	Wild tomato	1.6	0.2	11.1	< 0.1	0.9	1.4	0.6
29	Barnyard grass	0.6	0.2	25.0	< 0.1	6.2	6.2	0.5
30	Flixweed	1.0	< 0.1	5.0	< 0.1	0.2	0.2	0.3
31	Corn	0.6	0.1	10.0	< 0.1	0.4	0.4	0.2
32	Millet	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – Lethbridge County

Table 117. 2009 irrigated cereal crops in Lethbridge County (105 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	47.4	18.4	38.8	5.3	11.2	73.4	51.4
2	Wild buckwheat	60.6	17.0	28.0	2.2	3.7	28.0	39.5
3	Wild oats	38.6	11.2	29.1	2.1	5.5	47.0	28.6
4	Kochia	36.9	8.2	22.2	1.5	4.1	89.6	22.9
5	Canola (Argentine)	25.5	9.1	35.8	1.3	5.2	36.4	20.1
6	Round-leaved mallow	36.7	8.2	22.3	0.9	2.4	28.6	20.0
7	Chickweed	9.2	2.6	28.4	3.4	37.6	206.0	19.8
8	Lamb's-quarters	34.3	7.7	22.5	1.1	3.1	34.8	19.8
9	Dandelion	32.9	6.5	19.6	0.6	1.9	13.4	16.3
10	Annual sow-thistle	14.3	4.5	31.4	0.7	4.6	27.2	10.4
11	Alfalfa	10.3	2.3	22.2	0.9	8.4	106.2	8.4
12	Canada thistle	13.2	3.3	25.0	0.4	2.9	13.2	7.8
13	Quack grass	7.9	2.9	36.6	0.8	9.5	28.4	7.8
14	Shepherd's-purse	6.5	1.9	29.5	0.2	3.7	15.8	4.4
15	Perennial sow-thistle	7.3	1.4	18.9	0.2	2.8	19.6	3.9
16	Prostrate knotweed	6.1	1.2	20.0	0.1	2.0	7.6	3.1
17	Spiny annual sow-thistle	0.7	0.7	100.0	0.4	57.6	57.6	2.7
18	Stork's-bill	6.8	0.8	11.2	< 0.1	0.5	1.6	2.5
19	Pale smartweed	5.6	0.7	12.0	< 0.1	0.8	2.0	2.1
20	Cleavers	3.1	0.9	31.0	0.1	1.9	3.6	1.8
21	Prickly lettuce	3.1	0.8	26.4	0.1	2.3	5.4	1.8
22	Field bindweed	3.1	0.6	18.6	< 0.1	1.0	1.6	1.4
23	Stinkweed	3.1	0.2	5.0	< 0.1	0.3	0.6	0.9
24	Green foxtail	1.9	0.2	11.9	< 0.1	0.9	1.0	0.7
25	Barnyard grass	0.7	0.2	25.0	< 0.1	6.2	6.2	0.5
26	Wild tomato	1.2	0.2	15.0	< 0.1	1.4	1.4	0.5
27	Corn spurry	1.2	0.1	10.0	< 0.1	0.4	0.4	0.4
28	Flixweed	1.2	0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Lethbridge County

Table 118. 2009 irrigated spring wheat in Lethbridge County (43 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	61.3	22.4	36.5	3.3	5.4	28.0	50.8
2	Canola (Argentine)	37.2	15.9	42.8	2.8	7.4	36.4	36.3
3	Wild oats	44.7	12.2	27.2	2.5	5.7	47.0	33.9
4	Redroot pigweed	28.2	10.1	35.9	3.2	11.3	73.4	31.0
5	Kochia	39.1	8.7	22.4	2.1	5.3	89.6	27.4
6	Round-leaved mallow	32.0	8.5	26.7	1.2	3.8	28.6	21.3
7	Dandelion	41.7	7.0	16.7	0.6	1.5	11.0	19.7
8	Annual sow-thistle	17.3	8.0	46.4	1.5	8.7	27.2	18.6
9	Canada thistle	18.4	5.7	30.9	0.7	3.9	13.2	13.0
10	Lamb's-quarters	18.4	5.6	30.5	0.7	3.7	11.8	12.8
11	Spiny annual sow-thistle	1.9	1.9	100.0	1.1	57.6	57.6	7.3
12	Perennial sow-thistle	4.9	2.1	42.9	0.4	8.1	19.6	4.9
13	Quack grass	5.7	1.2	21.7	0.4	7.9	22.0	4.6
14	Pale smartweed	7.6	1.2	16.3	0.1	1.1	2.0	3.4
15	Stork's-bill	6.0	0.9	15.0	0.1	0.9	1.6	2.6
16	Cleavers	3.0	1.3	45.0	0.1	2.4	2.4	2.3
17	Alfalfa	6.8	0.4	6.4	< 0.1	0.3	0.4	2.2
18	Prostrate knotweed	4.9	0.8	16.9	< 0.1	0.8	1.2	2.2
19	Shepherd's-purse	3.0	0.7	25.0	0.1	3.0	3.0	1.8
20	Chickweed	4.9	0.4	8.9	< 0.1	0.4	0.6	1.7
21	Green foxtail	3.0	0.3	10.0	< 0.1	1.0	1.0	1.2
22	Field bindweed	1.9	0.6	30.0	< 0.1	1.6	1.6	1.1

Field Survey Summary Tables – Lethbridge County

Table 119. 2009 irrigated barley in Lethbridge County (47 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	53.7	21.1	39.3	6.3	11.8	73.4	57.2
2	Chickweed	10.6	4.7	44.4	7.3	69.3	206.0	35.6
3	Wild buckwheat	56.8	12.6	22.2	1.5	2.6	17.2	31.0
4	Wild oats	41.3	12.6	30.4	2.3	5.7	34.6	30.7
5	Lamb's-quarters	45.0	10.5	23.3	1.6	3.5	34.8	26.6
6	Kochia	37.5	7.9	21.1	1.3	3.6	33.6	21.5
7	Round-leaved mallow	35.7	5.1	14.3	0.4	1.2	5.0	14.8
8	Canola (Argentine)	19.6	6.0	30.7	0.5	2.8	6.8	12.3
9	Alfalfa	9.0	3.1	33.9	1.7	19.3	106.2	11.8
10	Dandelion	22.7	4.9	21.6	0.4	1.7	7.0	11.4
11	Shepherd's-purse	9.0	3.3	36.2	0.4	4.8	15.8	6.8
12	Canada thistle	13.0	2.3	18.0	0.2	1.7	5.0	6.1
13	Quack grass	5.6	2.4	42.0	0.5	8.2	13.0	5.3
14	Prostrate knotweed	9.0	1.9	21.4	0.2	2.6	7.6	4.8
15	Annual sow-thistle	9.0	2.0	22.1	0.1	1.2	2.2	4.4
16	Perennial sow-thistle	11.5	1.2	10.4	0.1	0.9	2.2	4.2
17	Prickly lettuce	6.5	1.7	26.4	0.1	2.3	5.4	3.7
18	Cleavers	4.0	0.9	22.4	0.1	1.5	3.6	2.0
19	Stinkweed	6.5	0.3	5.0	< 0.1	0.3	0.6	1.9
20	Pale smartweed	5.6	0.4	7.2	< 0.1	0.6	1.0	1.8
21	Stork's-bill	4.7	0.4	8.3	< 0.1	0.3	0.6	1.5
22	Barnyard grass	1.6	0.4	25.0	0.1	6.2	6.2	1.1
23	Wild tomato	2.5	0.4	15.0	< 0.1	1.4	1.4	1.1
24	Field bindweed	2.5	0.2	10.0	< 0.1	0.4	0.4	0.9
25	Corn spurry	2.5	0.2	10.0	< 0.1	0.4	0.4	0.9
26	Flixweed	2.5	0.1	5.0	< 0.1	0.2	0.2	0.7

Table 120. 2009 irrigated corn in Lethbridge County (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	78.8	31.9	40.5	7.7	9.8	55.8	91.1
2	Wild buckwheat	70.8	16.7	23.7	1.5	2.2	11.8	38.8
3	Round-leaved mallow	52.5	17.3	32.9	1.5	2.8	11.0	35.0
4	Quack grass	21.2	9.1	42.8	2.5	11.9	28.4	27.6
5	Dandelion	42.4	10.2	24.0	1.2	2.9	13.4	25.4
6	Kochia	29.2	7.7	26.4	0.6	2.2	4.8	16.8
7	Lamb's-quarters	42.4	4.3	10.2	0.4	0.8	2.0	15.0
8	Alfalfa	24.2	4.8	20.0	0.3	1.3	3.6	11.3
9	Annual sow-thistle	23.3	3.1	13.3	0.2	0.7	1.4	8.6
10	Wild oats	13.1	4.2	31.6	0.2	1.6	2.8	7.6
11	Chickweed	16.1	1.6	10.0	0.1	0.4	0.4	5.2
12	Stork's-bill	16.1	1.6	10.0	0.1	0.4	0.6	5.2
13	Canola (Argentine)	13.1	0.9	6.9	< 0.1	0.3	0.4	3.8
14	Field bindweed	8.1	1.6	20.0	0.1	1.2	1.2	3.7
15	Shepherd's-purse	8.1	0.8	10.0	< 0.1	0.4	0.4	2.6
16	Green foxtail	5.1	0.8	15.0	< 0.1	0.8	0.8	2.0

Field Survey Summary Tables – Lethbridge County

Table 121. 2009 irrigated broad-leaved annual crops in Lethbridge County (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	13.7	5.9	42.9	1.0	7.0	13.4	38.5
2	Lamb's-quarters	21.4	7.0	32.5	0.6	2.9	7.2	34.7
3	Redroot pigweed	47.3	5.3	11.2	0.3	0.6	1.4	32.2
4	Wild oats	17.6	6.8	38.9	0.5	3.1	4.8	31.5
5	Wild buckwheat	37.4	4.6	12.3	0.3	0.7	1.6	27.2
6	Kochia	39.0	4.7	12.0	0.2	0.5	1.6	26.9
7	Annual sow-thistle	25.2	5.3	21.1	0.3	1.2	4.8	25.7
8	Canada thistle	23.0	3.5	15.0	0.2	1.0	1.8	19.7
9	Cleavers	9.9	2.7	26.9	0.1	1.3	1.8	11.4
10	Russian thistle	6.1	1.8	30.0	0.2	3.4	3.4	10.3
11	Canola (Argentine)	3.8	1.5	40.0	0.2	4.8	4.8	8.5
12	Dandelion	3.8	1.7	45.0	0.1	2.6	2.6	6.9
13	Shepherd's-purse	6.1	0.6	10.0	0.1	1.4	1.4	5.2
14	Round-leaved mallow	9.9	0.5	5.0	< 0.1	0.2	0.2	4.8
15	Corn spurry	6.1	0.3	5.0	< 0.1	0.2	0.2	2.9
16	Chickweed	3.8	0.6	15.0	< 0.1	0.6	0.6	2.9
17	Quack grass	3.8	0.4	10.0	< 0.1	0.6	0.6	2.6
18	Corn	3.8	0.4	10.0	< 0.1	0.4	0.4	2.4
19	Green foxtail	3.8	0.2	5.0	< 0.1	0.6	0.6	2.2
20	Wild tomato	3.8	0.2	5.0	< 0.1	0.2	0.2	1.8
21	Millet	3.8	0.2	5.0	< 0.1	0.2	0.2	1.8

Table 122. 2009 irrigated canola in Lethbridge County (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	8.8	6.6	75.0	1.2	13.4	13.4	46.8
2	Redroot pigweed	51.6	6.5	12.7	0.3	0.7	1.4	42.1
3	Kochia	45.2	5.9	13.1	0.3	0.6	1.6	36.2
4	Lamb's-quarters	8.8	7.0	80.0	0.6	7.2	7.2	33.9
5	Wild oats	14.3	5.4	38.1	0.5	3.2	3.8	28.3
6	Annual sow-thistle	30.9	4.1	13.2	0.2	0.6	1.2	24.8
7	Canada thistle	22.1	4.1	18.8	0.2	1.0	1.6	22.7
8	Wild buckwheat	26.3	2.2	8.3	0.1	0.5	0.6	17.8
9	Russian thistle	8.8	2.6	30.0	0.3	3.4	3.4	16.4
10	Cleavers	8.8	2.2	25.0	0.1	1.0	1.0	10.1
11	Shepherd's-purse	8.8	0.9	10.0	0.1	1.4	1.4	8.3
12	Round-leaved mallow	8.8	0.4	5.0	< 0.1	0.2	0.2	4.8
13	Corn spurry	8.8	0.4	5.0	< 0.1	0.2	0.2	4.8
14	Millet	5.5	0.3	5.0	< 0.1	0.2	0.2	3.0

Field Survey Summary Tables – Lethbridge County

Table 123. 2009 irrigated perennial crops in Lethbridge County (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	60.7	31.6	52.0	7.8	12.9	45.4	154.0
2	Redroot pigweed	19.2	5.7	29.9	1.0	5.1	11.0	27.3
3	Wild buckwheat	22.3	5.6	25.1	0.6	2.7	9.8	25.0
4	Canada thistle	30.8	3.2	10.5	0.2	0.6	1.0	20.8
5	Lamb's-quarters	22.3	3.3	14.6	0.3	1.3	4.8	18.0
6	Shepherd's-purse	10.7	2.7	25.0	0.2	1.9	3.4	11.2
7	Prostrate knotweed	5.4	2.4	45.0	0.2	4.2	4.2	8.6
8	Alfalfa	13.8	0.7	5.0	< 0.1	0.2	0.2	7.5
9	Pale smartweed	5.4	1.3	25.0	0.1	2.0	2.0	5.6
10	Kochia	8.5	0.4	5.0	< 0.1	0.4	0.4	4.7
11	Russian thistle	8.5	0.4	5.0	< 0.1	0.2	0.2	4.6
12	Barnyard grass	5.4	0.5	10.0	< 0.1	0.6	0.6	3.6
13	Quack grass	5.4	0.3	5.0	< 0.1	0.8	0.8	3.2
14	Field dock	5.4	0.3	5.0	< 0.1	0.2	0.2	2.9
15	Canola (Argentine)	5.4	0.3	5.0	< 0.1	0.2	0.2	2.9

Field Survey Summary Tables – Newell County

Table 124. 2009 irrigated fields in Newell County (121 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	68.6	32.9	48.0	5.8	8.4	51.6	90.9
2	Lamb's-quarters	34.7	8.6	24.9	1.2	3.5	31.2	25.7
3	Wild buckwheat	43.0	9.9	23.0	0.7	1.6	11.2	25.2
4	Wild oats	31.4	5.9	18.8	0.9	2.9	32.6	20.1
5	Kochia	32.2	4.8	14.7	0.5	1.6	31.4	16.3
6	Redroot pigweed	24.0	4.5	18.8	0.8	3.3	58.6	16.1
7	Alfalfa	14.0	4.9	34.7	1.0	7.0	36.8	15.4
8	Canada thistle	28.1	4.9	17.4	0.3	1.2	9.4	14.2
9	Green foxtail	18.2	5.0	27.7	0.5	2.6	15.8	12.9
10	Canola (Argentine)	11.6	3.8	32.9	0.5	4.3	32.4	10.2
11	Smooth brome	11.6	3.1	27.1	0.5	4.0	30.6	9.3
12	Barnyard grass	7.4	2.4	32.2	0.3	3.9	11.8	6.3
13	Quack grass	9.1	1.5	16.4	0.3	3.0	13.0	5.7
14	Shepherd's-purse	8.3	1.1	13.5	0.1	0.8	3.0	3.7
15	Narrow-leaved hawk's-beard	5.8	1.2	20.0	0.1	1.1	2.2	3.1
16	Foxtail barley	5.8	0.7	12.9	0.1	1.6	5.6	2.9
17	Spiny annual sow-thistle	5.0	0.9	17.5	0.1	1.2	2.8	2.5
18	Round-leaved mallow	4.1	0.9	21.0	0.1	2.0	5.0	2.5
19	Annual sow-thistle	4.1	0.9	21.0	0.1	1.4	2.4	2.3
20	Perennial sow-thistle	3.3	0.9	27.5	0.1	2.5	7.6	2.3
21	Pale smartweed	4.1	0.4	10.0	< 0.1	1.1	3.8	1.8
22	Russian thistle	5.0	0.2	5.0	< 0.1	0.2	0.4	1.6
23	Wheat	3.3	0.4	12.5	< 0.1	1.4	2.0	1.6
24	Prickly lettuce	1.7	0.5	32.5	< 0.1	2.2	3.6	1.2
25	Chickweed	2.5	0.3	11.7	< 0.1	0.7	1.0	1.0
26	Barley	0.8	0.4	45.0	0.1	7.4	7.4	1.0
27	Stinkweed	2.5	0.1	5.0	< 0.1	0.2	0.2	0.8
28	Cleavers	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
29	Curled dock	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
30	White sweet-clover	0.8	0.1	15.0	< 0.1	2.0	2.0	0.4
31	Common burdock	0.8	0.1	10.0	< 0.1	1.4	1.4	0.4
32	Stork's-bill	0.8	0.1	10.0	< 0.1	0.6	0.6	0.3
33	Silver sagebrush	0.8	0.1	10.0	< 0.1	0.4	0.4	0.3
34	Showy milkweed	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.3
35	Japanese brome	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
36	Flixweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
37	Broad-leaved plantain	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Newell County

Table 125. 2009 irrigated annual crops in Newell County (69 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	69.6	16.0	23.0	1.1	1.6	11.2	38.2
2	Lamb's-quarters	47.8	12.0	25.2	1.5	3.1	29.4	33.5
3	Wild oats	47.8	9.6	20.0	1.5	3.2	32.6	31.4
4	Dandelion	49.3	11.5	23.4	1.0	2.0	13.0	28.9
5	Alfalfa	24.6	8.6	34.7	1.7	7.0	36.8	27.5
6	Redroot pigweed	39.1	7.7	19.6	1.4	3.5	58.6	26.6
7	Green foxtail	30.4	8.4	27.6	0.8	2.5	15.8	20.5
8	Canola (Argentine)	20.3	6.7	32.9	0.9	4.3	32.4	17.6
9	Kochia	43.5	5.9	13.5	0.3	0.6	2.4	16.7
10	Canada thistle	23.2	4.0	17.2	0.2	1.0	2.4	10.4
11	Barnyard grass	8.7	3.0	35.0	0.4	4.4	11.8	7.8
12	Quack grass	8.7	1.2	13.3	0.2	2.2	7.4	4.4
13	Shepherd's-purse	10.1	1.6	15.7	0.1	1.0	3.0	4.4
14	Round-leaved mallow	5.8	1.4	25.0	0.1	2.5	5.0	3.7
15	Pale smartweed	7.2	0.7	10.0	0.1	1.1	3.8	2.8
16	Foxtail barley	4.3	0.8	18.3	0.1	3.1	5.6	2.7
17	Smooth brome	4.3	1.2	26.7	0.1	2.1	3.2	2.7
18	Wheat	5.8	0.7	12.5	0.1	1.4	2.0	2.5
19	Narrow-leaved hawk's-beard	5.8	0.9	15.0	0.1	0.9	1.6	2.4
20	Annual sow-thistle	4.3	1.0	23.3	0.1	1.5	2.2	2.4
21	Spiny annual sow-thistle	4.3	0.9	21.7	0.1	1.5	2.8	2.3
22	Prickly lettuce	2.9	0.9	32.5	0.1	2.2	3.6	2.0
23	Barley	1.4	0.7	45.0	0.1	7.4	7.4	1.8
24	Chickweed	4.3	0.5	11.7	< 0.1	0.7	1.0	1.6
25	Russian thistle	4.3	0.2	5.0	< 0.1	0.3	0.4	1.2
26	Stinkweed	4.3	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Cleavers	2.9	0.2	7.5	< 0.1	0.3	0.4	0.9
28	Stork's-bill	1.4	0.1	10.0	< 0.1	0.6	0.6	0.5
29	Perennial sow-thistle	1.4	0.1	10.0	< 0.1	0.4	0.4	0.5
30	Japanese brome	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
31	Flixweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Newell County

Table 126. 2009 irrigated cereal crops in Newell County (48 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	66.7	16.9	25.3	1.3	1.9	11.2	37.1
2	Lamb's-quarters	50.0	14.4	28.8	2.0	3.9	29.4	36.6
3	Alfalfa	29.2	10.7	36.8	2.4	8.3	36.8	32.5
4	Dandelion	54.2	14.1	26.0	1.3	2.3	13.0	32.0
5	Wild oats	43.8	9.4	21.4	1.8	4.0	32.6	29.6
6	Redroot pigweed	33.3	6.6	19.7	1.5	4.5	58.6	23.2
7	Canola (Argentine)	29.2	9.6	32.9	1.2	4.3	32.4	23.1
8	Green foxtail	31.3	7.9	25.3	0.6	1.9	5.6	17.4
9	Kochia	39.6	5.8	14.7	0.3	0.7	2.4	15.1
10	Canada thistle	27.1	5.3	19.6	0.3	1.2	2.4	12.3
11	Shepherd's-purse	14.6	2.3	15.7	0.1	1.0	3.0	6.0
12	Smooth brome	6.3	1.7	26.7	0.1	2.1	3.2	3.7
13	Narrow-leaved hawk's-beard	8.3	1.3	15.0	0.1	0.9	1.6	3.3
14	Quack grass	6.3	0.7	11.7	0.2	3.0	7.4	3.2
15	Annual sow-thistle	6.3	1.5	23.3	0.1	1.5	2.2	3.2
16	Pale smartweed	8.3	0.8	10.0	0.1	1.3	3.8	3.1
17	Spiny annual sow-thistle	6.3	1.4	21.7	0.1	1.5	2.8	3.1
18	Foxtail barley	4.2	1.0	25.0	0.2	4.5	5.6	3.1
19	Round-leaved mallow	6.3	1.0	16.7	0.1	1.7	3.4	2.9
20	Prickly lettuce	4.2	1.4	32.5	0.1	2.2	3.6	2.7
21	Russian thistle	6.3	0.3	5.0	< 0.1	0.3	0.4	1.6
22	Chickweed	4.2	0.3	7.5	< 0.1	0.5	0.8	1.3
23	Barnyard grass	4.2	0.3	7.5	< 0.1	0.3	0.4	1.2
24	Stinkweed	4.2	0.2	5.0	< 0.1	0.2	0.2	1.1
25	Perennial sow-thistle	2.1	0.2	10.0	< 0.1	0.4	0.4	0.7
26	Wheat	2.1	0.1	5.0	< 0.1	0.4	0.4	0.6
27	Cleavers	2.1	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Newell County

Table 127. 2009 irrigated spring wheat in Newell County (28 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Alfalfa	42.9	17.9	41.7	4.1	9.6	36.8	53.1
2	Dandelion	57.1	15.7	27.5	1.4	2.4	6.0	33.9
3	Wild buckwheat	57.1	15.2	26.6	1.2	2.1	11.2	32.5
4	Canola (Argentine)	35.7	11.6	32.5	1.9	5.2	32.4	30.1
5	Lamb's-quarters	50.0	10.9	21.8	1.2	2.4	15.8	27.6
6	Wild oats	50.0	7.5	15.0	0.8	1.6	5.8	21.7
7	Green foxtail	32.1	9.8	30.6	0.8	2.6	5.6	20.4
8	Canada thistle	32.1	7.0	21.7	0.4	1.3	2.4	15.0
9	Kochia	35.7	5.2	14.5	0.3	0.8	2.4	13.4
10	Redroot pigweed	17.9	2.1	12.0	0.2	1.2	4.8	6.8
11	Foxtail barley	7.1	1.8	25.0	0.3	4.5	5.6	5.2
12	Smooth brome	7.1	2.5	35.0	0.2	2.8	3.2	4.9
13	Round-leaved mallow	10.7	1.8	16.7	0.2	1.7	3.4	4.8
14	Prickly lettuce	7.1	2.3	32.5	0.2	2.2	3.6	4.5
15	Narrow-leaved hawk's-beard	10.7	1.3	11.7	0.1	0.7	1.2	3.6
16	Spiny annual sow-thistle	7.1	1.6	22.5	0.1	1.6	2.8	3.5
17	Shepherd's-purse	10.7	0.9	8.3	0.1	0.7	1.0	3.4
18	Annual sow-thistle	7.1	1.6	22.5	0.1	1.1	1.4	3.3
19	Quack grass	7.1	0.7	10.0	0.1	0.8	1.4	2.4
20	Chickweed	7.1	0.5	7.5	< 0.1	0.5	0.8	2.1
21	Pale smartweed	7.1	0.5	7.5	< 0.1	0.5	0.6	2.1
22	Russian thistle	7.1	0.4	5.0	< 0.1	0.3	0.4	1.8
23	Barnyard grass	3.6	0.4	10.0	< 0.1	0.4	0.4	1.1
24	Perennial sow-thistle	3.6	0.4	10.0	< 0.1	0.4	0.4	1.1
25	Cleavers	3.6	0.2	5.0	< 0.1	0.2	0.2	0.9
26	Stinkweed	3.6	0.2	5.0	< 0.1	0.2	0.2	0.9

Table 128. 2009 irrigated barley in Newell County (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	53.8	18.5	34.3	4.8	8.9	32.6	54.7
2	Wild buckwheat	92.3	25.8	27.9	1.8	2.0	5.2	52.8
3	Redroot pigweed	53.8	13.8	25.7	4.8	8.9	58.6	50.6
4	Lamb's-quarters	46.2	20.8	45.0	4.0	8.6	29.4	50.5
5	Kochia	53.8	8.1	15.0	0.4	0.7	1.4	20.6
6	Dandelion	46.2	6.5	14.2	0.4	0.8	1.8	17.7
7	Green foxtail	38.5	7.7	20.0	0.4	1.0	1.6	17.3
8	Shepherd's-purse	15.4	4.2	27.5	0.3	1.8	3.0	8.6
9	Canada thistle	23.1	2.3	10.0	0.1	0.6	1.4	7.7
10	Pale smartweed	15.4	1.9	12.5	0.3	2.0	3.8	6.7
11	Quack grass	7.7	1.2	15.0	0.6	7.4	7.4	5.9
12	Alfalfa	7.7	0.8	10.0	< 0.1	0.6	0.6	2.6
13	Wheat	7.7	0.4	5.0	< 0.1	0.4	0.4	2.2
14	Russian thistle	7.7	0.4	5.0	< 0.1	0.2	0.2	2.1

Field Survey Summary Tables – Newell County

Table 129. 2009 irrigated broad-leaved annual crops in Newell County (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	76.2	14.0	18.4	0.7	0.9	2.0	40.9
2	Redroot pigweed	52.4	10.2	19.5	1.1	2.1	13.4	37.1
3	Wild oats	57.1	10.0	17.5	1.0	1.7	14.0	36.3
4	Green foxtail	28.6	9.5	33.3	1.2	4.1	15.8	32.5
5	Barnyard grass	19.0	9.3	48.8	1.2	6.5	11.8	31.0
6	Lamb's-quarters	42.9	6.7	15.6	0.4	1.0	3.8	22.4
7	Kochia	52.4	6.0	11.4	0.2	0.5	1.4	21.2
8	Dandelion	38.1	5.7	15.0	0.3	0.9	4.4	18.9
9	Alfalfa	14.3	3.6	25.0	0.2	1.3	2.4	9.6
10	Wheat	14.3	2.1	15.0	0.2	1.7	2.0	8.6
11	Barley	4.8	2.1	45.0	0.4	7.4	7.4	8.1
12	Quack grass	14.3	2.1	15.0	0.2	1.3	1.6	8.0
13	Round-leaved mallow	4.8	2.4	50.0	0.2	5.0	5.0	6.9
14	Canada thistle	14.3	1.0	6.7	< 0.1	0.3	0.4	4.7
15	Chickweed	4.8	1.0	20.0	< 0.1	1.0	1.0	2.7
16	Stork's-bill	4.8	0.5	10.0	< 0.1	0.6	0.6	1.9
17	Cleavers	4.8	0.5	10.0	< 0.1	0.4	0.4	1.8
18	Pale smartweed	4.8	0.5	10.0	< 0.1	0.4	0.4	1.8
19	Foxtail barley	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
20	Japanese brome	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
21	Flixweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
22	Stinkweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4

Table 130. 2009 irrigated canola in Newell County (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	87.5	17.5	20.0	0.8	0.9	2.0	54.0
2	Wild oats	62.5	11.3	18.0	1.2	1.8	14.0	46.2
3	Green foxtail	31.3	8.8	28.0	1.1	3.6	15.8	36.2
4	Kochia	68.8	7.8	11.4	0.3	0.5	1.4	29.7
5	Dandelion	43.8	7.2	16.4	0.4	0.9	4.4	25.1
6	Lamb's-quarters	43.8	5.6	12.9	0.3	0.7	2.6	21.1
7	Barnyard grass	6.3	4.4	70.0	0.7	11.8	11.8	18.9
8	Redroot pigweed	43.8	3.8	8.6	0.2	0.5	1.2	17.2
9	Barley	6.3	2.8	45.0	0.5	7.4	7.4	12.4
10	Quack grass	18.8	2.8	15.0	0.3	1.3	1.6	11.6
11	Wheat	12.5	1.6	12.5	0.2	1.5	2.0	7.7
12	Canada thistle	18.8	1.3	6.7	0.1	0.3	0.4	6.6
13	Chickweed	6.3	1.3	20.0	0.1	1.0	1.0	3.9
14	Alfalfa	6.3	1.3	20.0	0.1	0.8	0.8	3.7
15	Foxtail barley	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9
16	Japanese brome	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9
17	Flixweed	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9

Field Survey Summary Tables – Newell County

Table 131. 2009 irrigated perennial crops in Newell County (52 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	94.2	61.3	65.1	12.2	12.9	51.6	171.5
2	Canada thistle	34.6	6.1	17.5	0.5	1.4	9.4	21.7
3	Smooth brome	21.2	5.8	27.3	1.0	4.6	30.6	19.5
4	Lamb's-quarters	17.3	4.1	23.9	0.8	4.7	31.2	15.4
5	Kochia	17.3	3.3	18.9	0.8	4.6	31.4	14.4
6	Quack grass	9.6	1.9	20.0	0.4	3.9	13.0	7.7
7	Wild buckwheat	7.7	1.7	22.5	0.1	1.6	2.6	5.3
8	Perennial sow-thistle	5.8	1.9	33.3	0.2	3.1	7.6	5.2
9	Wild oats	9.6	1.1	11.0	0.1	0.7	1.8	5.0
10	Barnyard grass	5.8	1.5	26.7	0.2	3.0	5.2	4.7
11	Narrow-leaved hawk's-beard	5.8	1.5	26.7	0.1	1.5	2.2	4.2
12	Foxtail barley	7.7	0.7	8.8	< 0.1	0.6	0.8	3.7
13	Spiny annual sow-thistle	5.8	0.8	13.3	0.1	0.9	1.4	3.2
14	Shepherd's-purse	5.8	0.5	8.3	< 0.1	0.5	0.8	2.7
15	Russian thistle	5.8	0.3	5.0	< 0.1	0.2	0.2	2.4
16	Annual sow-thistle	3.8	0.7	17.5	0.1	1.3	2.4	2.4
17	Redroot pigweed	3.8	0.3	7.5	< 0.1	0.4	0.4	1.8
18	Green foxtail	1.9	0.6	30.0	0.1	4.0	4.0	1.8
19	Curled dock	3.8	0.3	7.5	< 0.1	0.3	0.4	1.8
20	White sweet-clover	1.9	0.3	15.0	< 0.1	2.0	2.0	1.2
21	Common burdock	1.9	0.2	10.0	< 0.1	1.4	1.4	1.1
22	Silver sagebrush	1.9	0.2	10.0	< 0.1	0.4	0.4	0.9
23	Showy milkweed	1.9	0.1	5.0	< 0.1	0.4	0.4	0.8
24	Round-leaved mallow	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
25	Broad-leaved plantain	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Newell County

Table 132. 2009 irrigated alfalfa in Newell County (43 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	95.3	62.1	65.1	11.8	12.3	48.6	164.6
2	Canada thistle	37.2	6.9	18.4	0.6	1.5	9.4	22.9
3	Smooth brome	20.9	5.9	28.3	1.1	5.2	30.6	19.6
4	Kochia	20.9	4.0	18.9	1.0	4.6	31.4	16.8
5	Lamb's-quarters	18.6	4.8	25.6	1.0	5.2	31.2	16.8
6	Quack grass	11.6	2.3	20.0	0.5	3.9	13.0	9.0
7	Perennial sow-thistle	7.0	2.3	33.3	0.2	3.1	7.6	6.0
8	Wild oats	11.6	1.3	11.0	0.1	0.7	1.8	5.7
9	Barnyard grass	7.0	1.9	26.7	0.2	3.0	5.2	5.5
10	Narrow-leaved hawk's-beard	7.0	1.9	26.7	0.1	1.5	2.2	4.9
11	Wild buckwheat	7.0	1.5	21.7	0.1	1.7	2.6	4.6
12	Shepherd's-purse	7.0	0.6	8.3	< 0.1	0.5	0.8	3.2
13	Foxtail barley	7.0	0.5	6.7	< 0.1	0.5	0.8	3.1
14	Annual sow-thistle	4.7	0.8	17.5	0.1	1.3	2.4	2.8
15	Spiny annual sow-thistle	4.7	0.6	12.5	< 0.1	0.7	0.8	2.4
16	Redroot pigweed	4.7	0.3	7.5	< 0.1	0.4	0.4	2.0
17	Green foxtail	2.3	0.7	30.0	0.1	4.0	4.0	2.0
18	Curled dock	4.7	0.3	7.5	< 0.1	0.3	0.4	2.0
19	Russian thistle	4.7	0.2	5.0	< 0.1	0.2	0.2	1.9
20	Common burdock	2.3	0.2	10.0	< 0.1	1.4	1.4	1.2
21	Silver sagebrush	2.3	0.2	10.0	< 0.1	0.4	0.4	1.1
22	Showy milkweed	2.3	0.1	5.0	< 0.1	0.4	0.4	1.0
23	Round-leaved mallow	2.3	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Taber County

Table 133. 2009 irrigated fields in Taber County (152 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	24.3	5.7	23.4	0.9	3.8	33.6	49.3
2	Kochia	36.2	5.2	14.3	0.6	1.7	14.6	46.2
3	Dandelion	16.4	3.9	24.0	0.5	3.0	20.8	30.6
4	Wild buckwheat	17.8	3.9	22.0	0.3	1.7	12.4	26.9
5	Canada thistle	19.1	2.3	11.9	0.3	1.3	9.0	21.7
6	Canola (Argentine)	9.9	2.0	20.0	0.2	2.2	21.4	15.3
7	Foxtail barley	8.6	1.2	14.2	0.3	3.4	15.0	14.3
8	Green foxtail	6.6	1.6	25.0	0.3	4.0	28.8	13.9
9	Redroot pigweed	9.2	1.7	18.9	0.2	1.7	9.0	13.0
10	Alfalfa	3.3	1.3	39.0	0.2	6.3	19.2	10.0
11	Round-leaved mallow	7.9	1.1	13.3	0.1	0.9	2.2	8.5
12	Lamb's-quarters	5.9	1.1	18.3	0.1	1.1	4.4	7.4
13	Quack grass	4.6	0.5	10.0	0.1	1.3	3.0	4.9
14	Pasture sage	1.3	0.7	55.0	0.1	5.7	6.8	4.4
15	White sweet-clover	0.7	0.5	75.0	0.1	8.0	8.0	2.9
16	Yellow sweet-clover	2.6	0.3	12.5	< 0.1	1.0	2.0	2.8
17	White mustard	0.7	0.4	60.0	0.1	9.4	9.4	2.8
18	Wheat	1.3	0.3	20.0	0.1	4.3	8.0	2.7
19	Goat's-beard	2.6	0.2	8.8	< 0.1	0.7	1.8	2.4
20	Field bindweed	2.6	0.2	7.5	< 0.1	0.6	1.6	2.2
21	Sunflower species	2.0	0.3	13.3	< 0.1	1.1	1.6	2.2
22	Barnyard grass	0.7	0.3	50.0	< 0.1	3.2	3.2	1.7
23	Perennial sow-thistle	2.0	0.2	8.3	< 0.1	0.5	0.6	1.7
24	White clover	2.0	0.2	8.3	< 0.1	0.4	0.6	1.6
25	Spiny annual sow-thistle	0.7	0.3	40.0	< 0.1	3.6	3.6	1.6
26	Flixweed	2.0	0.1	5.0	< 0.1	0.2	0.2	1.4
27	Showy milkweed	1.3	0.1	7.5	< 0.1	0.7	0.8	1.1
28	Broad-leaved plantain	0.7	0.2	25.0	< 0.1	2.2	2.2	1.1
29	Prickly rose	0.7	0.1	20.0	< 0.1	2.2	2.2	1.0
30	Bull thistle	1.3	0.1	5.0	< 0.1	0.3	0.4	0.9
31	Purslane	0.7	0.1	15.0	< 0.1	1.4	1.4	0.8
32	Common groundsel	0.7	0.1	15.0	< 0.1	0.8	0.8	0.7
33	Timothy	0.7	0.1	10.0	< 0.1	0.6	0.6	0.6
34	Downy brome	0.7	< 0.1	5.0	< 0.1	1.2	1.2	0.6
35	Stinkweed	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Taber County

Table 134. 2009 irrigated annual crops in Taber County (126 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	28.6	6.8	23.8	1.1	3.9	33.6	66.1
2	Kochia	38.9	5.9	15.1	0.7	1.7	14.6	57.3
3	Wild buckwheat	20.6	4.4	21.2	0.3	1.7	12.4	34.1
4	Canola (Argentine)	11.1	2.3	21.1	0.3	2.3	21.4	20.1
5	Green foxtail	7.9	2.0	25.0	0.3	4.0	28.8	18.9
6	Canada thistle	15.1	1.4	9.2	0.2	1.1	7.0	16.8
7	Alfalfa	4.0	1.5	39.0	0.3	6.3	19.2	13.6
8	Redroot pigweed	9.5	1.4	15.0	0.1	1.2	7.6	12.6
9	Round-leaved mallow	9.5	1.3	13.3	0.1	0.9	2.2	11.4
10	Foxtail barley	4.0	0.3	8.0	0.1	3.7	15.0	7.0
11	Lamb's-quarters	6.3	0.8	11.9	< 0.1	0.7	1.6	6.9
12	Dandelion	4.8	0.6	12.5	< 0.1	0.6	1.2	5.3
13	White mustard	0.8	0.5	60.0	0.1	9.4	9.4	3.9
14	Wheat	1.6	0.3	20.0	0.1	4.3	8.0	3.6
15	Sunflower species	2.4	0.3	13.3	< 0.1	1.1	1.6	3.0
16	Field bindweed	3.2	0.2	7.5	< 0.1	0.6	1.6	3.0
17	Barnyard grass	0.8	0.4	50.0	< 0.1	3.2	3.2	2.3
18	Spiny annual sow-thistle	0.8	0.3	40.0	< 0.1	3.6	3.6	2.2
19	Showy milkweed	1.6	0.1	7.5	< 0.1	0.7	0.8	1.5
20	Broad-leaved plantain	0.8	0.2	25.0	< 0.1	2.2	2.2	1.5
21	Perennial sow-thistle	1.6	0.1	7.5	< 0.1	0.5	0.6	1.5
22	Quack grass	1.6	0.1	5.0	< 0.1	0.3	0.4	1.2
23	Flixweed	1.6	0.1	5.0	< 0.1	0.2	0.2	1.2
24	Purslane	0.8	0.1	15.0	< 0.1	1.4	1.4	1.1
25	Common groundsel	0.8	0.1	15.0	< 0.1	0.8	0.8	1.0
26	Timothy	0.8	0.1	10.0	< 0.1	0.6	0.6	0.8
27	Downy brome	0.8	< 0.1	5.0	< 0.1	1.2	1.2	0.8
28	Goat's-beard	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.6
29	Stinkweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.6

Field Survey Summary Tables – Taber County

Table 135. 2009 irrigated cereal crops in Taber County (70 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	45.7	11.6	25.3	2.0	4.3	33.6	75.4
2	Kochia	51.4	9.0	17.5	1.1	2.1	14.6	57.9
3	Wild buckwheat	31.4	7.4	23.6	0.6	1.9	12.4	38.4
4	Green foxtail	12.9	3.5	27.2	0.6	4.4	28.8	22.0
5	Canola (Argentine)	11.4	3.1	27.5	0.4	3.6	21.4	18.1
6	Canada thistle	21.4	1.9	8.7	0.2	0.7	2.2	15.2
7	Alfalfa	5.7	2.6	45.0	0.4	7.8	19.2	15.0
8	Round-leaved mallow	14.3	2.0	14.0	0.1	0.9	2.2	12.2
9	Redroot pigweed	11.4	1.9	16.3	0.2	1.4	7.6	11.2
10	Foxtail barley	5.7	0.5	8.8	0.2	4.4	15.0	7.4
11	Dandelion	5.7	0.8	13.8	< 0.1	0.7	1.2	4.7
12	White mustard	1.4	0.9	60.0	0.1	9.4	9.4	4.6
13	Lamb's-quarters	5.7	0.4	7.5	< 0.1	0.5	0.8	3.7
14	Spiny annual sow-thistle	1.4	0.6	40.0	0.1	3.6	3.6	2.6
15	Field bindweed	4.3	0.2	5.0	< 0.1	0.3	0.4	2.4
16	Perennial sow-thistle	2.9	0.2	7.5	< 0.1	0.5	0.6	1.9
17	Broad-leaved plantain	1.4	0.4	25.0	< 0.1	2.2	2.2	1.9
18	Sunflower species	1.4	0.1	10.0	< 0.1	0.8	0.8	1.1
19	Timothy	1.4	0.1	10.0	< 0.1	0.6	0.6	1.0
20	Showy milkweed	1.4	0.1	5.0	< 0.1	0.6	0.6	0.9
21	Wheat	1.4	0.1	5.0	< 0.1	0.6	0.6	0.9
22	Quack grass	1.4	0.1	5.0	< 0.1	0.4	0.4	0.8
23	Flixweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.8

Table 136. 2009 irrigated spring wheat in Taber County (43 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	44.2	9.2	20.8	2.1	4.7	33.6	84.2
2	Kochia	51.2	6.9	13.4	0.7	1.3	4.8	53.0
3	Wild buckwheat	27.9	6.6	23.8	0.6	2.1	12.4	40.9
4	Canola (Argentine)	11.6	3.1	27.0	0.5	4.7	21.4	24.1
5	Green foxtail	16.3	3.3	20.0	0.3	1.6	6.4	20.6
6	Round-leaved mallow	16.3	2.7	16.4	0.2	1.0	2.2	17.3
7	Foxtail barley	9.3	0.8	8.8	0.4	4.4	15.0	14.1
8	Canada thistle	18.6	1.4	7.5	0.1	0.4	1.0	13.2
9	Redroot pigweed	11.6	0.7	6.0	0.1	0.5	1.4	7.9
10	Spiny annual sow-thistle	2.3	0.9	40.0	0.1	3.6	3.6	5.1
11	Dandelion	4.7	0.8	17.5	< 0.1	0.8	1.2	4.9
12	Field bindweed	7.0	0.3	5.0	< 0.1	0.3	0.4	4.3
13	Broad-leaved plantain	2.3	0.6	25.0	0.1	2.2	2.2	3.5
14	Timothy	2.3	0.2	10.0	< 0.1	0.6	0.6	1.9
15	Perennial sow-thistle	2.3	0.2	10.0	< 0.1	0.4	0.4	1.8
16	Showy milkweed	2.3	0.1	5.0	< 0.1	0.6	0.6	1.6
17	Flixweed	2.3	0.1	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Taber County

Table 137. 2009 irrigated barley in Taber County (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	66.7	18.6	27.9	2.3	3.5	10.0	77.6
2	Kochia	61.1	17.5	28.6	2.6	4.3	14.6	76.8
3	Green foxtail	11.1	5.8	52.5	1.6	14.5	28.8	30.3
4	Alfalfa	11.1	5.3	47.5	1.2	10.9	19.2	25.1
5	Canada thistle	38.9	3.9	10.0	0.4	1.1	2.2	24.2
6	White mustard	5.6	3.3	60.0	0.5	9.4	9.4	12.8
7	Canola (Argentine)	11.1	3.3	30.0	0.2	2.1	2.2	11.6
8	Wild buckwheat	16.7	1.4	8.3	0.1	0.5	0.8	9.0
9	Lamb's-quarters	16.7	1.4	8.3	0.1	0.5	0.8	9.0
10	Redroot pigweed	11.1	1.1	10.0	0.1	0.6	1.0	6.4
11	Round-leaved mallow	11.1	0.8	7.5	0.1	0.5	0.6	5.8
12	Sunflower species	5.6	0.6	10.0	< 0.1	0.8	0.8	3.3
13	Perennial sow-thistle	5.6	0.3	5.0	< 0.1	0.6	0.6	2.8
14	Dandelion	5.6	0.3	5.0	< 0.1	0.4	0.4	2.6
15	Quack grass	5.6	0.3	5.0	< 0.1	0.4	0.4	2.6

Table 138. 2009 irrigated broad-leaved annual crops in Taber County (56 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	23.2	2.0	8.5	0.1	0.6	2.0	52.3
2	Canada thistle	7.1	0.8	11.3	0.2	2.3	7.0	30.4
3	Canola (Argentine)	10.7	1.3	12.5	0.1	0.5	1.0	27.1
4	Lamb's-quarters	7.1	1.2	16.3	0.1	0.9	1.6	22.6
5	Wheat	1.8	0.6	35.0	0.1	8.0	8.0	21.7
6	Redroot pigweed	7.1	0.9	12.5	0.1	0.7	2.2	19.3
7	Wild oats	7.1	0.8	11.3	< 0.1	0.5	0.6	17.1
8	Barnyard grass	1.8	0.9	50.0	0.1	3.2	3.2	15.0
9	Wild buckwheat	7.1	0.5	7.5	< 0.1	0.3	0.4	13.4
10	Sunflower species	3.6	0.5	15.0	< 0.1	1.3	1.6	12.6
11	Round-leaved mallow	3.6	0.4	10.0	< 0.1	0.7	0.8	8.9
12	Dandelion	3.6	0.4	10.0	< 0.1	0.5	0.8	8.2
13	Field bindweed	1.8	0.3	15.0	< 0.1	1.6	1.6	6.9
14	Purslane	1.8	0.3	15.0	< 0.1	1.4	1.4	6.5
15	Common groundsel	1.8	0.3	15.0	< 0.1	0.8	0.8	5.4
16	Alfalfa	1.8	0.3	15.0	< 0.1	0.6	0.6	5.0
17	Downy brome	1.8	0.1	5.0	< 0.1	1.2	1.2	4.7
18	Showy milkweed	1.8	0.2	10.0	< 0.1	0.8	0.8	4.6
19	Foxtail barley	1.8	0.1	5.0	< 0.1	1.0	1.0	4.3
20	Flixweed	1.8	0.1	5.0	< 0.1	0.2	0.2	2.8
21	Green foxtail	1.8	0.1	5.0	< 0.1	0.2	0.2	2.8
22	Goat's-beard	1.8	0.1	5.0	< 0.1	0.2	0.2	2.8
23	Quack grass	1.8	0.1	5.0	< 0.1	0.2	0.2	2.8
24	Stinkweed	1.8	0.1	5.0	< 0.1	0.2	0.2	2.8

Field Survey Summary Tables – Taber County

Table 139. 2009 irrigated canola in Taber County (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	20.0	2.0	10.0	0.2	0.9	2.0	164.5
2	Sunflower species	6.7	1.3	20.0	0.1	1.6	1.6	87.1
3	Foxtail barley	6.7	0.3	5.0	0.1	1.0	1.0	48.3

Table 140. 2009 irrigated dry beans in Taber County (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	23.5	2.6	11.3	0.2	0.9	1.2	52.5
2	Canada thistle	11.8	1.5	12.5	0.5	4.2	7.0	49.7
3	Wheat	5.9	2.1	35.0	0.5	8.0	8.0	46.8
4	Barnyard grass	5.9	2.9	50.0	0.2	3.2	3.2	36.4
5	Wild oats	17.6	1.8	10.0	0.1	0.5	0.6	33.4
6	Field bindweed	5.9	0.9	15.0	0.1	1.6	1.6	17.0
7	Wild buckwheat	11.8	0.6	5.0	< 0.1	0.2	0.2	16.5
8	Dandelion	5.9	0.9	15.0	< 0.1	0.8	0.8	14.3
9	Sunflower species	5.9	0.6	10.0	0.1	1.0	1.0	13.0
10	Showy milkweed	5.9	0.6	10.0	< 0.1	0.8	0.8	12.3
11	Canola (Argentine)	5.9	0.3	5.0	< 0.1	0.2	0.2	8.2

Table 141. 2009 irrigated potatoes in Taber County (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	21.4	2.5	11.7	0.1	0.6	0.8	41.1
2	Canola (Argentine)	14.3	2.5	17.5	0.1	0.8	1.0	35.4
3	Kochia	28.6	1.8	6.3	0.1	0.3	0.4	34.9
4	Round-leaved mallow	14.3	1.4	10.0	0.1	0.7	0.8	27.6
5	Wild buckwheat	14.3	1.4	10.0	0.1	0.4	0.4	22.9
6	Purslane	7.1	1.1	15.0	0.1	1.4	1.4	21.4
7	Common groundsel	7.1	1.1	15.0	0.1	0.8	0.8	16.7
8	Downy brome	7.1	0.4	5.0	0.1	1.2	1.2	15.6
9	Redroot pigweed	14.3	0.7	5.0	< 0.1	0.2	0.2	15.6
10	Wild oats	7.1	1.1	15.0	< 0.1	0.6	0.6	15.1
11	Canada thistle	7.1	1.1	15.0	< 0.1	0.6	0.6	15.1
12	Alfalfa	7.1	1.1	15.0	< 0.1	0.6	0.6	15.1
13	Dandelion	7.1	0.4	5.0	< 0.1	0.2	0.2	7.8
14	Flixweed	7.1	0.4	5.0	< 0.1	0.2	0.2	7.8
15	Goat's-beard	7.1	0.4	5.0	< 0.1	0.2	0.2	7.8

Field Survey Summary Tables – Taber County

Table 142. 2009 irrigated sugar beets in Taber County (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	20.0	4.0	20.0	0.2	1.2	2.2	82.7
2	Canola (Argentine)	30.0	3.5	11.7	0.1	0.5	0.6	72.1
3	Lamb's-quarters	10.0	3.0	30.0	0.2	1.6	1.6	54.8
4	Kochia	20.0	1.0	5.0	< 0.1	0.2	0.2	30.1
5	Green foxtail	10.0	0.5	5.0	< 0.1	0.2	0.2	15.1
6	Quack grass	10.0	0.5	5.0	< 0.1	0.2	0.2	15.1
7	Stinkweed	10.0	0.5	5.0	< 0.1	0.2	0.2	15.1
8	Canada thistle	10.0	0.5	5.0	< 0.1	0.2	0.2	15.1

Table 143. 2009 irrigated perennial crops in Taber County (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	73.1	20.2	27.6	2.8	3.8	20.8	101.1
2	Canada thistle	38.5	6.5	17.0	0.7	1.9	9.0	35.6
3	Foxtail barley	30.8	5.6	18.1	1.0	3.3	12.8	35.1
4	Pasture sage	7.7	4.2	55.0	0.4	5.7	6.8	16.4
5	Quack grass	19.2	2.3	12.0	0.3	1.6	3.0	15.5
6	Kochia	23.1	1.7	7.5	0.3	1.1	5.4	15.0
7	Redroot pigweed	7.7	3.3	42.5	0.4	4.8	9.0	13.7
8	Yellow sweet-clover	15.4	1.9	12.5	0.2	1.0	2.0	11.1
9	White sweet-clover	3.8	2.9	75.0	0.3	8.0	8.0	10.8
10	Lamb's-quarters	3.8	2.7	70.0	0.2	4.4	4.4	8.5
11	Goat's-beard	11.5	1.2	10.0	0.1	0.9	1.8	7.6
12	White clover	11.5	1.0	8.3	< 0.1	0.4	0.6	6.5
13	Wild buckwheat	3.8	1.7	45.0	0.1	3.8	3.8	6.5
14	Prickly rose	3.8	0.8	20.0	0.1	2.2	2.2	3.9
15	Bull thistle	7.7	0.4	5.0	< 0.1	0.3	0.4	3.8
16	Wild oats	3.8	0.4	10.0	0.1	1.4	1.4	2.8
17	Perennial sow-thistle	3.8	0.4	10.0	< 0.1	0.6	0.6	2.4
18	Flixweed	3.8	0.2	5.0	< 0.1	0.2	0.2	1.8
19	Canola (Argentine)	3.8	0.2	5.0	< 0.1	0.2	0.2	1.8

Field Survey Summary Tables – Taber County

Table 144. 2009 irrigated alfalfa in Taber County (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	68.8	23.4	34.1	2.7	4.0	20.8	113.1
2	Canada thistle	37.5	8.4	22.5	0.9	2.4	9.0	44.4
3	Quack grass	31.3	3.8	12.0	0.5	1.6	3.0	27.2
4	Foxtail barley	25.0	3.8	15.0	0.4	1.4	3.0	22.1
5	Redroot pigweed	6.3	5.0	80.0	0.6	9.0	9.0	20.5
6	Kochia	25.0	2.2	8.8	0.4	1.5	5.4	19.8
7	Lamb's-quarters	6.3	4.4	70.0	0.3	4.4	4.4	14.7
8	Yellow sweet-clover	12.5	1.6	12.5	0.1	0.8	1.4	9.3
9	Goat's-beard	6.3	0.9	15.0	0.1	1.8	1.8	5.9
10	Wild oats	6.3	0.6	10.0	0.1	1.4	1.4	5.0
11	Perennial sow-thistle	6.3	0.6	10.0	< 0.1	0.6	0.6	4.2
12	White clover	6.3	0.6	10.0	< 0.1	0.4	0.4	4.0
13	Bull thistle	6.3	0.3	5.0	< 0.1	0.4	0.4	3.4
14	Flixweed	6.3	0.3	5.0	< 0.1	0.2	0.2	3.2
15	Canola (Argentine)	6.3	0.3	5.0	< 0.1	0.2	0.2	3.2

Table 145. 2009 irrigated grass hay in Taber County (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	80.0	15.0	18.8	2.8	3.6	20.4	84.8
2	Foxtail barley	40.0	8.5	21.3	2.0	5.1	12.8	51.5
3	Pasture sage	20.0	11.0	55.0	1.1	5.7	6.8	38.5
4	White sweet-clover	10.0	7.5	75.0	0.8	8.0	8.0	25.4
5	Canada thistle	40.0	3.5	8.8	0.4	1.1	2.2	24.0
6	Wild buckwheat	10.0	4.5	45.0	0.4	3.8	3.8	15.3
7	Yellow sweet-clover	20.0	2.5	12.5	0.2	1.2	2.0	13.5
8	Goat's-beard	20.0	1.5	7.5	0.1	0.4	0.4	9.9
9	White clover	20.0	1.5	7.5	0.1	0.4	0.6	9.9
10	Prickly rose	10.0	2.0	20.0	0.2	2.2	2.2	9.2
11	Kochia	20.0	1.0	5.0	0.1	0.3	0.4	8.8
12	Redroot pigweed	10.0	0.5	5.0	0.1	0.6	0.6	4.8
13	Bull thistle	10.0	0.5	5.0	< 0.1	0.2	0.2	4.3

Field Survey Summary Tables – Vulcan County

Table 146. 2009 irrigated fields in Vulcan County (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	32.0	14.6	45.6	4.1	12.9	49.2	39.9
2	Dandelion	40.0	14.6	36.5	2.5	6.3	16.6	33.6
3	Wild buckwheat	44.0	11.2	25.5	1.0	2.3	7.8	24.1
4	Smooth brome	12.0	6.2	51.7	2.8	23.4	61.6	21.9
5	Wheat	20.0	8.8	44.0	2.0	9.8	30.0	21.5
6	Perennial sow-thistle	24.0	10.0	41.7	1.3	5.5	15.6	20.2
7	Canola (Argentine)	20.0	11.0	55.0	1.3	6.5	15.4	20.0
8	Kochia	32.0	6.0	18.8	0.9	2.9	13.6	16.8
9	Canada thistle	28.0	4.6	16.4	0.3	1.1	2.4	11.5
10	Persian darnel	12.0	5.4	45.0	0.8	6.8	15.2	11.2
11	Stinkweed	20.0	4.8	24.0	0.4	1.9	4.6	10.3
12	Lamb's-quarters	20.0	2.8	14.0	0.2	1.2	4.8	7.9
13	Foxtail barley	20.0	2.0	10.0	0.1	0.7	1.6	6.8
14	Redroot pigweed	16.0	1.6	10.0	0.2	1.3	3.0	6.0
15	Shepherd's-purse	8.0	3.0	37.5	0.3	3.8	4.2	5.8
16	Tartary buckwheat	12.0	2.0	16.7	0.2	1.4	2.2	5.2
17	Green foxtail	8.0	2.8	35.0	0.2	2.5	4.4	5.1
18	Spiny annual sow-thistle	8.0	2.0	25.0	0.3	3.7	6.2	4.9
19	Wild mustard	4.0	3.0	75.0	0.2	5.6	5.6	4.5
20	Quack grass	8.0	1.6	20.0	0.2	2.4	3.6	4.1
21	Chickweed	8.0	1.0	12.5	0.1	1.5	2.4	3.2
22	Annual sow-thistle	8.0	0.6	7.5	0.1	0.9	1.6	2.7
23	Cleavers	4.0	1.2	30.0	0.1	1.8	1.8	2.2
24	Russian thistle	4.0	0.6	15.0	< 0.1	1.2	1.2	1.6
25	Alfalfa	4.0	0.4	10.0	< 0.1	0.6	0.6	1.3
26	Downy brome	4.0	0.2	5.0	< 0.1	0.4	0.4	1.1
27	Barnyard grass	4.0	0.2	5.0	< 0.1	0.4	0.4	1.1
28	Rough cinquefoil	4.0	0.2	5.0	< 0.1	0.2	0.2	1.1
29	Flixweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.1
30	Round-leaved mallow	4.0	0.2	5.0	< 0.1	0.2	0.2	1.1
31	Ball mustard	4.0	0.2	5.0	< 0.1	0.2	0.2	1.1
32	Pale smartweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.1

Field Survey Summary Tables – Vulcan County

Table 147. 2009 irrigated annual crops in Vulcan County (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	47.1	21.5	45.6	6.1	12.9	49.2	46.3
2	Wild buckwheat	64.7	16.5	25.5	1.5	2.3	7.8	28.0
3	Smooth brome	17.6	9.1	51.7	4.1	23.4	61.6	25.4
4	Wheat	29.4	12.9	44.0	2.9	9.8	30.0	24.9
5	Canola (Argentine)	29.4	16.2	55.0	1.9	6.5	15.4	23.2
6	Perennial sow-thistle	29.4	12.9	44.0	1.9	6.3	15.6	20.9
7	Kochia	41.2	8.2	20.0	1.3	3.3	13.6	17.9
8	Persian darnel	17.6	7.9	45.0	1.2	6.8	15.2	13.0
9	Stinkweed	29.4	7.1	24.0	0.6	1.9	4.6	12.0
10	Dandelion	23.5	7.6	32.5	0.7	3.0	8.4	11.9
11	Canada thistle	29.4	3.2	11.0	0.2	0.6	1.0	8.0
12	Lamb's-quarters	23.5	3.8	16.3	0.3	1.4	4.8	7.9
13	Redroot pigweed	23.5	2.4	10.0	0.3	1.3	3.0	6.9
14	Shepherd's-purse	11.8	4.4	37.5	0.4	3.8	4.2	6.7
15	Foxtail barley	23.5	1.8	7.5	0.1	0.5	1.2	5.7
16	Spiny annual sow-thistle	11.8	2.9	25.0	0.4	3.7	6.2	5.7
17	Wild mustard	5.9	4.4	75.0	0.3	5.6	5.6	5.2
18	Quack grass	11.8	2.4	20.0	0.3	2.4	3.6	4.7
19	Chickweed	11.8	1.5	12.5	0.2	1.5	2.4	3.7
20	Tartary buckwheat	11.8	0.9	7.5	0.1	1.0	1.4	3.1
21	Annual sow-thistle	11.8	0.9	7.5	0.1	0.9	1.6	3.1
22	Cleavers	5.9	1.8	30.0	0.1	1.8	1.8	2.6
23	Russian thistle	5.9	0.9	15.0	0.1	1.2	1.2	1.9
24	Green foxtail	5.9	0.9	15.0	< 0.1	0.6	0.6	1.8
25	Alfalfa	5.9	0.6	10.0	< 0.1	0.6	0.6	1.6
26	Downy brome	5.9	0.3	5.0	< 0.1	0.4	0.4	1.3
27	Barnyard grass	5.9	0.3	5.0	< 0.1	0.4	0.4	1.3
28	Flixweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
29	Round-leaved mallow	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
30	Ball mustard	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
31	Pale smartweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3

Field Survey Summary Tables – Vulcan County

Table 148. 2009 irrigated cereal crops in Vulcan County (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	41.7	16.7	40.0	5.3	12.8	49.2	37.8
2	Wild buckwheat	83.3	22.9	27.5	2.1	2.5	7.8	34.6
3	Canola (Argentine)	41.7	22.9	55.0	2.7	6.5	15.4	30.6
4	Wheat	25.0	16.3	65.0	3.9	15.7	30.0	29.1
5	Perennial sow-thistle	25.0	15.8	63.3	2.5	10.0	15.6	23.1
6	Stinkweed	41.7	10.0	24.0	0.8	1.9	4.6	15.4
7	Kochia	41.7	9.2	22.0	0.8	1.8	5.0	14.8
8	Persian darnel	16.7	8.8	52.5	1.3	7.7	15.2	12.8
9	Lamb's-quarters	33.3	5.4	16.3	0.5	1.4	4.8	10.2
10	Dandelion	16.7	7.1	42.5	0.8	4.5	8.4	9.7
11	Redroot pigweed	33.3	3.3	10.0	0.4	1.3	3.0	8.9
12	Shepherd's-purse	16.7	6.3	37.5	0.6	3.8	4.2	8.7
13	Canada thistle	33.3	4.2	12.5	0.2	0.7	1.0	8.5
14	Wild mustard	8.3	6.3	75.0	0.5	5.6	5.6	6.8
15	Quack grass	16.7	3.3	20.0	0.4	2.4	3.6	6.1
16	Foxtail barley	25.0	2.1	8.3	0.1	0.5	1.2	5.6
17	Spiny annual sow-thistle	8.3	2.5	30.0	0.5	6.2	6.2	4.8
18	Chickweed	16.7	2.1	12.5	0.3	1.5	2.4	4.8
19	Tartary buckwheat	16.7	1.3	7.5	0.2	1.0	1.4	4.0
20	Annual sow-thistle	16.7	1.3	7.5	0.2	0.9	1.6	3.9
21	Cleavers	8.3	2.5	30.0	0.2	1.8	1.8	3.3
22	Russian thistle	8.3	1.3	15.0	0.1	1.2	1.2	2.4
23	Green foxtail	8.3	1.3	15.0	0.1	0.6	0.6	2.2
24	Alfalfa	8.3	0.8	10.0	0.1	0.6	0.6	2.0
25	Downy brome	8.3	0.4	5.0	< 0.1	0.4	0.4	1.7
26	Smooth brome	8.3	0.4	5.0	< 0.1	0.4	0.4	1.7
27	Barnyard grass	8.3	0.4	5.0	< 0.1	0.4	0.4	1.7
28	Flixweed	8.3	0.4	5.0	< 0.1	0.2	0.2	1.6
29	Round-leaved mallow	8.3	0.4	5.0	< 0.1	0.2	0.2	1.6
30	Pale smartweed	8.3	0.4	5.0	< 0.1	0.2	0.2	1.6

Field Survey Summary Tables – Warner County

Table 149. 2009 irrigated fields in Warner County (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	55.7	24.7	44.4	2.9	5.1	15.8	95.2
2	Canola (Argentine)	16.5	6.9	41.8	1.1	6.6	19.8	31.5
3	Kochia	46.5	6.2	13.3	0.6	1.3	5.0	31.1
4	Round-leaved mallow	39.6	5.7	14.4	0.3	0.8	2.0	23.6
5	Canada thistle	41.8	4.9	11.7	0.3	0.7	1.4	22.7
6	Lamb's-quarters	25.6	4.8	18.6	0.2	0.9	1.6	17.1
7	Wild oats	4.8	3.1	65.0	0.4	8.6	8.6	12.2
8	Redroot pigweed	27.8	1.4	5.0	0.1	0.2	0.2	10.2
9	Stinkweed	20.9	2.1	10.0	0.1	0.5	0.8	10.1
10	Field bindweed	18.7	1.9	10.0	0.1	0.5	1.0	9.3
11	Barley	11.7	2.1	18.0	0.1	1.0	1.2	7.9
12	Quack grass	13.9	1.4	10.0	0.1	0.6	1.0	7.0
13	Downy brome	7.0	0.7	10.0	< 0.1	0.4	0.4	3.3
14	Flixweed	7.0	0.7	10.0	< 0.1	0.4	0.4	3.3
15	Oats	7.0	0.3	5.0	< 0.1	0.4	0.4	2.8
16	Wild buckwheat	7.0	0.3	5.0	< 0.1	0.2	0.2	2.6
17	Green foxtail	7.0	0.3	5.0	< 0.1	0.2	0.2	2.6
18	Black medick	7.0	0.3	5.0	< 0.1	0.2	0.2	2.6
19	Perennial sow-thistle	7.0	0.3	5.0	< 0.1	0.2	0.2	2.6
20	Alfalfa	7.0	0.3	5.0	< 0.1	0.2	0.2	2.6

Table 150. 2009 irrigated fields in Wheatland & Rocky View Counties (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	49.0	19.6	39.9	4.9	10.1	35.8	64.6
2	Wild buckwheat	47.5	12.8	27.0	1.3	2.8	8.0	35.1
3	Wild oats	34.0	6.8	20.0	1.2	3.5	7.0	24.0
4	Canola (Argentine)	8.5	8.5	100.0	1.8	20.8	20.8	22.2
5	Lamb's-quarters	30.5	7.8	25.6	0.6	1.9	4.4	20.4
6	Shepherd's-purse	22.0	3.1	14.1	0.9	4.0	16.6	14.8
7	Barley	5.0	3.8	75.0	1.4	28.0	28.0	13.9
8	Annual sow-thistle	30.5	3.7	12.0	0.2	0.7	1.0	13.8
9	Stinkweed	5.0	3.8	75.0	1.4	27.0	27.0	13.6
10	Canada thistle	18.5	3.0	16.4	0.4	2.2	4.2	10.9
11	Chickweed	8.5	3.8	45.0	0.7	8.2	8.2	10.7
12	Flixweed	5.0	4.8	95.0	0.6	11.6	11.6	10.0
13	Kochia	17.0	3.4	20.0	0.2	1.2	2.2	9.6
14	Hemp-nettle	8.5	3.8	45.0	0.4	4.6	4.6	8.8
15	Cleavers	13.5	1.6	11.9	0.2	1.1	2.0	6.4
16	Narrow-leaved hawk's-beard	13.5	0.9	6.9	0.2	1.2	3.0	5.8
17	Stork's-bill	8.5	0.9	10.0	0.1	1.2	1.2	3.9
18	Quack grass	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
19	Round-leaved mallow	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
20	Russian thistle	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
21	Bluebur	5.0	0.8	15.0	0.1	1.2	1.2	2.6

Field Survey Summary Tables – Wheatland & Rocky View Counties

Table 151. 2009 irrigated annual crops in Wheatland & Rocky View Counties (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	52.1	15.1	29.0	1.5	3.0	8.0	50.0
2	Canola (Argentine)	10.4	10.4	100.0	2.2	20.8	20.8	38.2
3	Wild oats	41.7	8.3	20.0	1.5	3.5	7.0	37.3
4	Lamb's-quarters	31.3	8.3	26.7	0.6	1.9	4.4	25.6
5	Barley	6.1	4.6	75.0	1.7	28.0	28.0	24.8
6	Dandelion	37.4	3.7	10.0	0.2	0.6	1.0	17.8
7	Chickweed	10.4	4.7	45.0	0.9	8.2	8.2	17.6
8	Annual sow-thistle	31.3	4.2	13.3	0.3	0.8	1.0	16.9
9	Kochia	20.9	4.2	20.0	0.3	1.2	2.2	13.9
10	Hemp-nettle	10.4	4.7	45.0	0.5	4.6	4.6	13.9
11	Cleavers	16.6	2.0	11.9	0.2	1.1	2.0	9.1
12	Shepherd's-purse	20.9	1.0	5.0	0.1	0.3	0.4	7.9
13	Canada thistle	10.4	1.6	15.0	0.1	1.0	1.0	6.1
14	Stork's-bill	10.4	1.0	10.0	0.1	1.2	1.2	5.6
15	Quack grass	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
16	Narrow-leaved hawk's-beard	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
17	Round-leaved mallow	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
18	Russian thistle	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9

Table 152. 2009 irrigated fields in Willow Creek County (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	60.0	34.5	57.5	16.4	27.4	98.6	122.2
2	Canada thistle	20.0	9.5	47.5	2.7	13.6	26.8	27.4
3	Wild buckwheat	40.0	10.0	25.0	1.0	2.4	8.4	26.7
4	Wild oats	40.0	6.5	16.3	0.9	2.3	7.2	22.7
5	Canola (Argentine)	10.0	8.0	80.0	1.2	11.6	11.6	16.5
6	Lamb's-quarters	10.0	7.0	70.0	0.5	5.4	5.4	12.9
7	Kochia	20.0	2.5	12.5	1.0	5.2	10.2	12.9
8	Redroot pigweed	20.0	3.0	15.0	0.3	1.5	2.2	10.4
9	Stinkweed	20.0	3.0	15.0	0.2	1.0	1.6	10.0
10	Alfalfa	20.0	1.5	7.5	0.2	1.2	2.0	8.5
11	Shepherd's-purse	20.0	1.5	7.5	0.1	0.6	0.8	8.0
12	Round-leaved mallow	20.0	1.0	5.0	0.1	0.3	0.4	7.2
13	Quack grass	20.0	1.0	5.0	< 0.1	0.2	0.2	7.2
14	Prostrate knotweed	10.0	0.5	5.0	0.1	0.6	0.6	3.7
15	Stork's-bill	10.0	0.5	5.0	< 0.1	0.2	0.2	3.6

Field Survey Summary Tables – Irrigation Districts

Table 153. Number of fields surveyed by crop in each irrigation district

	Annual crops									Perennial crops	
	Cereal crops				Broad-leaved annual crops					Alfalfa	Grass hay
	Spring wheat	Barley	Corn	Other	Canola	Potatoes	Sugar beets	Dry beans	Other		
Bow River	33	10	5	-	13	5	7	9	1	15	3
Eastern	28	13	5	2	16	1	2	1	1	43	9
Lethbridge Northern	18	33	8	-	7	-	-	-	-	4	9
Raymond	2	2	2	-	3	-	-	-	-	4	2
Magrath	3	3	-	-	-	-	-	-	-	1	-
St. Mary River	60	29	16	-	22	10	7	11	-	16	8
Taber	8	9	3	-	1	3	1	6	-	3	7
United	1	4	-	-	1	-	-	-	-	2	3
Leavitt	-	-	-	-	-	-	-	-	-	-	2
Aetna	-	1	-	-	-	-	-	-	-	-	-
Mountain View	-	-	-	-	-	-	-	-	-	1	-
Western	2	3	-	-	5	-	-	-	-	-	3

Field Survey Summary Tables – Irrigation Districts

Table 154. Density, species richness and weed-free quadrats in the surveyed crops in each irrigation district

Crop	Number of fields surveyed	Density (number/m ²)			Species (number /field)		Weed-free quadrats	
		mean	SE	median	mean	SE	%	SE
Bow River	101	8.2	1.3	1.6	2.6	0.3	59.7	4.9
Annual crops	83	8.3	1.6	0.1	2.7	0.3	61.8	5.3
Cereal crops	48	10.7	2.1	2.5	3.6	0.4	49.6	7.2
Spring wheat	33	8.2	2.4	1.3	2.8	0.4	58.2	8.6
Barley	10	12.8	4.0	7.7	4.0	0.5	36.4	15.2
Broad-leaved annual crops	35	5.0	2.3	0.1	1.5	0.3	78.9	6.9
Canola	13	9.4	5.5	0.0	1.1	0.5	77.9	11.5
Perennial crops	18	7.6	1.6	3.8	2.1	0.3	50.0	11.8
Alfalfa	15	8.9	1.7	7.0	2.1	0.4	44.9	12.8
Eastern	121	14.0	1.3	7.8	4.0	0.2	31.7	4.2
Annual crops	69	12.0	1.7	4.2	4.9	0.2	36.1	5.8
Cereal crops	48	13.9	2.2	7.3	5.0	0.3	32.2	6.7
Spring wheat	28	13.7	2.4	7.7	5.2	0.4	30.5	8.7
Barley	13	17.8	5.8	3.9	4.7	0.4	31.9	12.9
Broad-leaved annual crops	21	7.5	1.8	3.3	4.7	0.4	45.0	10.9
Canola	16	6.2	1.9	2.4	4.8	0.4	49.7	12.5
Perennial crops	52	16.6	2.1	11.0	2.8	0.3	25.8	6.1
Alfalfa	43	16.9	2.2	11.6	2.9	0.3	23.0	6.4
Lethbridge Northern	79	17.6	3.4	7.5	3.8	0.3	39.6	5.5
Annual crops	66	17.4	3.8	7.3	4.2	0.3	38.0	6.0
Cereal crops	59	18.8	4.2	7.9	4.4	0.3	35.7	6.2
Spring wheat	18	14.4	3.8	9.5	4.0	0.5	29.4	10.7
Barley	33	22.1	7.0	7.7	4.5	0.4	37.9	8.4
Perennial crops	13	19.1	7.5	4.1	1.8	0.2	48.4	13.9
Raymond & Magrath	22	6.0	1.8	3.4	3.1	0.5	50.4	10.7
Annual crops	15	5.0	2.6	0.3	3.2	0.7	63.8	12.4
Cereal crops	12	5.3	3.2	2.0	2.6	0.7	68.6	13.4
St. Mary River	179	15.1	2.3	3.3	3.4	0.2	51.7	3.7
Annual crops	155	12.1	2.4	2.3	3.3	0.2	55.2	4.0
Cereal crops	105	17.1	3.4	4.4	4.0	0.2	45.0	4.9
Spring wheat	60	15.4	3.7	3.8	4.2	0.3	49.0	6.5
Barley	29	24.4	9.4	6.7	3.6	0.5	39.2	9.1
Corn	16	10.7	3.6	5.1	3.5	0.3	39.8	12.2
Broad-leaved annual crops	50	1.9	0.4	1.2	2.1	0.2	76.1	6.0
Canola	22	2.0	0.4	1.8	2.1	0.3	72.0	9.6
Dry beans	11	2.5	1.7	1.1	1.8	0.6	78.4	12.4
Potatoes	10	0.9	0.2	0.8	2.2	0.3	82.9	11.9
Perennial crops	24	32.1	7.0	21.8	3.6	0.7	32.0	9.5
Alfalfa	16	39.2	9.4	25.1	4.2	0.9	27.4	11.2
Taber	41	5.9	1.0	3.0	2.3	0.2	63.7	7.5
Annual crops	31	6.3	1.3	2.4	2.1	0.3	65.8	8.5
Cereal crops	20	8.7	1.7	5.1	2.7	0.2	53.8	11.1
Broad-leaved annual crops	11	2.0	1.1	0.0	1.0	0.4	87.7	9.9
Perennial crops	10	4.4	1.0	2.2	3.1	0.5	57.0	15.7
United, Leavitt, Aetna & Mountain View	15	9.3	1.9	6.1	3.3	0.5	37.0	12.5
Western Irrigation District	13	16.5	6.2	4.7	3.6	0.7	41.1	13.6
Annual crops	10	10.1	3.4	11.7	3.5	0.6	47.9	15.8

Field Survey Summary Tables – Bow River Irrigation District

Table 155. 2009 irrigated fields in Bow River Irrigation District (101 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	27.9	8.4	30.2	1.7	6.2	49.2	45.7
2	Dandelion	17.7	7.1	40.0	1.0	5.9	20.8	31.1
3	Wild buckwheat	28.3	6.3	22.2	0.5	1.9	12.4	27.9
4	Canola (Argentine)	17.0	5.3	31.1	0.6	3.6	21.4	22.7
5	Kochia	26.0	3.8	14.4	0.4	1.4	13.6	20.7
6	Green foxtail	11.7	3.2	26.9	0.4	3.7	28.8	15.1
7	Canada thistle	19.2	2.8	14.6	0.2	1.1	9.0	14.6
8	Smooth brome	3.3	1.7	51.7	0.8	23.4	61.6	13.5
9	Perennial sow-thistle	8.5	3.0	34.6	0.4	4.4	15.6	12.7
10	Wheat	5.5	2.4	44.0	0.5	9.8	30.0	12.7
11	Redroot pigweed	12.0	2.0	16.3	0.2	1.6	9.0	10.3
12	Lamb's-quarters	12.2	2.2	18.5	0.1	1.2	4.8	10.2
13	Foxtail barley	10.3	1.1	10.9	0.1	0.8	1.8	6.8
14	Persian darnel	3.3	1.5	45.0	0.2	6.8	15.2	6.5
15	Quack grass	7.9	1.1	13.4	0.1	1.7	3.6	6.4
16	Stinkweed	6.5	1.4	21.2	0.1	1.6	4.6	6.1
17	Round-leaved mallow	6.8	1.1	16.2	0.1	1.0	2.2	5.3
18	Spiny annual sow-thistle	3.2	0.9	29.5	0.1	3.7	6.2	4.2
19	Shepherd's-purse	2.2	0.8	37.5	0.1	3.8	4.2	3.2
20	Tartary buckwheat	3.3	0.6	16.7	< 0.1	1.4	2.2	2.8
21	Alfalfa	3.0	0.7	22.7	< 0.1	1.2	2.6	2.7
22	Wild mustard	1.1	0.8	75.0	0.1	5.6	5.6	2.5
23	White mustard	1.0	0.6	60.0	0.1	9.4	9.4	2.4
24	Barnyard grass	2.1	0.5	25.8	< 0.1	1.7	3.2	2.1
25	Flixweed	4.0	0.2	5.0	< 0.1	0.2	0.2	2.0
26	Chickweed	2.2	0.3	12.5	< 0.1	1.5	2.4	1.7
27	Annual sow-thistle	2.2	0.2	7.5	< 0.1	0.9	1.6	1.4
28	Cleavers	1.1	0.3	30.0	< 0.1	1.8	1.8	1.2
29	Broad-leaved plantain	1.0	0.2	25.0	< 0.1	2.2	2.2	1.0
30	Russian thistle	1.1	0.2	15.0	< 0.1	1.2	1.2	0.9
31	Purslane	1.0	0.1	15.0	< 0.1	1.4	1.4	0.8
32	Common groundsel	1.0	0.1	15.0	< 0.1	0.8	0.8	0.7
33	Downy brome	1.1	0.1	5.0	< 0.1	0.4	0.4	0.6
34	Rough cinquefoil	1.1	0.1	5.0	< 0.1	0.2	0.2	0.5
35	Ball mustard	1.1	0.1	5.0	< 0.1	0.2	0.2	0.5
36	Pale smartweed	1.1	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Bow River Irrigation District

Table 156. 2009 irrigated annual crops in Bow River Irrigation District (83 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	33.0	10.2	30.9	2.1	6.4	49.2	54.2
2	Wild buckwheat	34.7	7.7	22.2	0.7	1.9	12.4	33.5
3	Canola (Argentine)	19.6	6.4	32.7	0.8	3.8	21.4	26.8
4	Kochia	28.1	4.3	15.4	0.4	1.6	13.6	22.9
5	Smooth brome	4.1	2.1	51.7	0.9	23.4	61.6	16.3
6	Green foxtail	13.0	3.1	24.0	0.5	3.7	28.8	15.7
7	Wheat	6.8	3.0	44.0	0.7	9.8	30.0	15.3
8	Perennial sow-thistle	7.9	3.1	39.0	0.4	5.4	15.6	13.2
9	Canada thistle	18.4	1.6	8.8	0.1	0.5	1.0	10.6
10	Lamb's-quarters	12.4	1.9	15.1	0.1	1.0	4.8	9.2
11	Redroot pigweed	13.6	1.5	10.9	0.1	1.0	3.0	9.1
12	Dandelion	7.7	2.2	28.7	0.2	2.4	8.4	8.8
13	Persian darnel	4.1	1.8	45.0	0.3	6.8	15.2	7.8
14	Stinkweed	7.9	1.7	21.2	0.1	1.6	4.6	7.3
15	Round-leaved mallow	8.4	1.4	16.2	0.1	1.0	2.2	6.3
16	Spiny annual sow-thistle	3.9	1.1	29.5	0.1	3.7	6.2	5.0
17	Foxtail barley	7.7	0.6	8.3	< 0.1	0.6	1.6	4.5
18	Shepherd's-purse	2.7	1.0	37.5	0.1	3.8	4.2	3.9
19	Alfalfa	3.7	0.8	22.7	< 0.1	1.2	2.6	3.3
20	Quack grass	3.9	0.6	15.5	0.1	1.7	3.6	3.2
21	Wild mustard	1.4	1.0	75.0	0.1	5.6	5.6	3.1
22	White mustard	1.2	0.7	60.0	0.1	9.4	9.4	2.9
23	Barnyard grass	2.5	0.7	25.8	< 0.1	1.7	3.2	2.5
24	Chickweed	2.7	0.3	12.5	< 0.1	1.5	2.4	2.0
25	Flixweed	3.7	0.2	5.0	< 0.1	0.2	0.2	1.8
26	Tartary buckwheat	2.7	0.2	7.5	< 0.1	1.0	1.4	1.7
27	Annual sow-thistle	2.7	0.2	7.5	< 0.1	0.9	1.6	1.6
28	Cleavers	1.4	0.4	30.0	< 0.1	1.8	1.8	1.5
29	Broad-leaved plantain	1.2	0.3	25.0	< 0.1	2.2	2.2	1.2
30	Russian thistle	1.4	0.2	15.0	< 0.1	1.2	1.2	1.0
31	Purslane	1.2	0.2	15.0	< 0.1	1.4	1.4	0.9
32	Common groundsel	1.2	0.2	15.0	< 0.1	0.8	0.8	0.8
33	Downy brome	1.4	0.1	5.0	< 0.1	0.4	0.4	0.7
34	Ball mustard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6
35	Pale smartweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.6

Field Survey Summary Tables – Bow River Irrigation District

Table 157. 2009 irrigated cereal crops in Bow River Irrigation District (48 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	41.7	12.8	30.6	2.7	6.4	49.2	51.5
2	Wild buckwheat	53.3	12.9	24.2	1.1	2.1	12.4	40.6
3	Canola (Argentine)	21.6	9.5	43.9	1.2	5.7	21.4	28.7
4	Kochia	39.7	6.3	15.8	0.4	1.1	5.0	22.4
5	Green foxtail	20.4	5.3	25.8	0.8	4.0	28.8	19.5
6	Wheat	7.0	4.5	65.0	1.1	15.7	30.0	17.5
7	Perennial sow-thistle	9.0	4.6	51.4	0.7	7.9	15.6	14.5
8	Canada thistle	27.3	2.6	9.4	0.1	0.5	1.0	12.0
9	Redroot pigweed	19.3	1.7	9.0	0.2	0.9	3.0	9.1
10	Stinkweed	11.6	2.8	24.0	0.2	1.9	4.6	8.6
11	Round-leaved mallow	14.3	2.3	16.2	0.1	1.0	2.2	8.1
12	Persian darnel	4.6	2.4	52.5	0.4	7.7	15.2	7.5
13	Lamb's-quarters	13.3	1.9	14.4	0.2	1.1	4.8	7.4
14	Dandelion	6.7	2.5	37.2	0.2	3.5	8.4	7.0
15	Shepherd's-purse	4.6	1.7	37.5	0.2	3.8	4.2	5.0
16	Spiny annual sow-thistle	4.3	1.5	34.6	0.2	5.0	6.2	5.0
17	Foxtail barley	11.0	1.0	8.9	0.1	0.7	1.6	4.9
18	Wild mustard	2.3	1.7	75.0	0.1	5.6	5.6	3.9
19	White mustard	2.0	1.2	60.0	0.2	9.4	9.4	3.7
20	Quack grass	4.6	0.9	20.0	0.1	2.4	3.6	3.4
21	Alfalfa	4.3	1.1	26.2	0.1	1.5	2.6	3.2
22	Chickweed	4.6	0.6	12.5	0.1	1.5	2.4	2.6
23	Tartary buckwheat	4.6	0.3	7.5	< 0.1	1.0	1.4	2.1
24	Annual sow-thistle	4.6	0.3	7.5	< 0.1	0.9	1.6	2.1
25	Cleavers	2.3	0.7	30.0	< 0.1	1.8	1.8	1.9
26	Broad-leaved plantain	2.0	0.5	25.0	< 0.1	2.2	2.2	1.6
27	Flixweed	4.3	0.2	5.0	< 0.1	0.2	0.2	1.5
28	Russian thistle	2.3	0.3	15.0	< 0.1	1.2	1.2	1.3
29	Downy brome	2.3	0.1	5.0	< 0.1	0.4	0.4	0.9
30	Smooth brome	2.3	0.1	5.0	< 0.1	0.4	0.4	0.9
31	Barnyard grass	2.3	0.1	5.0	< 0.1	0.4	0.4	0.9
32	Pale smartweed	2.3	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Bow River Irrigation District

Table 158. 2009 irrigated spring wheat in Bow River Irrigation District (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	34.0	10.4	30.7	3.0	8.8	49.2	64.5
2	Wild buckwheat	52.7	14.1	26.8	1.3	2.4	12.4	56.2
3	Canola (Argentine)	22.1	9.5	43.0	1.4	6.5	21.4	40.3
4	Kochia	38.9	6.0	15.4	0.4	0.9	2.6	27.4
5	Green foxtail	24.1	4.7	19.3	0.3	1.4	6.4	20.0
6	Round-leaved mallow	17.8	3.3	18.3	0.2	1.1	2.2	13.8
7	Perennial sow-thistle	6.4	3.4	53.0	0.5	7.8	14.2	13.6
8	Canada thistle	21.2	2.0	9.4	0.1	0.5	1.0	11.8
9	Spiny annual sow-thistle	6.4	2.2	34.6	0.3	5.0	6.2	9.6
10	Redroot pigweed	12.3	0.8	6.2	0.1	0.9	1.6	6.8
11	Stinkweed	3.4	1.5	45.0	0.2	4.6	4.6	5.6
12	Foxtail barley	9.3	0.8	8.2	0.1	0.6	1.6	5.2
13	Chickweed	6.9	0.9	12.5	0.1	1.5	2.4	5.0
14	Annual sow-thistle	6.9	0.5	7.5	0.1	0.9	1.6	4.0
15	Cleavers	3.4	1.0	30.0	0.1	1.8	1.8	3.6
16	Broad-leaved plantain	3.0	0.7	25.0	0.1	2.2	2.2	3.0
17	Dandelion	3.0	0.7	25.0	< 0.1	1.2	1.2	2.6
18	Russian thistle	3.4	0.5	15.0	< 0.1	1.2	1.2	2.5
19	Persian darnel	3.4	0.2	5.0	< 0.1	0.2	0.2	1.6
20	Lamb's-quarters	3.4	0.2	5.0	< 0.1	0.2	0.2	1.6
21	Flixweed	3.0	0.1	5.0	< 0.1	0.2	0.2	1.3

Table 159. 2009 irrigated barley in Bow River Irrigation District (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	78.2	19.2	24.6	2.4	3.0	10.8	56.6
2	Green foxtail	18.8	9.9	52.5	2.7	14.5	28.8	35.6
3	Perennial sow-thistle	21.8	10.9	50.0	1.7	7.9	15.6	29.5
4	Persian darnel	10.9	10.9	100.0	1.7	15.2	15.2	26.3
5	Kochia	29.7	7.1	23.9	0.7	2.3	5.0	19.7
6	Stinkweed	32.7	7.6	23.3	0.5	1.5	2.8	19.5
7	Wild buckwheat	40.6	4.6	11.3	0.2	0.5	0.8	16.1
8	Wild mustard	10.9	8.2	75.0	0.6	5.6	5.6	15.5
9	White mustard	9.4	5.6	60.0	0.9	9.4	9.4	14.8
10	Canada thistle	39.1	2.4	6.2	0.2	0.4	0.6	13.3
11	Quack grass	10.9	3.3	30.0	0.4	3.6	3.6	9.0
12	Tartary buckwheat	21.8	1.6	7.5	0.2	1.0	1.4	8.7
13	Alfalfa	9.4	4.2	45.0	0.2	2.6	2.6	8.4
14	Redroot pigweed	18.8	1.9	10.0	0.1	0.6	1.0	7.4
15	Lamb's-quarters	18.8	1.9	10.0	0.1	0.5	0.8	7.2
16	Foxtail barley	10.9	1.6	15.0	0.1	1.2	1.2	5.3
17	Smooth brome	10.9	0.5	5.0	< 0.1	0.4	0.4	3.6
18	Barnyard grass	10.9	0.5	5.0	< 0.1	0.4	0.4	3.6

Field Survey Summary Tables – Bow River Irrigation District

Table 160. 2009 irrigated broad-leaved annual crops in Bow River Irrigation District (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Smooth brome	6.5	4.9	75.0	2.3	34.9	61.6	67.4
2	Wild oats	20.9	6.6	31.6	1.3	6.4	24.2	64.9
3	Kochia	12.1	1.7	13.8	0.5	3.9	13.6	23.9
4	Canola (Argentine)	16.8	2.1	12.5	0.1	0.5	1.0	20.9
5	Lamb's-quarters	11.2	1.8	16.3	0.1	0.9	1.6	16.1
6	Dandelion	9.3	1.9	20.2	0.1	1.3	2.8	15.5
7	Redroot pigweed	5.6	1.1	20.0	0.1	1.2	2.2	9.2
8	Perennial sow-thistle	6.5	1.0	15.0	0.1	0.8	0.8	9.0
9	Persian darnel	3.2	1.0	30.0	0.2	5.0	5.0	9.0
10	Barnyard grass	2.8	1.4	50.0	0.1	3.2	3.2	8.8
11	Wheat	6.5	0.8	12.5	0.1	0.9	1.6	8.6
12	Wild buckwheat	8.8	0.4	5.0	< 0.1	0.2	0.2	8.0
13	Canada thistle	6.0	0.3	5.0	< 0.1	0.2	0.2	5.5
14	Spiny annual sow-thistle	3.2	0.6	20.0	< 0.1	1.2	1.2	5.3
15	Purslane	2.8	0.4	15.0	< 0.1	1.4	1.4	4.2
16	Common groundsel	2.8	0.4	15.0	< 0.1	0.8	0.8	3.9
17	Alfalfa	2.8	0.4	15.0	< 0.1	0.6	0.6	3.8
18	Foxtail barley	3.2	0.2	5.0	< 0.1	0.2	0.2	2.9
19	Ball mustard	3.2	0.2	5.0	< 0.1	0.2	0.2	2.9
20	Flixweed	2.8	0.1	5.0	< 0.1	0.2	0.2	2.5
21	Green foxtail	2.8	0.1	5.0	< 0.1	0.2	0.2	2.5
22	Quack grass	2.8	0.1	5.0	< 0.1	0.2	0.2	2.5
23	Stinkweed	2.8	0.1	5.0	< 0.1	0.2	0.2	2.5

Table 161. 2009 irrigated canola in Bow River Irrigation District (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Smooth brome	17.0	12.8	75.0	5.9	34.9	61.6	118.8
2	Wild oats	17.0	9.4	55.0	2.9	16.8	24.2	75.3
3	Perennial sow-thistle	17.0	2.6	15.0	0.1	0.8	0.8	24.8
4	Dandelion	8.5	3.4	40.0	0.2	2.8	2.8	20.9
5	Spiny annual sow-thistle	8.5	1.7	20.0	0.1	1.2	1.2	14.1
6	Wild buckwheat	8.5	0.4	5.0	< 0.1	0.2	0.2	9.2
7	Kochia	8.5	0.4	5.0	< 0.1	0.2	0.2	9.2
8	Ball mustard	8.5	0.4	5.0	< 0.1	0.2	0.2	9.2
9	Canada thistle	8.5	0.4	5.0	< 0.1	0.2	0.2	9.2
10	Wheat	8.5	0.4	5.0	< 0.1	0.2	0.2	9.2

Field Survey Summary Tables – Bow River Irrigation District

Table 162. 2009 irrigated perennial crops in Bow River Irrigation District (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	62.0	28.7	46.2	4.8	7.8	20.8	139.8
2	Canada thistle	22.4	8.0	35.8	0.8	3.4	9.0	33.6
3	Quack grass	25.9	3.1	12.0	0.4	1.6	3.0	23.0
4	Foxtail barley	21.6	3.3	15.2	0.2	1.1	1.8	18.7
5	Redroot pigweed	5.2	4.1	80.0	0.5	9.0	9.0	15.4
6	Lamb's-quarters	11.2	3.9	35.1	0.2	2.1	4.4	14.9
7	Green foxtail	6.0	3.3	55.0	0.3	4.4	4.4	11.7
8	Perennial sow-thistle	11.2	2.3	20.7	0.1	1.0	1.4	10.6
9	Kochia	16.4	1.1	6.8	< 0.1	0.3	0.4	10.2
10	Tartary buckwheat	6.0	2.1	35.0	0.1	2.2	2.2	8.0
11	Wild oats	5.2	0.5	10.0	0.1	1.4	1.4	4.3
12	Rough cinquefoil	6.0	0.3	5.0	< 0.1	0.2	0.2	3.5
13	Flixweed	5.2	0.3	5.0	< 0.1	0.2	0.2	3.0
14	Canola (Argentine)	5.2	0.3	5.0	< 0.1	0.2	0.2	3.0

Table 163. 2009 irrigated alfalfa in Bow River Irrigation District (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	61.0	33.9	55.5	5.8	9.5	20.8	143.6
2	Canada thistle	20.0	7.2	36.1	0.8	3.9	9.0	28.6
3	Quack grass	31.6	3.8	12.0	0.5	1.6	3.0	26.3
4	Redroot pigweed	6.3	5.1	80.0	0.6	9.0	9.0	16.8
5	Lamb's-quarters	13.7	4.8	35.1	0.3	2.1	4.4	16.7
6	Foxtail barley	19.0	2.5	13.3	0.2	0.9	1.8	14.5
7	Green foxtail	7.3	4.0	55.0	0.3	4.4	4.4	13.0
8	Perennial sow-thistle	13.7	2.8	20.7	0.1	1.0	1.4	12.2
9	Tartary buckwheat	7.3	2.6	35.0	0.2	2.2	2.2	9.0
10	Kochia	12.7	0.6	5.0	< 0.1	0.2	0.2	7.2
11	Wild oats	6.3	0.6	10.0	0.1	1.4	1.4	4.9
12	Flixweed	6.3	0.3	5.0	< 0.1	0.2	0.2	3.6
13	Canola (Argentine)	6.3	0.3	5.0	< 0.1	0.2	0.2	3.6

Field Survey Summary Tables – Eastern Irrigation District

Table 164. 2009 irrigated fields in Eastern Irrigation District (121 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	68.6	32.9	48.0	5.8	8.4	51.6	90.9
2	Lamb's-quarters	34.7	8.6	24.9	1.2	3.5	31.2	25.7
3	Wild buckwheat	43.0	9.9	23.0	0.7	1.6	11.2	25.2
4	Wild oats	31.4	5.9	18.8	0.9	2.9	32.6	20.1
5	Kochia	32.2	4.8	14.7	0.5	1.6	31.4	16.3
6	Redroot pigweed	24.0	4.5	18.8	0.8	3.3	58.6	16.1
7	Alfalfa	14.0	4.9	34.7	1.0	7.0	36.8	15.4
8	Canada thistle	28.1	4.9	17.4	0.3	1.2	9.4	14.2
9	Green foxtail	18.2	5.0	27.7	0.5	2.6	15.8	12.9
10	Canola (Argentine)	11.6	3.8	32.9	0.5	4.3	32.4	10.2
11	Smooth brome	11.6	3.1	27.1	0.5	4.0	30.6	9.3
12	Barnyard grass	7.4	2.4	32.2	0.3	3.9	11.8	6.3
13	Quack grass	9.1	1.5	16.4	0.3	3.0	13.0	5.7
14	Shepherd's-purse	8.3	1.1	13.5	0.1	0.8	3.0	3.7
15	Narrow-leaved hawk's-beard	5.8	1.2	20.0	0.1	1.1	2.2	3.1
16	Foxtail barley	5.8	0.7	12.9	0.1	1.6	5.6	2.9
17	Spiny annual sow-thistle	5.0	0.9	17.5	0.1	1.2	2.8	2.5
18	Round-leaved mallow	4.1	0.9	21.0	0.1	2.0	5.0	2.5
19	Annual sow-thistle	4.1	0.9	21.0	0.1	1.4	2.4	2.3
20	Perennial sow-thistle	3.3	0.9	27.5	0.1	2.5	7.6	2.3
21	Pale smartweed	4.1	0.4	10.0	< 0.1	1.1	3.8	1.8
22	Russian thistle	5.0	0.2	5.0	< 0.1	0.2	0.4	1.6
23	Wheat	3.3	0.4	12.5	< 0.1	1.4	2.0	1.6
24	Prickly lettuce	1.7	0.5	32.5	< 0.1	2.2	3.6	1.2
25	Chickweed	2.5	0.3	11.7	< 0.1	0.7	1.0	1.0
26	Barley	0.8	0.4	45.0	0.1	7.4	7.4	1.0
27	Stinkweed	2.5	0.1	5.0	< 0.1	0.2	0.2	0.8
28	Cleavers	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
29	Curled dock	1.7	0.1	7.5	< 0.1	0.3	0.4	0.6
30	White sweet-clover	0.8	0.1	15.0	< 0.1	2.0	2.0	0.4
31	Common burdock	0.8	0.1	10.0	< 0.1	1.4	1.4	0.4
32	Stork's-bill	0.8	0.1	10.0	< 0.1	0.6	0.6	0.3
33	Silver sagebrush	0.8	0.1	10.0	< 0.1	0.4	0.4	0.3
34	Showy milkweed	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.3
35	Japanese brome	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
36	Flixweed	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
37	Broad-leaved plantain	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3

Field Survey Summary Tables – Eastern Irrigation District

Table 165. 2009 irrigated annual crops in Eastern Irrigation District (69 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	69.6	16.0	23.0	1.1	1.6	11.2	38.2
2	Lamb's-quarters	47.8	12.0	25.2	1.5	3.1	29.4	33.5
3	Wild oats	47.8	9.6	20.0	1.5	3.2	32.6	31.4
4	Dandelion	49.3	11.5	23.4	1.0	2.0	13.0	28.9
5	Alfalfa	24.6	8.6	34.7	1.7	7.0	36.8	27.5
6	Redroot pigweed	39.1	7.7	19.6	1.4	3.5	58.6	26.6
7	Green foxtail	30.4	8.4	27.6	0.8	2.5	15.8	20.5
8	Canola (Argentine)	20.3	6.7	32.9	0.9	4.3	32.4	17.6
9	Kochia	43.5	5.9	13.5	0.3	0.6	2.4	16.7
10	Canada thistle	23.2	4.0	17.2	0.2	1.0	2.4	10.4
11	Barnyard grass	8.7	3.0	35.0	0.4	4.4	11.8	7.8
12	Quack grass	8.7	1.2	13.3	0.2	2.2	7.4	4.4
13	Shepherd's-purse	10.1	1.6	15.7	0.1	1.0	3.0	4.4
14	Round-leaved mallow	5.8	1.4	25.0	0.1	2.5	5.0	3.7
15	Pale smartweed	7.2	0.7	10.0	0.1	1.1	3.8	2.8
16	Foxtail barley	4.3	0.8	18.3	0.1	3.1	5.6	2.7
17	Smooth brome	4.3	1.2	26.7	0.1	2.1	3.2	2.7
18	Wheat	5.8	0.7	12.5	0.1	1.4	2.0	2.5
19	Narrow-leaved hawk's-beard	5.8	0.9	15.0	0.1	0.9	1.6	2.4
20	Annual sow-thistle	4.3	1.0	23.3	0.1	1.5	2.2	2.4
21	Spiny annual sow-thistle	4.3	0.9	21.7	0.1	1.5	2.8	2.3
22	Prickly lettuce	2.9	0.9	32.5	0.1	2.2	3.6	2.0
23	Barley	1.4	0.7	45.0	0.1	7.4	7.4	1.8
24	Chickweed	4.3	0.5	11.7	< 0.1	0.7	1.0	1.6
25	Russian thistle	4.3	0.2	5.0	< 0.1	0.3	0.4	1.2
26	Stinkweed	4.3	0.2	5.0	< 0.1	0.2	0.2	1.2
27	Cleavers	2.9	0.2	7.5	< 0.1	0.3	0.4	0.9
28	Stork's-bill	1.4	0.1	10.0	< 0.1	0.6	0.6	0.5
29	Perennial sow-thistle	1.4	0.1	10.0	< 0.1	0.4	0.4	0.5
30	Japanese brome	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
31	Flixweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Eastern Irrigation District

Table 166. 2009 irrigated cereal crops in Eastern Irrigation District (48 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	66.7	16.9	25.3	1.3	1.9	11.2	37.1
2	Lamb's-quarters	50.0	14.4	28.8	2.0	3.9	29.4	36.6
3	Alfalfa	29.2	10.7	36.8	2.4	8.3	36.8	32.5
4	Dandelion	54.2	14.1	26.0	1.3	2.3	13.0	32.0
5	Wild oats	43.8	9.4	21.4	1.8	4.0	32.6	29.6
6	Redroot pigweed	33.3	6.6	19.7	1.5	4.5	58.6	23.2
7	Canola (Argentine)	29.2	9.6	32.9	1.2	4.3	32.4	23.1
8	Green foxtail	31.3	7.9	25.3	0.6	1.9	5.6	17.4
9	Kochia	39.6	5.8	14.7	0.3	0.7	2.4	15.1
10	Canada thistle	27.1	5.3	19.6	0.3	1.2	2.4	12.3
11	Shepherd's-purse	14.6	2.3	15.7	0.1	1.0	3.0	6.0
12	Smooth brome	6.3	1.7	26.7	0.1	2.1	3.2	3.7
13	Narrow-leaved hawk's-beard	8.3	1.3	15.0	0.1	0.9	1.6	3.3
14	Quack grass	6.3	0.7	11.7	0.2	3.0	7.4	3.2
15	Annual sow-thistle	6.3	1.5	23.3	0.1	1.5	2.2	3.2
16	Pale smartweed	8.3	0.8	10.0	0.1	1.3	3.8	3.1
17	Spiny annual sow-thistle	6.3	1.4	21.7	0.1	1.5	2.8	3.1
18	Foxtail barley	4.2	1.0	25.0	0.2	4.5	5.6	3.1
19	Round-leaved mallow	6.3	1.0	16.7	0.1	1.7	3.4	2.9
20	Prickly lettuce	4.2	1.4	32.5	0.1	2.2	3.6	2.7
21	Russian thistle	6.3	0.3	5.0	< 0.1	0.3	0.4	1.6
22	Chickweed	4.2	0.3	7.5	< 0.1	0.5	0.8	1.3
23	Barnyard grass	4.2	0.3	7.5	< 0.1	0.3	0.4	1.2
24	Stinkweed	4.2	0.2	5.0	< 0.1	0.2	0.2	1.1
25	Perennial sow-thistle	2.1	0.2	10.0	< 0.1	0.4	0.4	0.7
26	Wheat	2.1	0.1	5.0	< 0.1	0.4	0.4	0.6
27	Cleavers	2.1	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Eastern Irrigation District

Table 167. 2009 irrigated spring wheat in Eastern Irrigation District (28 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Alfalfa	42.9	17.9	41.7	4.1	9.6	36.8	53.1
2	Dandelion	57.1	15.7	27.5	1.4	2.4	6.0	33.9
3	Wild buckwheat	57.1	15.2	26.6	1.2	2.1	11.2	32.5
4	Canola (Argentine)	35.7	11.6	32.5	1.9	5.2	32.4	30.1
5	Lamb's-quarters	50.0	10.9	21.8	1.2	2.4	15.8	27.6
6	Wild oats	50.0	7.5	15.0	0.8	1.6	5.8	21.7
7	Green foxtail	32.1	9.8	30.6	0.8	2.6	5.6	20.4
8	Canada thistle	32.1	7.0	21.7	0.4	1.3	2.4	15.0
9	Kochia	35.7	5.2	14.5	0.3	0.8	2.4	13.4
10	Redroot pigweed	17.9	2.1	12.0	0.2	1.2	4.8	6.8
11	Foxtail barley	7.1	1.8	25.0	0.3	4.5	5.6	5.2
12	Smooth brome	7.1	2.5	35.0	0.2	2.8	3.2	4.9
13	Round-leaved mallow	10.7	1.8	16.7	0.2	1.7	3.4	4.8
14	Prickly lettuce	7.1	2.3	32.5	0.2	2.2	3.6	4.5
15	Narrow-leaved hawk's-beard	10.7	1.3	11.7	0.1	0.7	1.2	3.6
16	Spiny annual sow-thistle	7.1	1.6	22.5	0.1	1.6	2.8	3.5
17	Shepherd's-purse	10.7	0.9	8.3	0.1	0.7	1.0	3.4
18	Annual sow-thistle	7.1	1.6	22.5	0.1	1.1	1.4	3.3
19	Quack grass	7.1	0.7	10.0	0.1	0.8	1.4	2.4
20	Chickweed	7.1	0.5	7.5	< 0.1	0.5	0.8	2.1
21	Pale smartweed	7.1	0.5	7.5	< 0.1	0.5	0.6	2.1
22	Russian thistle	7.1	0.4	5.0	< 0.1	0.3	0.4	1.8
23	Barnyard grass	3.6	0.4	10.0	< 0.1	0.4	0.4	1.1
24	Perennial sow-thistle	3.6	0.4	10.0	< 0.1	0.4	0.4	1.1
25	Cleavers	3.6	0.2	5.0	< 0.1	0.2	0.2	0.9
26	Stinkweed	3.6	0.2	5.0	< 0.1	0.2	0.2	0.9

Table 168. 2009 irrigated barley in Eastern Irrigation District (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	53.8	18.5	34.3	4.8	8.9	32.6	54.7
2	Wild buckwheat	92.3	25.8	27.9	1.8	2.0	5.2	52.8
3	Redroot pigweed	53.8	13.8	25.7	4.8	8.9	58.6	50.6
4	Lamb's-quarters	46.2	20.8	45.0	4.0	8.6	29.4	50.5
5	Kochia	53.8	8.1	15.0	0.4	0.7	1.4	20.6
6	Dandelion	46.2	6.5	14.2	0.4	0.8	1.8	17.7
7	Green foxtail	38.5	7.7	20.0	0.4	1.0	1.6	17.3
8	Shepherd's-purse	15.4	4.2	27.5	0.3	1.8	3.0	8.6
9	Canada thistle	23.1	2.3	10.0	0.1	0.6	1.4	7.7
10	Pale smartweed	15.4	1.9	12.5	0.3	2.0	3.8	6.7
11	Quack grass	7.7	1.2	15.0	0.6	7.4	7.4	5.9
12	Alfalfa	7.7	0.8	10.0	< 0.1	0.6	0.6	2.6
13	Wheat	7.7	0.4	5.0	< 0.1	0.4	0.4	2.2
14	Russian thistle	7.7	0.4	5.0	< 0.1	0.2	0.2	2.1

Field Survey Summary Tables – Eastern Irrigation District

Table 169. 2009 irrigated broad-leaved annual crops in Eastern Irrigation District (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	76.2	14.0	18.4	0.7	0.9	2.0	40.9
2	Redroot pigweed	52.4	10.2	19.5	1.1	2.1	13.4	37.1
3	Wild oats	57.1	10.0	17.5	1.0	1.7	14.0	36.3
4	Green foxtail	28.6	9.5	33.3	1.2	4.1	15.8	32.5
5	Barnyard grass	19.0	9.3	48.8	1.2	6.5	11.8	31.0
6	Lamb's-quarters	42.9	6.7	15.6	0.4	1.0	3.8	22.4
7	Kochia	52.4	6.0	11.4	0.2	0.5	1.4	21.2
8	Dandelion	38.1	5.7	15.0	0.3	0.9	4.4	18.9
9	Alfalfa	14.3	3.6	25.0	0.2	1.3	2.4	9.6
10	Wheat	14.3	2.1	15.0	0.2	1.7	2.0	8.6
11	Barley	4.8	2.1	45.0	0.4	7.4	7.4	8.1
12	Quack grass	14.3	2.1	15.0	0.2	1.3	1.6	8.0
13	Round-leaved mallow	4.8	2.4	50.0	0.2	5.0	5.0	6.9
14	Canada thistle	14.3	1.0	6.7	< 0.1	0.3	0.4	4.7
15	Chickweed	4.8	1.0	20.0	< 0.1	1.0	1.0	2.7
16	Stork's-bill	4.8	0.5	10.0	< 0.1	0.6	0.6	1.9
17	Cleavers	4.8	0.5	10.0	< 0.1	0.4	0.4	1.8
18	Pale smartweed	4.8	0.5	10.0	< 0.1	0.4	0.4	1.8
19	Foxtail barley	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
20	Japanese brome	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
21	Flixweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4
22	Stinkweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.4

Table 170. 2009 irrigated canola in Eastern Irrigation District (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	87.5	17.5	20.0	0.8	0.9	2.0	54.0
2	Wild oats	62.5	11.3	18.0	1.2	1.8	14.0	46.2
3	Green foxtail	31.3	8.8	28.0	1.1	3.6	15.8	36.2
4	Kochia	68.8	7.8	11.4	0.3	0.5	1.4	29.7
5	Dandelion	43.8	7.2	16.4	0.4	0.9	4.4	25.1
6	Lamb's-quarters	43.8	5.6	12.9	0.3	0.7	2.6	21.1
7	Barnyard grass	6.3	4.4	70.0	0.7	11.8	11.8	18.9
8	Redroot pigweed	43.8	3.8	8.6	0.2	0.5	1.2	17.2
9	Barley	6.3	2.8	45.0	0.5	7.4	7.4	12.4
10	Quack grass	18.8	2.8	15.0	0.3	1.3	1.6	11.6
11	Wheat	12.5	1.6	12.5	0.2	1.5	2.0	7.7
12	Canada thistle	18.8	1.3	6.7	0.1	0.3	0.4	6.6
13	Chickweed	6.3	1.3	20.0	0.1	1.0	1.0	3.9
14	Alfalfa	6.3	1.3	20.0	0.1	0.8	0.8	3.7
15	Foxtail barley	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9
16	Japanese brome	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9
17	Flixweed	6.3	0.3	5.0	< 0.1	0.2	0.2	1.9

Field Survey Summary Tables – Eastern Irrigation District

Table 171. 2009 irrigated perennial crops in Eastern Irrigation District (52 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	94.2	61.3	65.1	12.2	12.9	51.6	171.5
2	Canada thistle	34.6	6.1	17.5	0.5	1.4	9.4	21.7
3	Smooth brome	21.2	5.8	27.3	1.0	4.6	30.6	19.5
4	Lamb's-quarters	17.3	4.1	23.9	0.8	4.7	31.2	15.4
5	Kochia	17.3	3.3	18.9	0.8	4.6	31.4	14.4
6	Quack grass	9.6	1.9	20.0	0.4	3.9	13.0	7.7
7	Wild buckwheat	7.7	1.7	22.5	0.1	1.6	2.6	5.3
8	Perennial sow-thistle	5.8	1.9	33.3	0.2	3.1	7.6	5.2
9	Wild oats	9.6	1.1	11.0	0.1	0.7	1.8	5.0
10	Barnyard grass	5.8	1.5	26.7	0.2	3.0	5.2	4.7
11	Narrow-leaved hawk's-beard	5.8	1.5	26.7	0.1	1.5	2.2	4.2
12	Foxtail barley	7.7	0.7	8.8	< 0.1	0.6	0.8	3.7
13	Spiny annual sow-thistle	5.8	0.8	13.3	0.1	0.9	1.4	3.2
14	Shepherd's-purse	5.8	0.5	8.3	< 0.1	0.5	0.8	2.7
15	Russian thistle	5.8	0.3	5.0	< 0.1	0.2	0.2	2.4
16	Annual sow-thistle	3.8	0.7	17.5	0.1	1.3	2.4	2.4
17	Redroot pigweed	3.8	0.3	7.5	< 0.1	0.4	0.4	1.8
18	Green foxtail	1.9	0.6	30.0	0.1	4.0	4.0	1.8
19	Curled dock	3.8	0.3	7.5	< 0.1	0.3	0.4	1.8
20	White sweet-clover	1.9	0.3	15.0	< 0.1	2.0	2.0	1.2
21	Common burdock	1.9	0.2	10.0	< 0.1	1.4	1.4	1.1
22	Silver sagebrush	1.9	0.2	10.0	< 0.1	0.4	0.4	0.9
23	Showy milkweed	1.9	0.1	5.0	< 0.1	0.4	0.4	0.8
24	Round-leaved mallow	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8
25	Broad-leaved plantain	1.9	0.1	5.0	< 0.1	0.2	0.2	0.8

Field Survey Summary Tables – Eastern Irrigation District

Table 172. 2009 irrigated alfalfa in Eastern Irrigation District (43 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	95.3	62.1	65.1	11.8	12.3	48.6	164.6
2	Canada thistle	37.2	6.9	18.4	0.6	1.5	9.4	22.9
3	Smooth brome	20.9	5.9	28.3	1.1	5.2	30.6	19.6
4	Kochia	20.9	4.0	18.9	1.0	4.6	31.4	16.8
5	Lamb's-quarters	18.6	4.8	25.6	1.0	5.2	31.2	16.8
6	Quack grass	11.6	2.3	20.0	0.5	3.9	13.0	9.0
7	Perennial sow-thistle	7.0	2.3	33.3	0.2	3.1	7.6	6.0
8	Wild oats	11.6	1.3	11.0	0.1	0.7	1.8	5.7
9	Barnyard grass	7.0	1.9	26.7	0.2	3.0	5.2	5.5
10	Narrow-leaved hawk's-beard	7.0	1.9	26.7	0.1	1.5	2.2	4.9
11	Wild buckwheat	7.0	1.5	21.7	0.1	1.7	2.6	4.6
12	Shepherd's-purse	7.0	0.6	8.3	< 0.1	0.5	0.8	3.2
13	Foxtail barley	7.0	0.5	6.7	< 0.1	0.5	0.8	3.1
14	Annual sow-thistle	4.7	0.8	17.5	0.1	1.3	2.4	2.8
15	Spiny annual sow-thistle	4.7	0.6	12.5	< 0.1	0.7	0.8	2.4
16	Redroot pigweed	4.7	0.3	7.5	< 0.1	0.4	0.4	2.0
17	Green foxtail	2.3	0.7	30.0	0.1	4.0	4.0	2.0
18	Curled dock	4.7	0.3	7.5	< 0.1	0.3	0.4	2.0
19	Russian thistle	4.7	0.2	5.0	< 0.1	0.2	0.2	1.9
20	Common burdock	2.3	0.2	10.0	< 0.1	1.4	1.4	1.2
21	Silver sagebrush	2.3	0.2	10.0	< 0.1	0.4	0.4	1.1
22	Showy milkweed	2.3	0.1	5.0	< 0.1	0.4	0.4	1.0
23	Round-leaved mallow	2.3	0.1	5.0	< 0.1	0.2	0.2	0.9

Field Survey Summary Tables – Lethbridge Northern Irrigation District

Table 173. 2009 irrigated fields in Lethbridge Northern Irrigation District (79 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	43.6	13.7	31.4	3.7	8.4	73.4	46.8
2	Dandelion	33.5	10.8	32.1	2.9	8.7	98.6	36.9
3	Wild buckwheat	52.2	11.4	21.9	1.3	2.6	17.2	33.4
4	Wild oats	31.4	8.2	26.1	1.3	4.2	47.0	24.4
5	Kochia	35.8	7.7	21.6	1.0	2.9	33.6	23.4
6	Lamb's-quarters	33.5	8.2	24.5	0.9	2.7	21.8	22.5
7	Canola (Argentine)	20.5	8.0	39.2	1.1	5.6	32.4	20.4
8	Chickweed	7.8	1.9	24.2	2.7	34.7	206.0	19.4
9	Round-leaved mallow	28.0	5.7	20.3	0.5	1.7	11.0	16.0
10	Canada thistle	15.1	3.6	23.8	0.5	3.6	26.8	10.8
11	Shepherd's-purse	9.9	2.4	23.9	0.3	3.0	15.8	6.8
12	Quack grass	6.0	1.9	31.0	0.5	8.2	28.4	6.3
13	Alfalfa	12.5	1.8	14.8	0.1	1.0	3.6	5.9
14	Annual sow-thistle	9.1	1.8	20.0	0.1	0.9	1.8	4.8
15	Prostrate knotweed	6.2	0.8	12.3	0.1	1.2	4.2	2.9
16	Perennial sow-thistle	6.5	0.7	11.0	0.1	1.0	2.2	2.8
17	Stork's-bill	6.2	0.7	11.2	< 0.1	0.6	1.6	2.6
18	Wheat	1.3	1.0	75.0	0.2	13.4	13.4	2.4
19	Cleavers	3.9	1.0	25.0	< 0.1	1.2	2.4	2.3
20	Prickly lettuce	2.6	0.8	30.0	0.1	2.8	5.4	1.9
21	Stinkweed	4.7	0.4	9.5	< 0.1	0.6	1.6	1.8
22	Russian thistle	2.6	0.5	17.5	< 0.1	1.8	3.4	1.4
23	Field bindweed	2.6	0.4	15.0	< 0.1	0.8	1.2	1.2
24	Corn spurry	2.6	0.2	7.5	< 0.1	0.3	0.4	0.9
25	Wild tomato	1.3	0.2	15.0	< 0.1	1.4	1.4	0.6
26	Green foxtail	1.3	0.1	10.0	< 0.1	1.0	1.0	0.5
27	Pale smartweed	1.3	0.1	10.0	< 0.1	1.0	1.0	0.5
28	Flixweed	1.3	0.1	5.0	< 0.1	0.2	0.2	0.4

Field Survey Summary Tables – Lethbridge Northern Irrigation District

Table 174. 2009 irrigated annual crops in Lethbridge Northern Irrigation District (66 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	50.1	15.4	30.6	4.2	8.3	73.4	51.2
2	Wild buckwheat	58.8	13.2	22.4	1.6	2.7	17.2	36.0
3	Wild oats	37.3	9.7	26.1	1.6	4.2	47.0	27.4
4	Kochia	39.7	8.8	22.2	1.1	2.7	33.6	24.4
5	Lamb's-quarters	36.6	9.6	26.1	1.1	2.9	21.8	24.2
6	Canola (Argentine)	24.3	9.5	39.2	1.3	5.6	32.4	23.0
7	Chickweed	9.2	2.2	24.2	3.2	34.7	206.0	22.8
8	Round-leaved mallow	33.2	6.7	20.3	0.6	1.7	11.0	17.7
9	Dandelion	28.6	6.2	21.7	0.7	2.3	13.4	16.7
10	Quack grass	7.1	2.2	31.0	0.6	8.2	28.4	7.2
11	Shepherd's-purse	10.5	2.7	26.1	0.3	3.3	15.8	7.2
12	Canada thistle	10.8	2.5	23.6	0.3	2.4	10.8	6.6
13	Alfalfa	13.3	2.1	15.9	0.1	1.1	3.6	6.1
14	Annual sow-thistle	10.8	2.2	20.0	0.1	0.9	1.8	5.2
15	Prostrate knotweed	7.4	0.9	12.3	0.1	1.2	4.2	3.2
16	Perennial sow-thistle	7.7	0.8	11.0	0.1	1.0	2.2	3.1
17	Stork's-bill	7.4	0.8	11.2	< 0.1	0.6	1.6	2.8
18	Wheat	1.5	1.2	75.0	0.2	13.4	13.4	2.7
19	Cleavers	4.6	1.2	25.0	0.1	1.2	2.4	2.6
20	Prickly lettuce	3.1	0.9	30.0	0.1	2.8	5.4	2.1
21	Stinkweed	5.6	0.5	9.5	< 0.1	0.6	1.6	2.0
22	Field bindweed	3.1	0.5	15.0	< 0.1	0.8	1.2	1.3
23	Russian thistle	1.5	0.5	30.0	0.1	3.4	3.4	1.1
24	Corn spurry	3.1	0.2	7.5	< 0.1	0.3	0.4	1.0
25	Wild tomato	1.5	0.2	15.0	< 0.1	1.4	1.4	0.7
26	Green foxtail	1.5	0.2	10.0	< 0.1	1.0	1.0	0.6
27	Pale smartweed	1.5	0.2	10.0	< 0.1	1.0	1.0	0.6
28	Flixweed	1.5	0.1	5.0	< 0.1	0.2	0.2	0.5

Field Survey Summary Tables – Lethbridge Northern Irrigation District

Table 175. 2009 irrigated cereal crops in Lethbridge Northern Irrigation District (59 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	49.3	16.5	33.5	4.6	9.4	73.4	51.3
2	Wild buckwheat	60.7	14.3	23.6	1.7	2.9	17.2	36.4
3	Wild oats	40.0	10.2	25.5	1.7	4.2	47.0	27.5
4	Kochia	41.0	9.5	23.3	1.2	2.9	33.6	24.6
5	Canola (Argentine)	27.2	10.7	39.2	1.5	5.6	32.4	24.2
6	Chickweed	10.3	2.5	24.2	3.6	34.7	206.0	23.7
7	Lamb's-quarters	39.3	9.3	23.8	1.1	2.7	21.8	23.2
8	Round-leaved mallow	35.5	7.5	21.0	0.6	1.7	11.0	18.3
9	Dandelion	32.1	7.0	21.7	0.7	2.3	13.4	17.7
10	Quack grass	8.0	2.5	31.0	0.7	8.2	28.4	7.6
11	Canada thistle	12.1	2.8	23.6	0.3	2.4	10.8	6.9
12	Shepherd's-purse	10.0	2.9	28.9	0.4	3.6	15.8	6.9
13	Alfalfa	14.9	2.4	15.9	0.2	1.1	3.6	6.4
14	Annual sow-thistle	10.3	2.2	20.8	0.1	0.9	1.8	4.9
15	Prostrate knotweed	8.3	1.0	12.3	0.1	1.2	4.2	3.3
16	Perennial sow-thistle	8.6	0.9	11.0	0.1	1.0	2.2	3.3
17	Stork's-bill	8.3	0.9	11.2	< 0.1	0.6	1.6	3.0
18	Prickly lettuce	3.4	1.0	30.0	0.1	2.8	5.4	2.3
19	Stinkweed	6.2	0.6	9.5	< 0.1	0.6	1.6	2.2
20	Cleavers	3.4	0.9	25.0	< 0.1	1.3	2.4	1.8
21	Field bindweed	3.4	0.5	15.0	< 0.1	0.8	1.2	1.4
22	Wild tomato	1.7	0.3	15.0	< 0.1	1.4	1.4	0.8
23	Green foxtail	1.7	0.2	10.0	< 0.1	1.0	1.0	0.6
24	Pale smartweed	1.7	0.2	10.0	< 0.1	1.0	1.0	0.6
25	Corn spurry	1.7	0.2	10.0	< 0.1	0.4	0.4	0.6
26	Flixweed	1.7	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 176. 2009 irrigated spring wheat in Lethbridge Northern Irrigation District (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canola (Argentine)	44.9	21.3	47.5	3.5	7.8	32.4	54.9
2	Wild oats	49.5	16.5	33.4	3.8	7.7	47.0	53.9
3	Wild buckwheat	61.8	20.5	33.2	2.6	4.2	16.8	52.0
4	Kochia	44.9	9.8	21.9	0.5	1.2	2.8	23.8
5	Dandelion	39.3	7.6	19.3	0.8	2.1	11.0	22.5
6	Redroot pigweed	28.1	5.3	19.0	0.6	2.3	5.8	16.3
7	Lamb's-quarters	16.8	6.5	38.3	0.8	4.8	11.8	15.7
8	Round-leaved mallow	28.1	5.9	21.0	0.3	1.0	2.0	14.4
9	Canada thistle	16.8	5.9	35.0	0.7	4.1	10.8	14.3
10	Annual sow-thistle	11.2	3.4	30.0	0.1	1.2	1.6	6.8
11	Stork's-bill	11.2	1.7	15.0	0.1	0.9	1.6	5.0
12	Cleavers	5.6	2.5	45.0	0.1	2.4	2.4	4.6
13	Shepherd's-purse	5.6	1.4	25.0	0.2	3.0	3.0	3.8
14	Prostrate knotweed	5.6	0.8	15.0	< 0.1	0.6	0.6	2.4
15	Green foxtail	5.6	0.6	10.0	0.1	1.0	1.0	2.3
16	Perennial sow-thistle	5.6	0.6	10.0	< 0.1	0.8	0.8	2.2
17	Chickweed	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
18	Alfalfa	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
19	Quack grass	4.6	0.2	5.0	< 0.1	0.2	0.2	1.4

Field Survey Summary Tables – Lethbridge Northern Irrigation District

Table 177. 2009 irrigated barley in Lethbridge Northern Irrigation District (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	54.7	21.4	39.1	6.7	12.3	73.4	63.0
2	Chickweed	9.3	3.7	40.0	6.4	69.1	206.0	34.6
3	Wild buckwheat	59.7	12.9	21.6	1.6	2.7	17.2	32.8
4	Lamb's-quarters	49.0	12.2	24.8	1.4	2.8	21.8	28.7
5	Kochia	39.7	9.3	23.3	1.6	4.1	33.6	25.1
6	Wild oats	41.7	8.6	20.7	0.9	2.1	7.2	21.5
7	Round-leaved mallow	36.0	5.7	15.8	0.5	1.4	5.0	15.7
8	Canola (Argentine)	21.1	7.3	34.5	0.8	3.7	11.6	15.2
9	Dandelion	23.6	4.6	19.6	0.4	1.6	7.0	11.4
10	Shepherd's-purse	11.8	4.1	34.9	0.5	4.6	15.8	9.0
11	Alfalfa	14.3	2.2	15.6	0.2	1.1	2.0	6.0
12	Canada thistle	12.4	1.9	15.0	0.1	1.2	2.6	5.2
13	Perennial sow-thistle	12.4	1.4	11.3	0.1	1.0	2.2	4.6
14	Prostrate knotweed	11.8	1.4	11.6	0.2	1.3	4.2	4.6
15	Annual sow-thistle	9.3	1.7	18.3	0.1	0.9	1.8	4.1
16	Prickly lettuce	6.2	1.9	30.0	0.2	2.8	5.4	3.9
17	Stinkweed	11.2	1.1	9.5	0.1	0.6	1.6	3.8
18	Quack grass	5.6	1.2	21.6	0.3	4.5	8.0	3.5
19	Wild tomato	3.1	0.5	15.0	< 0.1	1.4	1.4	1.3
20	Pale smartweed	3.1	0.3	10.0	< 0.1	1.0	1.0	1.1
21	Field bindweed	3.1	0.3	10.0	< 0.1	0.4	0.4	1.0
22	Corn spurry	3.1	0.3	10.0	< 0.1	0.4	0.4	1.0
23	Cleavers	3.1	0.2	5.0	< 0.1	0.2	0.2	0.9
24	Flixweed	3.1	0.2	5.0	< 0.1	0.2	0.2	0.9
25	Stork's-bill	2.5	0.1	5.0	< 0.1	0.2	0.2	0.7

Table 178. 2009 irrigated perennial crops in Lethbridge Northern Irrigation District (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	60.1	35.3	58.7	15.2	25.4	98.6	177.8
2	Canada thistle	38.3	9.3	24.2	2.0	5.3	26.8	49.0
3	Redroot pigweed	8.3	4.6	55.0	0.9	11.0	11.0	17.7
4	Kochia	15.0	1.8	11.7	0.7	4.8	10.2	15.4
5	Wild buckwheat	16.6	2.1	12.5	0.1	0.5	0.8	13.5
6	Lamb's-quarters	16.6	0.8	5.0	< 0.1	0.2	0.2	11.0
7	Russian thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	5.5
8	Alfalfa	8.3	0.4	5.0	< 0.1	0.2	0.2	5.5
9	Shepherd's-purse	6.7	0.3	5.0	0.1	0.8	0.8	4.7

Field Survey Summary Tables – Raymond & Magrath Irrigation Districts

Table 179. 2009 irrigated fields in Raymond & Magrath Irrigation Districts (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	48.9	22.1	45.2	2.4	4.9	15.8	95.6
2	Kochia	42.0	8.4	20.0	2.0	4.8	44.0	61.9
3	Canada thistle	38.5	5.3	13.7	0.3	0.9	3.4	27.5
4	Field bindweed	21.2	3.9	18.4	0.3	1.6	6.0	19.4
5	Round-leaved mallow	26.1	3.9	15.0	0.2	0.8	2.0	19.0
6	Lamb's-quarters	15.7	3.4	21.7	0.2	1.0	1.6	13.7
7	Stinkweed	19.2	1.7	9.1	0.1	0.4	0.8	10.6
8	Redroot pigweed	20.9	1.0	5.0	< 0.1	0.2	0.2	9.2
9	Quack grass	14.0	1.2	8.7	0.1	0.5	1.0	7.9
10	Wild oats	10.7	0.7	6.7	0.1	0.7	1.6	6.0
11	Barley	5.2	1.0	20.0	0.1	1.2	1.2	4.6
12	Canola (Argentine)	8.8	0.7	8.0	< 0.1	0.3	0.4	4.5
13	Downy brome	5.2	0.5	10.0	< 0.1	0.4	0.4	2.9
14	Flixweed	5.2	0.5	10.0	< 0.1	0.4	0.4	2.9
15	Oats	5.2	0.3	5.0	< 0.1	0.4	0.4	2.5
16	Wild buckwheat	5.2	0.3	5.0	< 0.1	0.2	0.2	2.3
17	Green foxtail	5.2	0.3	5.0	< 0.1	0.2	0.2	2.3
18	Black medick	5.2	0.3	5.0	< 0.1	0.2	0.2	2.3
19	Perennial sow-thistle	5.2	0.3	5.0	< 0.1	0.2	0.2	2.3
20	Alfalfa	5.2	0.3	5.0	< 0.1	0.2	0.2	2.3

Table 180. 2009 irrigated annual crops in Raymond & Magrath Irrigation Districts (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	56.5	12.5	22.1	3.1	5.4	44.0	108.1
2	Field bindweed	32.5	6.0	18.4	0.5	1.6	6.0	34.6
3	Round-leaved mallow	32.1	5.6	17.5	0.3	1.0	2.0	29.5
4	Canada thistle	35.0	4.5	12.8	0.3	0.9	3.4	27.5
5	Dandelion	37.6	3.6	9.7	0.2	0.4	0.6	23.3
6	Redroot pigweed	24.1	1.2	5.0	< 0.1	0.2	0.2	11.2
7	Wild oats	16.5	1.1	6.7	0.1	0.7	1.6	10.1
8	Stinkweed	13.5	1.5	10.9	0.1	0.6	0.8	9.1
9	Lamb's-quarters	8.0	2.0	25.0	0.1	1.2	1.2	9.1
10	Barley	8.0	1.6	20.0	0.1	1.2	1.2	8.2
11	Quack grass	13.5	0.7	5.0	< 0.1	0.3	0.4	6.5
12	Downy brome	8.0	0.8	10.0	< 0.1	0.4	0.4	5.0
13	Oats	8.0	0.4	5.0	< 0.1	0.4	0.4	4.1
14	Wild buckwheat	8.0	0.4	5.0	< 0.1	0.2	0.2	3.7
15	Green foxtail	8.0	0.4	5.0	< 0.1	0.2	0.2	3.7
16	Alfalfa	8.0	0.4	5.0	< 0.1	0.2	0.2	3.7
17	Canola (Argentine)	5.5	0.3	5.0	< 0.1	0.2	0.2	2.6

Field Survey Summary Tables – Raymond & Magrath Irrigation Districts

Table 181. 2009 irrigated cereal crops in Raymond & Magrath Irrigation Districts (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	54.8	10.7	19.6	3.5	6.3	44.0	114.7
2	Field bindweed	41.4	7.6	18.4	0.7	1.6	6.0	48.7
3	Round-leaved mallow	20.4	6.1	30.0	0.4	1.8	2.0	31.1
4	Canada thistle	27.4	4.3	15.8	0.3	1.2	3.4	28.4
5	Dandelion	37.6	3.6	9.6	0.2	0.4	0.6	27.0
6	Redroot pigweed	20.4	1.0	5.0	< 0.1	0.2	0.2	11.2
7	Wild oats	14.0	1.0	7.5	0.1	0.9	1.6	10.5
8	Downy brome	10.2	1.0	10.0	< 0.1	0.4	0.4	7.4
9	Oats	10.2	0.5	5.0	< 0.1	0.4	0.4	6.0
10	Green foxtail	10.2	0.5	5.0	< 0.1	0.2	0.2	5.6
11	Alfalfa	10.2	0.5	5.0	< 0.1	0.2	0.2	5.6
12	Canola (Argentine)	7.0	0.3	5.0	< 0.1	0.2	0.2	3.8

Field Survey Summary Tables – St. Mary River Irrigation District

Table 182. 2009 irrigated crops in St. Mary River Irrigation District (179 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	26.8	9.5	35.5	2.8	10.4	73.8	39.1
2	Wild buckwheat	43.9	12.4	28.2	1.5	3.3	28.0	39.0
3	Redroot pigweed	23.3	7.4	32.0	2.1	8.8	73.4	30.4
4	Kochia	39.7	6.5	16.3	1.2	2.9	89.6	28.0
5	Wild oats	33.1	7.1	21.3	1.1	3.2	34.6	26.2
6	Lamb's-quarters	28.5	5.9	20.8	1.1	3.7	35.8	23.3
7	Round-leaved mallow	20.2	3.9	19.2	0.4	1.9	28.6	13.7
8	Canada thistle	20.9	3.1	14.7	0.3	1.6	13.2	12.5
9	Green foxtail	7.8	2.1	27.0	0.9	12.0	84.6	11.3
10	Canola (Argentine)	11.6	2.9	24.6	0.4	3.6	36.4	10.0
11	Stinkweed	9.6	1.5	16.1	0.6	6.3	41.4	8.8
12	Annual sow-thistle	8.0	2.4	29.9	0.4	4.9	27.2	8.1
13	Alfalfa	4.4	1.3	29.6	0.5	12.1	106.2	6.6
14	Chickweed	1.7	0.6	35.0	0.6	35.3	139.2	5.4
15	Quack grass	5.1	1.0	20.7	0.2	4.1	22.0	4.3
16	Foxtail barley	4.0	0.6	15.6	0.2	5.3	15.0	3.4
17	Pale smartweed	6.2	0.7	12.1	0.1	1.0	2.0	3.2
18	Field bindweed	5.2	0.7	12.8	0.1	1.4	6.2	2.9
19	Perennial sow-thistle	3.1	0.8	26.7	0.1	4.5	19.6	2.9
20	Spiny annual sow-thistle	1.2	0.5	39.1	0.3	20.8	57.6	2.7
21	Shepherd's-purse	2.9	0.4	14.6	< 0.1	0.9	3.4	1.6
22	Barnyard grass	2.4	0.4	15.9	< 0.1	1.7	6.2	1.5
23	Prostrate knotweed	1.3	0.5	41.7	0.1	4.3	7.6	1.5
24	Flixweed	3.3	0.2	7.1	< 0.1	0.5	1.2	1.4
25	Wheat	2.2	0.3	13.5	< 0.1	2.1	3.2	1.4
26	Wild tomato	3.0	0.2	7.1	< 0.1	0.8	1.4	1.3
27	Downy brome	2.0	0.3	16.1	< 0.1	1.2	1.6	1.2
28	Cleavers	0.9	0.3	40.0	< 0.1	2.7	3.6	0.9
29	Stork's-bill	2.1	0.1	7.1	< 0.1	0.3	0.6	0.9
30	Goat's-beard	1.9	0.2	7.9	< 0.1	0.7	1.8	0.8
31	Wild mustard	1.6	0.1	7.5	< 0.1	0.4	0.6	0.7
32	Broad-leaved plantain	1.6	0.1	5.0	< 0.1	0.4	0.4	0.6
33	Yellow sweet-clover	1.1	0.1	12.5	< 0.1	0.8	1.4	0.6
34	Cow cockle	0.6	0.2	35.0	< 0.1	1.8	1.8	0.6
35	Prickly lettuce	1.2	0.1	8.6	< 0.1	0.3	0.6	0.5
36	Russian thistle	1.3	0.1	7.5	< 0.1	0.3	0.4	0.5
37	Prostrate pigweed	0.6	0.1	15.0	< 0.1	0.6	0.6	0.3
38	Barley	0.6	0.1	15.0	< 0.1	0.6	0.6	0.3
39	White cockle	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.3
40	White clover	0.6	0.1	10.0	< 0.1	0.6	0.6	0.3
41	Timothy	0.6	0.1	10.0	< 0.1	0.6	0.6	0.3
42	Bull thistle	0.6	< 0.1	5.0	< 0.1	0.4	0.4	0.2
43	Corn	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.2
44	Field dock	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2
45	Millet	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – St. Mary River Irrigation District

Table 183. 2009 irrigated annual crops in St. Mary River Irrigation District (155 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	48.5	12.4	25.5	1.4	2.8	28.0	43.8
2	Redroot pigweed	23.6	7.6	32.4	2.2	9.1	73.4	35.9
3	Kochia	44.3	7.4	16.7	1.3	3.0	89.6	34.9
4	Wild oats	37.3	7.9	21.3	1.2	3.2	34.6	32.3
5	Lamb's-quarters	28.5	5.7	20.1	1.0	3.6	35.8	25.3
6	Round-leaved mallow	23.7	4.6	19.2	0.5	1.9	28.6	17.5
7	Dandelion	18.5	3.3	17.9	0.3	1.4	7.4	12.5
8	Canola (Argentine)	12.4	3.2	26.0	0.5	3.9	36.4	12.4
9	Canada thistle	18.5	2.8	15.3	0.3	1.8	13.2	12.4
10	Annual sow-thistle	9.4	2.8	29.9	0.5	4.9	27.2	10.6
11	Alfalfa	4.7	1.5	32.3	0.6	13.4	106.2	8.8
12	Stinkweed	9.4	1.0	10.5	0.4	4.5	41.4	7.8
13	Chickweed	2.1	0.7	35.0	0.7	35.3	139.2	7.6
14	Green foxtail	7.3	1.2	16.2	0.2	2.9	13.0	5.6
15	Quack grass	3.6	1.0	27.1	0.2	6.2	22.0	4.3
16	Spiny annual sow-thistle	0.5	0.5	100.0	0.3	57.6	57.6	3.3
17	Pale smartweed	5.8	0.6	10.5	0.1	0.9	2.0	3.1
18	Perennial sow-thistle	1.8	0.6	31.1	0.1	6.0	19.6	2.2
19	Foxtail barley	2.7	0.2	7.6	0.1	4.1	15.0	2.0
20	Flixweed	3.9	0.3	7.1	< 0.1	0.5	1.2	1.7
21	Field bindweed	3.4	0.3	9.7	< 0.1	0.5	1.6	1.6
22	Wild tomato	3.5	0.2	7.1	< 0.1	0.8	1.4	1.6
23	Downy brome	2.3	0.4	16.1	< 0.1	1.2	1.6	1.5
24	Prostrate knotweed	1.0	0.4	40.0	< 0.1	4.4	7.6	1.3
25	Shepherd's-purse	2.4	0.2	10.0	< 0.1	0.5	0.6	1.1
26	Cleavers	1.0	0.4	40.0	< 0.1	2.7	3.6	1.1
27	Stork's-bill	2.5	0.2	7.1	< 0.1	0.3	0.6	1.0
28	Wheat	1.7	0.2	12.6	< 0.1	1.5	2.4	1.0
29	Barnyard grass	1.4	0.2	12.2	< 0.1	2.4	6.2	1.0
30	Cow cockle	0.7	0.3	35.0	< 0.1	1.8	1.8	0.7
31	Russian thistle	1.5	0.1	7.5	< 0.1	0.3	0.4	0.6
32	Goat's-beard	1.6	0.1	5.0	< 0.1	0.2	0.2	0.6
33	Prostrate pigweed	0.7	0.1	15.0	< 0.1	0.6	0.6	0.4
34	Barley	0.7	0.1	15.0	< 0.1	0.6	0.6	0.4
35	Broad-leaved plantain	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.4
36	Wild mustard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.4
37	Timothy	0.7	0.1	10.0	< 0.1	0.6	0.6	0.3
38	Prickly lettuce	0.5	0.1	15.0	< 0.1	0.6	0.6	0.3
39	Corn	0.5	0.1	10.0	< 0.1	0.4	0.4	0.2
40	Millet	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Field Survey Summary Tables – St. Mary River Irrigation District

Table 184. 2009 irrigated cereal crops in St. Mary River Irrigation District (105 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	55.1	15.6	28.2	1.9	3.4	28.0	42.6
2	Redroot pigweed	29.5	10.8	36.4	3.2	10.8	73.4	38.3
3	Wild oats	48.5	10.3	21.2	1.6	3.4	34.6	33.6
4	Kochia	42.6	8.3	19.5	1.8	4.3	89.6	30.9
5	Lamb's-quarters	36.1	7.8	21.6	1.5	4.1	35.8	26.7
6	Round-leaved mallow	24.6	4.8	19.7	0.6	2.3	28.6	15.0
7	Dandelion	25.8	4.5	17.6	0.4	1.4	7.4	13.8
8	Canola (Argentine)	17.7	4.5	25.4	0.7	3.9	36.4	13.6
9	Canada thistle	21.1	3.3	15.9	0.4	2.0	13.2	11.6
10	Annual sow-thistle	10.1	3.3	32.6	0.6	6.2	27.2	10.0
11	Alfalfa	7.0	2.3	32.3	0.9	13.4	106.2	9.8
12	Stinkweed	12.9	1.4	11.0	0.6	4.9	41.4	8.6
13	Chickweed	2.3	1.0	41.7	1.1	46.8	139.2	7.9
14	Green foxtail	10.1	1.7	17.0	0.3	3.1	13.0	6.3
15	Quack grass	4.6	1.4	30.0	0.3	7.2	22.0	4.6
16	Pale smartweed	8.7	0.9	10.5	0.1	0.9	2.0	3.7
17	Spiny annual sow-thistle	0.8	0.8	100.0	0.4	57.6	57.6	3.6
18	Perennial sow-thistle	2.6	0.8	31.1	0.2	6.0	19.6	2.5
19	Flixweed	5.8	0.4	7.1	< 0.1	0.5	1.2	2.1
20	Field bindweed	5.1	0.5	9.7	< 0.1	0.5	1.6	2.0
21	Foxtail barley	2.0	0.1	7.5	0.2	7.8	15.0	1.6
22	Prostrate knotweed	1.5	0.6	40.0	0.1	4.4	7.6	1.5
23	Shepherd's-purse	3.5	0.4	10.0	< 0.1	0.5	0.6	1.4
24	Stork's-bill	3.7	0.3	7.1	< 0.1	0.3	0.6	1.3
25	Wild tomato	2.2	0.2	7.5	< 0.1	0.8	1.2	0.9
26	Cow cockle	1.1	0.4	35.0	< 0.1	1.8	1.8	0.8
27	Cleavers	0.8	0.4	50.0	< 0.1	3.6	3.6	0.8
28	Barnyard grass	0.8	0.2	25.0	< 0.1	6.2	6.2	0.7
29	Downy brome	1.1	0.2	15.0	< 0.1	0.6	0.6	0.5
30	Broad-leaved plantain	1.4	0.1	5.0	< 0.1	0.4	0.4	0.5
31	Barley	1.0	0.1	15.0	< 0.1	0.6	0.6	0.5
32	Goat's-beard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
33	Wild mustard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.4
34	Russian thistle	1.1	0.1	10.0	< 0.1	0.4	0.4	0.4
35	Timothy	1.0	0.1	10.0	< 0.1	0.6	0.6	0.4
36	Prickly lettuce	0.8	0.1	15.0	< 0.1	0.6	0.6	0.4
37	Wheat	1.0	< 0.1	5.0	< 0.1	0.6	0.6	0.3

Field Survey Summary Tables – St. Mary River Irrigation District

Table 185. 2009 irrigated spring wheat in St. Mary River Irrigation District (60 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	51.9	15.0	28.8	2.2	4.3	28.0	45.2
2	Kochia	48.8	10.2	20.9	2.7	5.6	89.6	41.9
3	Wild oats	60.4	8.4	13.9	1.0	1.6	8.2	31.0
4	Redroot pigweed	24.9	7.0	28.1	2.2	8.9	73.4	28.8
5	Lamb's-quarters	38.3	6.4	16.7	0.8	2.2	19.8	22.4
6	Round-leaved mallow	21.8	5.1	23.4	0.8	3.8	28.6	16.7
7	Canada thistle	28.8	4.1	14.1	0.4	1.4	13.2	14.4
8	Annual sow-thistle	9.8	4.4	45.3	1.0	10.3	27.2	14.3
9	Dandelion	25.1	4.4	17.6	0.3	1.3	3.6	13.5
10	Stinkweed	18.5	1.9	10.2	1.0	5.5	41.4	13.3
11	Canola (Argentine)	17.5	3.6	20.4	0.6	3.7	36.4	12.7
12	Spiny annual sow-thistle	1.3	1.3	100.0	0.8	57.6	57.6	6.8
13	Pale smartweed	9.9	1.2	12.1	0.1	1.0	2.0	4.5
14	Perennial sow-thistle	3.2	1.3	41.7	0.3	8.4	19.6	4.2
15	Quack grass	3.9	0.9	21.7	0.3	7.9	22.0	4.0
16	Green foxtail	6.6	1.0	15.0	0.1	2.3	4.4	3.7
17	Flixweed	10.0	0.7	7.1	< 0.1	0.5	1.2	3.5
18	Foxtail barley	3.4	0.3	7.5	0.3	7.8	15.0	2.8
19	Field bindweed	7.0	0.7	9.7	< 0.1	0.5	1.6	2.7
20	Alfalfa	5.0	0.5	11.0	< 0.1	0.6	1.0	2.1
21	Shepherd's-purse	4.7	0.5	10.0	< 0.1	0.5	0.6	1.8
22	Cow cockle	1.9	0.7	35.0	< 0.1	1.8	1.8	1.5
23	Wild tomato	3.8	0.3	7.5	< 0.1	0.8	1.2	1.4
24	Downy brome	1.9	0.3	15.0	< 0.1	0.6	0.6	0.9
25	Broad-leaved plantain	2.3	0.1	5.0	< 0.1	0.4	0.4	0.8
26	Prostrate knotweed	1.3	0.3	20.0	< 0.1	1.2	1.2	0.7
27	Russian thistle	1.9	0.2	10.0	< 0.1	0.4	0.4	0.7
28	Goat's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	0.7
29	Wild mustard	2.3	0.1	5.0	< 0.1	0.2	0.2	0.7
30	Stork's-bill	2.3	0.1	5.0	< 0.1	0.2	0.2	0.7
31	Timothy	1.7	0.2	10.0	< 0.1	0.6	0.6	0.7
32	Chickweed	1.3	0.2	15.0	< 0.1	0.6	0.6	0.6

Field Survey Summary Tables – St. Mary River Irrigation District

Table 186. 2009 irrigated barley in St. Mary River Irrigation District (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	42.8	18.5	43.3	3.9	9.1	34.6	45.7
2	Redroot pigweed	35.0	14.8	42.3	4.6	13.2	52.4	42.9
3	Wild buckwheat	55.6	13.7	24.6	1.1	2.0	17.0	33.1
4	Lamb's-quarters	33.3	10.8	32.5	3.1	9.2	35.8	32.2
5	Chickweed	5.7	3.1	55.0	4.0	69.9	139.2	21.0
6	Alfalfa	8.0	4.1	51.9	3.1	38.7	106.2	18.8
7	Kochia	34.6	6.6	19.0	0.7	2.1	5.4	18.8
8	Dandelion	28.2	6.3	22.3	0.6	2.2	7.4	16.3
9	Canola (Argentine)	12.2	7.0	56.8	1.0	8.3	19.8	14.3
10	Round-leaved mallow	25.1	2.2	8.7	0.1	0.4	0.6	9.4
11	Canada thistle	10.8	3.4	31.0	0.7	6.4	10.0	9.1
12	Quack grass	5.7	2.7	47.5	0.5	8.4	13.0	6.2
13	Green foxtail	15.3	1.0	6.7	0.2	1.0	1.6	5.8
14	Pale smartweed	10.8	0.8	7.4	0.1	0.6	1.0	4.0
15	Stinkweed	8.0	1.2	14.6	0.1	1.8	2.4	3.9
16	Annual sow-thistle	8.0	1.4	17.6	0.1	0.9	2.2	3.8
17	Prostrate knotweed	2.9	1.7	60.0	0.2	7.6	7.6	3.3
18	Stork's-bill	8.6	0.7	8.3	< 0.1	0.3	0.6	3.2
19	Cleavers	2.9	1.4	50.0	0.1	3.6	3.6	2.6
20	Barnyard grass	2.9	0.7	25.0	0.2	6.2	6.2	2.2
21	Prickly lettuce	2.9	0.4	15.0	< 0.1	0.6	0.6	1.3
22	Shepherd's-purse	2.9	0.3	10.0	< 0.1	0.4	0.4	1.1
23	Perennial sow-thistle	2.9	0.1	5.0	< 0.1	0.2	0.2	0.9

Table 187. 2009 irrigated corn in St. Mary River Irrigation District (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	38.1	18.3	48.0	4.4	11.6	55.8	73.6
2	Wild buckwheat	66.9	21.2	31.6	1.8	2.7	11.8	61.1
3	Lamb's-quarters	32.5	7.8	24.1	1.1	3.4	12.2	28.8
4	Round-leaved mallow	34.4	8.5	24.7	0.4	1.2	2.2	23.7
5	Green foxtail	14.3	5.8	40.7	1.2	8.6	13.0	22.3
6	Kochia	33.1	4.1	12.4	0.3	0.8	1.6	16.8
7	Alfalfa	13.1	5.6	42.5	0.6	4.6	9.0	16.0
8	Canola (Argentine)	28.2	3.7	13.0	0.2	0.8	2.6	14.7
9	Dandelion	24.2	1.9	7.7	0.1	0.4	0.8	10.0
10	Wild oats	12.5	2.9	23.4	0.2	1.3	2.8	8.5
11	Annual sow-thistle	15.3	2.3	15.0	0.1	0.8	1.4	8.3
12	Quack grass	5.1	1.0	20.0	0.1	2.6	2.6	3.9
13	Barley	6.6	1.0	15.0	< 0.1	0.6	0.6	3.4
14	Canada thistle	9.1	0.5	5.0	< 0.1	0.2	0.2	3.3
15	Field bindweed	6.6	0.7	10.0	< 0.1	0.4	0.4	2.9
16	Wheat	6.6	0.3	5.0	< 0.1	0.6	0.6	2.6

Field Survey Summary Tables – St. Mary River Irrigation District

Table 188. 2009 irrigated broad-leaved annual crops in St. Mary River Irrigation District (50 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	47.7	5.4	11.4	0.3	0.6	2.0	55.7
2	Wild buckwheat	35.0	5.9	16.9	0.3	1.0	5.0	54.0
3	Round-leaved mallow	22.0	4.0	18.3	0.2	1.1	2.4	36.7
4	Wild oats	14.3	3.1	21.7	0.2	1.4	4.8	27.9
5	Canada thistle	13.4	1.8	13.5	0.1	1.0	1.8	19.4
6	Lamb's-quarters	13.1	1.5	11.8	0.1	0.8	3.8	16.5
7	Annual sow-thistle	7.8	1.8	23.0	0.1	1.4	4.8	15.4
8	Redroot pigweed	11.4	1.3	11.2	0.1	0.5	1.4	12.6
9	Downy brome	4.8	0.8	16.6	0.1	1.4	1.6	8.5
10	Wild tomato	6.1	0.4	6.9	< 0.1	0.8	1.4	6.8
11	Canola (Argentine)	1.6	0.6	40.0	0.1	4.8	4.8	6.7
12	Dandelion	3.6	0.8	22.5	< 0.1	1.3	2.6	6.7
13	Wheat	3.1	0.5	17.5	0.1	2.0	2.4	6.6
14	Foxtail barley	4.3	0.3	7.7	< 0.1	0.7	1.0	4.7
15	Cleavers	1.6	0.5	30.0	< 0.1	1.8	1.8	3.8
16	Prostrate pigweed	2.3	0.3	15.0	< 0.1	0.6	0.6	2.9
17	Barnyard grass	2.8	0.1	5.0	< 0.1	0.2	0.2	2.1
18	Chickweed	1.6	0.2	15.0	< 0.1	0.6	0.6	2.0
19	Quack grass	1.6	0.2	10.0	< 0.1	0.6	0.6	1.8
20	Stinkweed	2.3	0.1	5.0	< 0.1	0.2	0.2	1.7
21	Russian thistle	2.3	0.1	5.0	< 0.1	0.2	0.2	1.7
22	Corn	1.6	0.2	10.0	< 0.1	0.4	0.4	1.6
23	Goat's-beard	2.0	0.1	5.0	< 0.1	0.2	0.2	1.5
24	Green foxtail	1.6	0.1	5.0	< 0.1	0.6	0.6	1.5
25	Millet	1.6	0.1	5.0	< 0.1	0.2	0.2	1.2

Table 189. 2009 irrigated canola in St. Mary River Irrigation District (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	56.9	8.1	14.2	0.4	0.7	2.0	71.3
2	Wild buckwheat	26.5	6.5	24.4	0.4	1.7	5.0	53.6
3	Round-leaved mallow	26.5	5.6	21.2	0.4	1.4	2.4	48.0
4	Canada thistle	14.0	2.6	18.8	0.1	1.0	1.6	21.2
5	Wild oats	14.8	2.1	14.2	0.1	1.0	2.2	20.6
6	Annual sow-thistle	14.0	1.7	12.5	0.1	0.6	1.2	15.5
7	Redroot pigweed	10.5	1.9	18.3	0.1	0.9	1.4	15.1
8	Downy brome	6.3	1.6	25.0	0.1	1.6	1.6	12.5
9	Wild tomato	10.1	0.8	7.5	0.1	1.0	1.4	12.0
10	Lamb's-quarters	10.1	1.3	12.5	0.1	0.5	0.6	11.0
11	Foxtail barley	4.5	0.2	5.0	< 0.1	1.0	1.0	5.0
12	Barnyard grass	6.3	0.3	5.0	< 0.1	0.2	0.2	4.5
13	Stinkweed	5.1	0.3	5.0	< 0.1	0.2	0.2	3.6
14	Russian thistle	5.1	0.3	5.0	< 0.1	0.2	0.2	3.6
15	Millet	3.5	0.2	5.0	< 0.1	0.2	0.2	2.5

Field Survey Summary Tables – St. Mary River Irrigation District

Table 190. 2009 irrigated dry beans in St. Mary River Irrigation District (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	26.5	7.7	29.0	0.5	2.0	4.8	57.7
2	Kochia	45.1	4.7	10.3	0.3	0.6	1.2	49.1
3	Wild buckwheat	36.3	5.0	13.7	0.2	0.6	1.6	43.4
4	Annual sow-thistle	6.8	4.4	65.0	0.3	4.8	4.8	29.6
5	Canola (Argentine)	6.8	2.7	40.0	0.3	4.8	4.8	24.6
6	Canada thistle	15.5	1.1	7.2	0.2	1.6	1.8	21.4
7	Lamb's-quarters	6.8	2.4	35.0	0.3	3.8	3.8	20.9
8	Round-leaved mallow	9.8	2.0	20.0	0.1	1.0	1.0	15.0
9	Cleavers	6.8	2.0	30.0	0.1	1.8	1.8	14.5
10	Prostrate pigweed	9.8	1.5	15.0	0.1	0.6	0.6	12.0
11	Green foxtail	6.8	0.3	5.0	< 0.1	0.6	0.6	6.3
12	Redroot pigweed	6.8	0.3	5.0	< 0.1	0.2	0.2	5.2

Table 191. 2009 irrigated potatoes in St. Mary River Irrigation District (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	49.5	5.6	11.3	0.3	0.5	1.4	82.6
2	Kochia	43.6	2.7	6.2	0.1	0.2	0.4	47.2
3	Round-leaved mallow	21.1	2.1	10.0	0.1	0.7	0.8	38.0
4	Lamb's-quarters	28.4	1.8	6.4	0.1	0.3	0.4	31.4
5	Canada thistle	18.8	2.0	10.6	0.1	0.4	0.6	28.7
6	Downy brome	10.6	0.5	5.0	0.1	1.2	1.2	21.8
7	Corn	8.2	0.8	10.0	< 0.1	0.4	0.4	12.0
8	Dandelion	10.6	0.5	5.0	< 0.1	0.2	0.2	10.1
9	Goat's-beard	10.6	0.5	5.0	< 0.1	0.2	0.2	10.1
10	Redroot pigweed	10.6	0.5	5.0	< 0.1	0.2	0.2	10.1
11	Wild tomato	8.2	0.4	5.0	< 0.1	0.2	0.2	7.9

Field Survey Summary Tables – St. Mary River Irrigation District

Table 192. 2009 irrigated perennial crops in St. Mary River Irrigation District (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	74.3	44.9	60.3	17.2	23.2	73.8	114.9
2	Green foxtail	10.5	7.3	70.0	5.0	48.2	84.6	25.3
3	Wild buckwheat	17.2	12.2	71.3	1.9	11.2	15.8	21.8
4	Lamb's-quarters	28.1	6.9	24.6	1.2	4.4	19.0	17.9
5	Redroot pigweed	21.6	6.3	29.4	1.5	6.8	26.4	16.3
6	Canada thistle	34.2	4.4	12.8	0.4	1.1	3.8	14.7
7	Stinkweed	10.5	4.7	45.0	1.6	15.0	28.2	12.1
8	Foxtail barley	11.3	3.0	26.7	0.8	6.9	12.8	8.3
9	Field bindweed	15.7	2.6	16.7	0.4	2.6	6.2	8.0
10	Perennial sow-thistle	10.5	2.4	22.5	0.3	3.1	4.6	6.1
11	Wild oats	9.5	2.2	22.8	0.4	4.6	7.6	6.0
12	Kochia	13.2	1.2	9.3	0.2	1.7	5.4	5.5
13	Quack grass	13.4	1.5	10.9	0.1	0.8	1.2	5.4
14	Pale smartweed	8.2	1.5	18.6	0.1	1.6	2.0	4.1
15	Barnyard grass	8.2	1.6	19.6	0.1	1.0	1.2	4.0
16	Shepherd's-purse	5.9	1.5	25.0	0.1	1.9	3.4	3.3
17	Yellow sweet-clover	7.5	0.9	12.5	0.1	0.8	1.4	3.1
18	Canola (Argentine)	7.2	0.8	10.9	< 0.1	0.6	0.8	2.8
19	Wheat	5.2	0.8	15.0	0.2	3.2	3.2	2.7
20	Prostrate knotweed	2.9	1.3	45.0	0.1	4.2	4.2	2.4
21	Wild mustard	5.2	0.5	10.0	< 0.1	0.6	0.6	2.0
22	Goat's-beard	3.8	0.6	15.0	0.1	1.8	1.8	1.8
23	Broad-leaved plantain	5.2	0.3	5.0	< 0.1	0.4	0.4	1.8
24	White cockle	5.2	0.3	5.0	< 0.1	0.2	0.2	1.7
25	Prickly lettuce	5.2	0.3	5.0	< 0.1	0.2	0.2	1.7
26	Spiny annual sow-thistle	5.2	0.3	5.0	< 0.1	0.2	0.2	1.7
27	White clover	3.8	0.4	10.0	< 0.1	0.6	0.6	1.5
28	Bull thistle	3.8	0.2	5.0	< 0.1	0.4	0.4	1.3
29	Field dock	2.9	0.1	5.0	< 0.1	0.2	0.2	1.0
30	Alfalfa	2.9	0.1	5.0	< 0.1	0.2	0.2	1.0

Field Survey Summary Tables – St. Mary River Irrigation District

Table 193. 2009 irrigated alfalfa in St. Mary River Irrigation District (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	80.6	48.8	60.5	19.4	24.0	73.8	105.8
2	Green foxtail	15.1	10.6	70.0	7.3	48.2	84.6	30.3
3	Wild buckwheat	19.4	15.2	78.7	2.6	13.3	15.8	22.8
4	Redroot pigweed	31.2	9.2	29.4	2.1	6.8	26.4	19.9
5	Lamb's-quarters	34.5	9.1	26.4	1.7	5.0	19.0	19.6
6	Stinkweed	15.1	6.8	45.0	2.3	15.0	28.2	14.6
7	Canada thistle	37.8	4.3	11.3	0.4	1.0	3.8	13.3
8	Field bindweed	22.7	3.8	16.7	0.6	2.6	6.2	9.8
9	Perennial sow-thistle	15.1	3.4	22.5	0.5	3.1	4.6	7.4
10	Quack grass	15.1	1.9	12.5	0.1	0.8	1.2	5.4
11	Kochia	13.0	1.5	11.3	0.3	2.4	5.4	5.0
12	Pale smartweed	11.8	2.2	18.6	0.2	1.6	2.0	5.0
13	Wild oats	7.6	1.9	25.0	0.6	7.6	7.6	4.7
14	Shepherd's-purse	8.5	2.1	25.0	0.2	1.9	3.4	4.1
15	Yellow sweet-clover	10.9	1.4	12.5	0.1	0.8	1.4	3.9
16	Barnyard grass	7.6	1.9	25.0	0.1	1.2	1.2	3.5
17	Wheat	7.6	1.1	15.0	0.2	3.2	3.2	3.3
18	Prostrate knotweed	4.2	1.9	45.0	0.2	4.2	4.2	2.9
19	Foxtail barley	5.4	1.1	20.0	0.2	3.0	3.0	2.6
20	Wild mustard	7.6	0.8	10.0	< 0.1	0.6	0.6	2.5
21	Broad-leaved plantain	7.6	0.4	5.0	< 0.1	0.4	0.4	2.2
22	Goat's-beard	5.4	0.8	15.0	0.1	1.8	1.8	2.2
23	White cockle	7.6	0.4	5.0	< 0.1	0.2	0.2	2.1
24	Prickly lettuce	7.6	0.4	5.0	< 0.1	0.2	0.2	2.1
25	Spiny annual sow-thistle	7.6	0.4	5.0	< 0.1	0.2	0.2	2.1
26	Bull thistle	5.4	0.3	5.0	< 0.1	0.4	0.4	1.6
27	Canola (Argentine)	4.2	0.2	5.0	< 0.1	0.2	0.2	1.2

Field Survey Summary Tables – Taber Irrigation District

Table 194. 2009 irrigated fields in Taber Irrigation District (41 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	53.7	8.8	16.4	1.3	2.4	14.6	66.2
2	Wild oats	29.3	8.9	30.4	1.7	5.8	14.4	62.9
3	Canada thistle	29.3	2.7	9.2	0.4	1.4	7.0	26.0
4	Dandelion	22.0	2.9	13.3	0.3	1.3	2.0	21.3
5	Redroot pigweed	12.2	2.4	20.0	0.2	1.8	7.6	14.8
6	Wild buckwheat	7.3	2.7	36.7	0.2	3.0	8.2	13.3
7	Pasture sage	4.9	2.7	55.0	0.3	5.7	6.8	13.2
8	Alfalfa	2.4	1.2	50.0	0.5	19.2	19.2	11.9
9	White sweet-clover	2.4	1.8	75.0	0.2	8.0	8.0	8.7
10	Canola (Argentine)	4.9	1.5	30.0	0.1	2.1	2.2	7.3
11	Round-leaved mallow	9.8	0.7	7.5	0.1	0.6	1.0	6.9
12	Sunflower species	7.3	1.0	13.3	0.1	1.1	1.6	6.9
13	Wheat	2.4	0.9	35.0	0.2	8.0	8.0	6.4
14	Foxtail barley	4.9	0.6	12.5	0.1	1.4	1.6	4.7
15	Yellow sweet-clover	4.9	0.6	12.5	0.1	1.2	2.0	4.6
16	Field bindweed	4.9	0.5	10.0	< 0.1	0.9	1.6	4.0
17	Showy milkweed	4.9	0.4	7.5	< 0.1	0.7	0.8	3.6
18	Goat's-beard	4.9	0.4	7.5	< 0.1	0.4	0.4	3.3
19	White clover	4.9	0.4	7.5	< 0.1	0.3	0.4	3.2
20	Prickly rose	2.4	0.5	20.0	0.1	2.2	2.2	3.1
21	Lamb's-quarters	4.9	0.2	5.0	< 0.1	0.4	0.6	3.0
22	Perennial sow-thistle	2.4	0.1	5.0	< 0.1	0.6	0.6	1.6
23	Quack grass	2.4	0.1	5.0	< 0.1	0.4	0.4	1.5
24	Bull thistle	2.4	0.1	5.0	< 0.1	0.2	0.2	1.4

Table 195. 2009 irrigated annual crops in Taber Irrigation District (31 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Kochia	61.3	11.1	18.2	1.7	2.8	14.6	83.7
2	Wild oats	38.7	11.8	30.4	2.3	5.8	14.4	83.3
3	Canada thistle	22.6	2.6	11.4	0.5	2.0	7.0	24.4
4	Redroot pigweed	12.9	3.1	23.8	0.3	2.1	7.6	18.0
5	Wild buckwheat	9.7	3.5	36.7	0.3	3.0	8.2	18.0
6	Alfalfa	3.2	1.6	50.0	0.6	19.2	19.2	15.3
7	Canola (Argentine)	6.5	1.9	30.0	0.1	2.1	2.2	10.0
8	Round-leaved mallow	12.9	1.0	7.5	0.1	0.6	1.0	9.8
9	Sunflower species	9.7	1.3	13.3	0.1	1.1	1.6	9.6
10	Wheat	3.2	1.1	35.0	0.3	8.0	8.0	8.4
11	Field bindweed	6.5	0.6	10.0	0.1	0.9	1.6	5.6
12	Showy milkweed	6.5	0.5	7.5	< 0.1	0.7	0.8	5.0
13	Lamb's-quarters	6.5	0.3	5.0	< 0.1	0.4	0.6	4.3
14	Perennial sow-thistle	3.2	0.2	5.0	< 0.1	0.6	0.6	2.3
15	Quack grass	3.2	0.2	5.0	< 0.1	0.4	0.4	2.2

Field Survey Summary Tables – Taber Irrigation District

Table 196. 2009 irrigated cereal crops in Taber Irrigation District (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	60.0	18.3	30.4	3.5	5.8	14.4	95.4
2	Kochia	75.0	16.0	21.3	2.5	3.4	14.6	85.7
3	Canada thistle	30.0	3.0	10.0	0.4	1.2	2.2	20.7
4	Wild buckwheat	15.0	5.5	36.7	0.5	3.0	8.2	20.6
5	Redroot pigweed	15.0	4.5	30.0	0.4	2.7	7.6	18.4
6	Alfalfa	5.0	2.5	50.0	1.0	19.2	19.2	17.4
7	Round-leaved mallow	20.0	1.5	7.5	0.1	0.6	1.0	11.6
8	Canola (Argentine)	10.0	3.0	30.0	0.2	2.1	2.2	11.5
9	Lamb's-quarters	10.0	0.5	5.0	< 0.1	0.4	0.6	5.1
10	Sunflower species	5.0	0.5	10.0	< 0.1	0.8	0.8	3.2
11	Showy milkweed	5.0	0.3	5.0	< 0.1	0.6	0.6	2.7
12	Perennial sow-thistle	5.0	0.3	5.0	< 0.1	0.6	0.6	2.7
13	Quack grass	5.0	0.3	5.0	< 0.1	0.4	0.4	2.6
14	Field bindweed	5.0	0.3	5.0	< 0.1	0.2	0.2	2.4

Table 197. 2009 irrigated broad-leaved annual crops in Taber Irrigation District (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wheat	9.1	3.2	35.0	0.7	8.0	8.0	70.1
2	Kochia	36.4	2.3	6.3	0.2	0.5	1.2	63.2
3	Canada thistle	9.1	1.8	20.0	0.6	7.0	7.0	54.9
4	Sunflower species	18.2	2.7	15.0	0.2	1.3	1.6	51.3
5	Field bindweed	9.1	1.4	15.0	0.1	1.6	1.6	27.0
6	Showy milkweed	9.1	0.9	10.0	0.1	0.8	0.8	19.8
7	Redroot pigweed	9.1	0.5	5.0	< 0.1	0.2	0.2	13.6

Table 198. 2009 irrigated perennial crops in Taber Irrigation District (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	90.0	12.0	13.3	1.2	1.3	2.0	81.4
2	Pasture sage	20.0	11.0	55.0	1.1	5.7	6.8	56.2
3	White sweet-clover	10.0	7.5	75.0	0.8	8.0	8.0	37.6
4	Canada thistle	50.0	3.0	6.0	0.3	0.6	1.4	29.0
5	Foxtail barley	20.0	2.5	12.5	0.3	1.4	1.6	18.2
6	Yellow sweet-clover	20.0	2.5	12.5	0.2	1.2	2.0	17.3
7	Kochia	30.0	1.5	5.0	0.1	0.3	0.4	14.7
8	Prickly rose	10.0	2.0	20.0	0.2	2.2	2.2	12.6
9	Goat's-beard	20.0	1.5	7.5	0.1	0.4	0.4	11.5
10	White clover	20.0	1.5	7.5	0.1	0.3	0.4	11.1
11	Redroot pigweed	10.0	0.5	5.0	0.1	0.6	0.6	5.7
12	Bull thistle	10.0	0.5	5.0	< 0.1	0.2	0.2	4.8

Field Survey Summary Tables – United, Leavitt, Aetna & Mountain View Irrigation Districts

Table 199. 2009 irrigated fields in United, Leavitt, Aetna & Mountain View Irrigation Districts (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	56.8	31.4	55.3	3.9	6.9	18.0	100.1
2	Downy brome	22.7	9.1	39.8	1.6	7.2	18.0	36.2
3	Foxtail barley	38.6	4.4	11.3	1.1	2.9	15.2	29.5
4	Canada thistle	34.8	8.8	25.2	0.7	2.0	4.6	29.4
5	Annual sow-thistle	37.1	6.0	16.1	0.5	1.3	4.2	24.1
6	Stinkweed	26.5	4.5	17.1	0.4	1.5	3.8	18.2
7	Field bindweed	12.1	3.3	27.5	0.3	2.6	3.4	11.4
8	Wild buckwheat	8.3	2.1	25.0	0.2	2.0	2.0	7.0
9	Japanese brome	8.3	1.7	20.0	0.1	1.2	1.2	5.8
10	Shepherd's-purse	14.4	0.7	5.0	< 0.1	0.2	0.2	5.7
11	Wild mustard	8.3	1.7	20.0	0.1	0.8	0.8	5.4
12	Silky lupin	6.1	1.2	20.0	0.1	1.0	1.0	4.1
13	Narrow-leaved hawk's-beard	8.3	0.8	10.0	< 0.1	0.4	0.4	4.0
14	Quack grass	6.1	0.3	5.0	0.1	2.0	2.0	3.6
15	Tartary buckwheat	6.1	0.3	5.0	0.1	1.6	1.6	3.3
16	Kochia	8.3	0.4	5.0	< 0.1	0.2	0.2	3.3
17	Lamb's-quarters	8.3	0.4	5.0	< 0.1	0.2	0.2	3.3
18	Wormseed mustard	8.3	0.4	5.0	< 0.1	0.2	0.2	3.3
19	Ball mustard	6.1	0.3	5.0	< 0.1	0.4	0.4	2.5

Table 200. 2009 irrigated fields in Western Irrigation District (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Dandelion	49.0	19.6	39.9	4.9	10.1	35.8	64.6
2	Wild buckwheat	47.5	12.8	27.0	1.3	2.8	8.0	35.1
3	Wild oats	34.0	6.8	20.0	1.2	3.5	7.0	24.0
4	Canola (Argentine)	8.5	8.5	100.0	1.8	20.8	20.8	22.2
5	Lamb's-quarters	30.5	7.8	25.6	0.6	1.9	4.4	20.4
6	Shepherd's-purse	22.0	3.1	14.1	0.9	4.0	16.6	14.8
7	Barley	5.0	3.8	75.0	1.4	28.0	28.0	13.9
8	Annual sow-thistle	30.5	3.7	12.0	0.2	0.7	1.0	13.8
9	Stinkweed	5.0	3.8	75.0	1.4	27.0	27.0	13.6
10	Canada thistle	18.5	3.0	16.4	0.4	2.2	4.2	10.9
11	Chickweed	8.5	3.8	45.0	0.7	8.2	8.2	10.7
12	Flixweed	5.0	4.8	95.0	0.6	11.6	11.6	10.0
13	Kochia	17.0	3.4	20.0	0.2	1.2	2.2	9.6
14	Hemp-nettle	8.5	3.8	45.0	0.4	4.6	4.6	8.8
15	Cleavers	13.5	1.6	11.9	0.2	1.1	2.0	6.4
16	Narrow-leaved hawk's-beard	13.5	0.9	6.9	0.2	1.2	3.0	5.8
17	Stork's-bill	8.5	0.9	10.0	0.1	1.2	1.2	3.9
18	Quack grass	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
19	Round-leaved mallow	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
20	Russian thistle	8.5	0.4	5.0	< 0.1	0.2	0.2	2.9
21	Bluebur	5.0	0.8	15.0	0.1	1.2	1.2	2.6

Field Survey Summary Tables – Western Irrigation District

Table 201. 2009 irrigated annual crops in Western Irrigation District (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m ²)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild buckwheat	52.1	15.1	29.0	1.5	3.0	8.0	50.0
2	Canola (Argentine)	10.4	10.4	100.0	2.2	20.8	20.8	38.2
3	Wild oats	41.7	8.3	20.0	1.5	3.5	7.0	37.3
4	Lamb's-quarters	31.3	8.3	26.7	0.6	1.9	4.4	25.6
5	Barley	6.1	4.6	75.0	1.7	28.0	28.0	24.8
6	Dandelion	37.4	3.7	10.0	0.2	0.6	1.0	17.8
7	Chickweed	10.4	4.7	45.0	0.9	8.2	8.2	17.6
8	Annual sow-thistle	31.3	4.2	13.3	0.3	0.8	1.0	16.9
9	Kochia	20.9	4.2	20.0	0.3	1.2	2.2	13.9
10	Hemp-nettle	10.4	4.7	45.0	0.5	4.6	4.6	13.9
11	Cleavers	16.6	2.0	11.9	0.2	1.1	2.0	9.1
12	Shepherd's-purse	20.9	1.0	5.0	0.1	0.3	0.4	7.9
13	Canada thistle	10.4	1.6	15.0	0.1	1.0	1.0	6.1
14	Stork's-bill	10.4	1.0	10.0	0.1	1.2	1.2	5.6
15	Quack grass	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
16	Narrow-leaved hawk's-beard	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
17	Round-leaved mallow	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9
18	Russian thistle	10.4	0.5	5.0	< 0.1	0.2	0.2	3.9



Abstract for Poster

Half a million hectares of irrigated land are located in the South Saskatchewan River Basin in southern Alberta, accounting for over half of the irrigated agricultural land in Canada. While irrigated fields have been included in some provincial weed surveys, a separate weed survey of irrigated fields has not been previously conducted in Alberta. In 2009, a survey was conducted of 571 fields of common irrigated crops including annual cereals (spring wheat, barley, corn), annual broad-leaved crops (canola, sugar beets, dry beans, potatoes) and perennial crops (alfalfa, grass hay). Fields were selected using a stratified random sampling procedure. In each field, weeds were identified and counted in twenty 0.5 m x 0.5 m quadrats placed in an inverted W-pattern. The relative abundance of each species was determined based on density, uniformity and frequency. Wild oats (*Avena fatua* L.), kochia (*Kochia scoparia* (L.) Schrad.), wild buckwheat (*Polygonum convolvulus* L.), lamb's-quarters (*Chenopodium album* L.) and redroot pigweed (*Amaranthus retroflexus* L.) were the five most abundant species in the annual broad-leaved crops. These species also were the top species in the cereal crops; however, the ranks differed. Dandelion (*Taraxacum officinale* G. H. Weber ex Wiggers), Canada thistle (*Cirsium arvense* (L.) Scop.), lamb's-quarters, kochia and green foxtail (*Setaria viridis* (L.) P. Beauv.) were five most abundant species in the perennial crops. The total weed density was lowest and the number of weed-free quadrats was highest in the annual broad-leaved crops.

2009 Weed Survey of Irrigated Land in Alberta

Julia Y. Leeson¹, Chris Neeser², Nicole Kimmel³, A. Gordon Thomas¹

¹Agriculture and Agri-Food Canada, Research Centre, Saskatoon, SK; ²Alberta Agriculture and Rural Development (AARD), Brooks, AB; ³AARD, Edmonton, AB.

Introduction

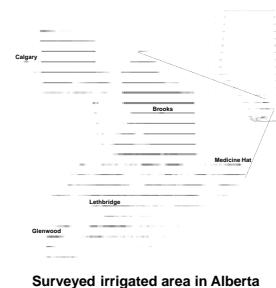
Half a million hectares of irrigated land are located in the South Saskatchewan River Basin in Alberta, accounting for over half of the irrigated agricultural land in Canada. While irrigated fields have been included in some provincial weed surveys, a separate weed survey of irrigated fields has not been previously conducted in Alberta.

Objectives

- Establish baseline weed data for irrigated crops in Alberta
- Compare the weed species, total weed density and weed-free area in irrigated cereal, annual broad-leaved and perennial crops

Methods

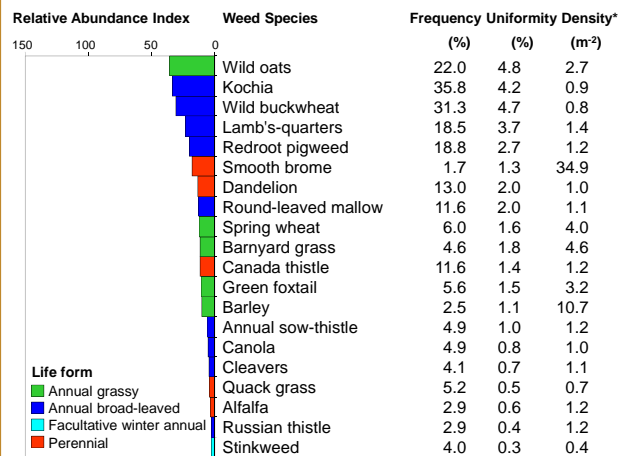
- Used proportionally allocated stratified random sampling procedure to select fields
 - Number of fields was proportional to area sown to surveyed crops
- Surveyed 569 fields of common irrigated crops
 - Annual cereals - spring wheat (155), barley (107), corn (39)
 - Annual broad-leaved crops - canola (70), dry beans (27), potatoes (19), sugar beets (17)
 - Perennial crops - alfalfa (89), grass hay (46)
- Counted weeds in 20 quadrats (50 by 50 cm) per field in late summer (residual populations)



Data Analysis

- Data weighted in analysis to account for fields not surveyed
- Summarized data with a relative abundance index based on frequency, 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
- Median total weed density and weed-free quadrats per field compared between crops
 - Kruskal-Wallis test and multiple comparisons ($P \leq 0.05$) used to determine if differences existed between crops
 - Crops that do not significantly differ share letters on graphs

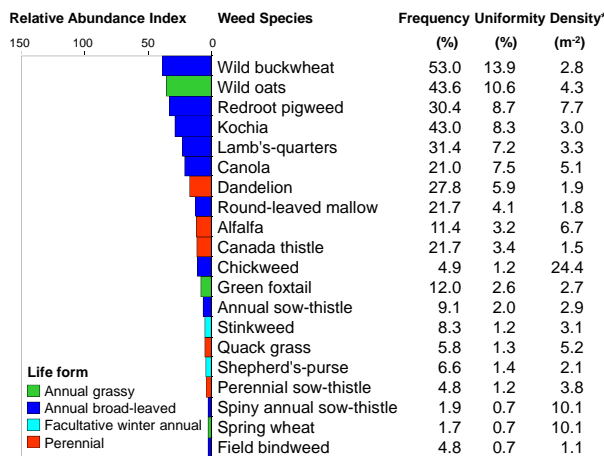
Top 20 Species in Annual Broad-leaved Crops



*Average density in occurrence fields

- The top two species (wild oats and kochia) in annual broad-leaved crops are known to have widespread herbicide resistance
- No species were found in more than 36% of the fields
- The highest weed densities were associated with volunteer crops

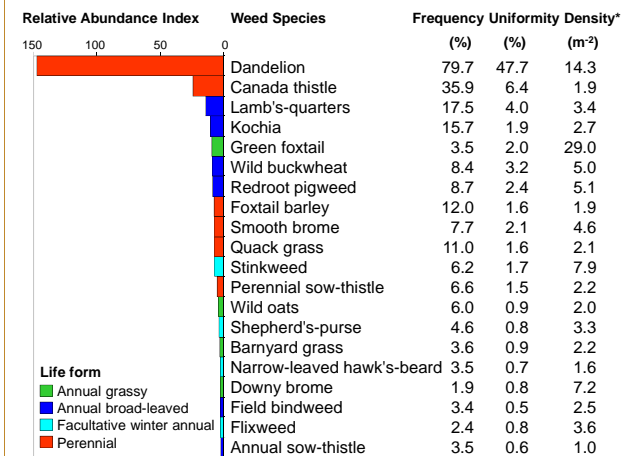
Top 20 Species in Annual Cereal Crops



*Average density in occurrence fields

- The top five most abundant species in annual broad-leaved crops and cereals were the same; although the rank differed
 - These weeds all occurred more frequently in cereals
- Winter annuals were relatively uncommon in annual crops

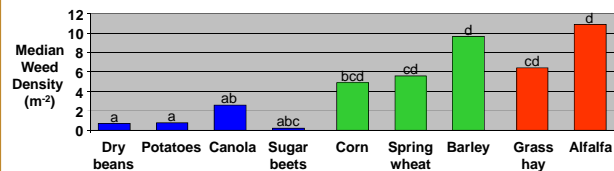
Top 20 Species in Perennial Crops



*Average density in occurrence fields

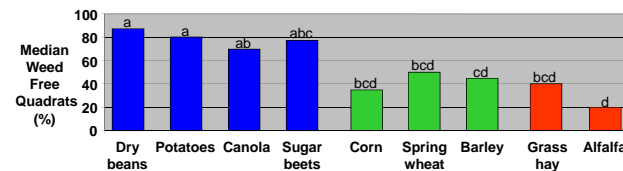
- Perennials and winter annuals were more common in perennial crops
- Dandelion was the most abundant species in perennial crops, followed by Canada thistle
- Kochia and lamb's-quarters ranked in the top five in all crop types

Total Weed Density by Crop



- Total weed density was extremely low in all annual broad-leaved crops
 - Lowest in high value crops only grown under irrigation in Alberta
- Weed densities were higher in cereal and perennial crops

Weed-free Quadrats by Crop



- Weed-free quadrats was inversely related to total density
- Half of the annual broad-leaved fields had more than 70% weed-free quadrats
- Weed-free quadrats were relatively common in all crops

Summary

- Overall, weeds are well-managed in irrigated fields in Alberta
- Annual broad-leaved crops tend to have few weed problems; however, herbicide resistant weeds may become troublesome
- Dandelion is a prevalent problem in most perennial fields

Next Steps

- Compare results to dryland survey of Alberta planned for 2010
- Determine relationship between weeds and management practices based on information obtained from questionnaires completed by producers who participated in the survey

Acknowledgements

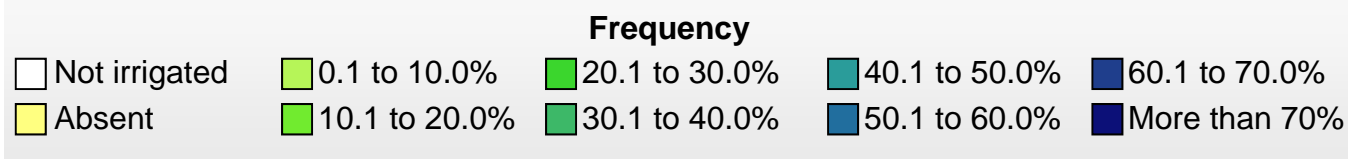
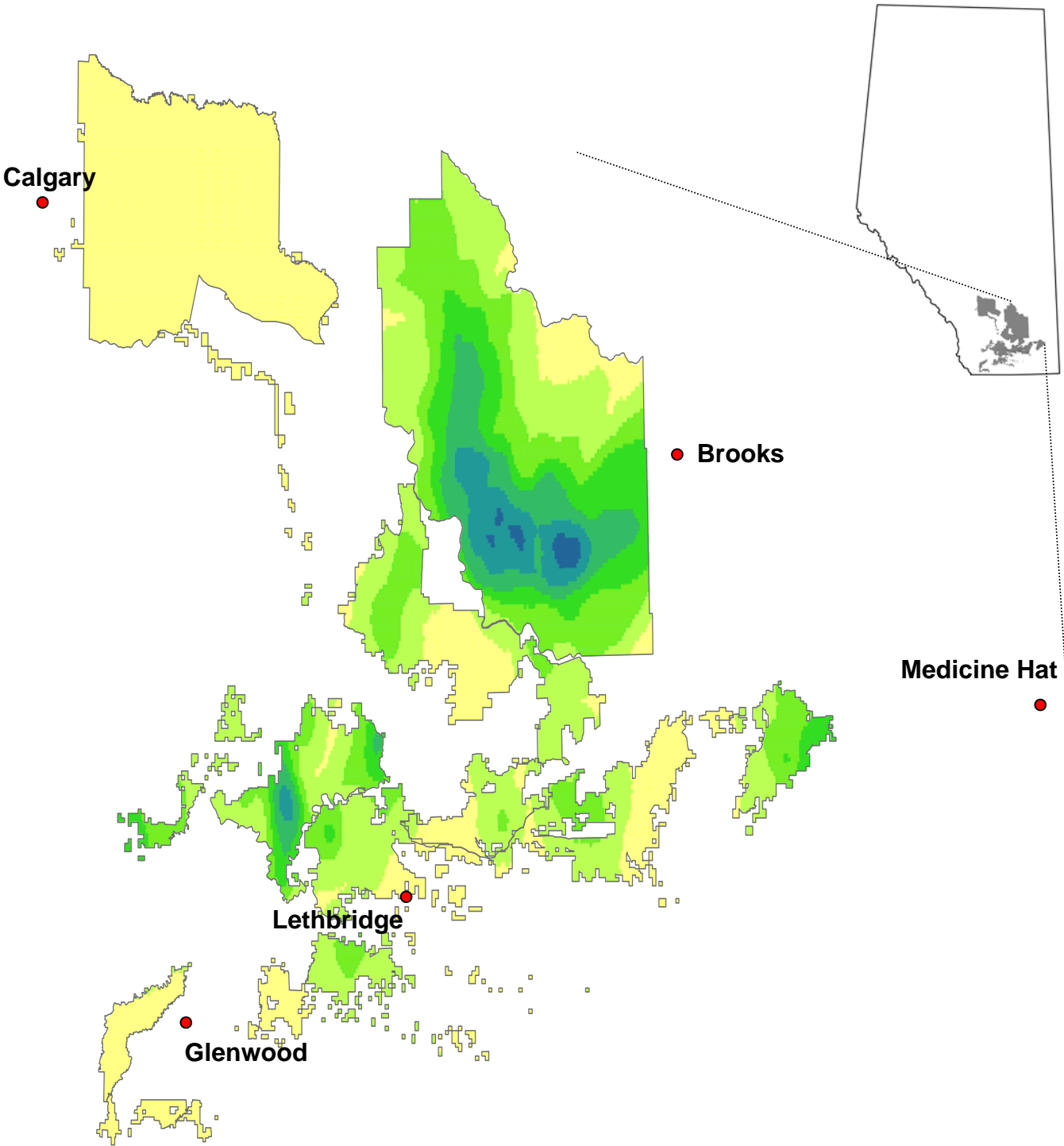
The survey was funded by: Alberta Crop Industry Development Fund, Alberta Canola Growers Commission, Alberta Pulse Growers Commission, Arysta Life Science North America LLC, BASF Canada Inc., Bayer Crop Science, Dow AgroSciences, E.I. duPont Canada Company, Monsanto Canada Inc., and Nufarm Agriculture Inc. We would also like to thank the producers who granted us access to their land to conduct this survey. The survey would not be possible without the assistance of the many individuals who contacted producers and surveyed fields.



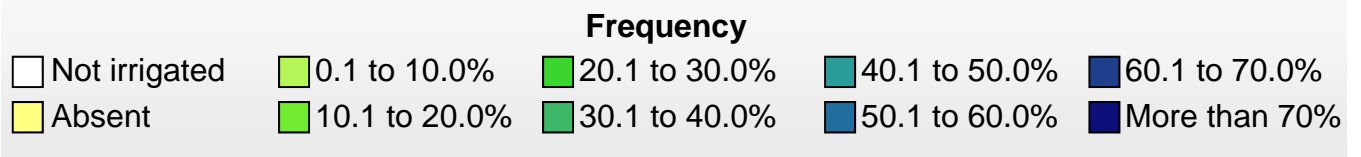
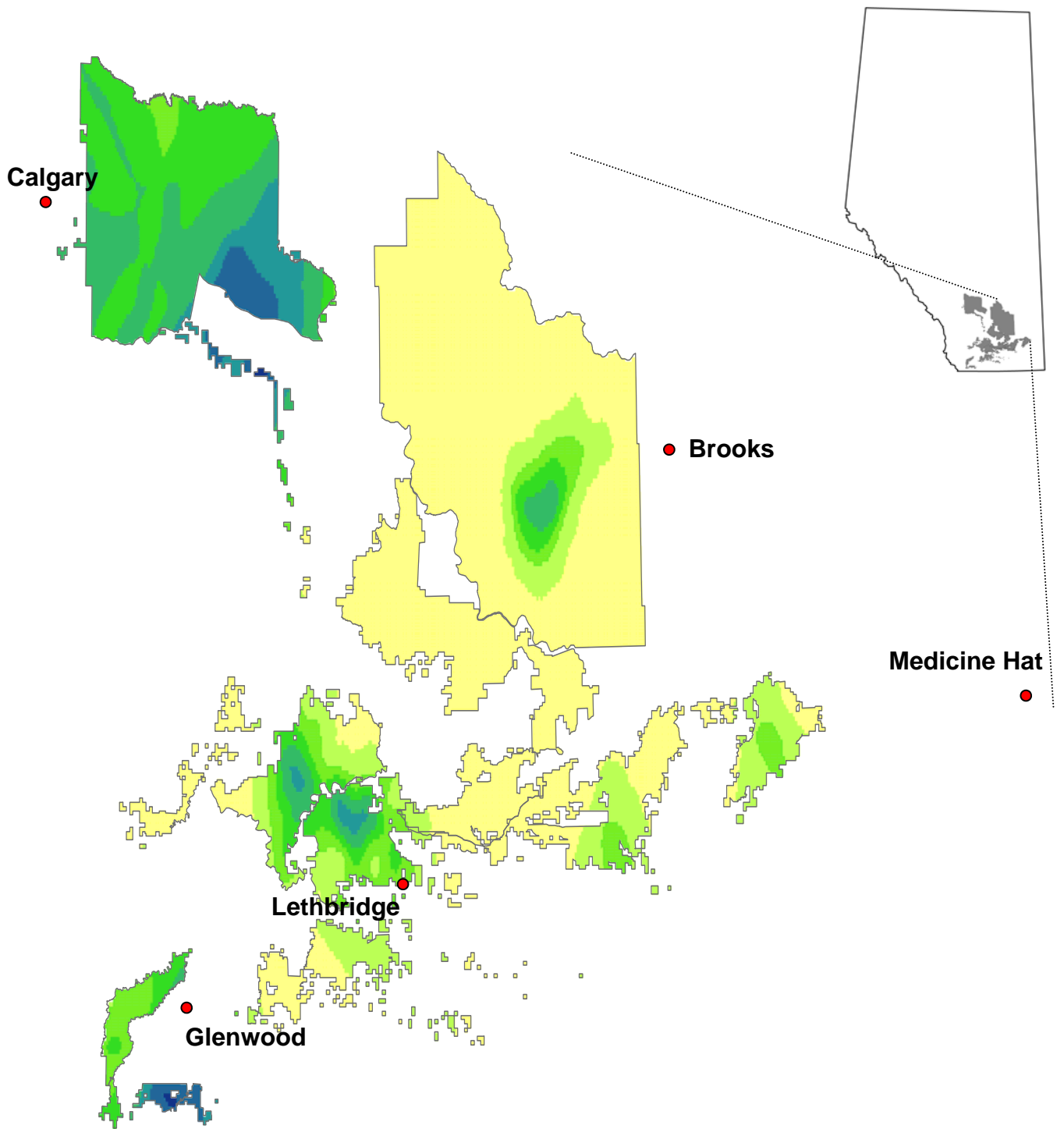
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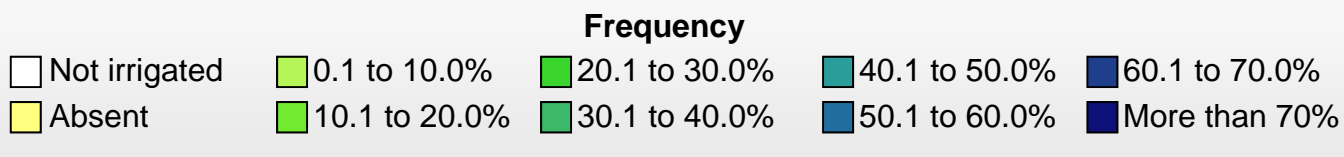
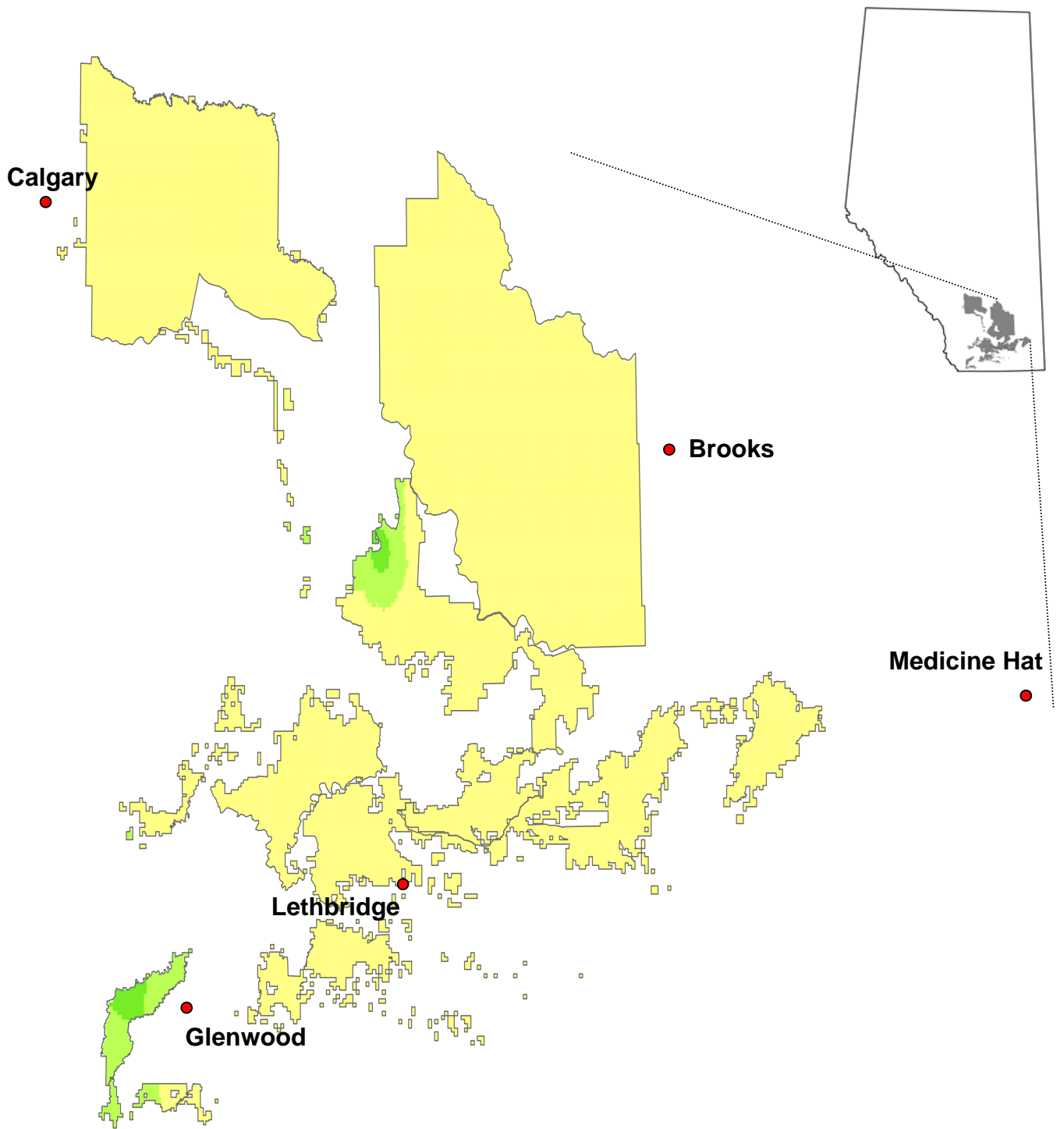
Alfalfa, *Medicago sativa*



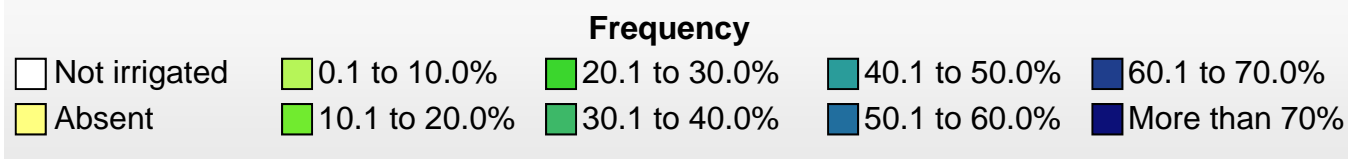
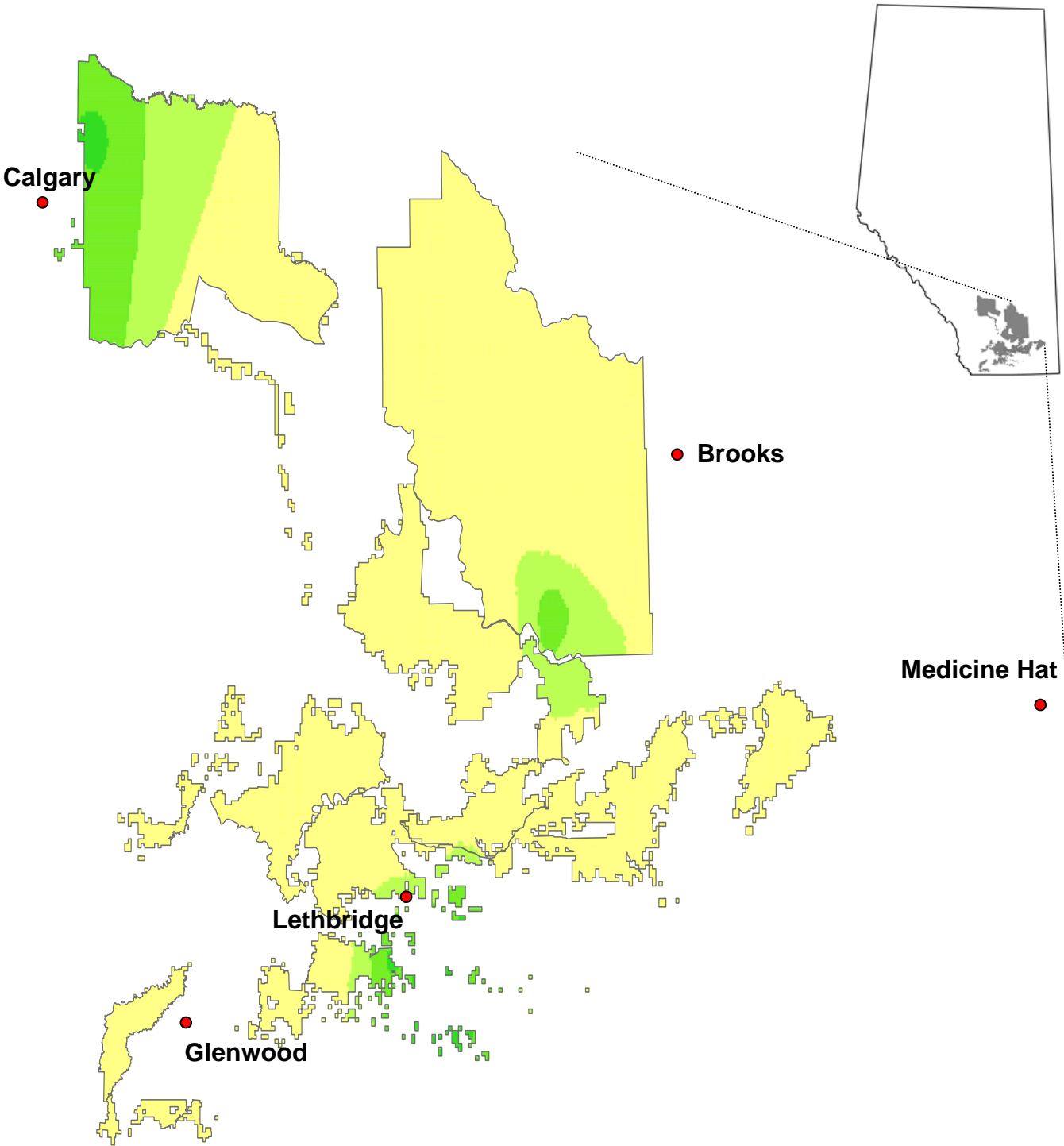
Annual sow-thistle, *Sonchus oleraceus*



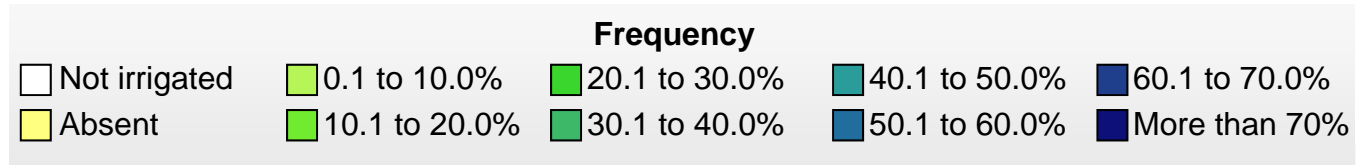
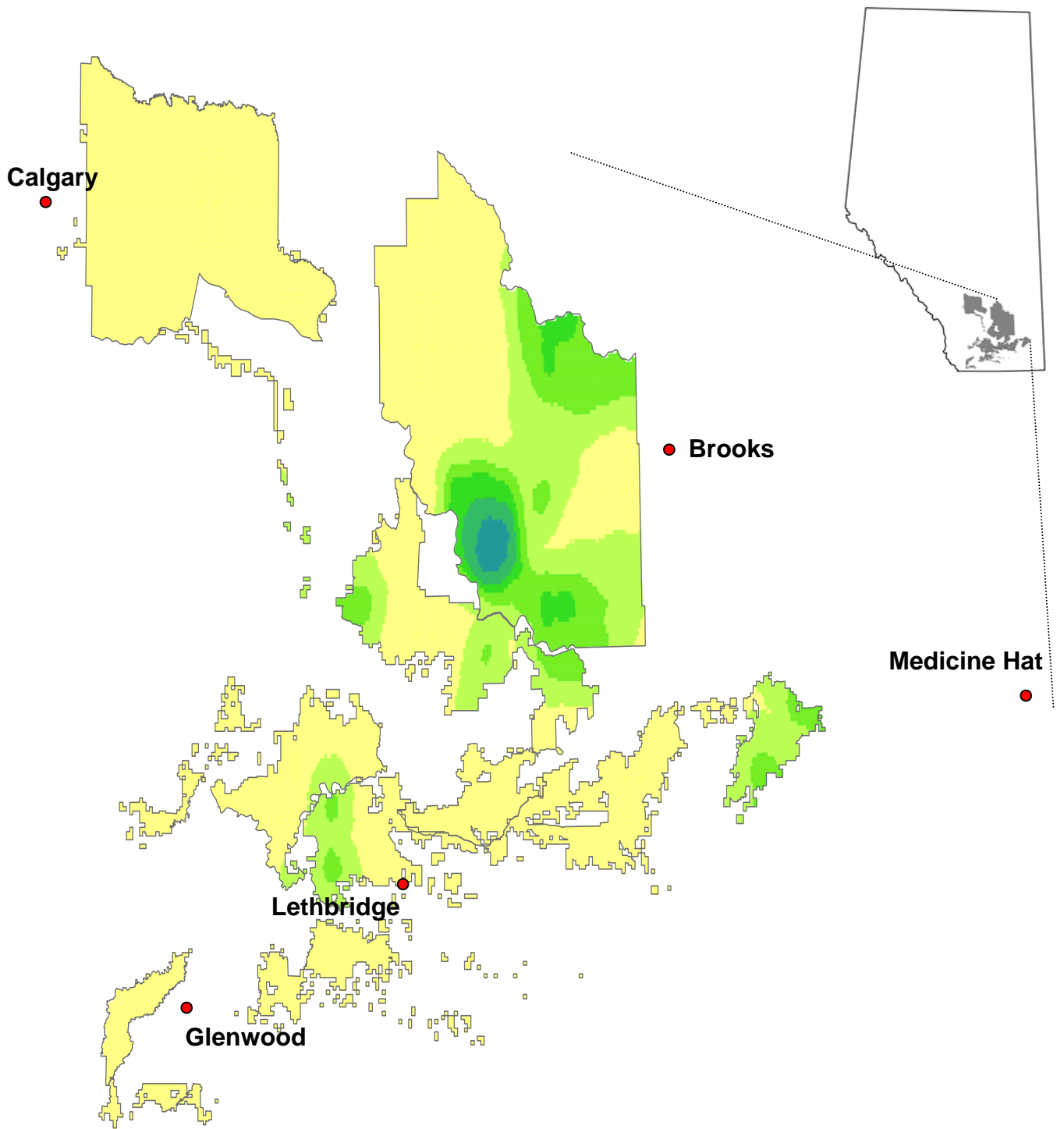
Ball mustard, *Neslia paniculata*



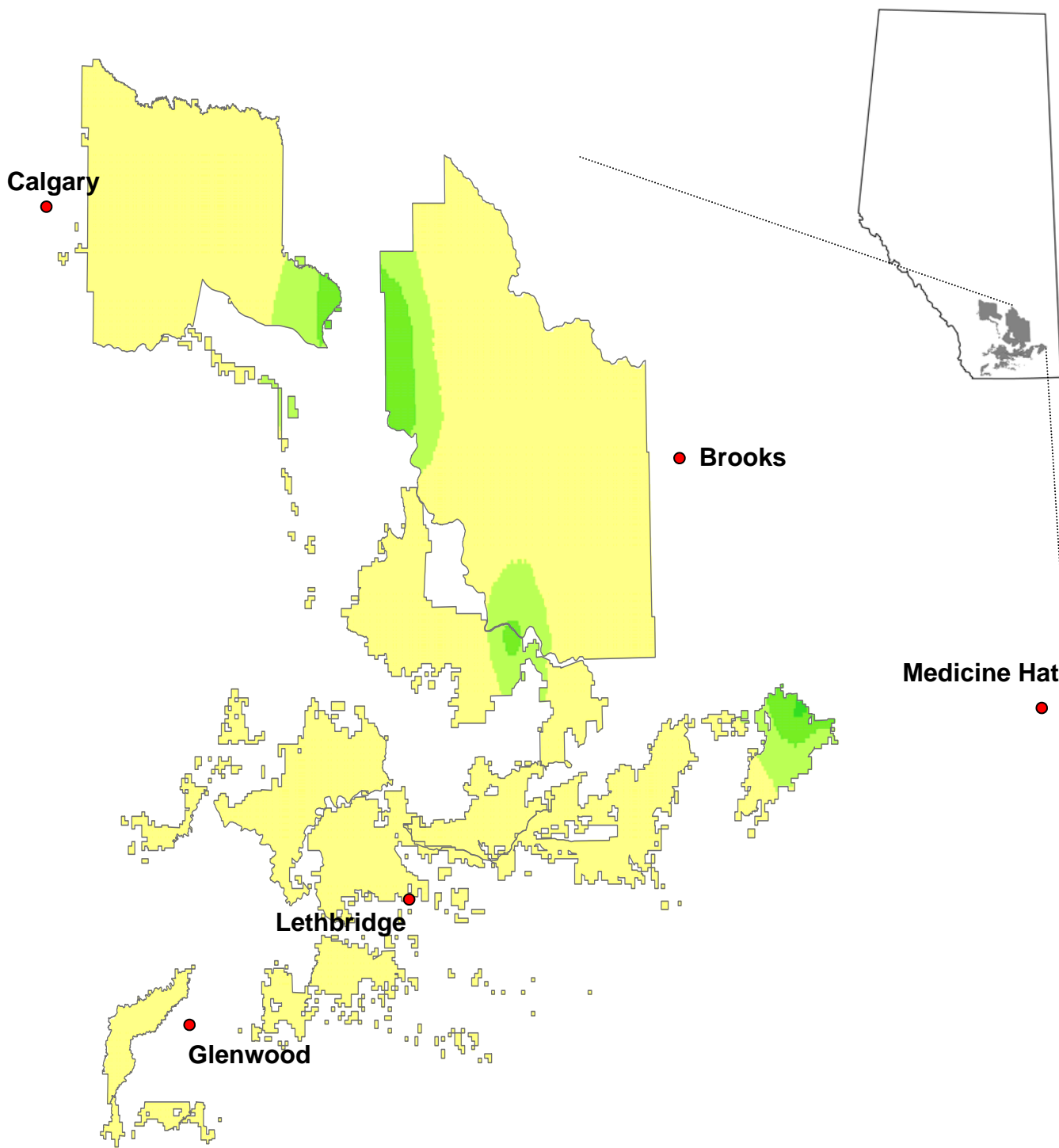
Barley, *Hordeum vulgare*



Barnyard grass, *Echinochloa crusgalli*

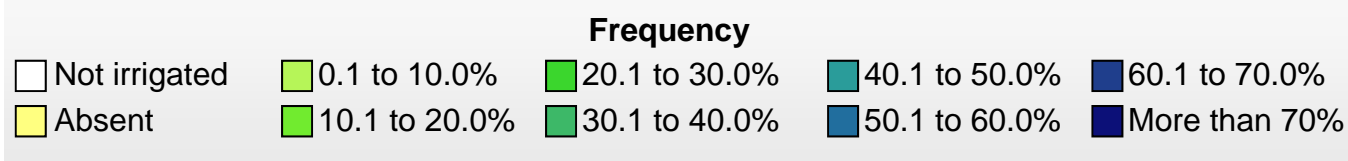
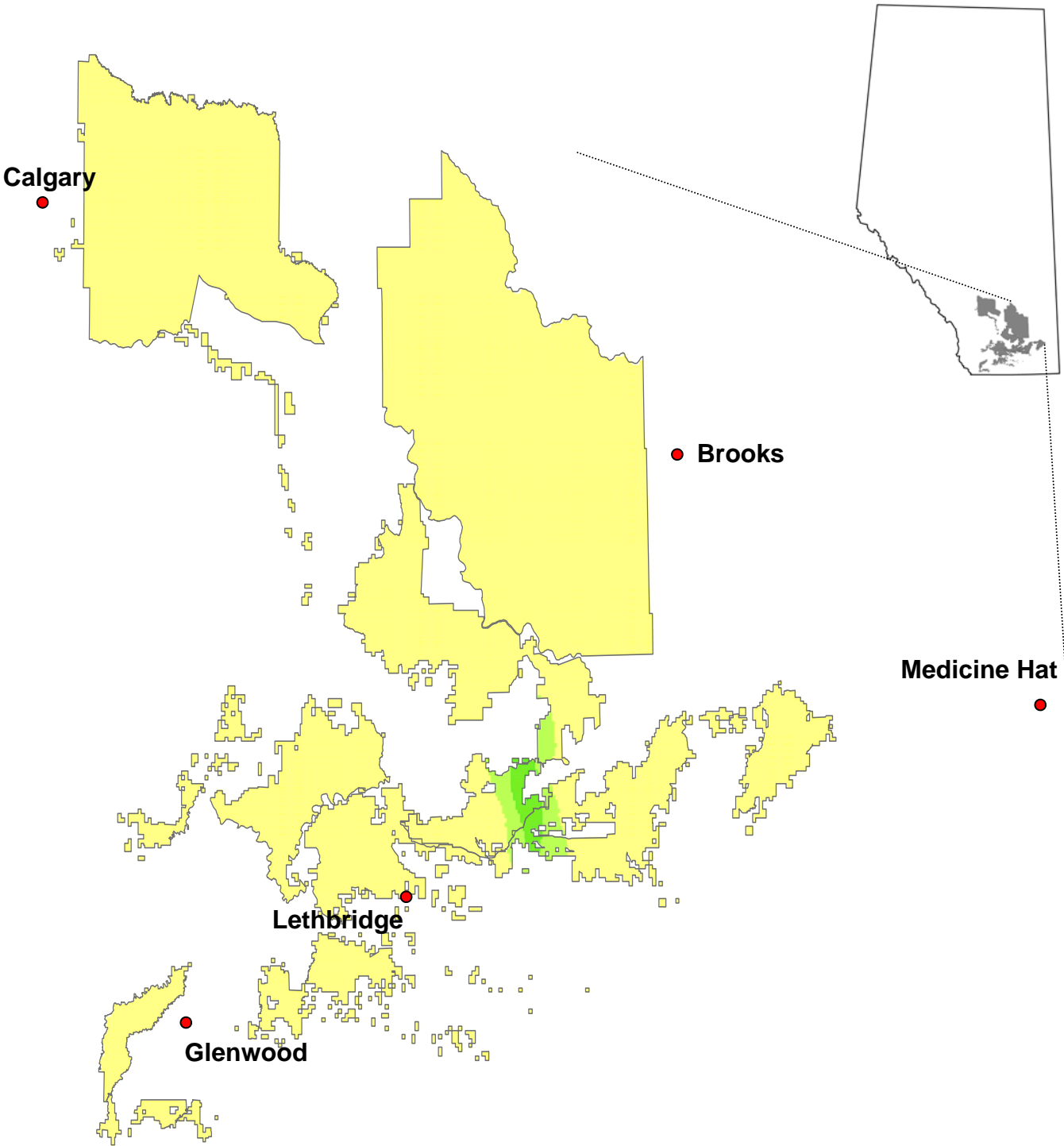


Broad-leaved plantain, *Plantago major*

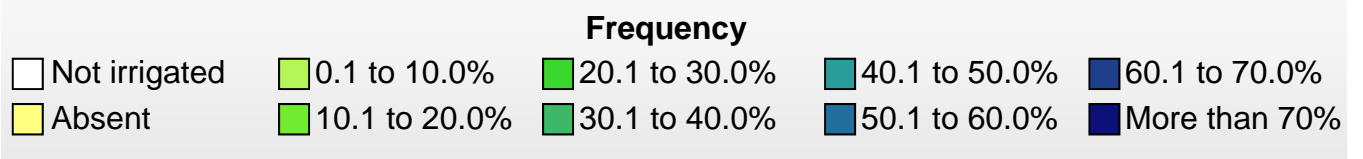
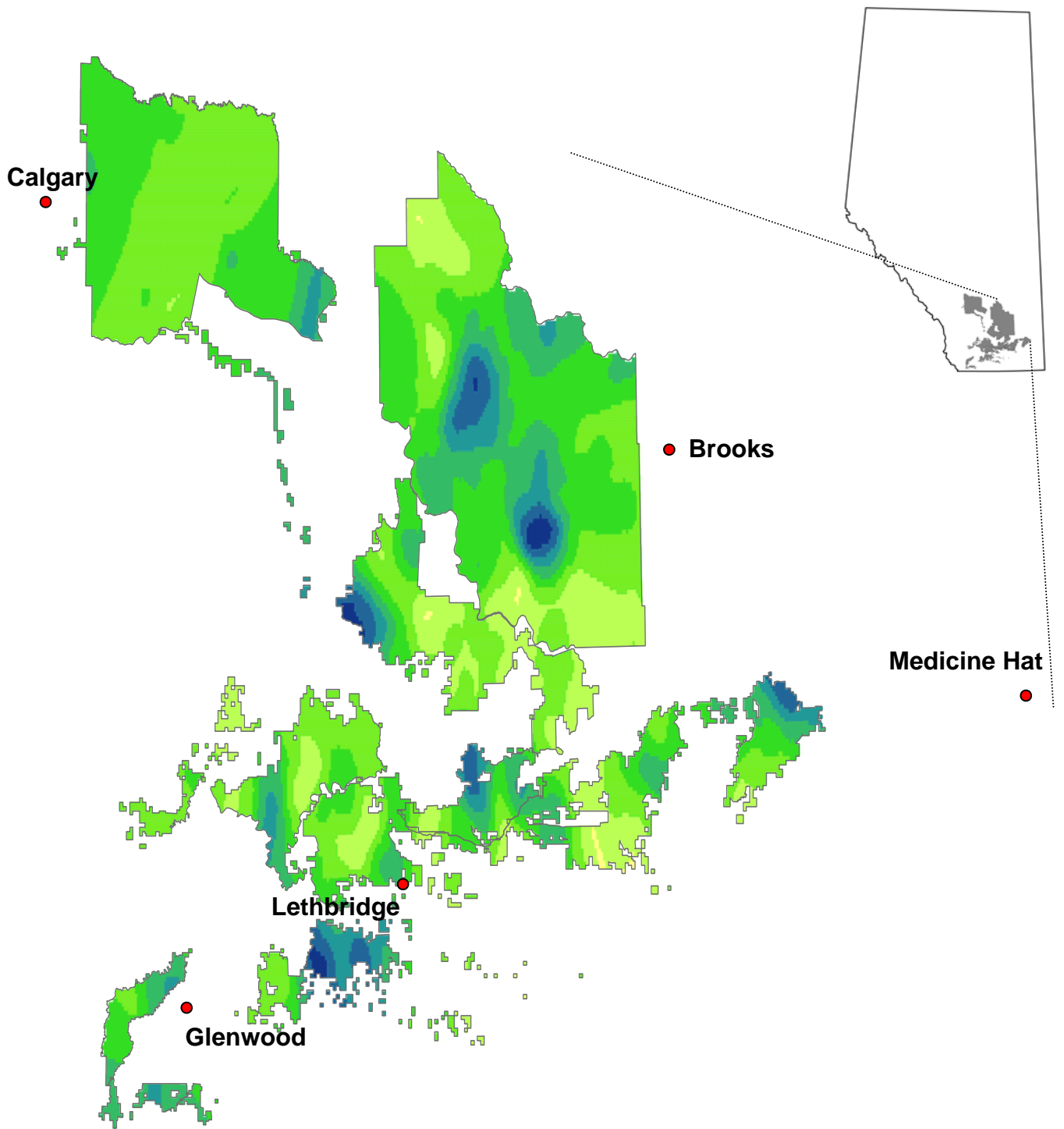


Frequency				
Not irrigated	0.1 to 10.0%	20.1 to 30.0%	40.1 to 50.0%	60.1 to 70.0%
Absent	10.1 to 20.0%	30.1 to 40.0%	50.1 to 60.0%	More than 70%

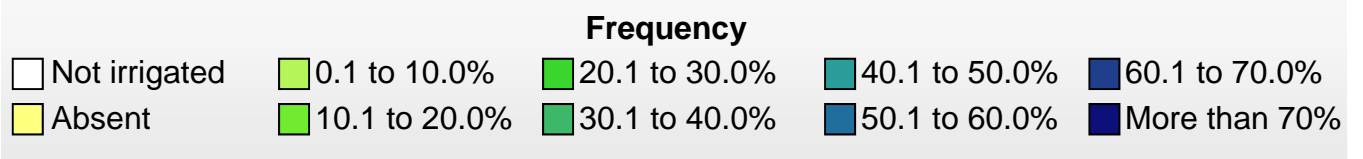
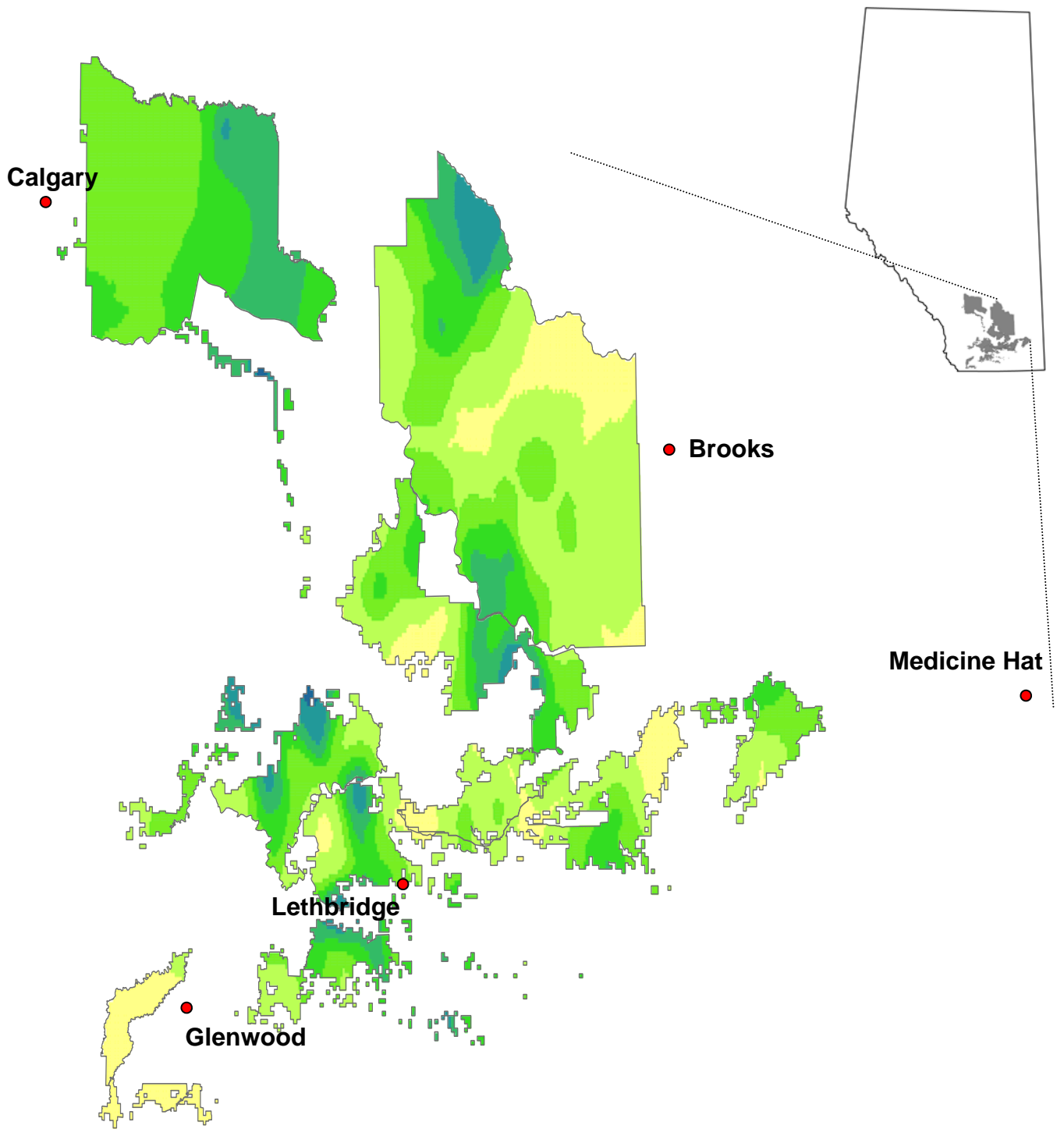
Bull thistle, *Cirsium vulgare*



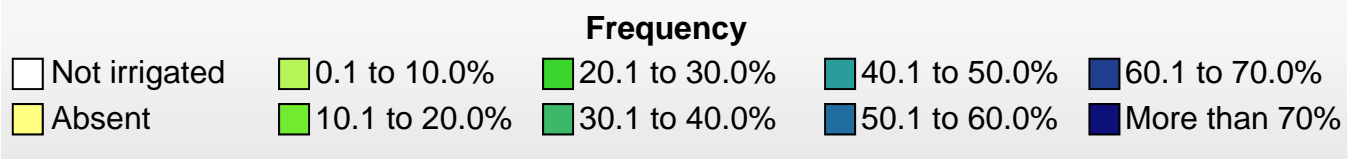
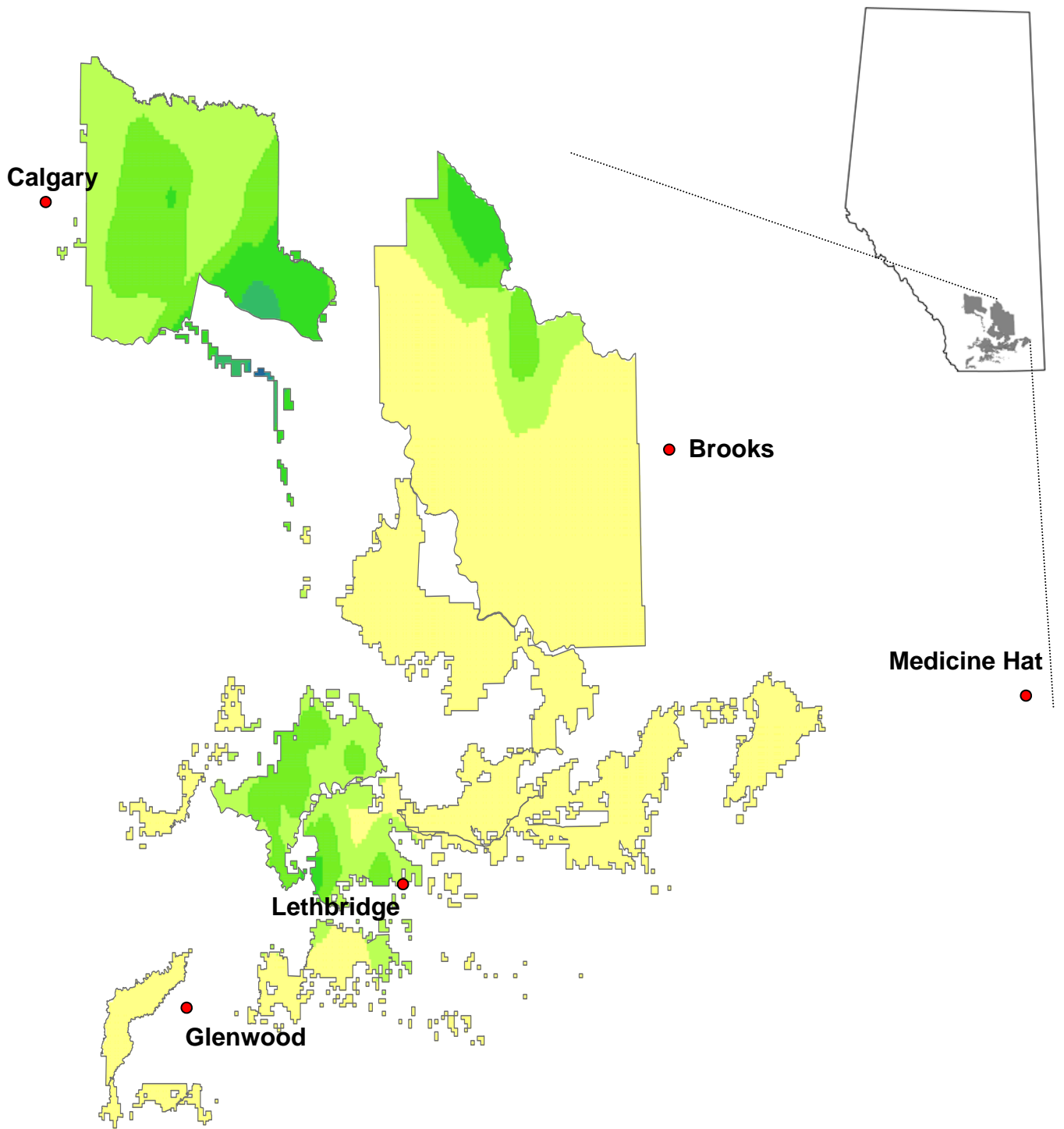
Canada thistle, *Cirsium arvense*



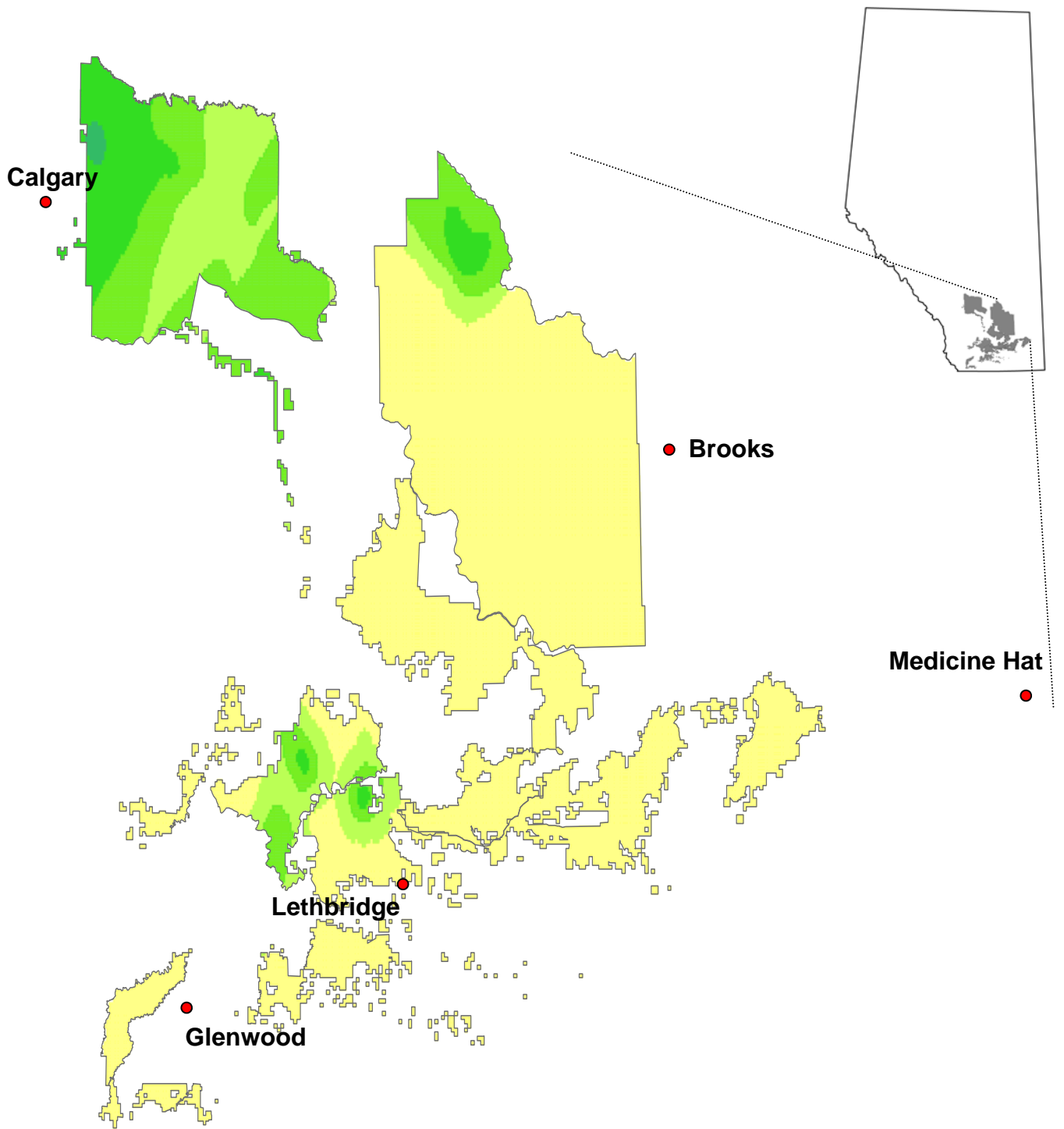
Canola, *Brassica napus*



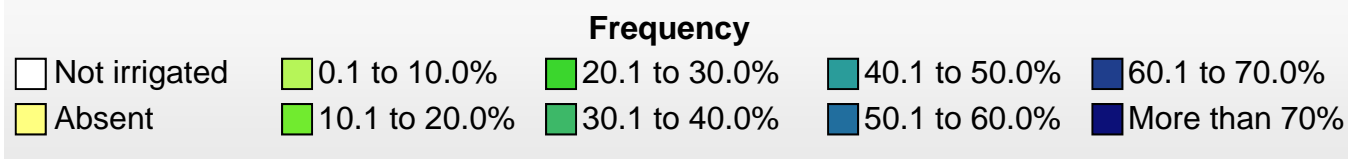
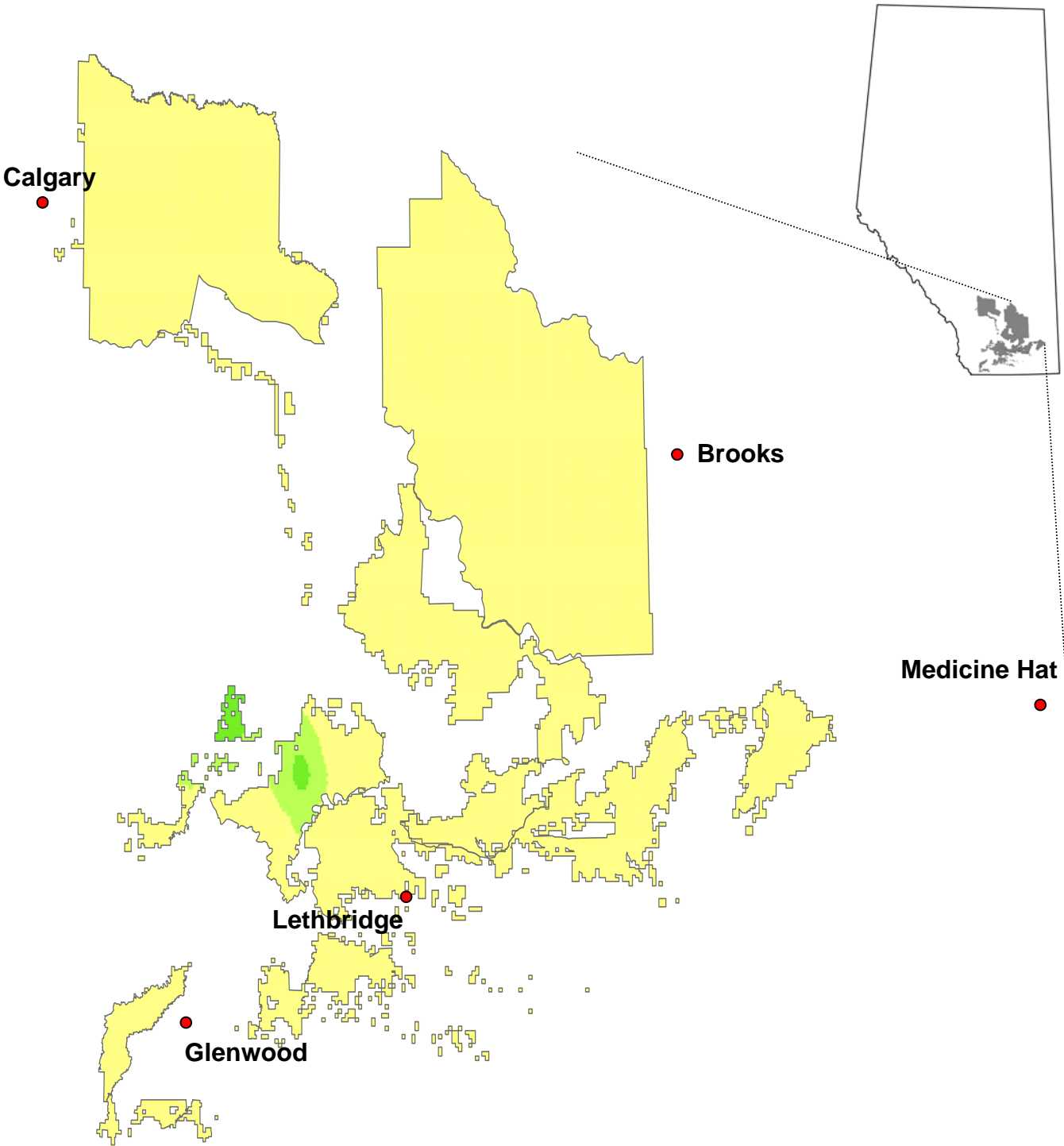
Chickweed, *Stellaria media*



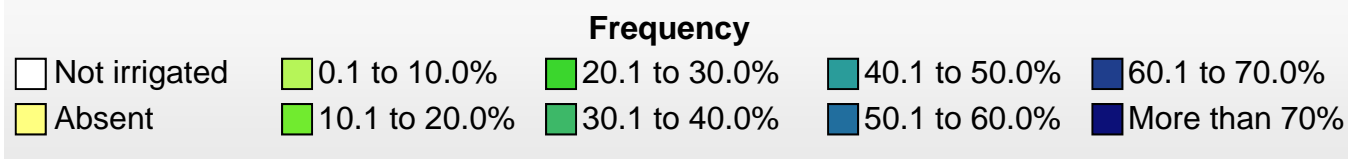
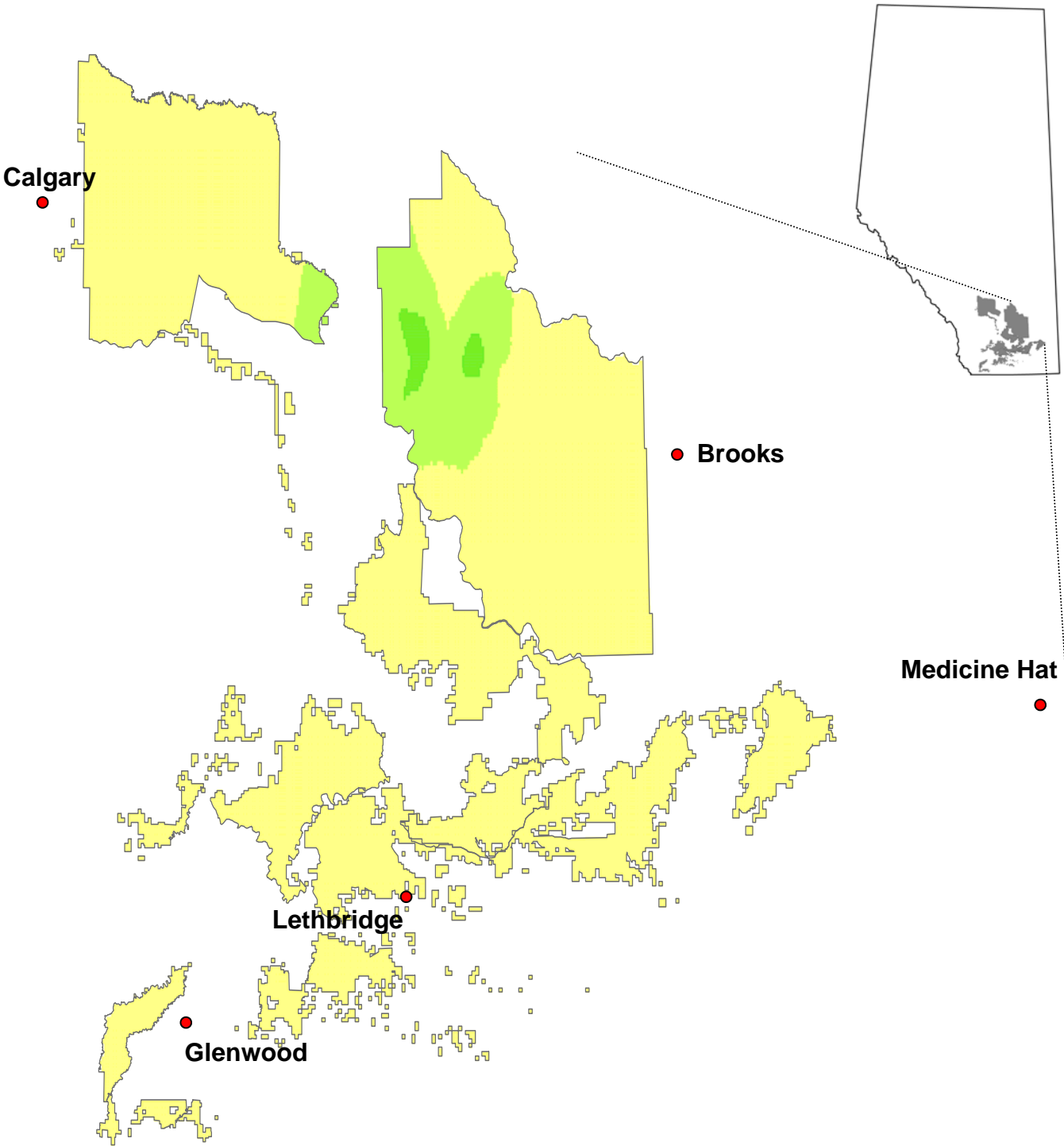
Cleavers, *Galium aparine*



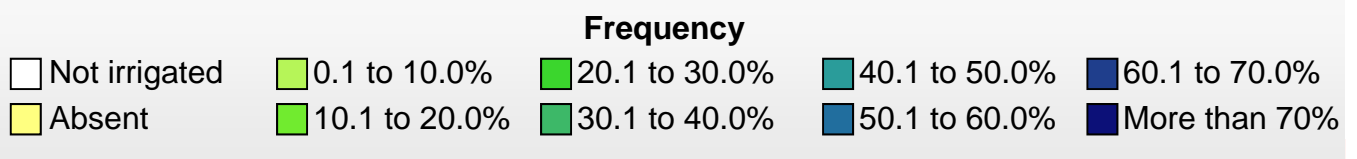
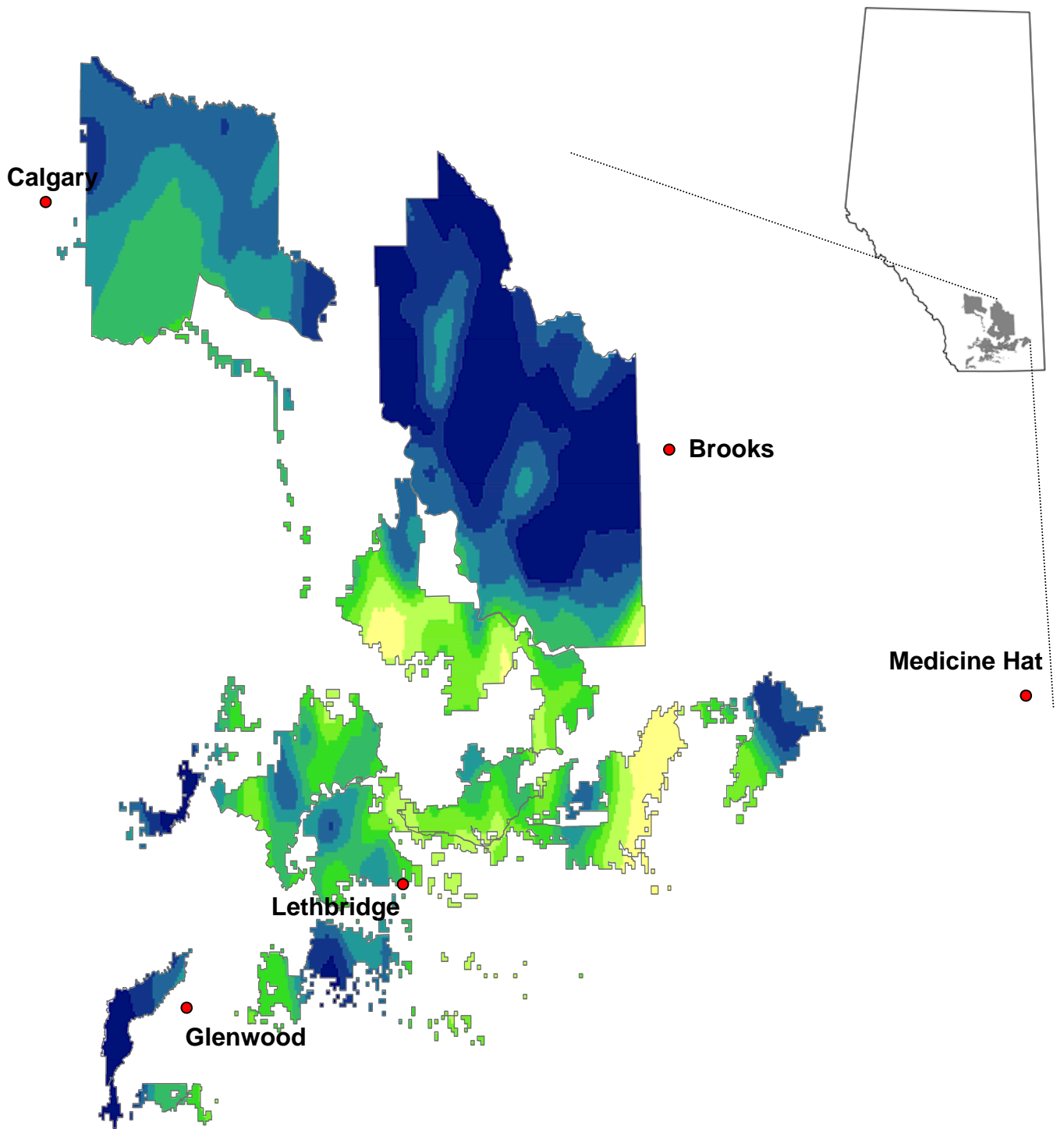
Corn spurry, *Spergula arvensis*



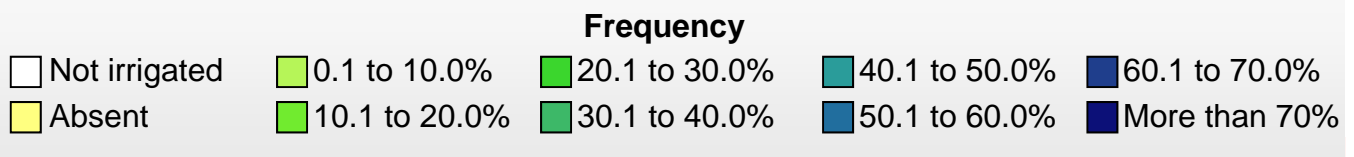
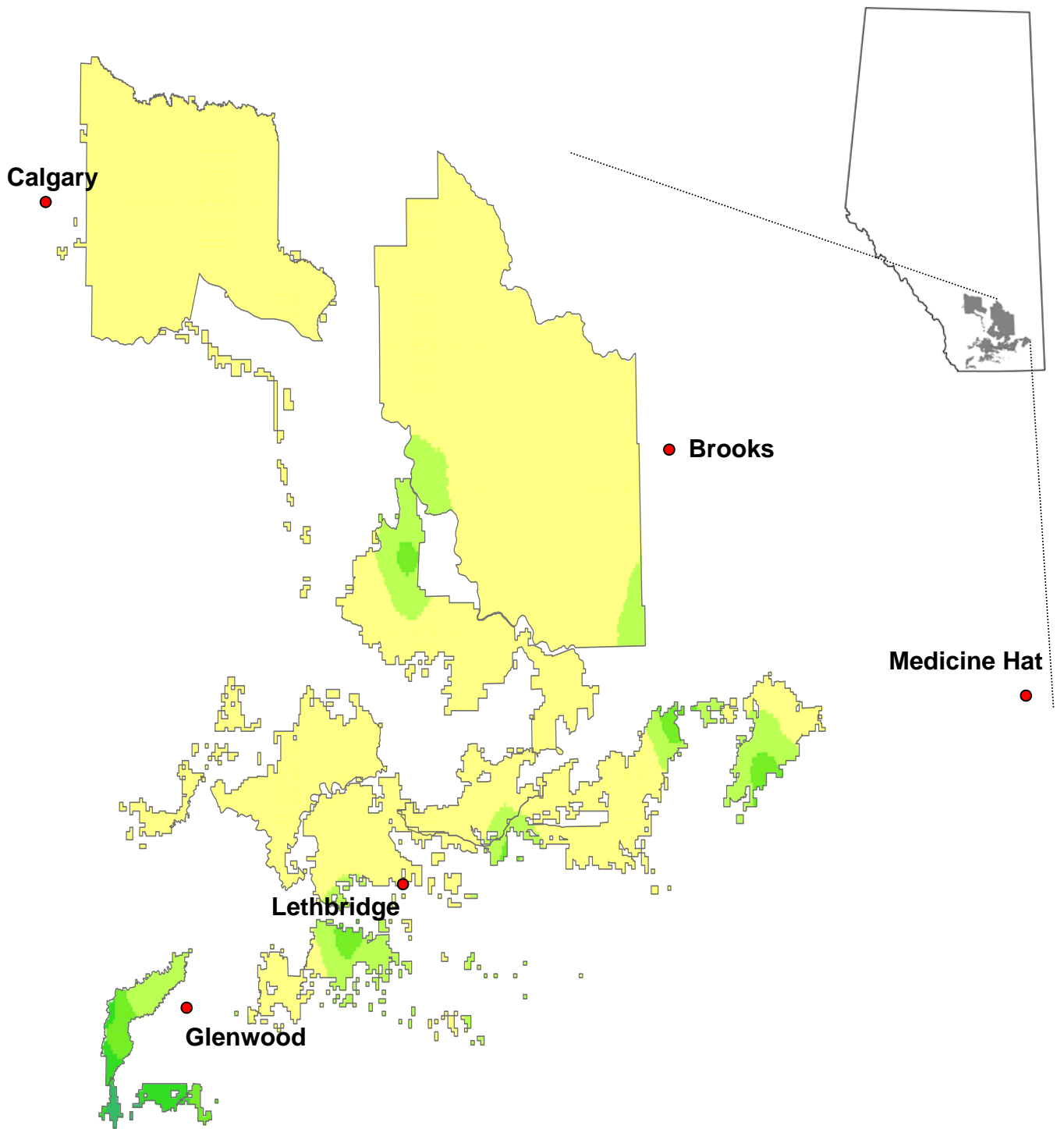
Curled dock, *Rumex crispus*



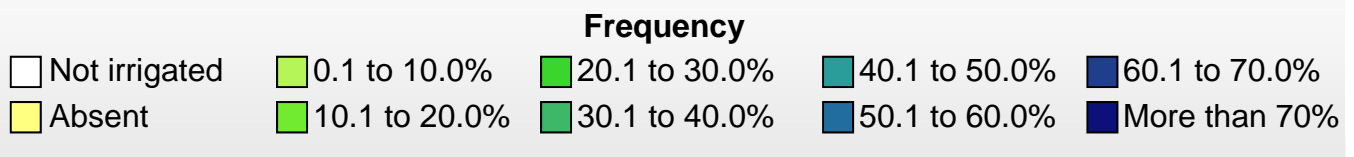
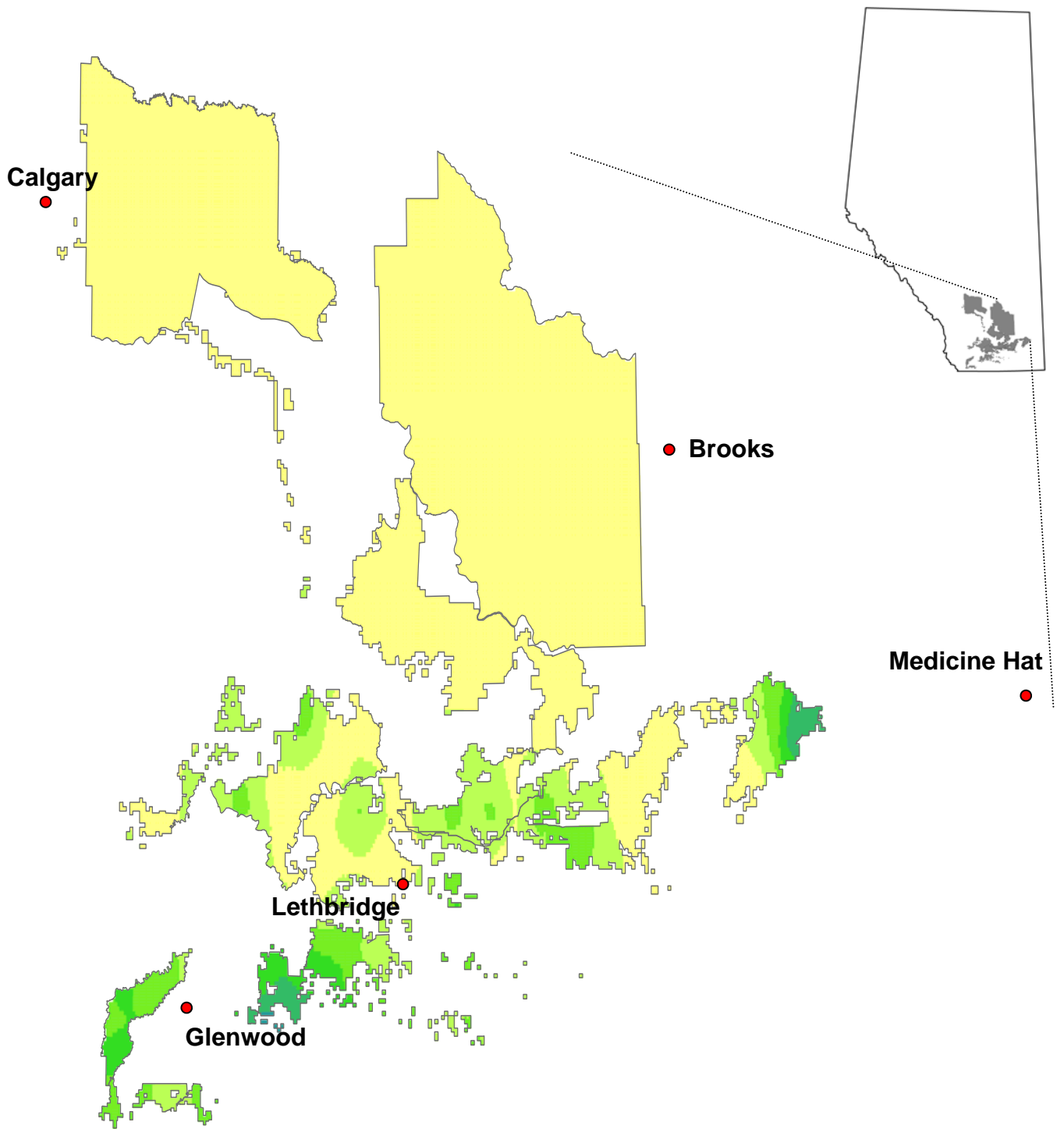
Dandelion, *Taraxacum officinale*



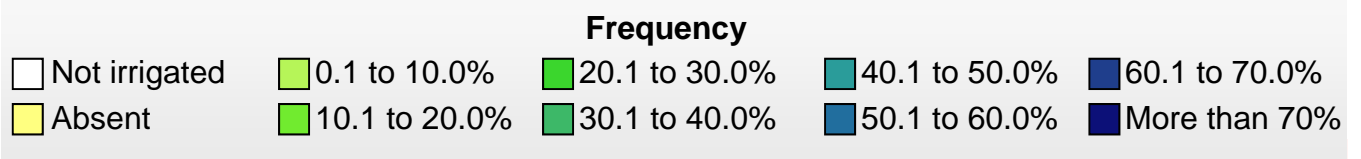
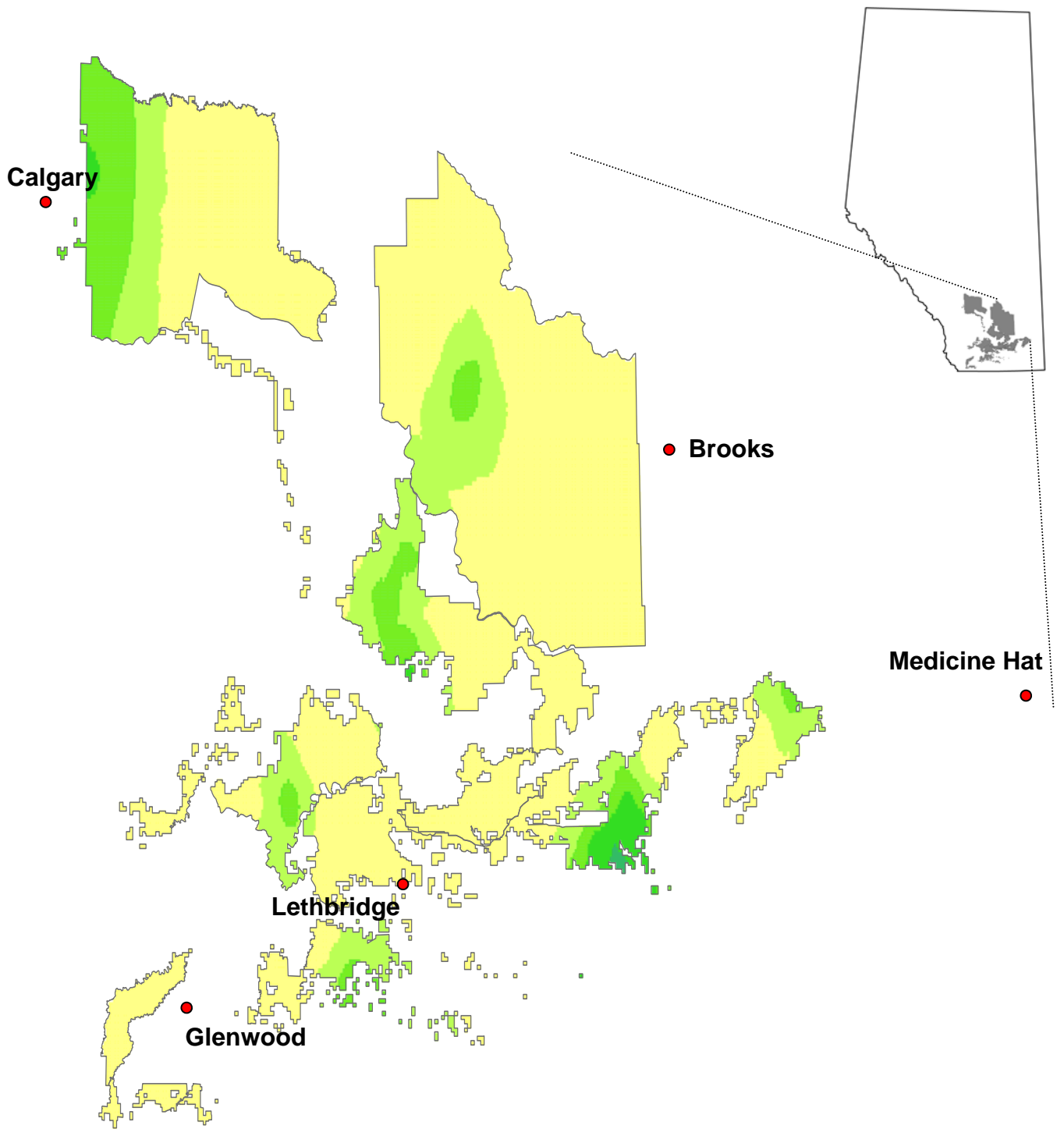
Downy brome, *Bromus tectorum*



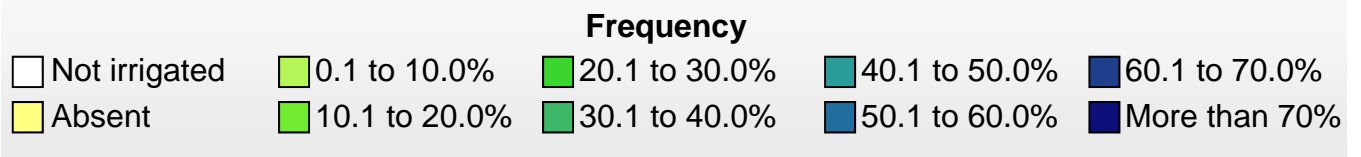
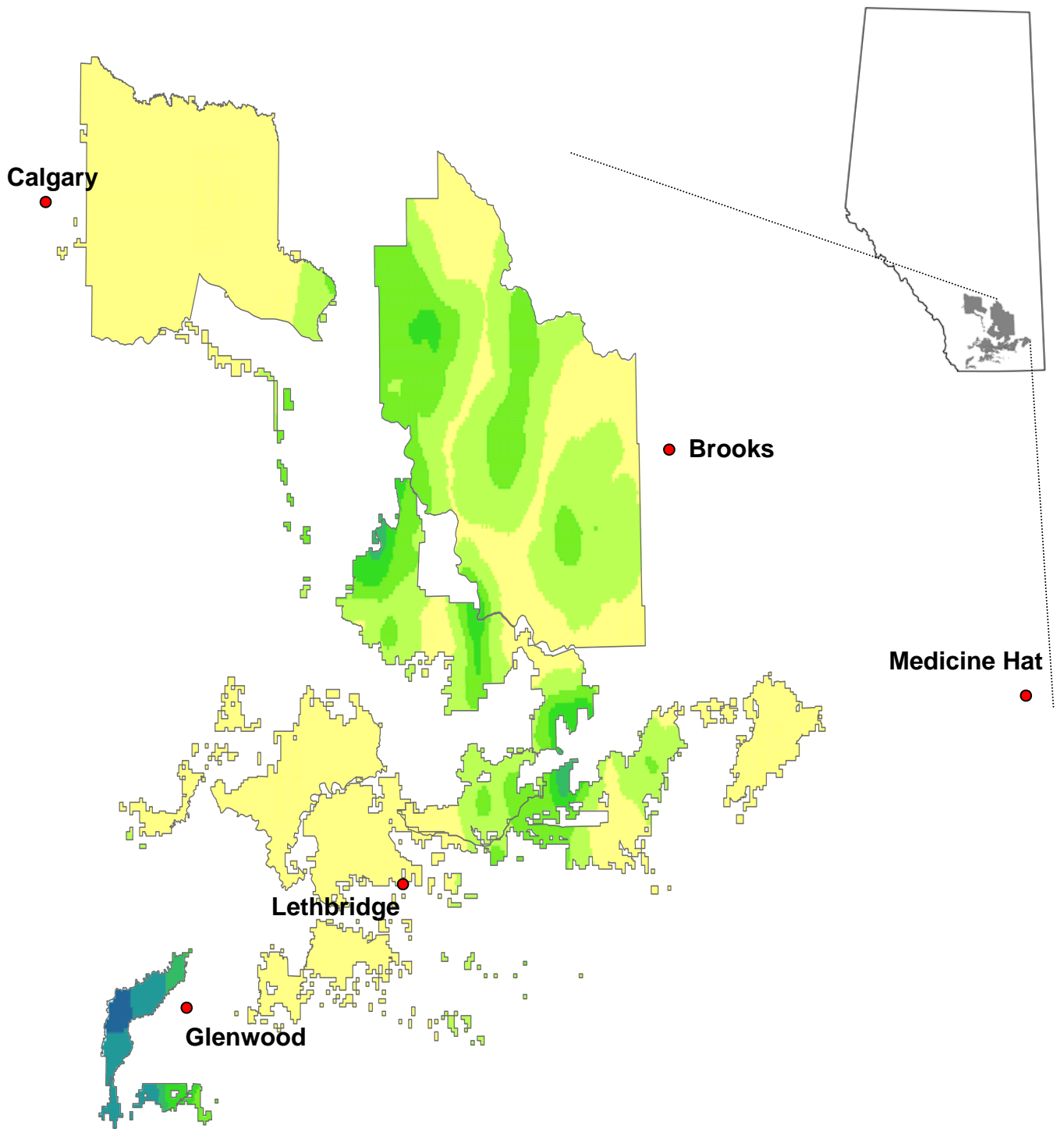
Field bindweed, *Convolvulus arvensis*



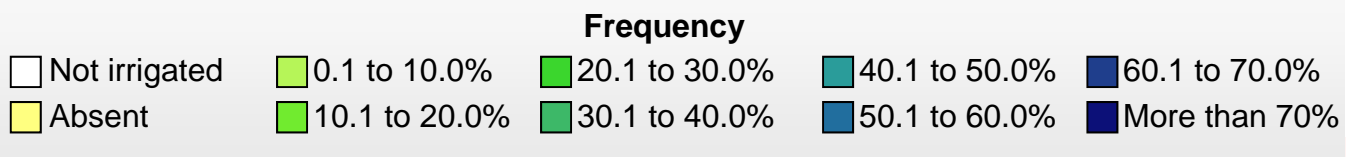
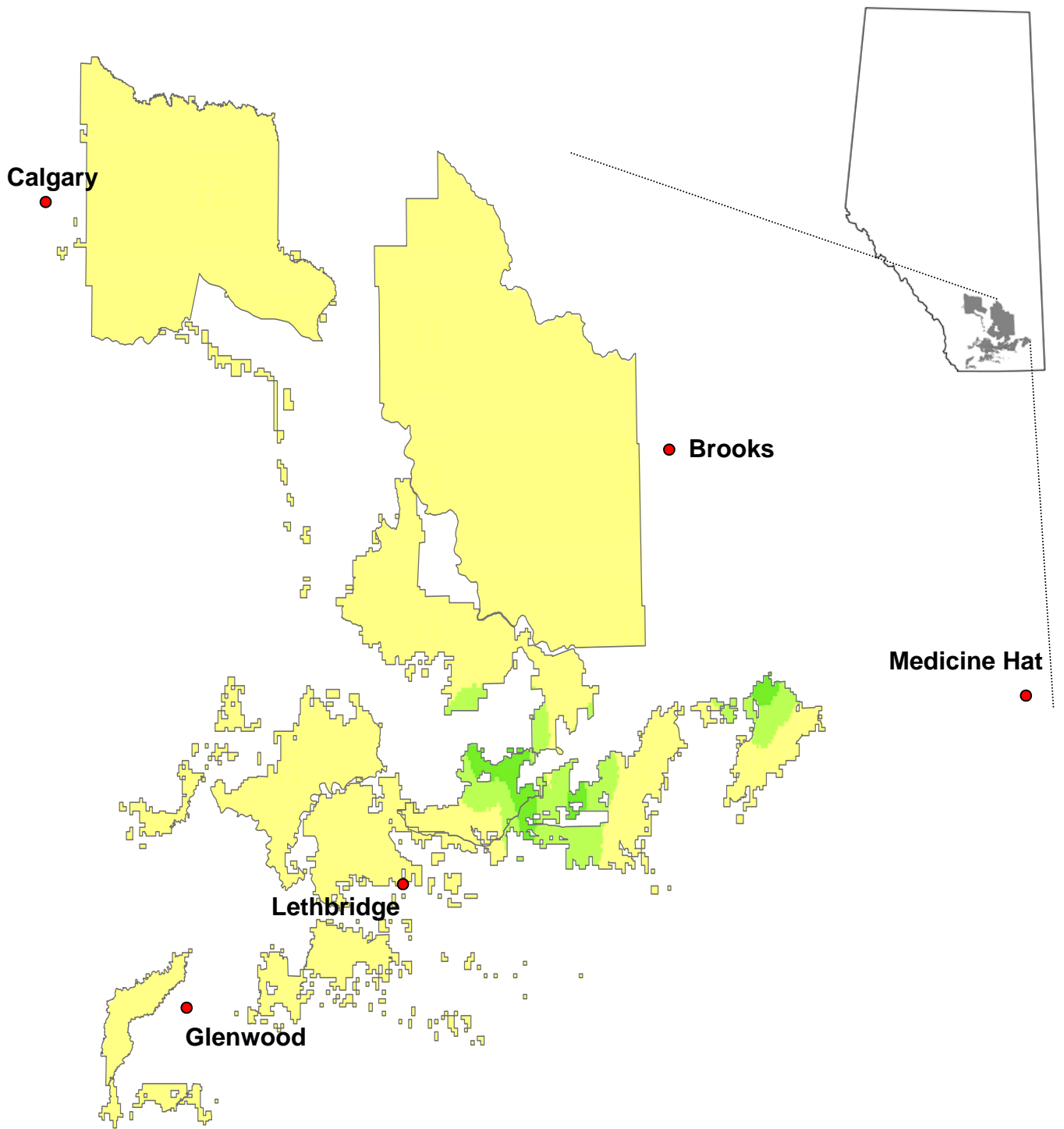
Flixweed, *Descurainia sophia*



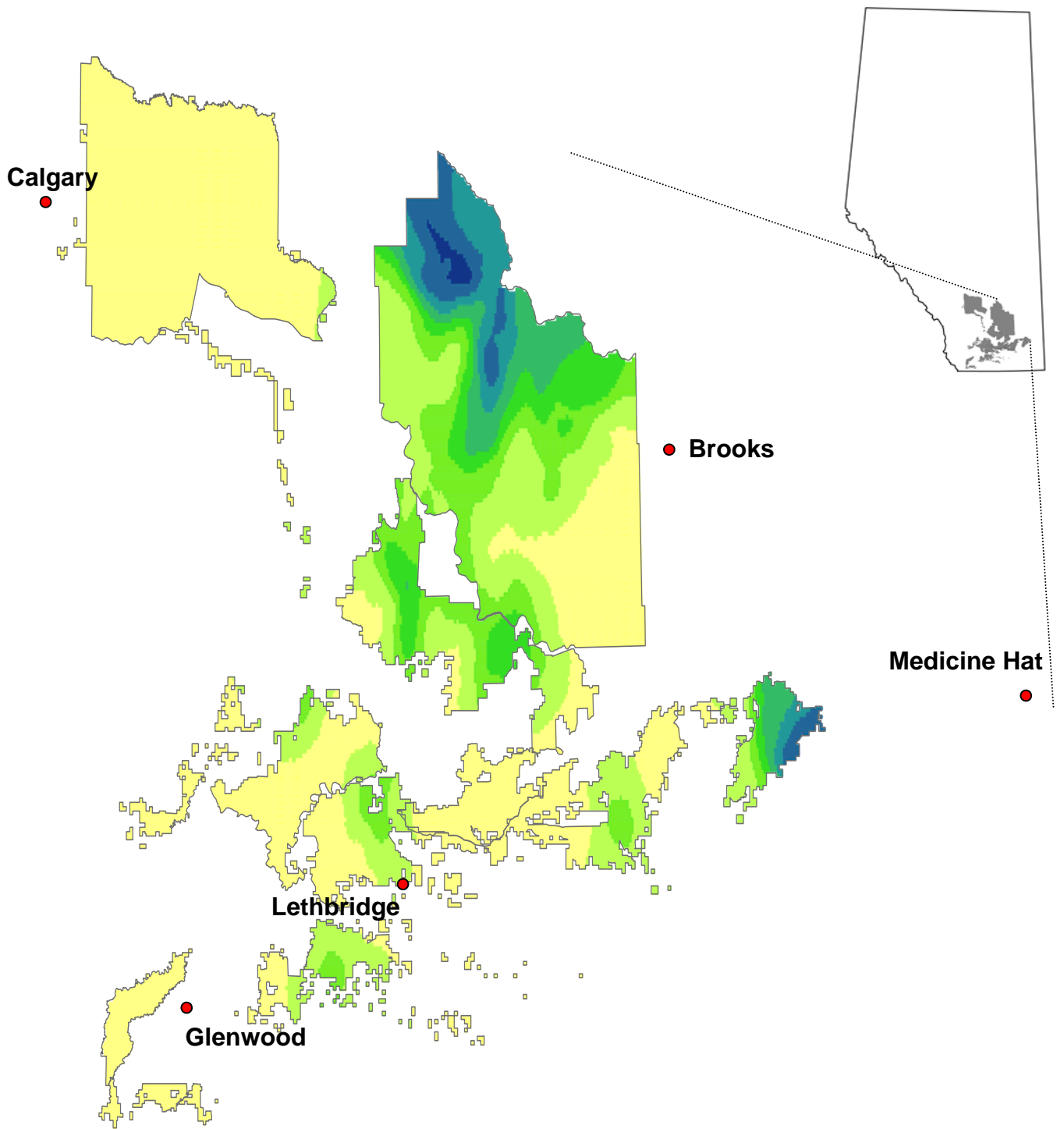
Foxtail barley, *Hordeum jubatum*



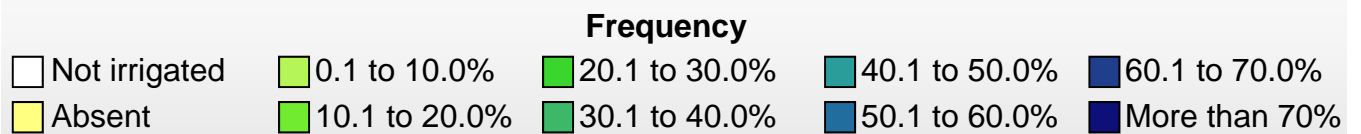
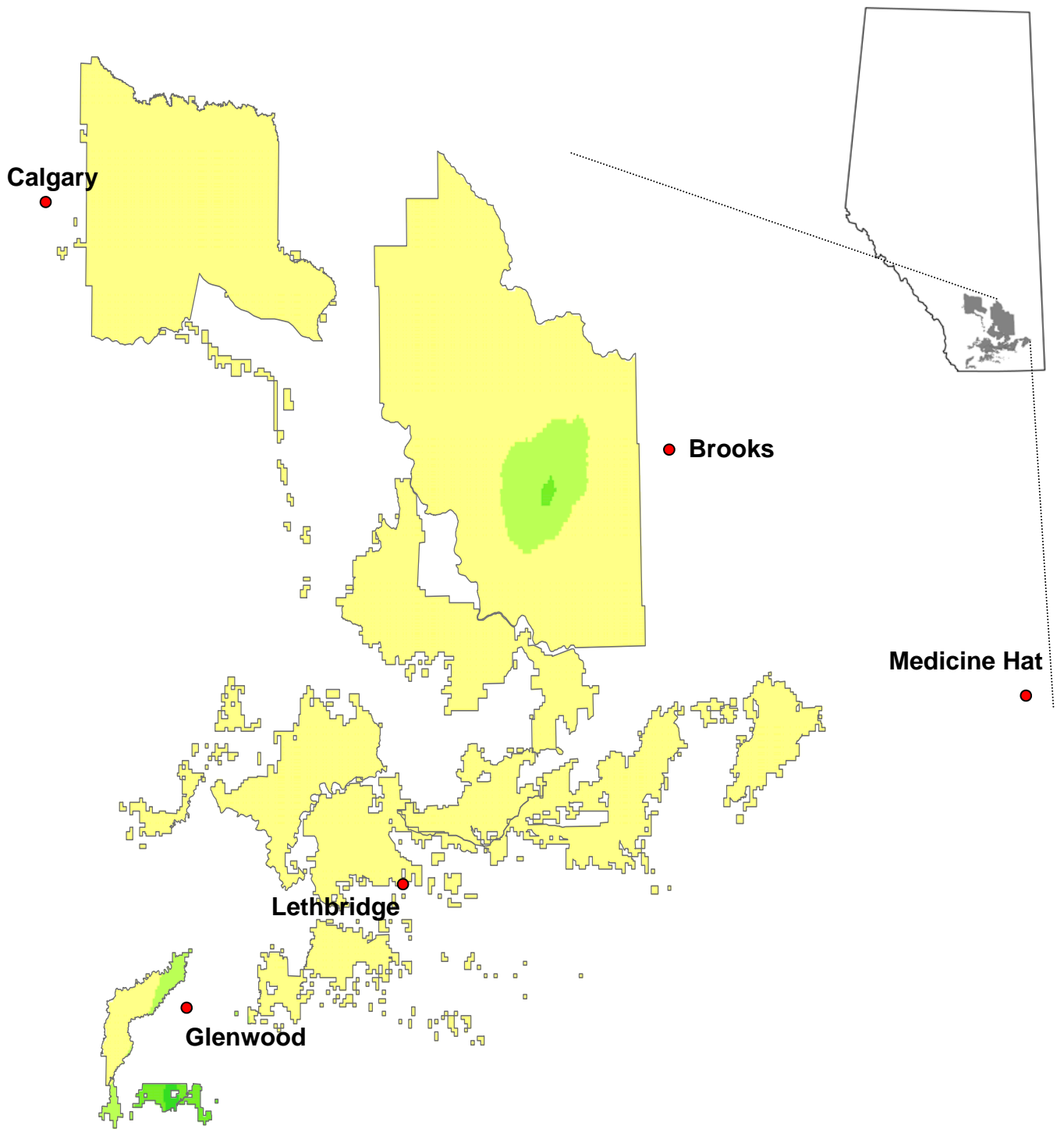
Goat's-beard, *Tragopogon dubius*



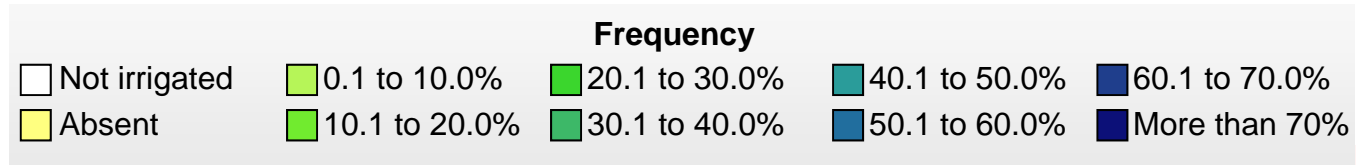
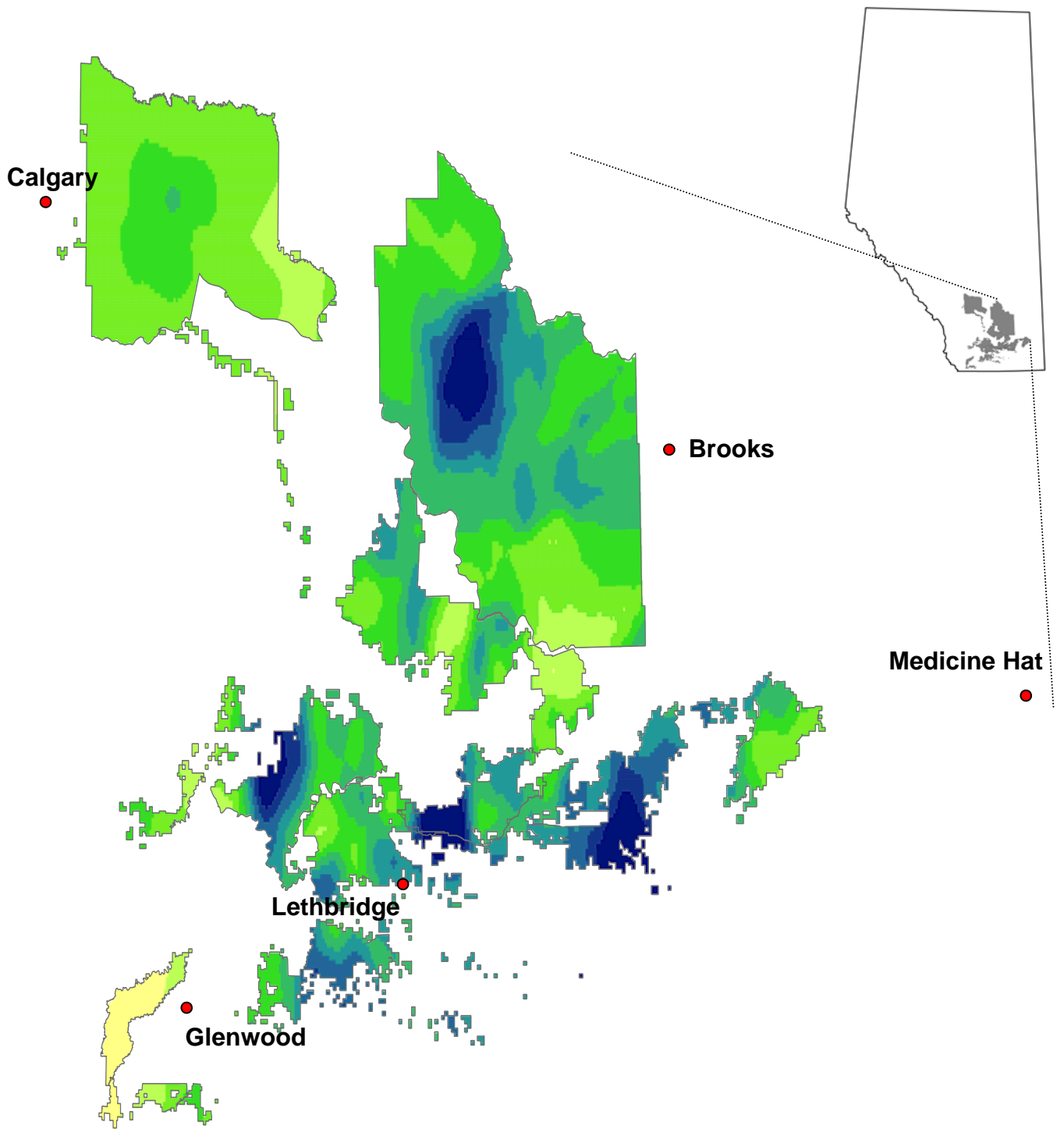
Green foxtail, *Setaria viridis*



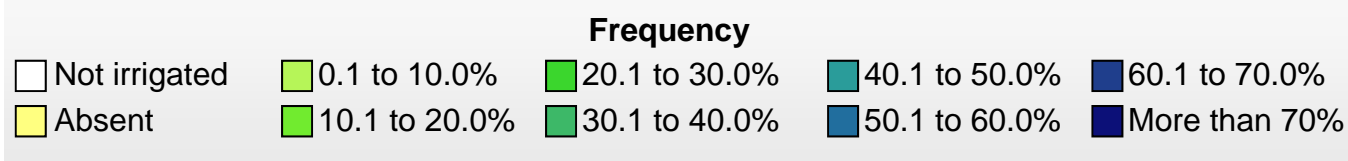
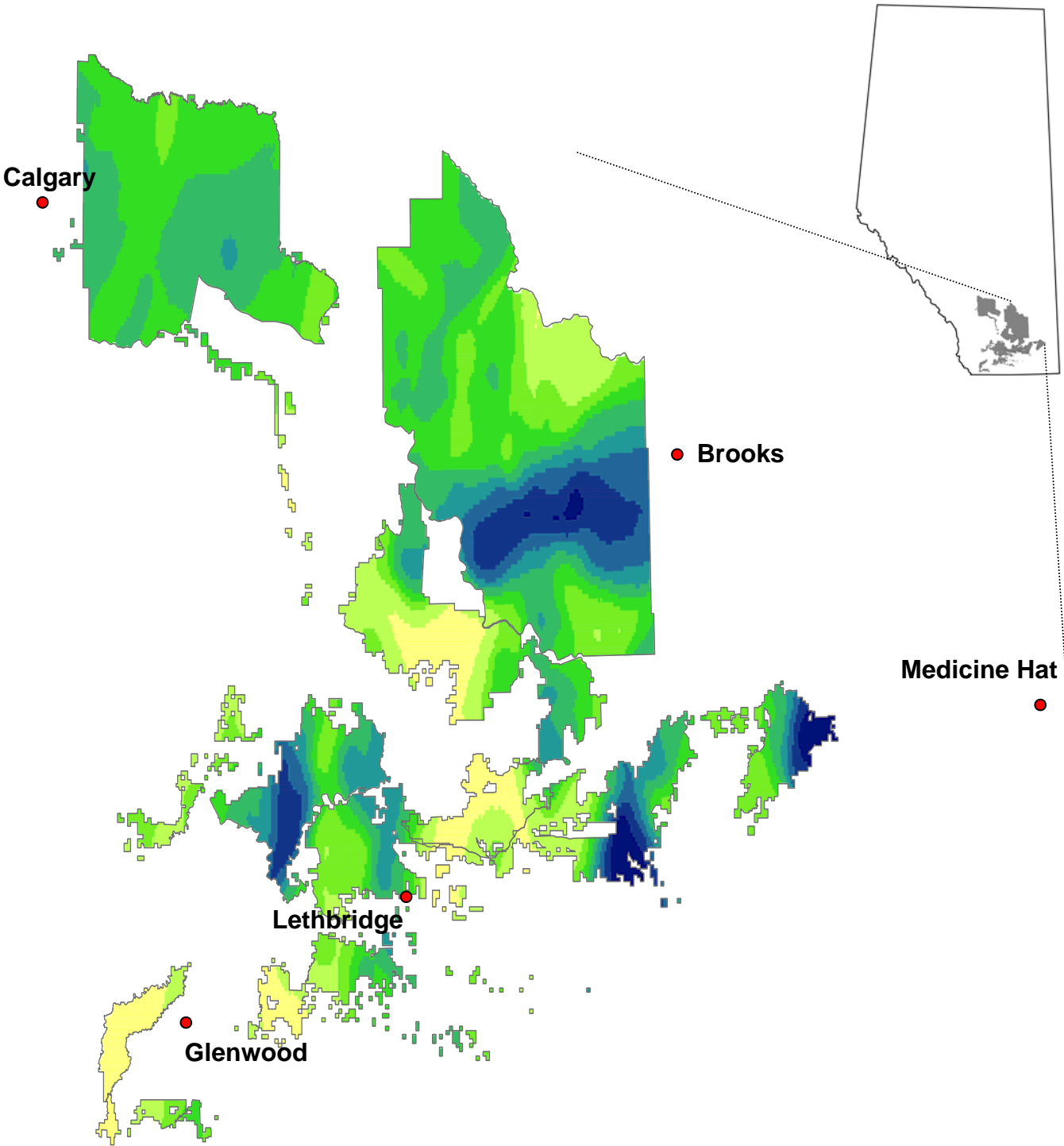
Japanese brome, *Bromus japonicus*



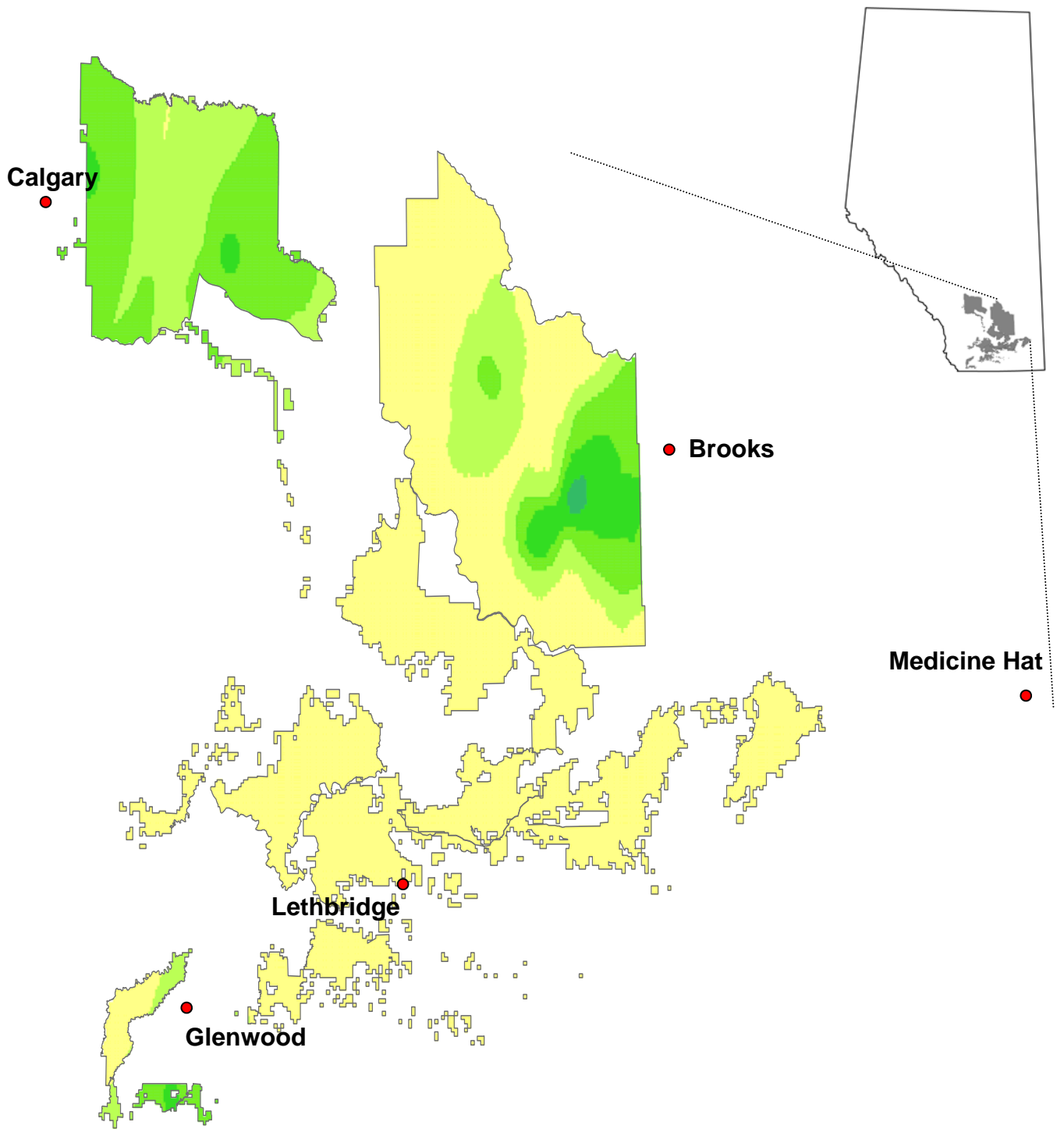
Kochia, *Kochia scoparia*



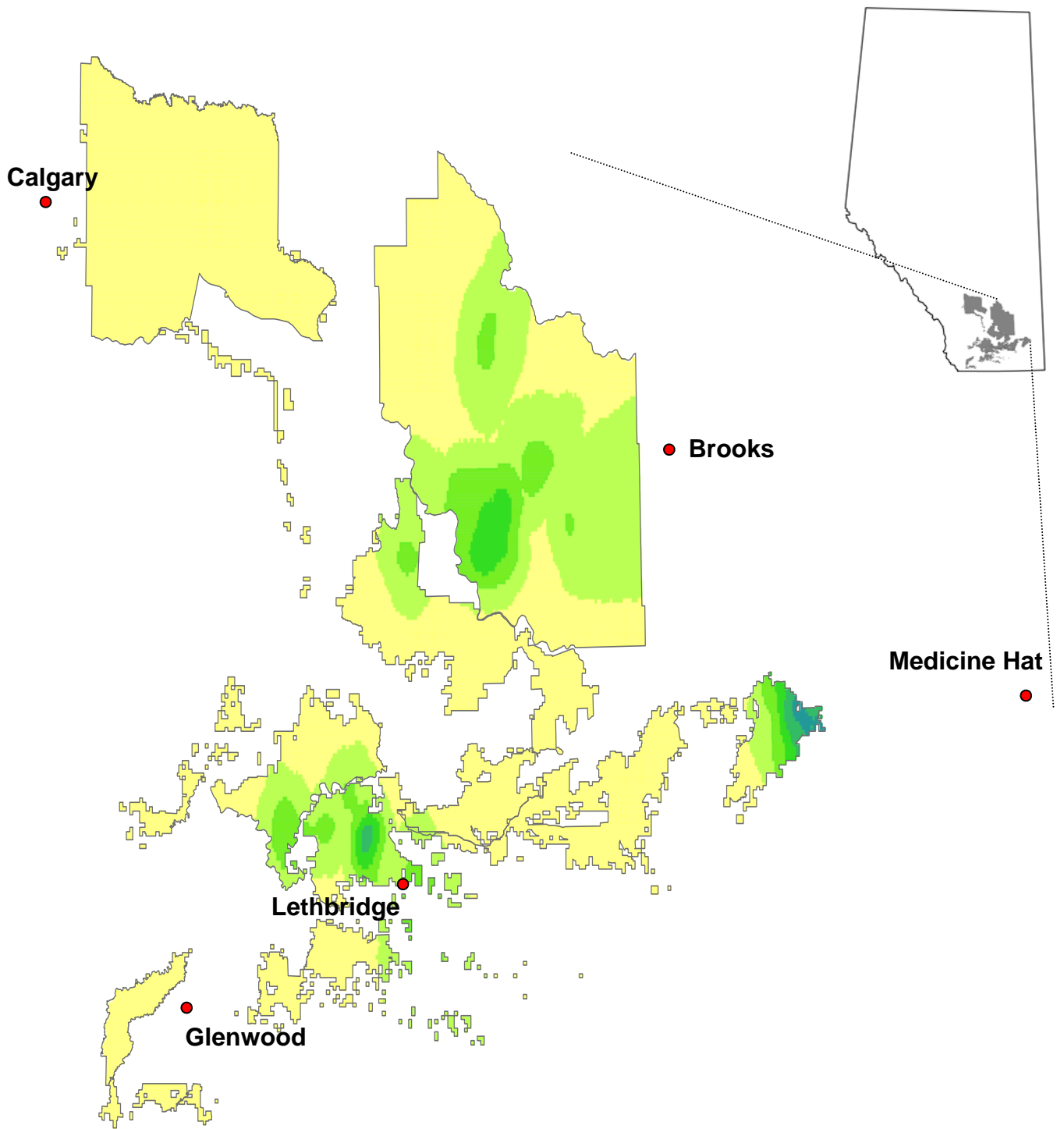
Lamb's-quarters, *Chenopodium album*



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

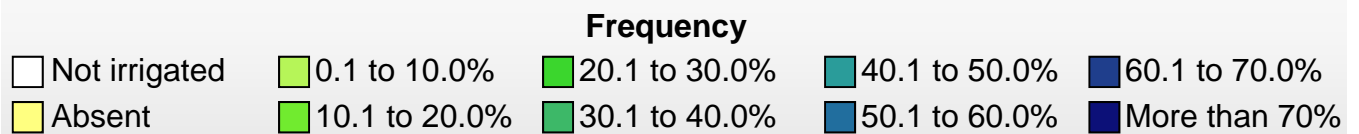
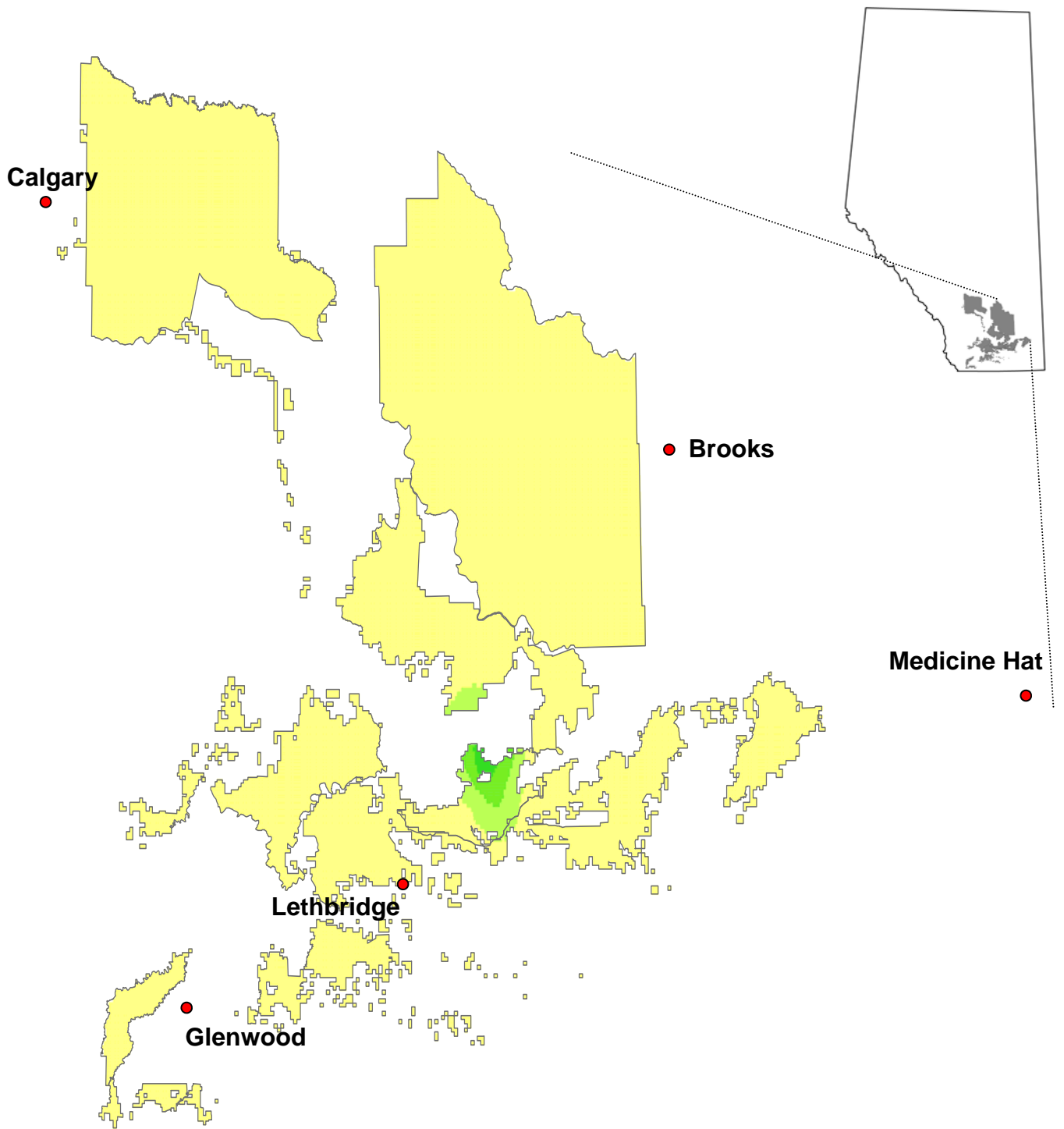


Pale smartweed, *Polygonum lapathifolium*

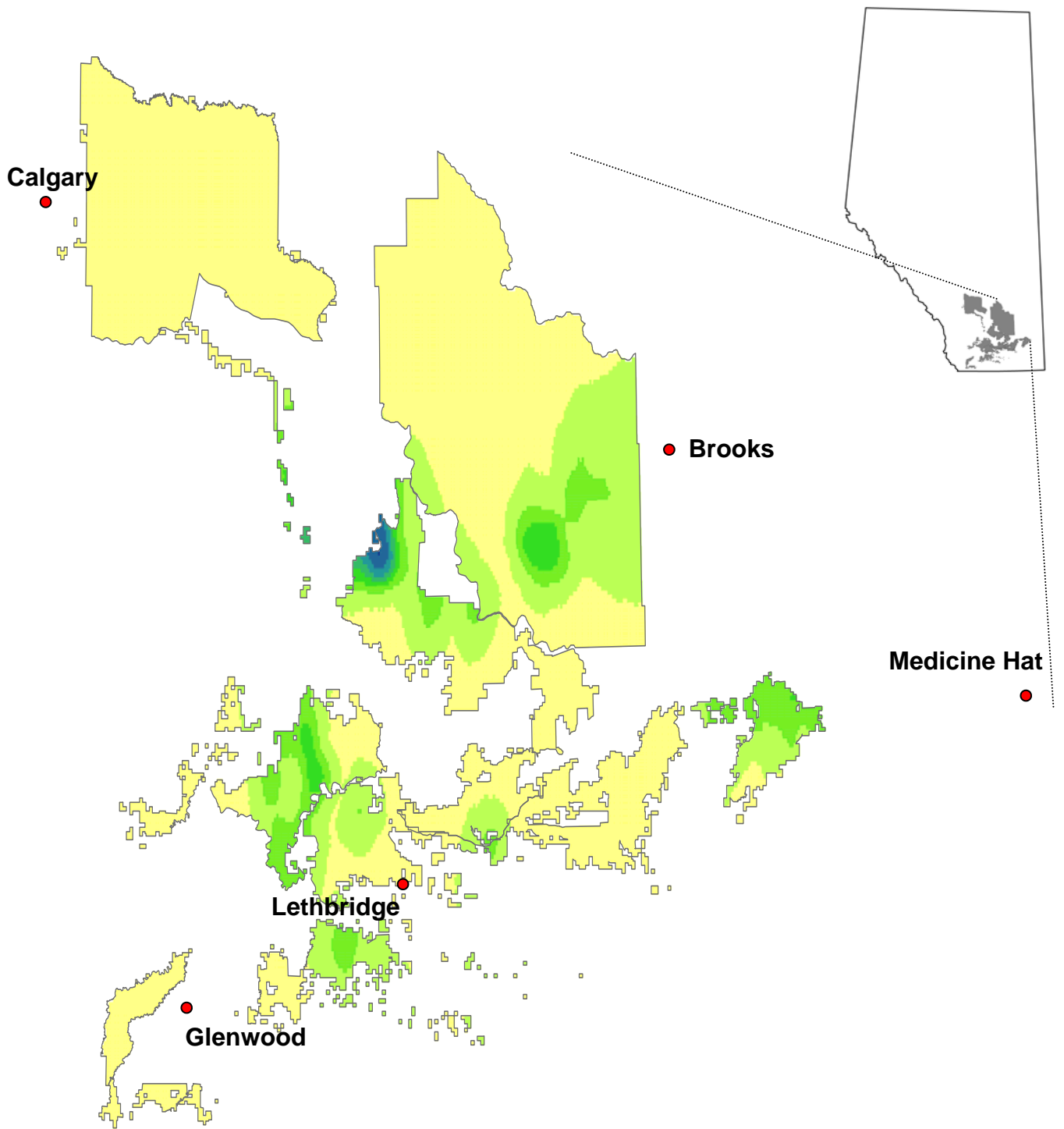


Frequency				
Not irrigated	0.1 to 10.0%	20.1 to 30.0%	40.1 to 50.0%	60.1 to 70.0%
Absent	10.1 to 20.0%	30.1 to 40.0%	50.1 to 60.0%	More than 70%

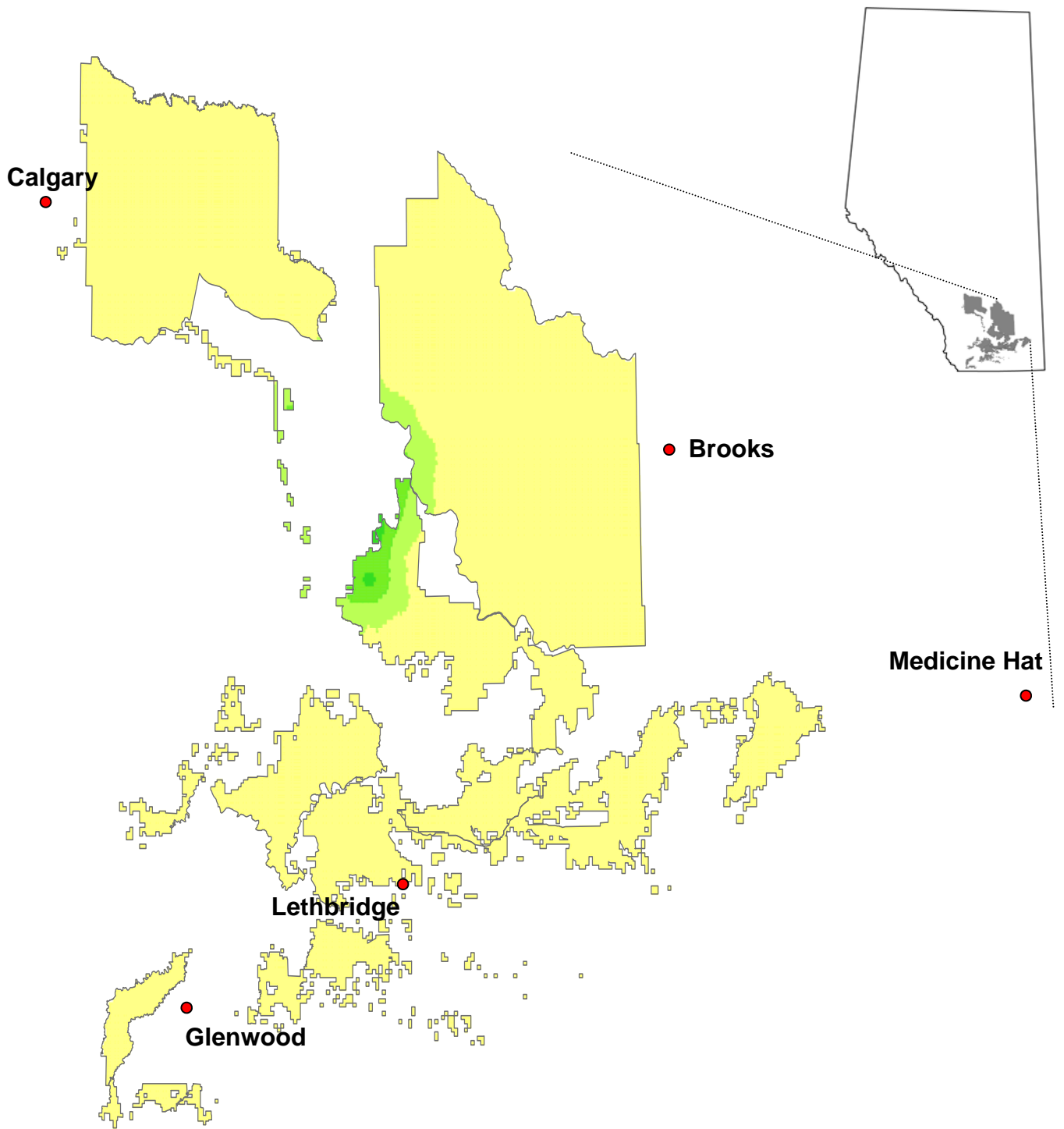
Pasture sage, *Artemisia frigida*



Perennial sow-thistle, *Sonchus arvensis*

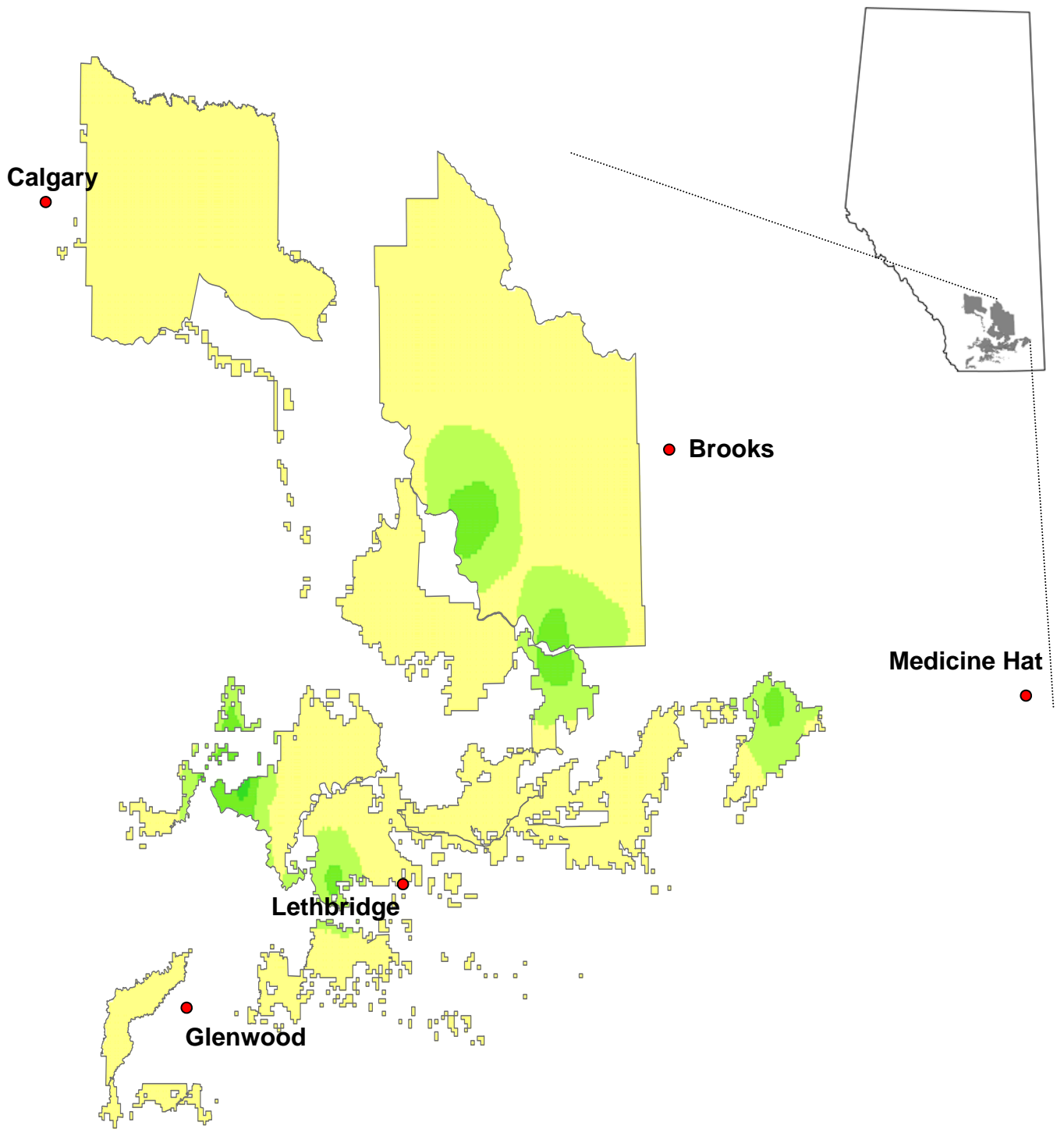


Persian darnel, *Lolium persicum*



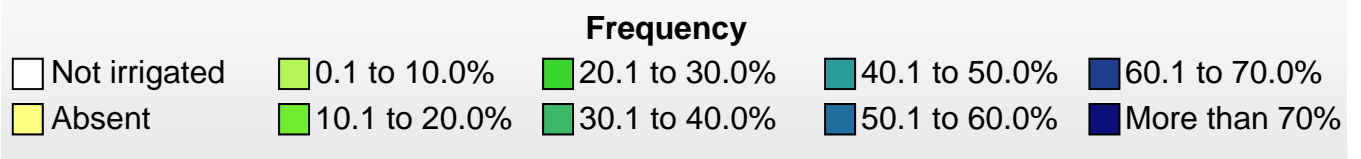
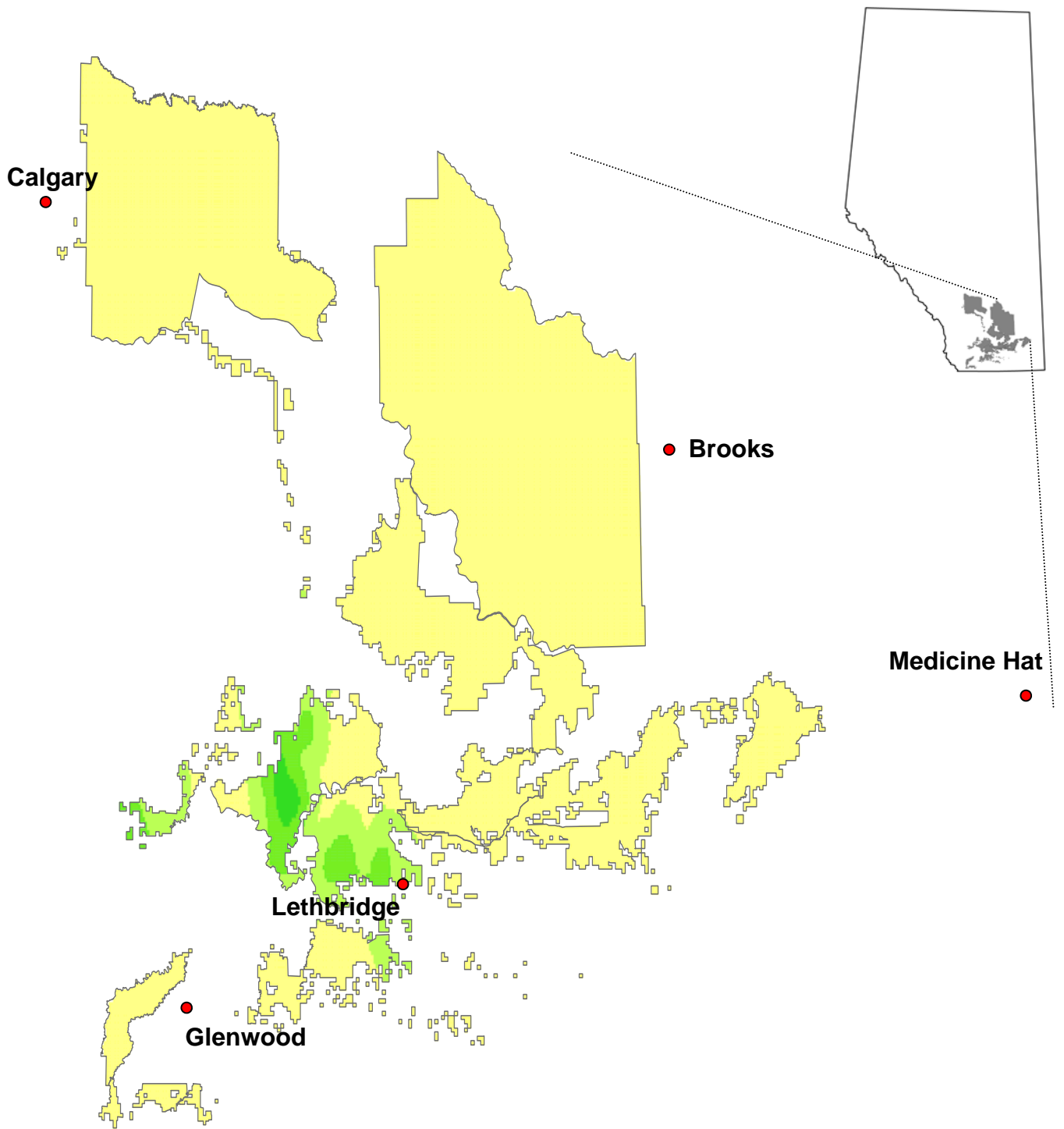
Frequency				
□ Not irrigated	■ 0.1 to 10.0%	■ 20.1 to 30.0%	■ 40.1 to 50.0%	■ 60.1 to 70.0%
■ Absent	■ 10.1 to 20.0%	■ 30.1 to 40.0%	■ 50.1 to 60.0%	■ More than 70%

Prickly lettuce, *Lactuca serriola*

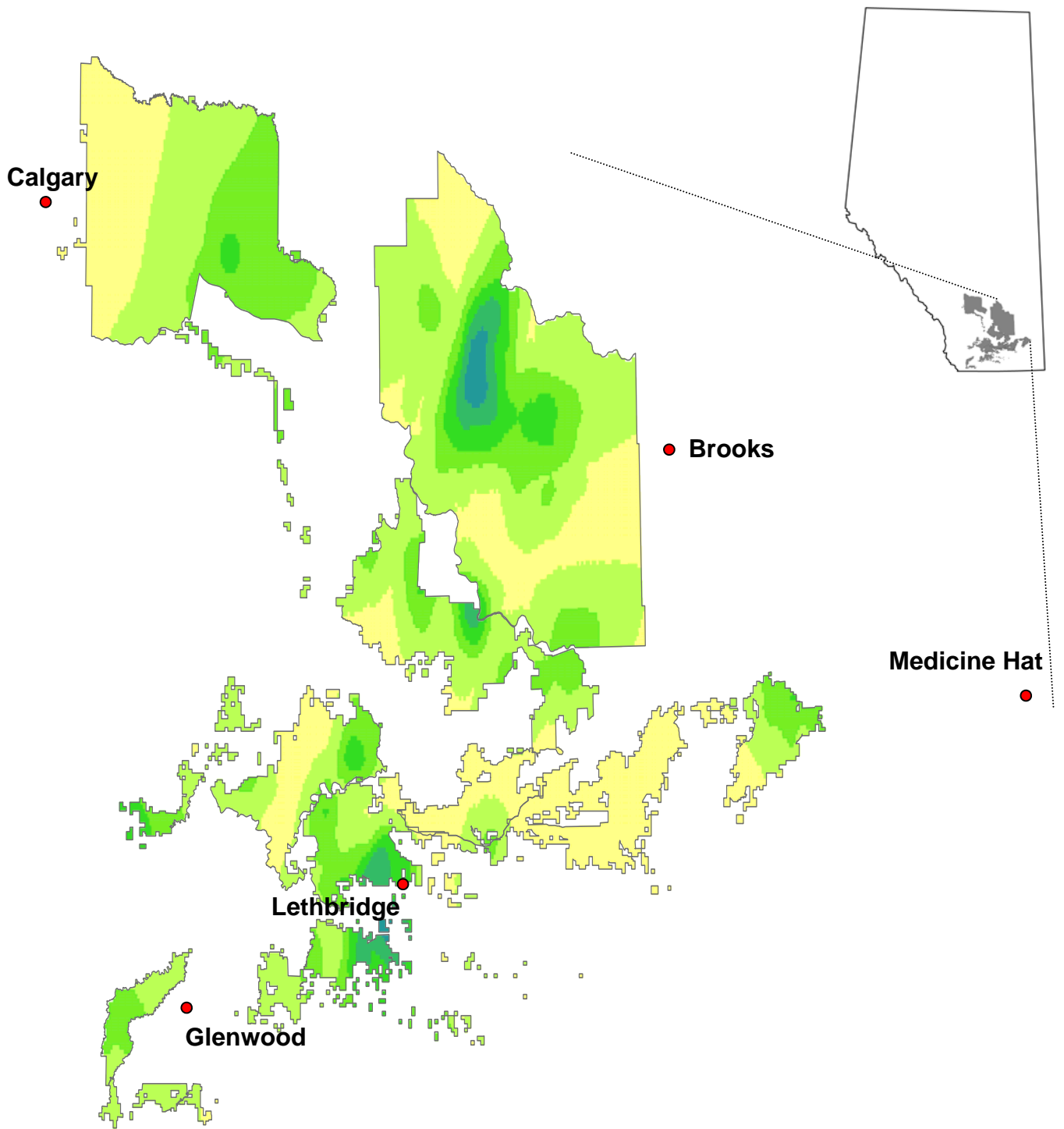


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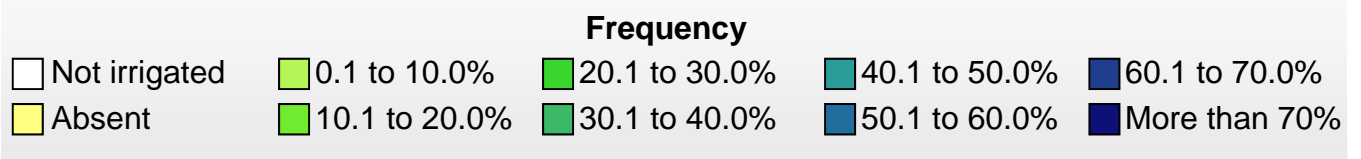
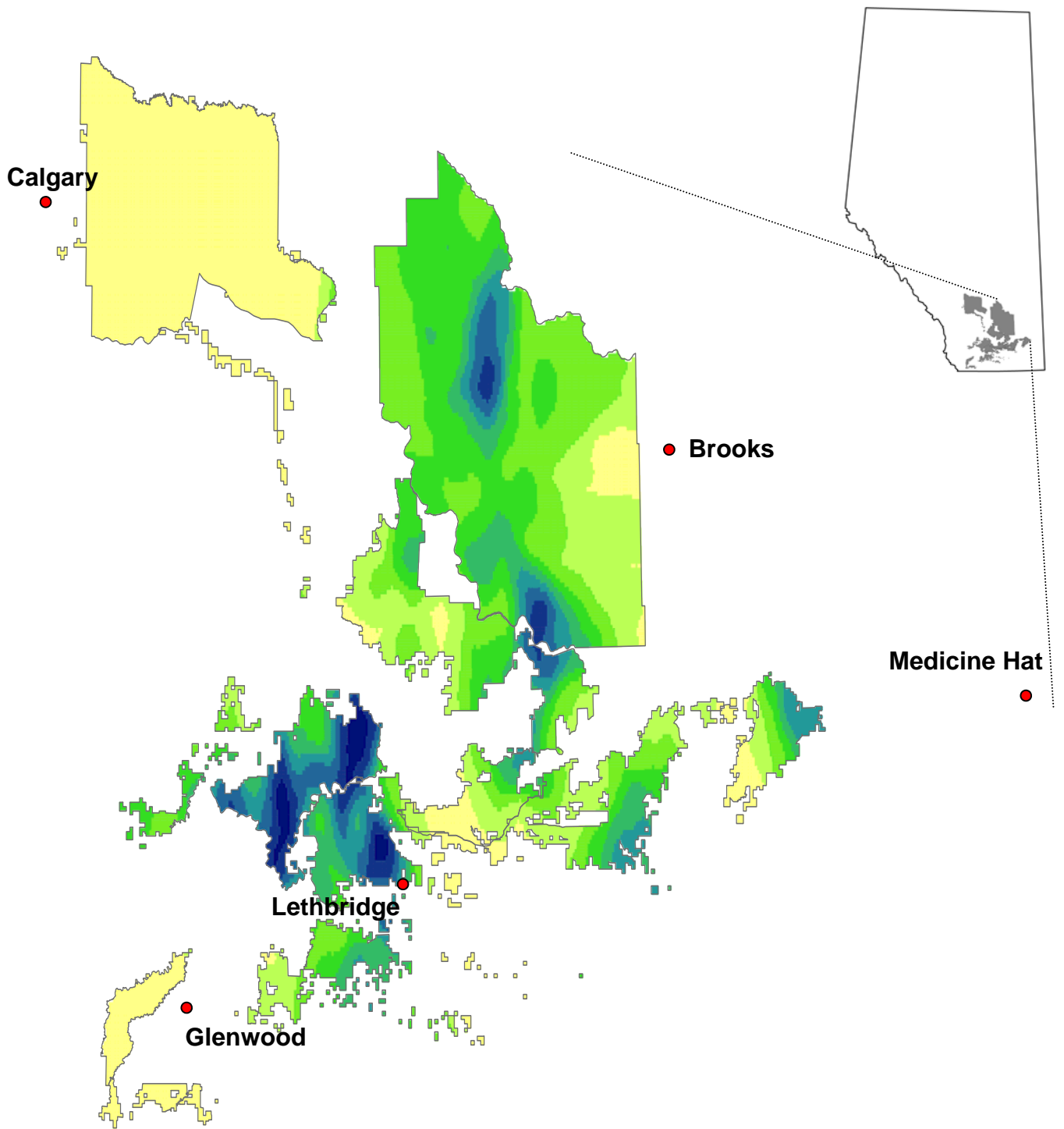
Prostrate knotweed, *Polygonum aviculare*



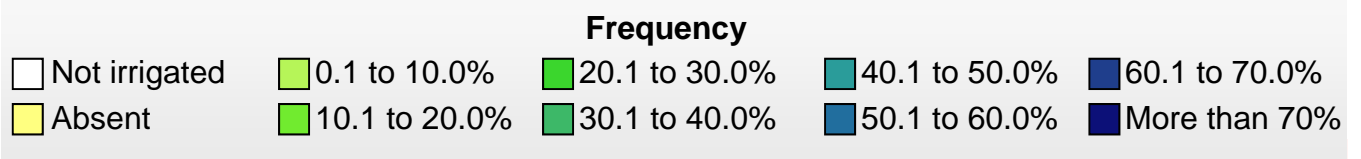
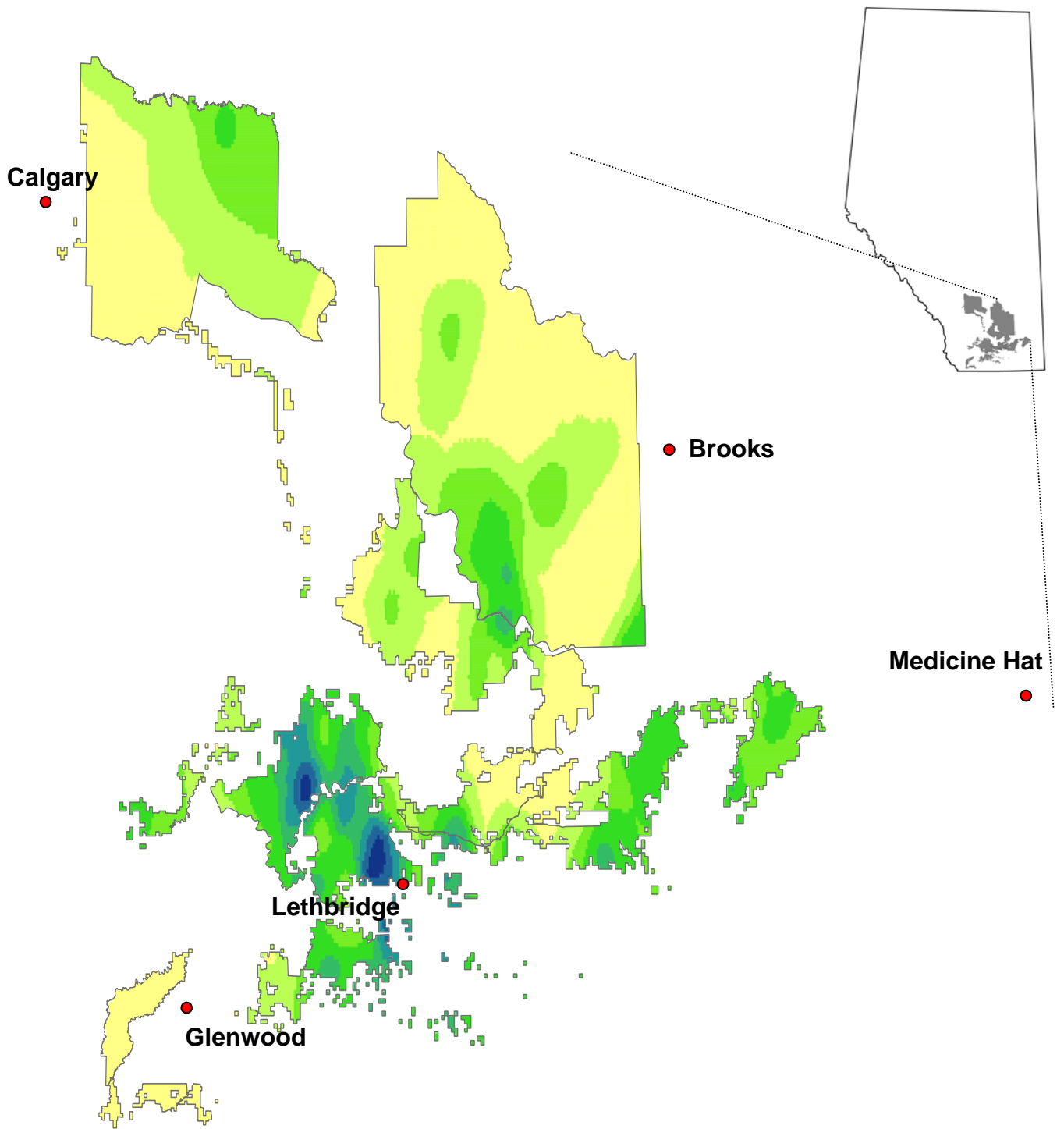
Quack grass, *Elytrigia repens*



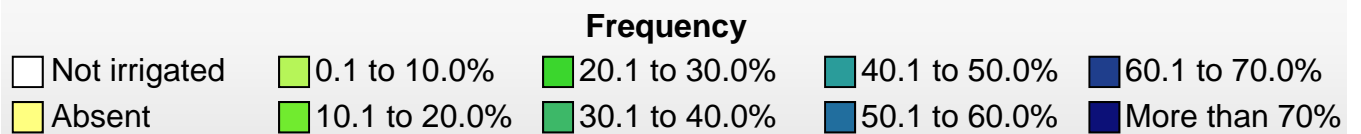
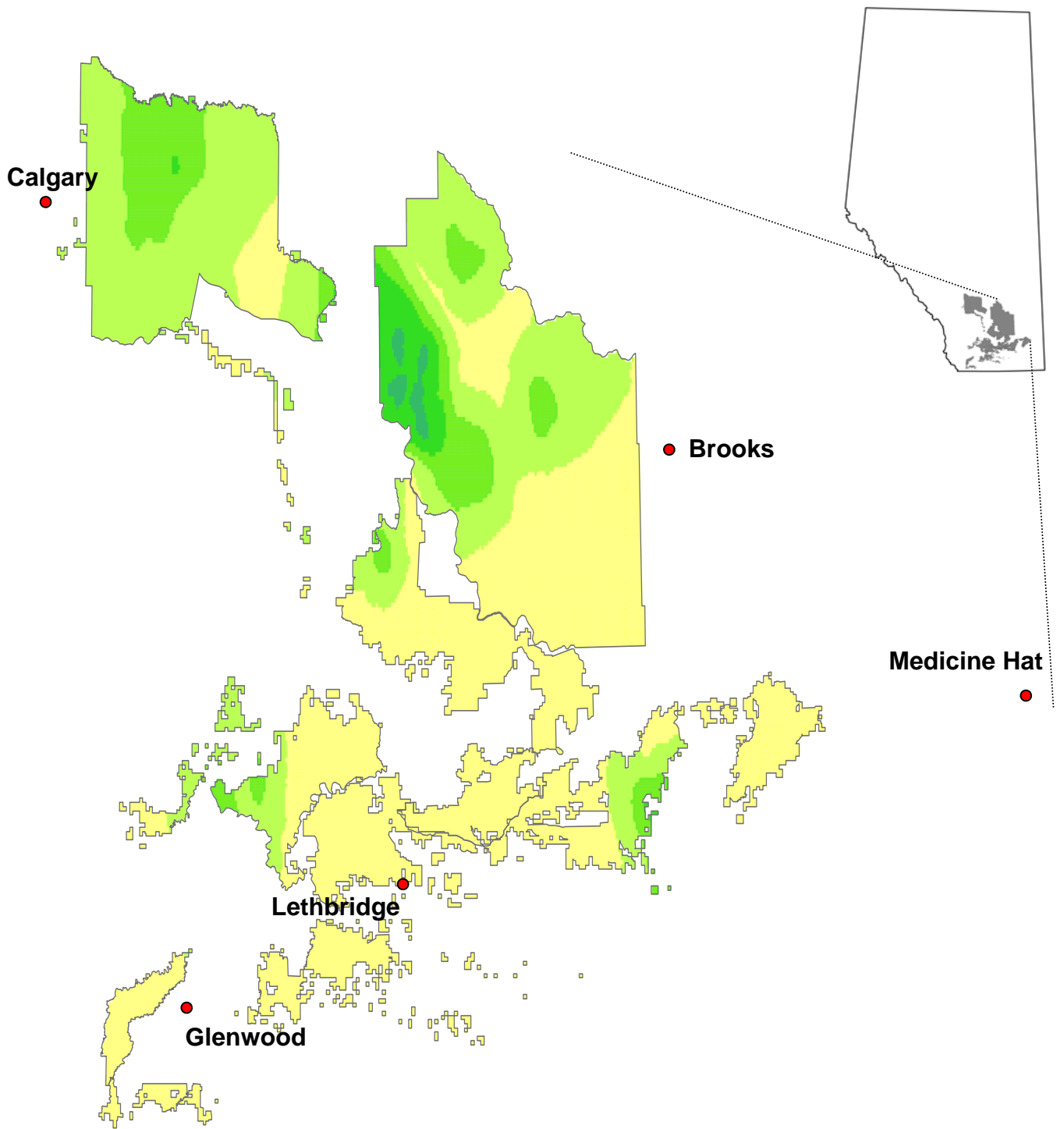
Redroot pigweed, *Amaranthus retroflexus*



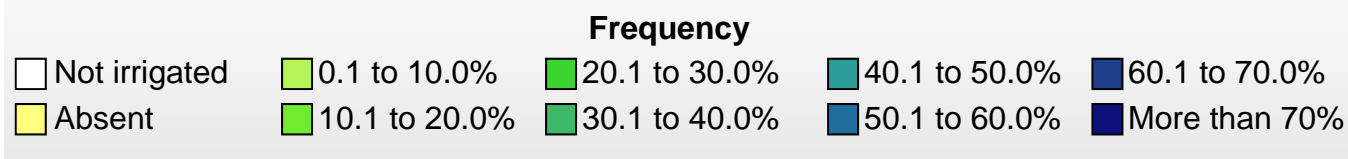
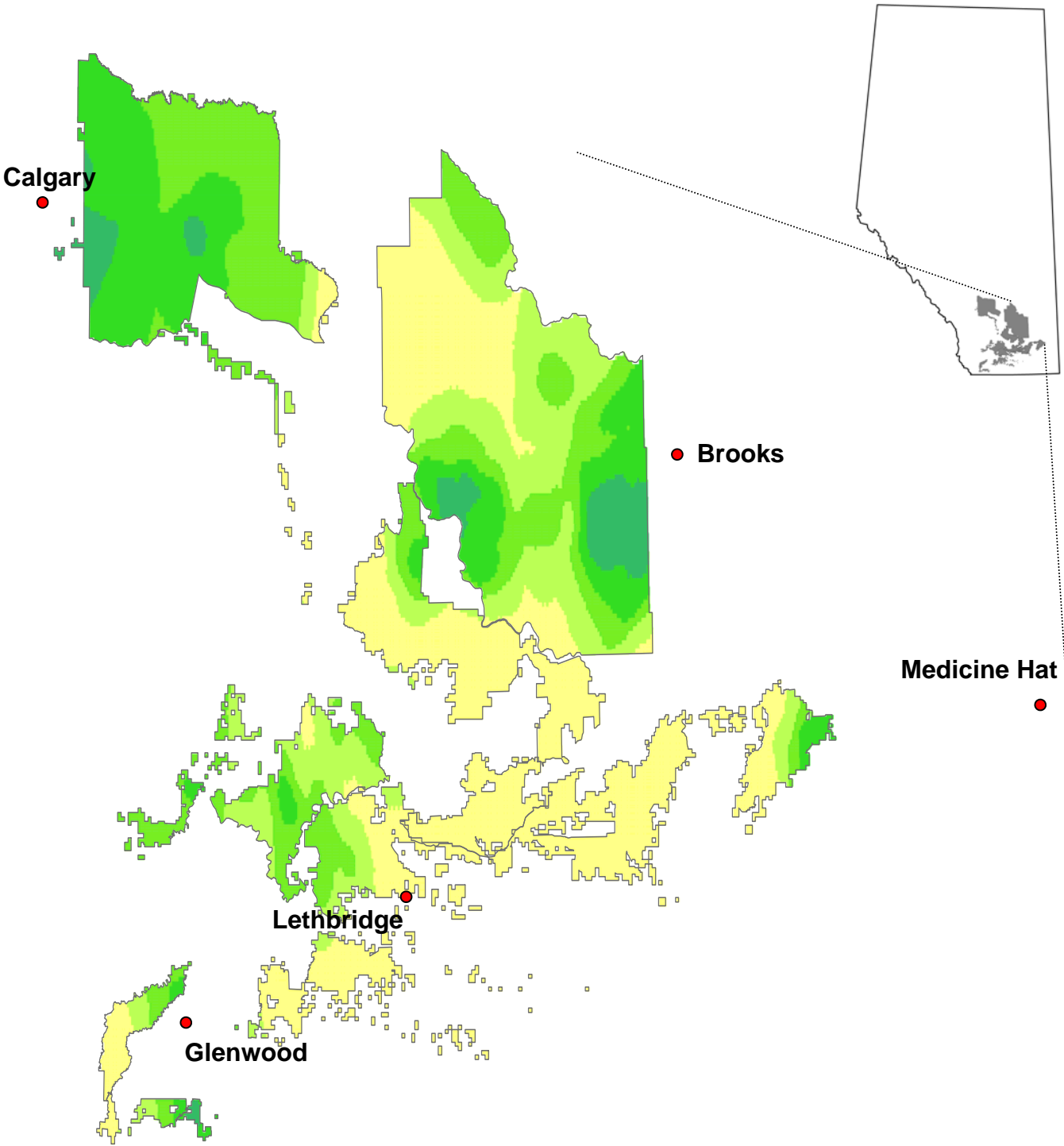
Round-leaved mallow, *Malva pusilla*



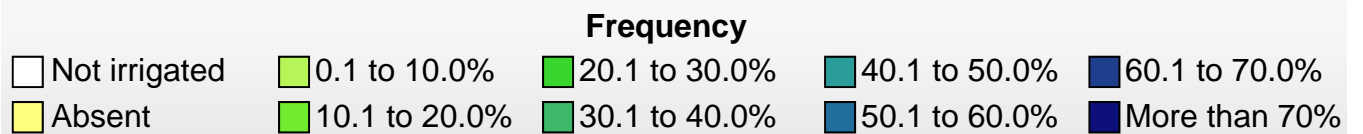
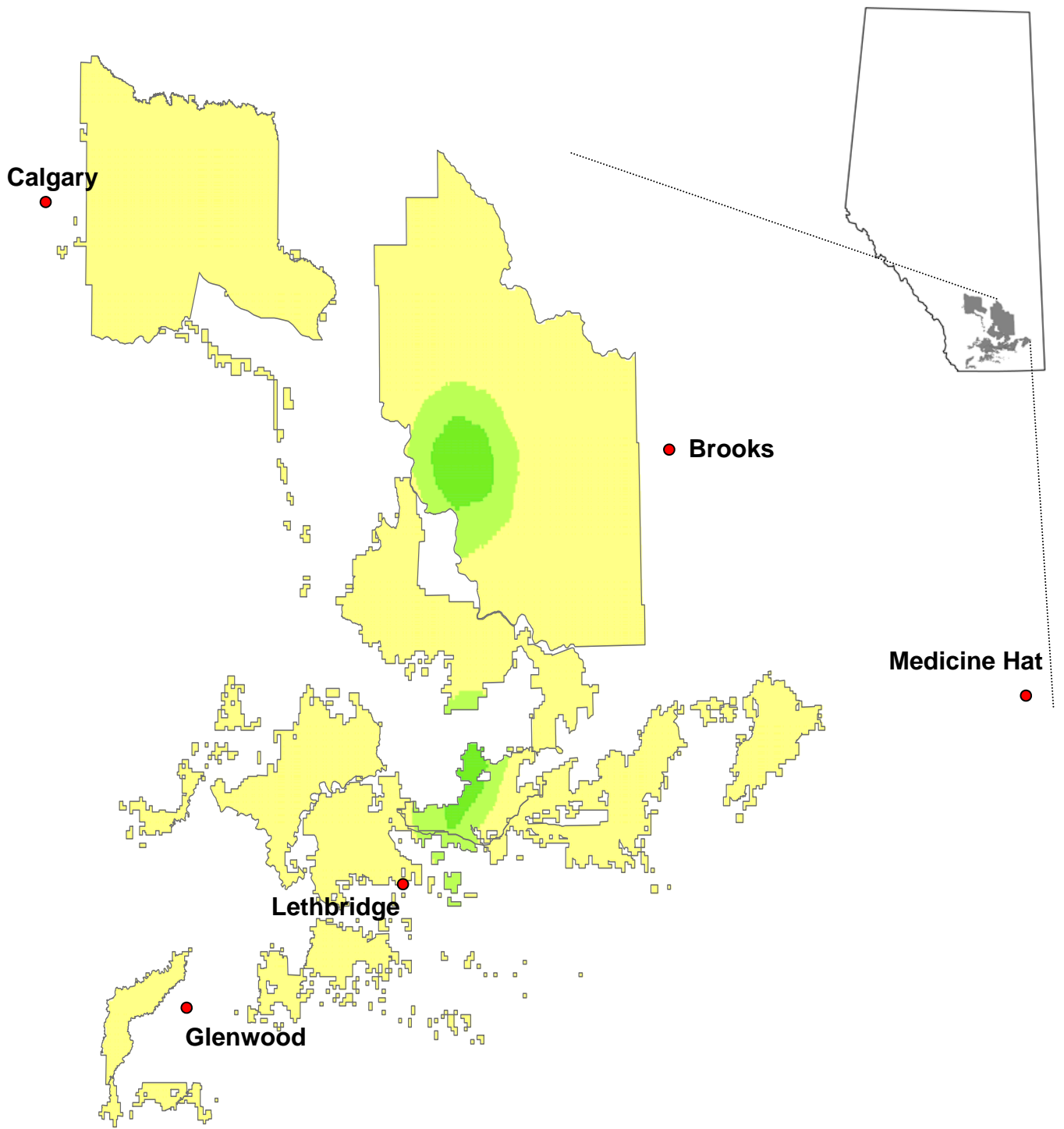
Russian thistle, *Salsola tragus*



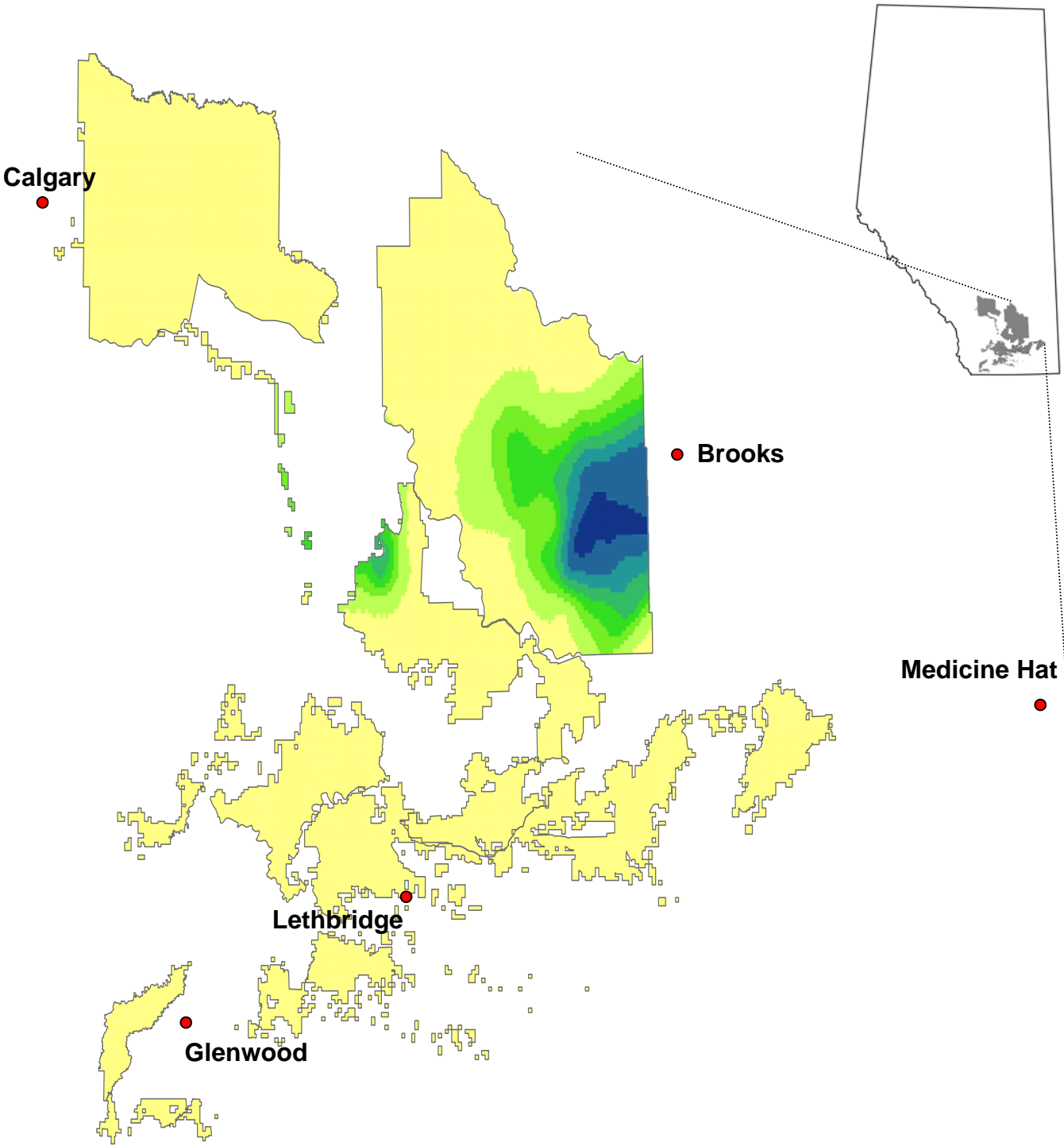
Shepherd's-purse, *Capsella bursa-pastoris*



Showy milkweed, *Asclepias speciosa*

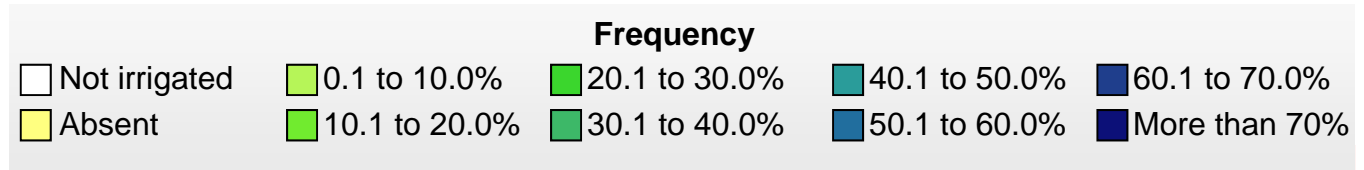
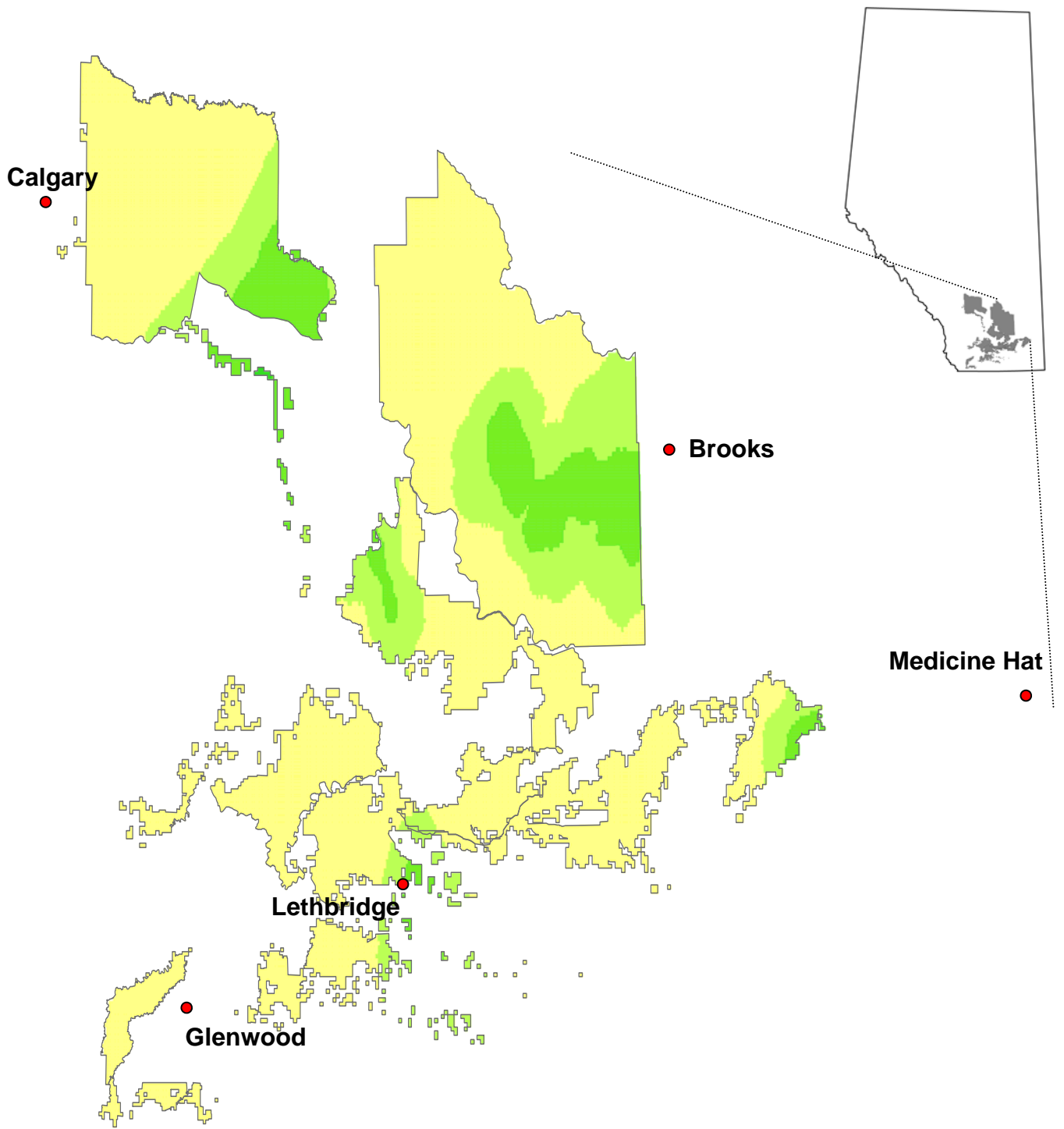


Smooth brome, *Bromus inermis*

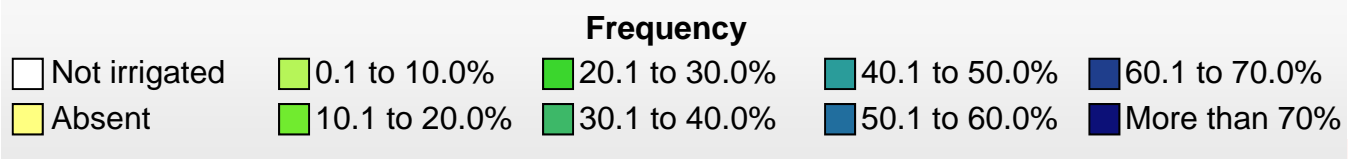
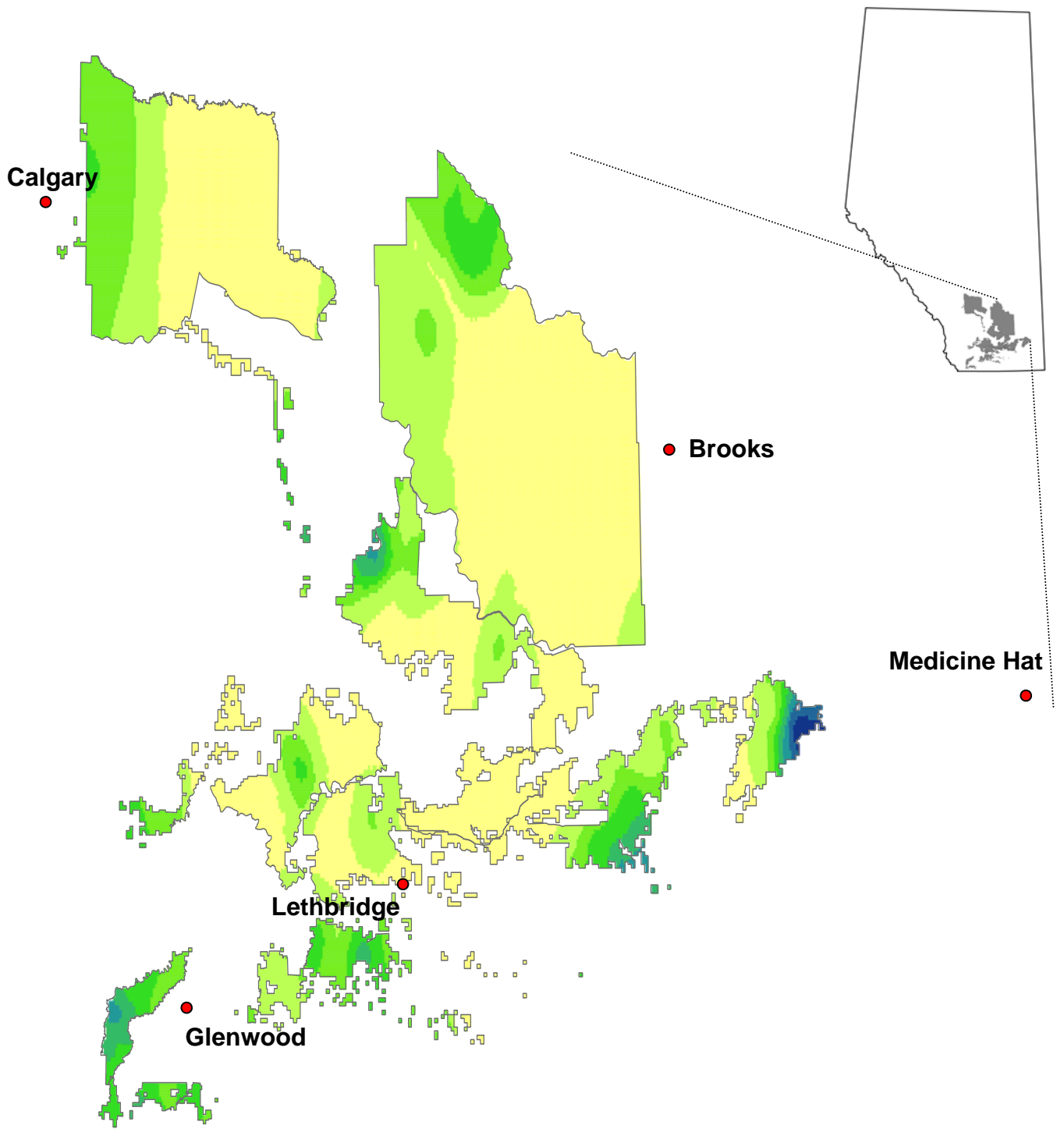


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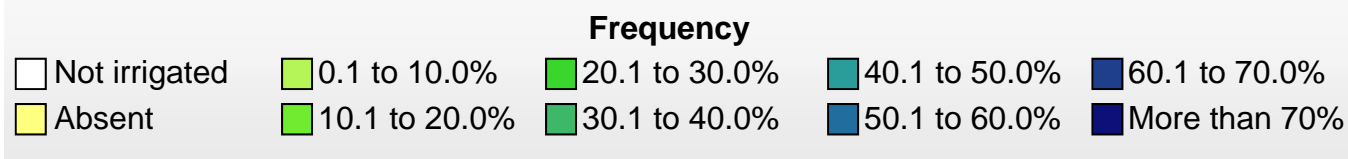
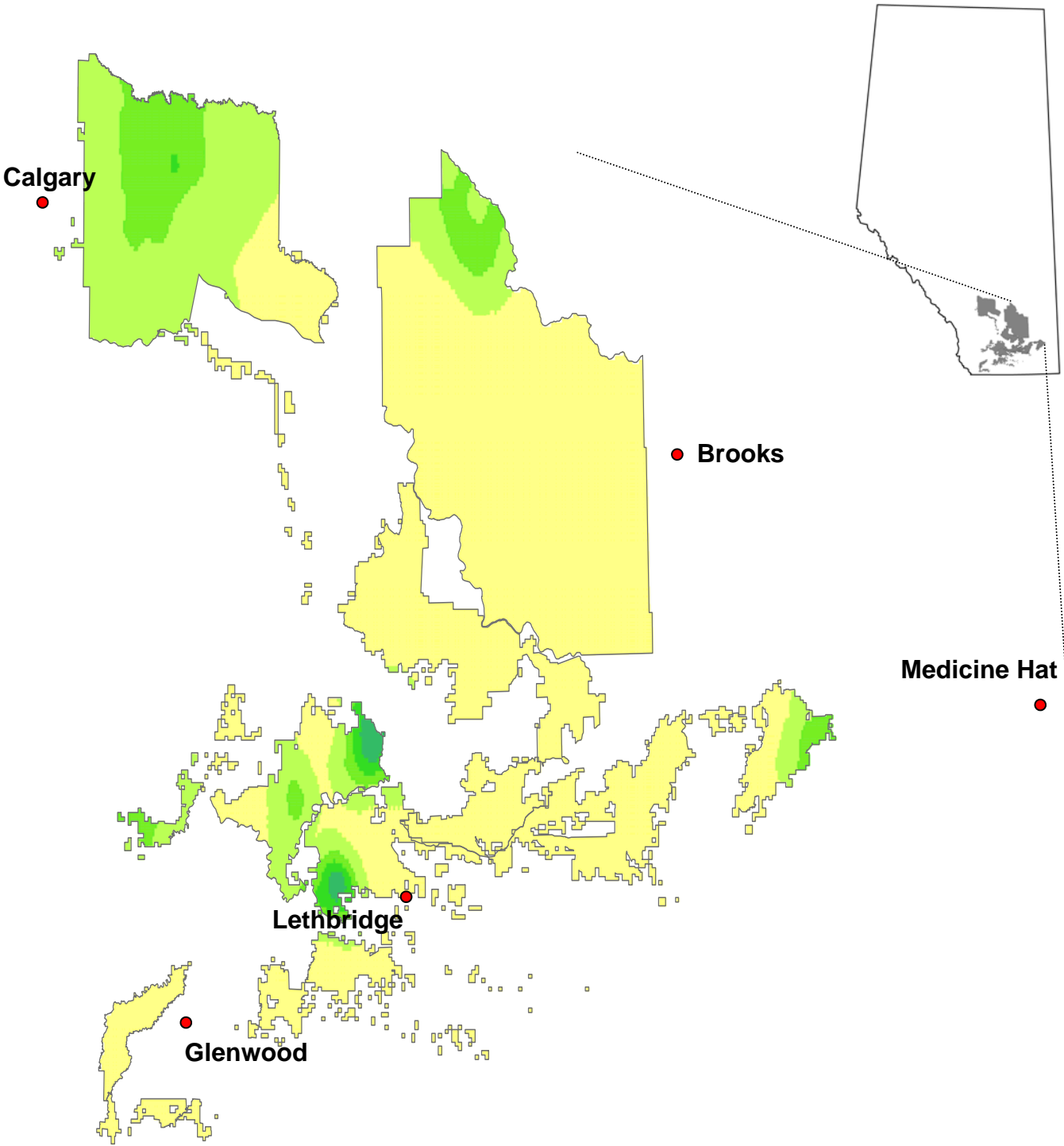
Spiny annual sow-thistle, *Sonchus asper*



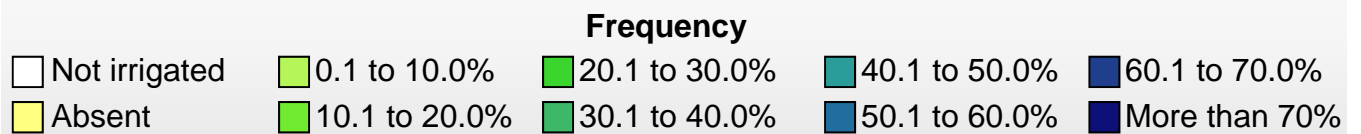
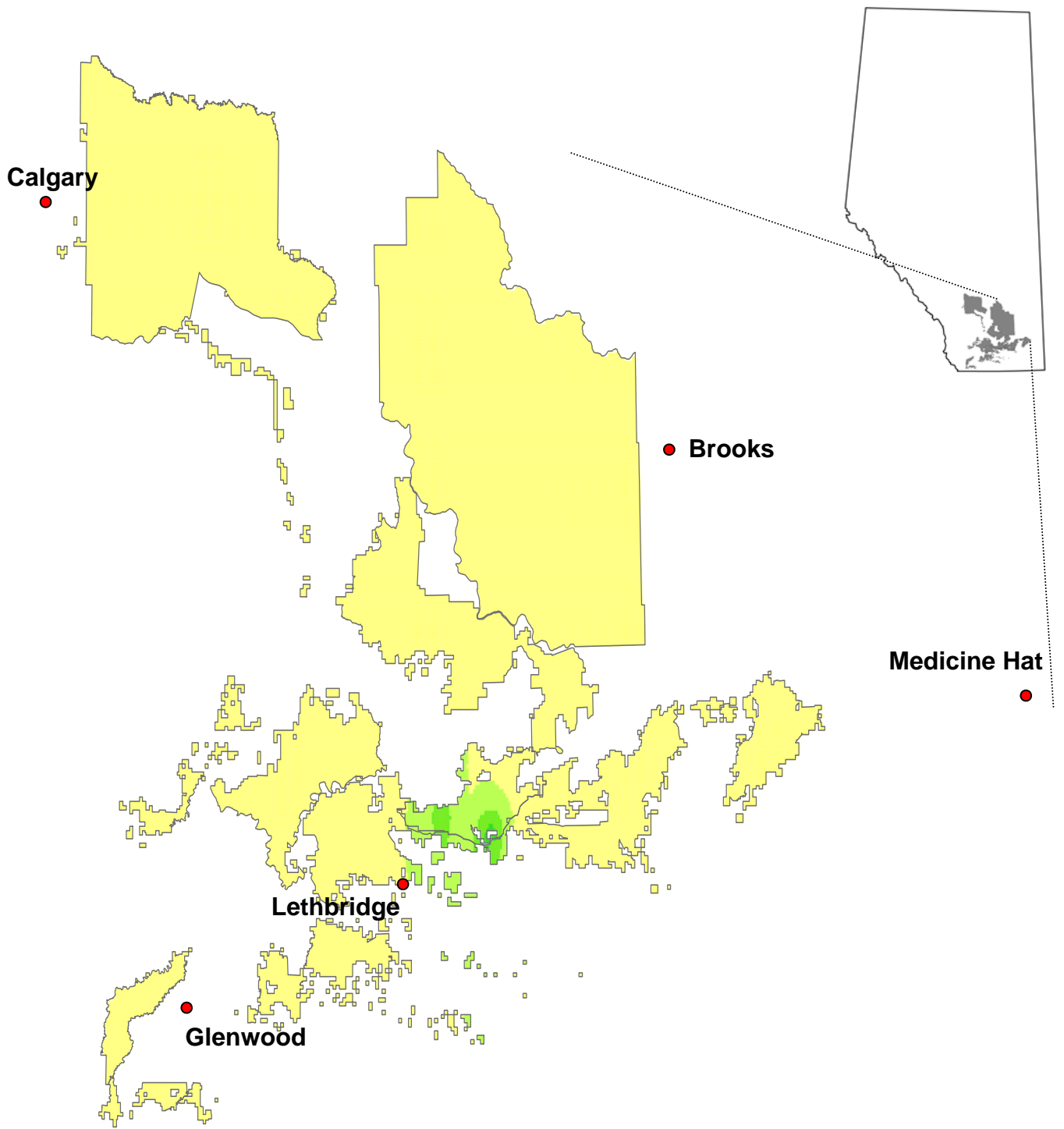
Stinkweed, *Thlaspi arvense*



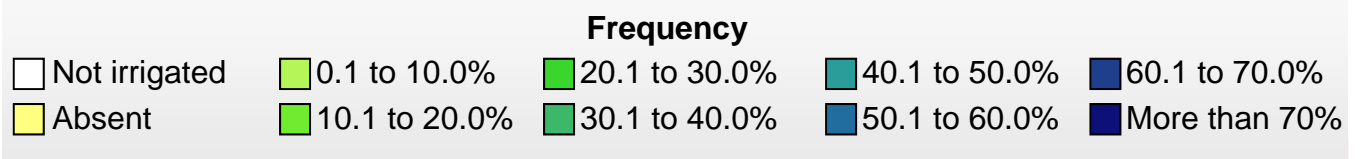
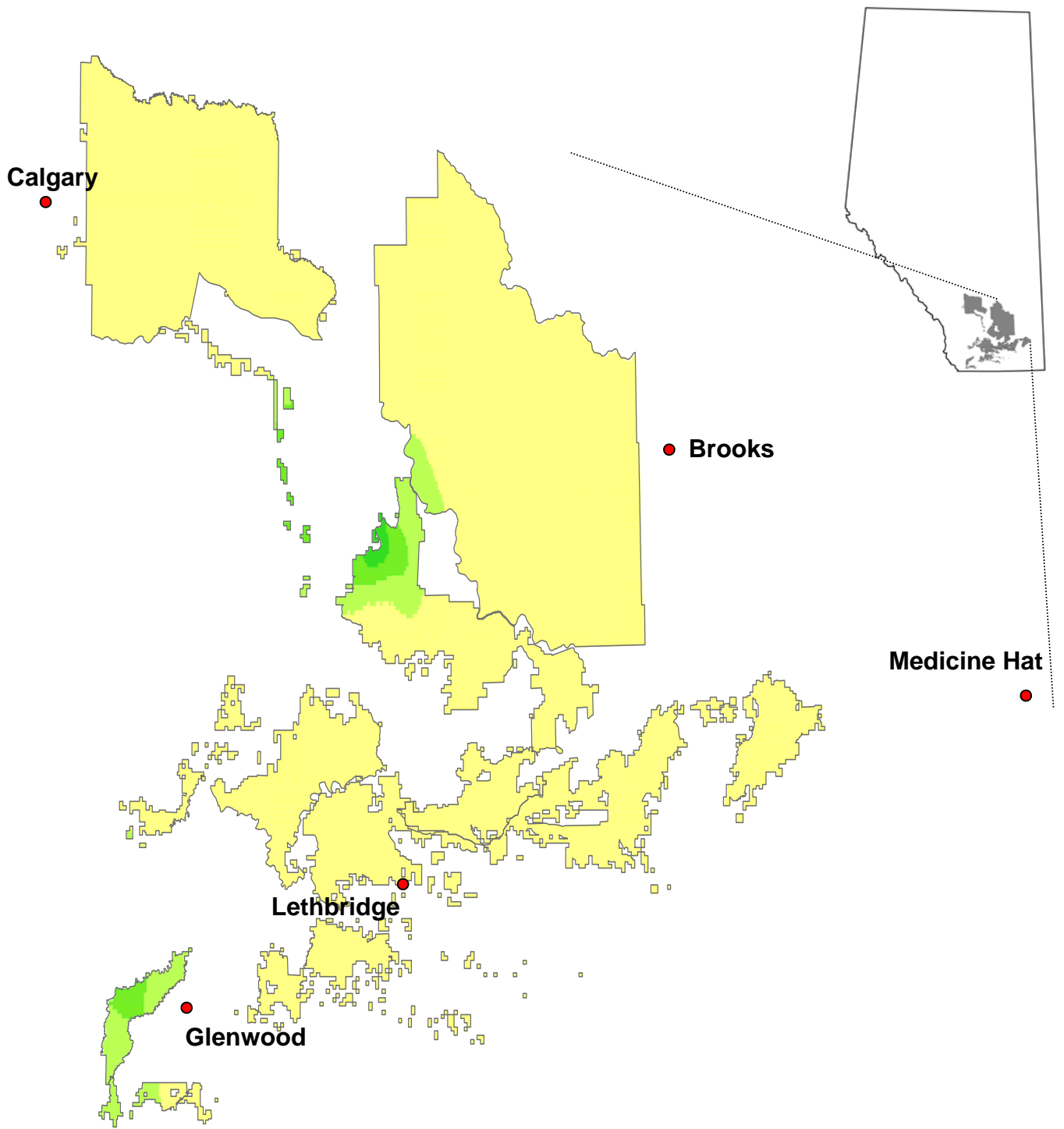
Stork's-bill, *Erodium cicutarium*



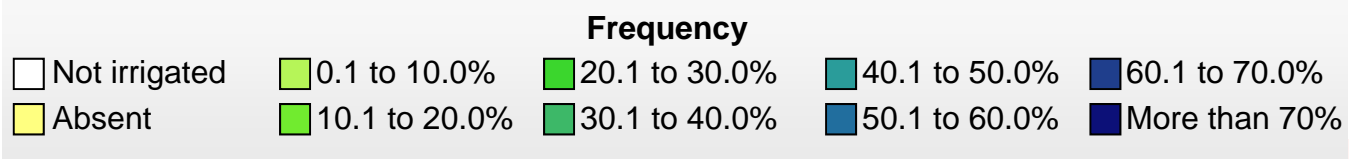
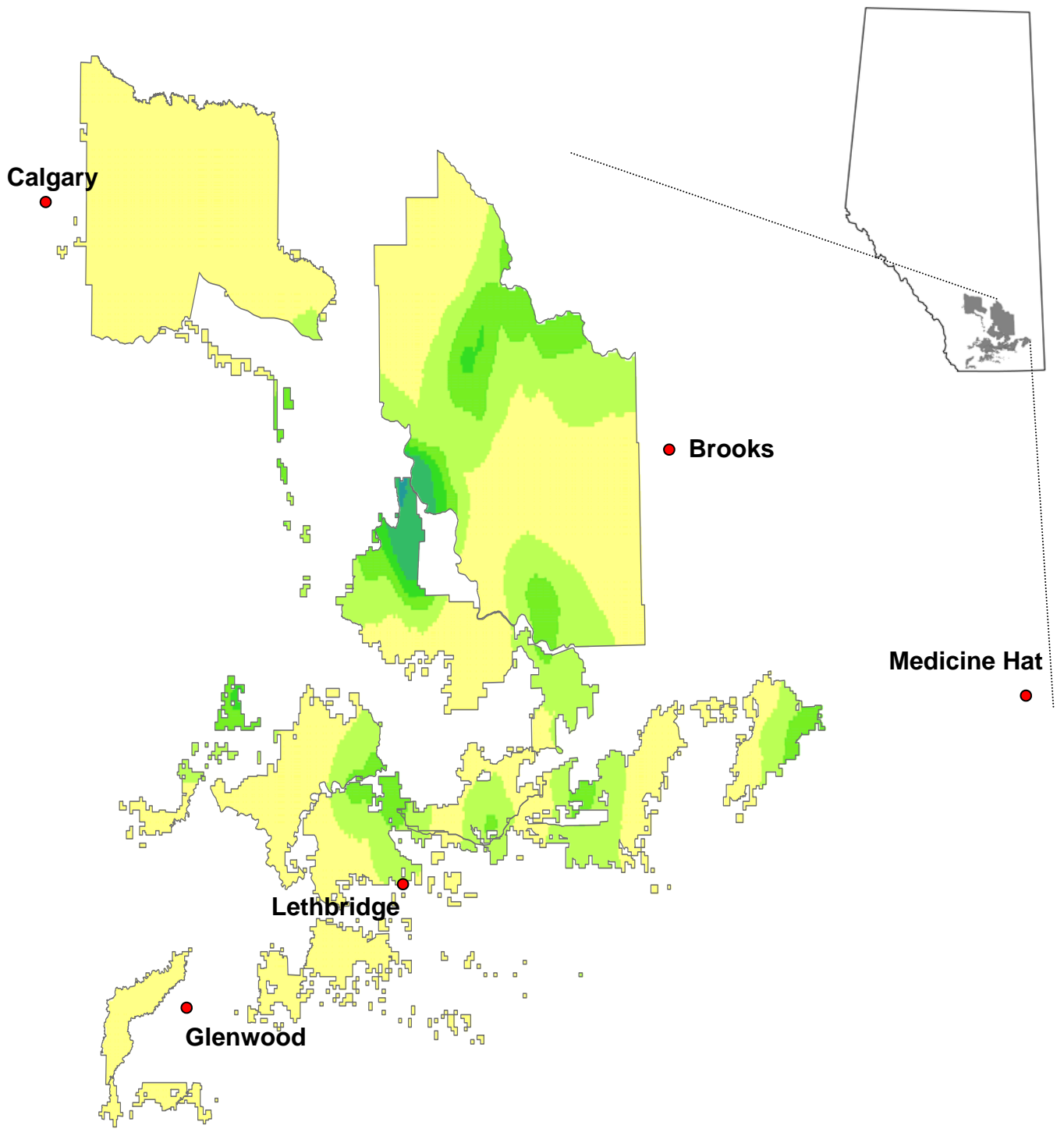
Sunflower species, *Helianthus spp.*



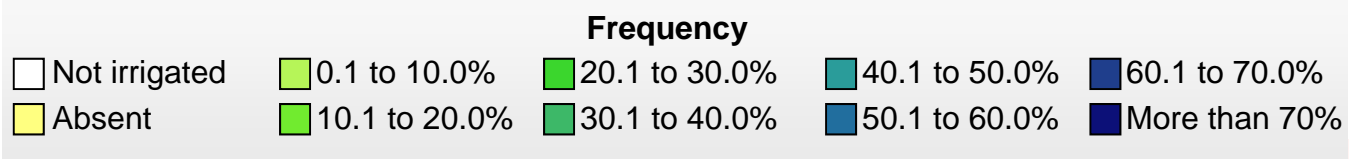
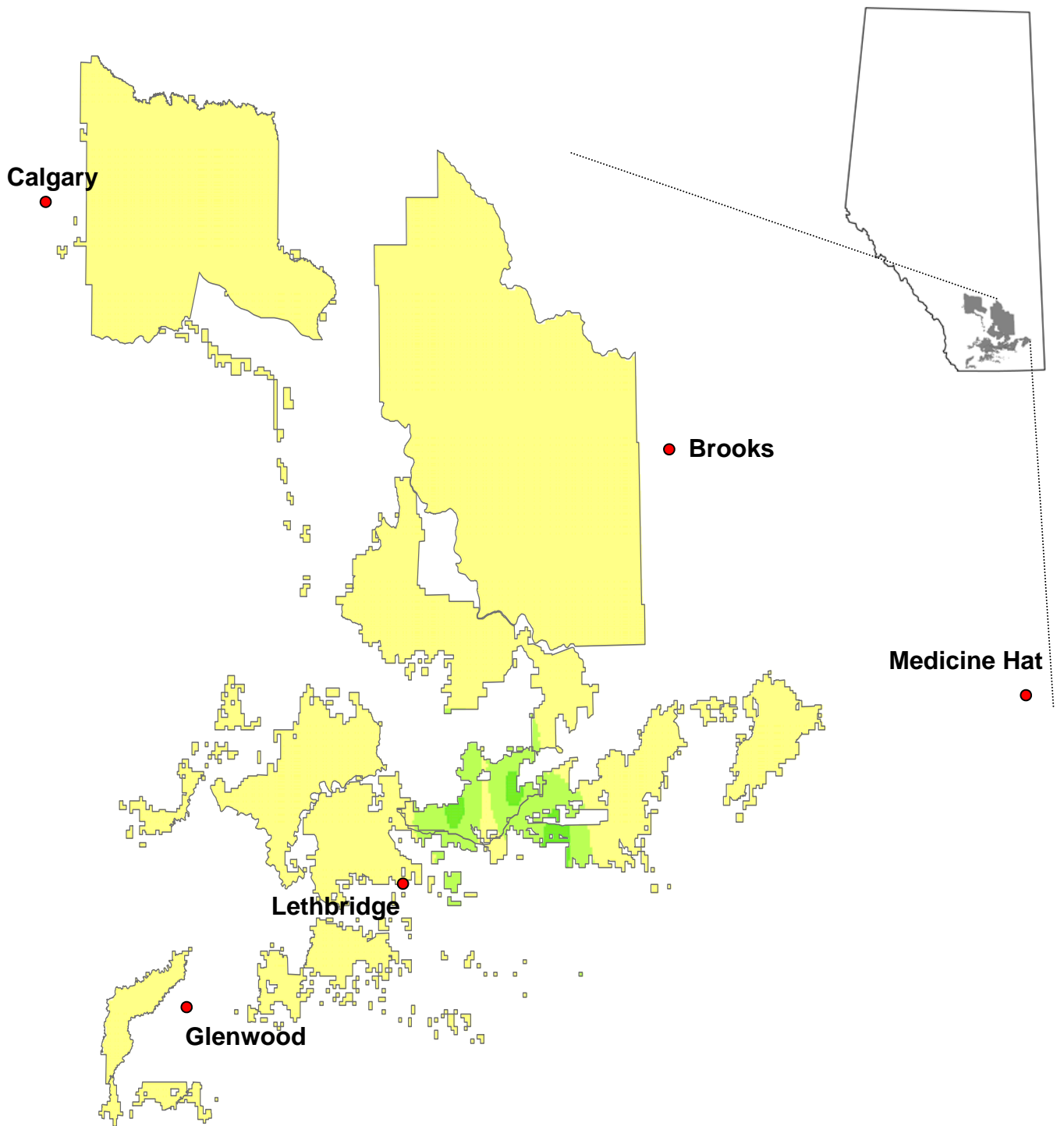
Tartary buckwheat, *Fagopyrum tataricum*



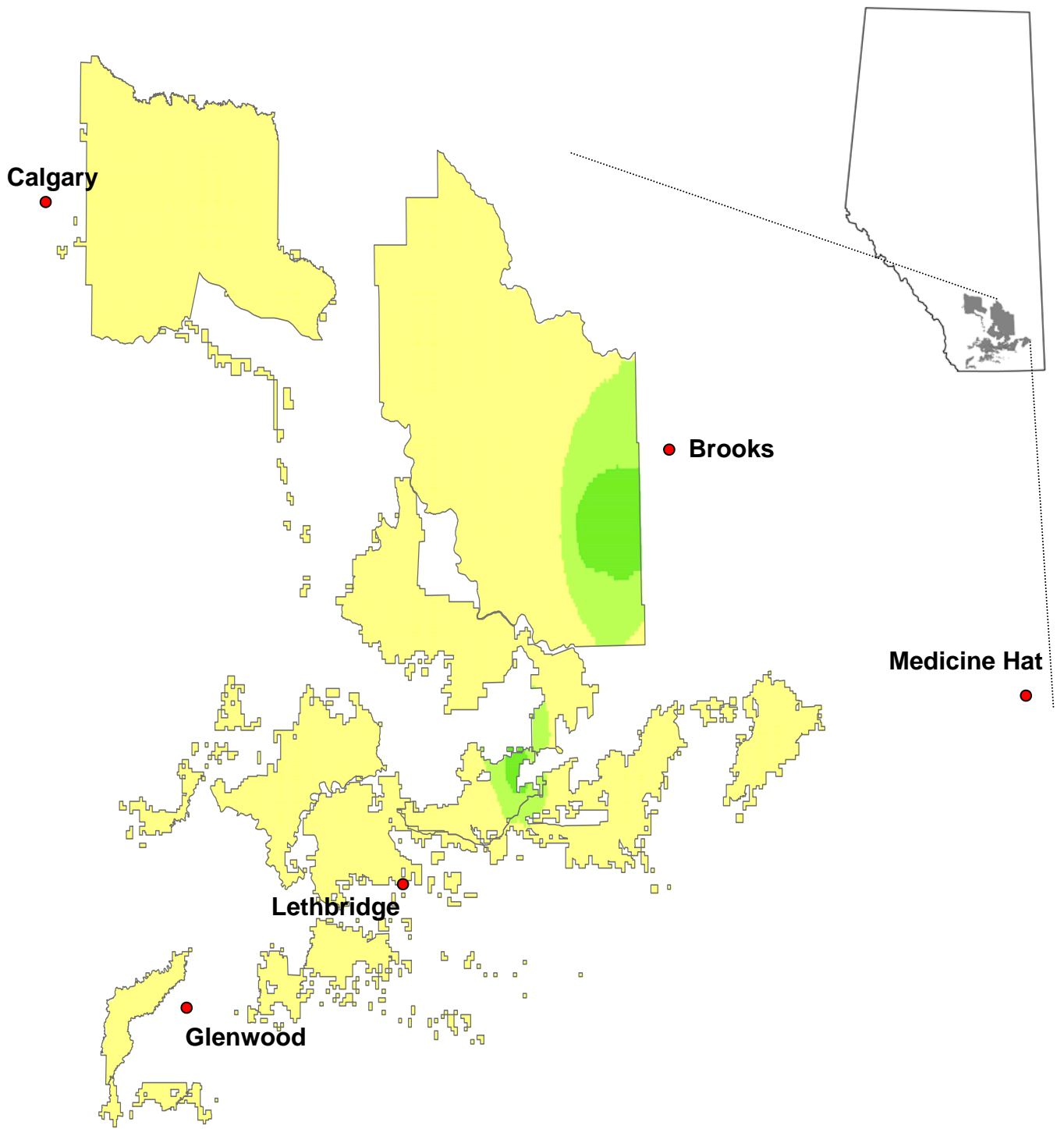
Wheat, *Triticum aestivum*



White clover, *Trifolium repens*

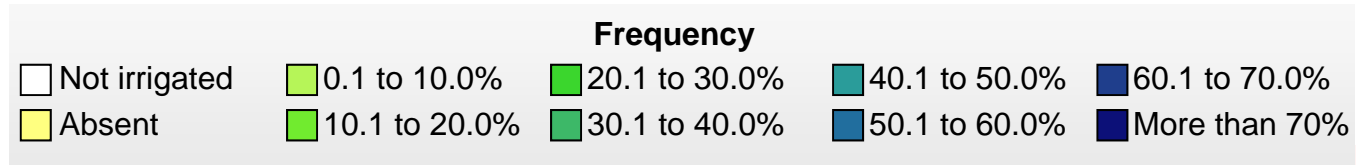
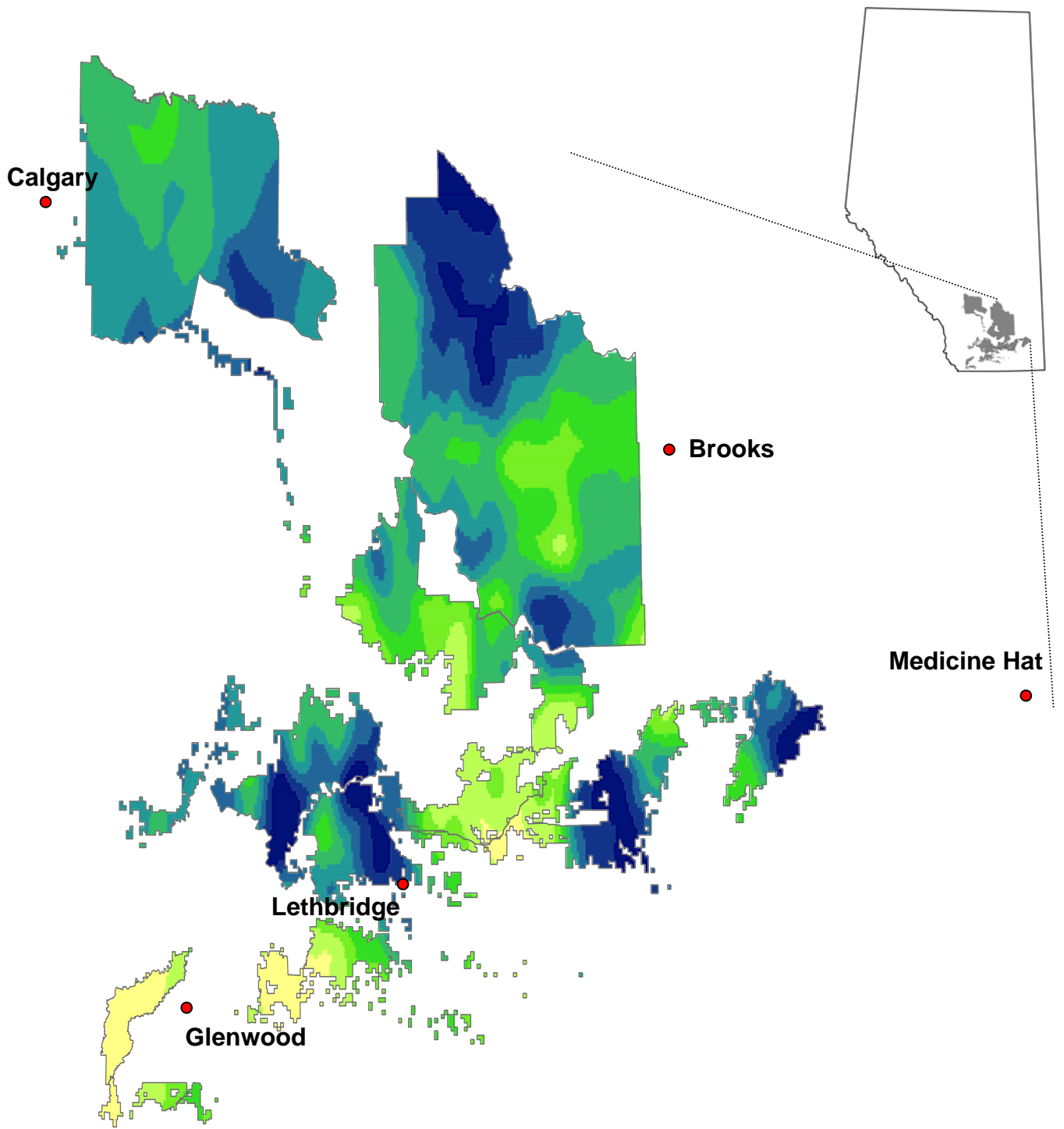


White sweet-clover, *Melilotus albus*

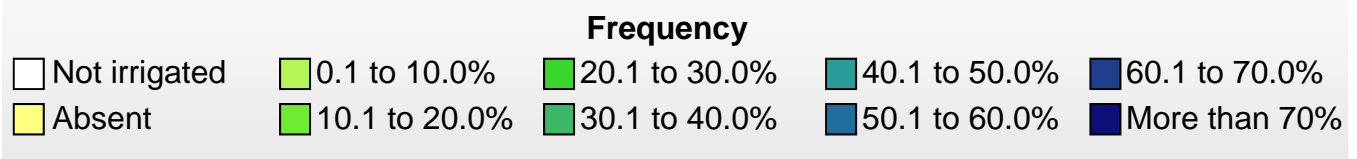
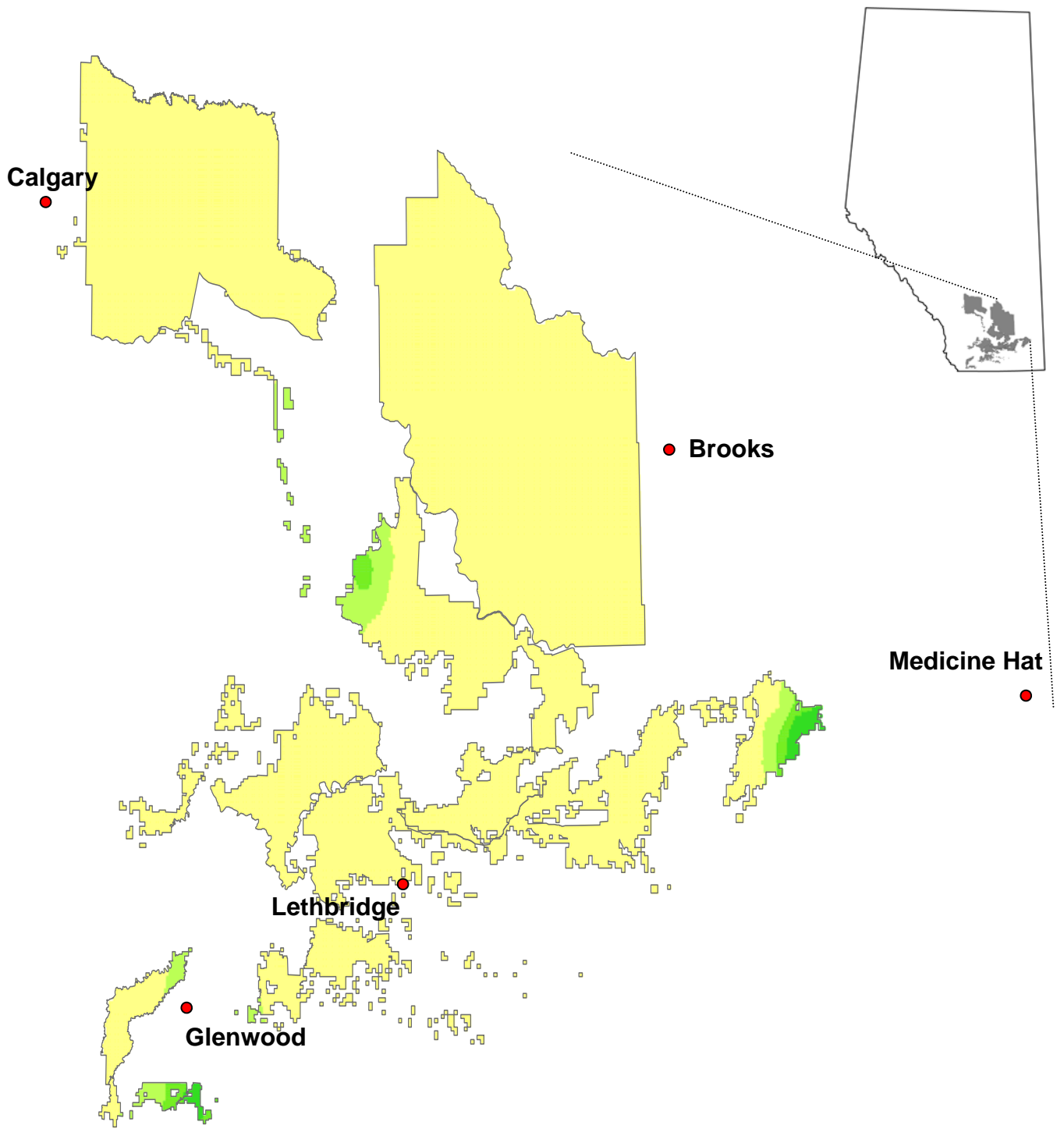


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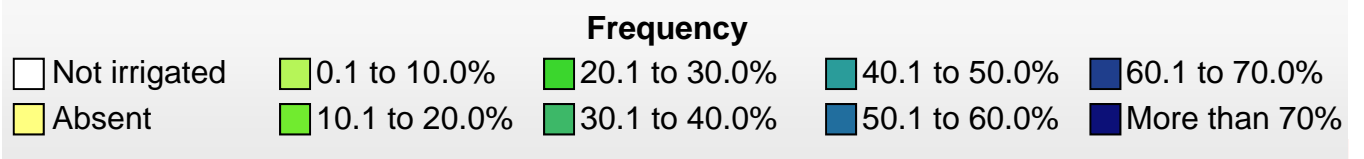
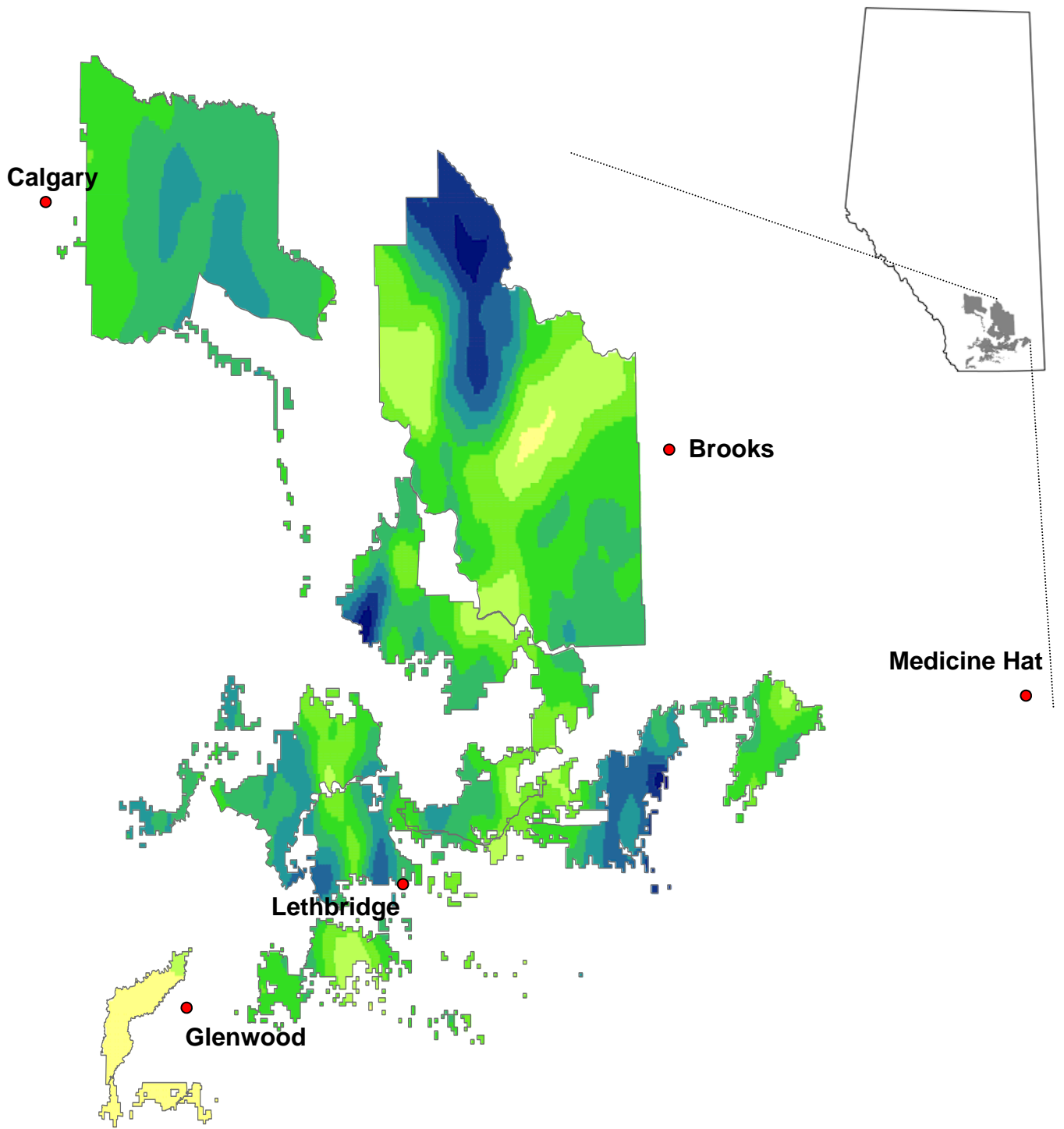
Wild buckwheat, *Polygonum convolvulus*



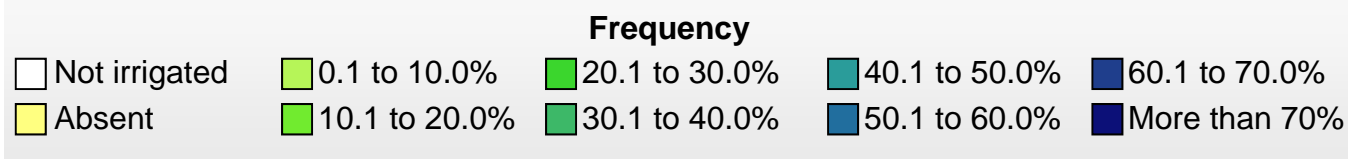
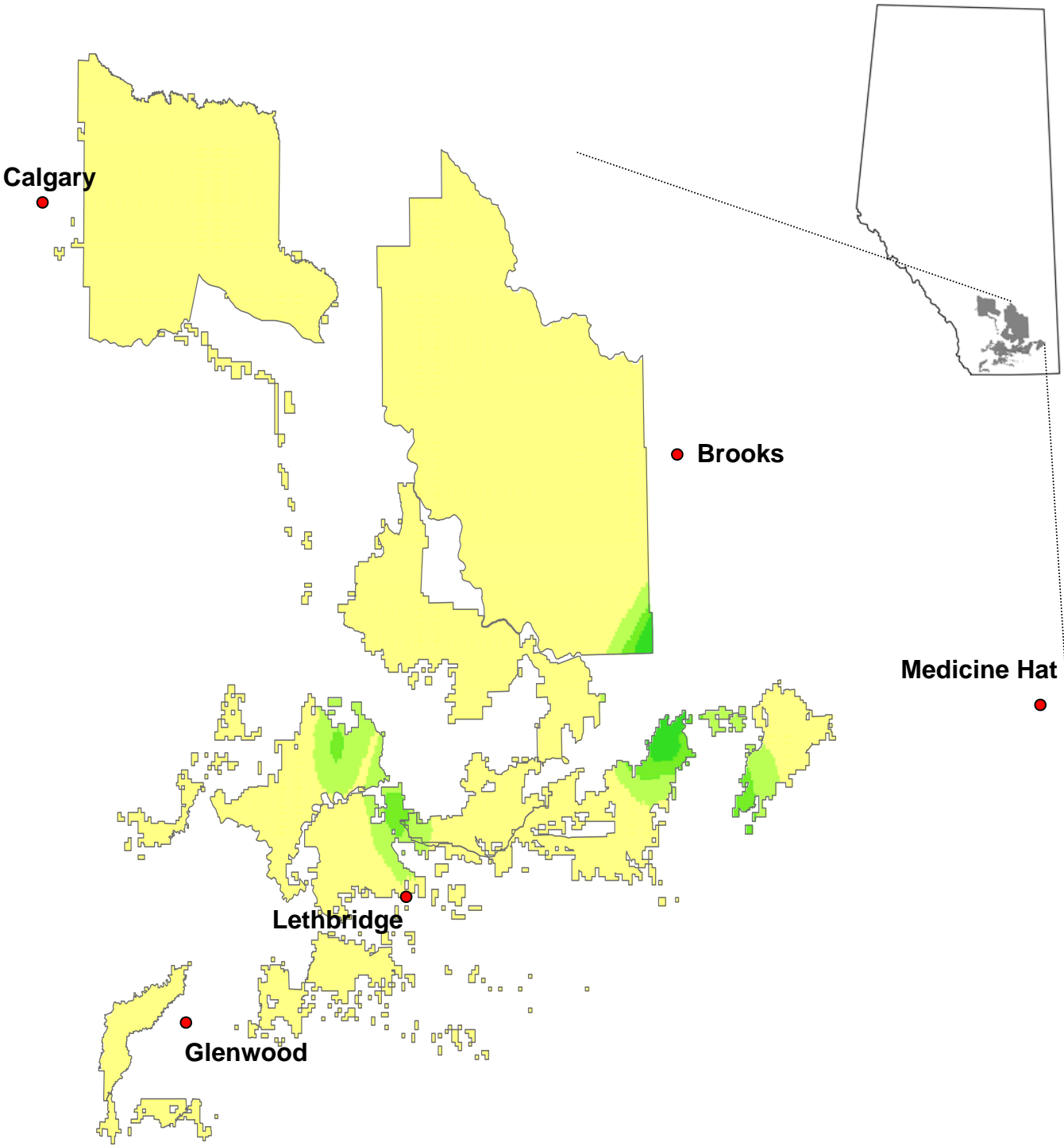
Wild mustard, *Sinapis arvensis*



Wild oats, *Avena fatua*



Wild tomato, *Solanum triflorum*



Yellow sweet-clover, *Melilotus officinalis*

