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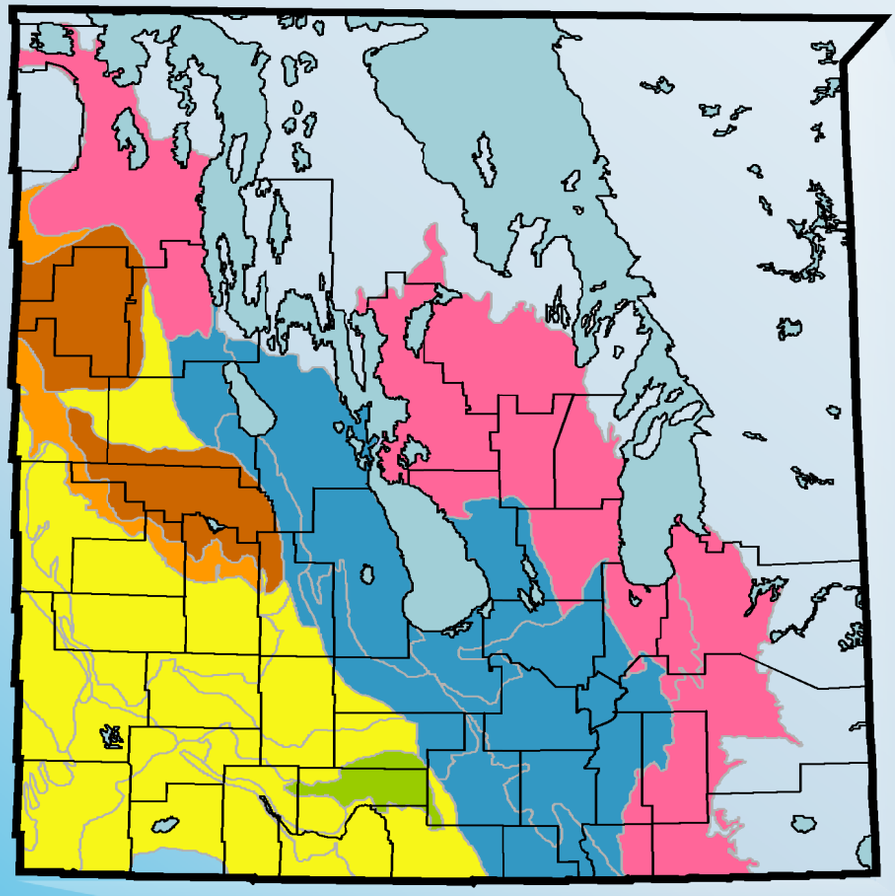
Manitoba Weed Survey

Cereal and Oilseed Crops
2002



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Weed Survey Series

Manitoba Agriculture and Food
University of Manitoba
Canada

Agriculture and Agri-Food Canada Research Branch
Agriculture et Agroalimentaire Canada Direction générale de la recherche

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University of Manitoba
Department of Plant Science
Manitoba Agriculture

Manitoba Weed Survey of Cereal and Oilseed Crops in 2002

by

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PREVIOUSLY PUBLISHED REPORTS IN THE WEED SURVEY SERIES

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

(Table continued on next page)

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

Number	Title
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
02-1	Alberta weed survey of cereal, oilseed and pulse crops in 2001

PREFACE

A major four-year weed survey project titled “Shifts in the Distribution, Abundance, Resistance, and Management of Weeds in Prairie Ecosystems” was initiated in 2001. The project has three equally important components. The field survey component involves weed counts in 4000 randomly selected sites in Alberta, Saskatchewan and Manitoba. The second project component includes a management questionnaire that is used to gather details of the farm practices used on the 4000 surveyed fields. Dr. Hugh Beckie is the coordinator for the third project component that involves a survey for resistant weeds in 800 randomly-selected fields from the list of surveyed sites.

Each of the Prairie Provinces was surveyed first in the 1970's and again in the 1980's and 1990’s. The 2002 Manitoba survey reported in this publication is part of the fourth survey in the series. Alberta was surveyed in 2001 and a survey is planned for Saskatchewan in 2003. After completion of the Manitoba field survey, Manitoba Agriculture and Food collected information on the management history of the surveyed fields using a questionnaire. The summarization of the questionnaire data is an important aspect of the overall project and will be the subject of a separate report in the future. A detailed analysis of the correlations between weed communities and management practices will also be the subject of future publications.

The weed community database from periodic surveys in Manitoba now contains information on the density of more than 150 weed species in approximately 3000 fields of cereal, oilseed and pulse crops. This is the only source of independent quantitative data on weed populations for these crops in Manitoba. The size and time span of the database make it unique and valuable for tracking shifts in weed populations.

This report is part of a Weed Survey Series that presents the information accumulated during the past 28 years of weed survey projects in Canada. The purpose of these reports is to provide quick summaries of the results in tables and maps. The published reports to date have dealt with cereal and oilseed crops in Prince Edward Island, Manitoba, Saskatchewan, Alberta, and the Peace River Region of British Columbia. Reports from southern Ontario included the row crops, corn, soybean, and tomato besides cereal crops. Weeds of forage crops in the Peace River Region of British Columbia and weeds of fields where alfalfa was grown for seed in Manitoba were also the subjects of reports in this series. Some publications in this series reported on surveys of sunflower, mustard, lentil, field pea, and winter wheat in Saskatchewan. Comparisons among the weed populations under different tillage systems in southwestern Ontario and in Manitoba were published. All these surveys have used a similar method of summarization that enables the results from across Canada and from different years to be assessed in the same way.

I hope that you will find the survey results contained in this report a useful addition to our knowledge of the distribution and abundance of weeds in Manitoba. It is my goal to provide these data in a timely manner and in a convenient format. I encourage you to take the time to delve into the details contained in this report and hope it will provide answers to some of your specific questions. Your suggestions and comments on the content and style of the presentation are always appreciated.

A. Gordon Thomas
Survey Project Leader
Agriculture and Agri-Food Canada
Saskatoon Research Centre

Saskatoon, SK
December 2002

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Direct financial assistance to conduct the survey was provided by:

Matching Investment Initiative (MII) of Agriculture and Agri-Food Canada

and by the following herbicide manufacturers and distributors:

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Nufarm Agriculture Inc.
Western Co-operative Fertilizers Limited

In-Kind Support

The 2002 weed survey in major cereal and oilseed crops in Manitoba was a product of the hard work, support, and encouragement of many people. The project was a collaborative endeavour of Manitoba Agriculture and Food, the University of Manitoba and Agriculture and Agri-Food Canada (AAFC). More than 85 people from these three organizations contributed to the project.

We would like to thank the Manitoba Weed Supervisors Association for administering the funds payable to the weed surveyors as well as assisting with conducting weed surveys as necessary.

We would like to thank all the Manitoba Agriculture and Food staff from the Regional Agricultural Services Division who helped with site qualification and co-ordination. In particular, a special thank you is extended to the secretaries in the various Districts who telephoned producers and obtained permission to conduct the survey in one of their fields.

We want to thank each of the following people within Agriculture and Agri-Food Canada in Saskatoon for facilitating the expeditious summary of the survey results:

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Donna Chen (data editing)
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Agricultural Representatives, Weed Supervisors, summer survey technicians, University of Manitoba staff and graduate students and Agriculture and Agri-Food Canada employees were responsible for conducting the field survey. We thank the following people for surveying fields.

Affiliation	Surveyors	Agricultural District
Agriculture and Agri-Food Canada	Donna Chen	Roblin
	Brett Hrynewich	Roblin
	Julia Leeson	Roblin, Russell
	Brad Scothorn	Roblin, Russell
Manitoba Agriculture and Food	Todd Andrews	Boissevain, Carman, Morris, Stonewall, Virden
	Roy Arnott	Killarney
	Dennis Beernaert	Gladstone
	Danielle Bérard	St. Pierre, Vita/Dominion City
	Luanne Berjian	Russell
	Lesley Bond	Ashern
	Marc Boulanger	Souris, Virden
	Kim Brown	Russell
	Dan Caron	Starbuck
	Jon Crowson	Virden
	Stephanie Cruickshanks	Brandon
	Shane Dobson	Melita
	Murray Frank	Carberry
	Carmi Foster	Swan River
	Neil Galbraith	Minnedosa
	Jim Heshka	Dauphin/Ethelbert
	Brian Jack	Altona
	Elmer Kaskiw	Shoal Lake
	Allen Kokolski	Arborg, Fisher Branch, Teulon
	Jim Mason	Lundar
	Ardin Masson	Portage La Prairie
	John McGregor	Steinbach
	Brian Nedohin	Morden
	John Patternson	Hamiota
	Rejean Picard	Somerset
	Carla Pouteau	Pilot Mound, Somerset, Treherne
	Megan Rose	Swan River
	Ashley Rowland	Russell
	Rodger Sheldon	Ste. Rose
	Mark Sloane	Pilot Mound
	Elizabeth Stadnyk	Ste. Rose
	Stan Stadnyk	Stonewall
Manitoba Weed Supervisors Association	Michéle Ammeter	Starbuck
	Grant Lusignan	Treherne
	Fred Paulson	Arborg, Fisher Branch, Teulon
	Claude Roeland	Dugald
	Kent Shewfelt	Pilot Mound
University of Manitoba	John Bullied	Carman
	Kristi De Corby	Beausejour, Boissevain, Morris, Neepawa
	Jody Dexter	Beausejour, Boissevain, Morris, Neepawa
	Glenn Friesen	Morris, Stonewall
	Anastasie Kabanyana	Carman
	Orla Nazarko	Beausejour, Morris
	Danielle Reid	Beausejour, Selkirk

Producer Support
It is with special pleasure that we acknowledge the contribution made by 631 producers who agreed to co-operate in the project by permitting survey staff to count weeds in their fields.

A. Gordon Thomas, Julia Y. Leeson, Todd Andrews, Kim R. Brown and Rene C. Van Acker

CONTENTS

History of Weed Survey Activities in Manitoba

Early reports on weeds in Manitoba were lists of species with general statements of where they occurred and the seriousness of the problem[1]. The first indication of the relative importance of seven serious weeds in Manitoba was obtained from reconnaissance surveys in 1930 and 1931[2]. 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 Frankton[3] 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 Alex[4], 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.

From 1975 to 1978, a weed survey involving the weed supervisors was conducted during June when the weeds were in the seedling stage[5]. This survey was the first to obtain quantitative information on the occurrence and size of weed populations in annual crops.

The current series of surveys was initiated in 1978. These new surveys differed in the timing of the field counts. Weeds were counted during July and early August. Information on the distribution and abundance of weeds occurring in cereal and oilseed crops in Manitoba was obtained in a series of summer surveys from 1978, 1979 and 1981[6]. A goal of 500 fields was set for each year of the survey. A minimum of ten sites was allocated to each Agricultural District, resulting in an overrepresentation of the Interlake Region in relation to the number of cultivated hectares. Not all the selected sites in a District or all Districts were surveyed each year because of staff limitations and other unforeseen circumstances. Two Districts were not surveyed in 1978, one District was not surveyed in 1979 and two Districts were not surveyed in 1981. Distribution maps were produced for 32 species.

A question asked frequently is whether or not the species composition and density of the weed flora have changed since the last survey. Thus, surveys are needed to document the weed picture every few years so that these comparisons can be made. Consecutive annual surveys can only rarely be used to detect trends in weed distribution and abundance because shifts in weed populations occur slowly. Consequently, the initial three years of annual

[1] **Fletcher, J.** 1897. The worst Canadian weeds. Central Exp. Farm, Canada Department of Agriculture. Bull. No. 28, Ottawa, ON. 43 pp.

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

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

[4] **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.

[5] **Thomas, A. G. and D. I. Donaghy.** 1991. A survey of the occurrence of seedling weeds in spring annual crops in Manitoba. Can. J. Plant Sci. 71: 811-820.

[6] **Thomas, A. G. and R. F. Wise.** 1984. Weed surveys of Manitoba cereal and oilseed crops in 1978, 1979 and 1981. Weed Survey Series Publication 84-1, Agriculture Canada, Regina, Saskatchewan. 230 pp.

surveys were followed by a second survey conducted five years later in 1986[7]. Three Districts were not surveyed at this time.

A third survey was conducted eleven years later in 1997 utilized ecodistricts as the strata for the stratified random-sampling of sites[8]. This resulted in a greater proportion of the surveyed fields allocated to the Northwestern and Southwestern Regions. A goal of 500 fields was set for the survey. One District was not surveyed.

A complimentary survey of 116 cereal and oilseed fields was conducted in 1994 to determine if differences in weed populations existed between fields managed with zero and conventional tillage systems[9]. Each zero tillage field was paired with a nearby conventional field sown to the same crop. Fields were surveyed in the spring prior to spraying and agin in the fall after tillage operations in the conventional fields but prior to spraying for winter annual weeds. Only 27 rural municipalities were included in the survey. No fields were surveyed in the Interlake Region.

The 2002 Manitoba Weed Survey Project

Rationale

Five years have past since the third survey in Manitoba was conducted in 1997. Numerous changes in the agricultural industry since the last survey have presented the need for a new survey with updated information. The last series of surveys were conducted before the widespread adoption of herbicide-resistant canola varieties and the weed abundance and management data have provided an important baseline on residual weed populations in herbicide-tolerant canola associated with farm management practices. The survey in 2002 will assess the impact of the adoption of this technology on weed communities in canola.

The weed survey data can be used to document the changes in the distribution and abundance of weeds that have occurred since the previous provincial surveys in 1997, 1986 and 1978 to 1981. Changes in weed abundance can be identified because all the surveys since 1978 have used a similar method of summarization. Individual weeds or groups of species identified as increasing in abundance can be targeted for attention by various agencies involved in weed science. The trends identified by the weed surveys are important to the research, industry, and extension communities for developing weed management recommendations for producers.

Objective

The objective of the project was to conduct in 2002 the fourth weed survey in Manitoba since the series of provincial surveys began in the late 1970s. The survey would measure the species compositions and population densities of the weed communities in the major summer annual crops grown in Manitoba.

Expected benefits of the provincial weed survey

1. Quantitative field surveys of weed populations are used to reveal the current size, extent, and order of importance of component species in the province, ecoregions, Agricultural 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.

[7] **Thomas, A. G. and R. F. Wise.** 1988. Weed surveys of Manitoba cereal and oilseed crops in 1986. Weed Survey Series Publication 88-1, Agriculture Canada, Regina, Saskatchewan. 201 pp.

[8] **Thomas, A. G., B. L. Frick, R. C. Van Acker, S. Z. Knezevic and D. Joosse.** 1998. Manitoba survey of cereal and oilseed crops in 1997. Weed Survey Series Publication 98-1, Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan. 233 pp. 36 maps.

[9] **Thomas, A. G., D. J. Kelner, R. F. Wise and B. L. Frick.** 1997. Manitoba weed survey comparing zero and conventional tillage crop production systems (1994). Weed Survey Series Publication 97-1, Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan. 130 pp.

3. Tracking the increase or decrease in weed populations and the changes in the composition and structure of weed communities, using the database of survey information from the previous three surveys, will indicate the extent by which various weeds are spreading or being controlled and thus the effectiveness of weed management programs.

4. Crop yield losses due to specific weeds can be estimated and these loss estimates can be used to establish the economic costs.

5. Weed survey data can provide an objective basis for developing ecologically and economically sustainable strategies to manage agricultural weeds. The data are used to set research and education priorities, develop recommendations, and design weed management strategies in the research, extension, and agri-business communities.

6. Targeting of increasingly scarce scientific resources requires objective information on the species compositions and population densities of the weed communities that occur locally, regionally or provincially. Individual species or groups of species can be targeted for attention by various agricultural agencies.

7. Additional benefits of the weed survey will be realized when the results are combined with the information gathered in the farm management questionnaire survey. The questionnaire survey will provide detailed information on what farmers are doing to produce a crop. By combining the field and questionnaire survey data, particular weed management practices that are important determinants of distinctive weed communities can be determined.

8. Relating trends in weed populations and communities to the use of specific agronomic and weed control practices or to cropping systems will identify possible reasons that certain weeds have become more or less of a problem on an ecoregion, crop, or provincial basis.

9. Predicting shifts in weed populations and communities that might occur because of anticipated changes in agronomic practices, weed control management, and agricultural policy will allow agricultural agencies to develop weed management strategies that meet the future needs of farmers.

Study Area

The survey included the 3.4 million hectares of cultivated land of the province of Manitoba. This area extends from the border with the United States in the south to approximately 53°N, and from the Saskatchewan border in the west to the Boreal Shield on the eastern side of the province.

Ecoregions and Ecodistricts

The survey area is represented by seven ecoregions[10] (Figure 1). Ecoregions are areas of similar, climate, natural vegetation, soils and land use. Each ecoregion consists of one or more ecodistricts (Figure 2). 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.

The northern limit of arable land in Manitoba lies in the **Interlake Plain Ecoregion**. It extends in a broad arc from the USA-Canada border at the southern edge of the province in a north western direction to the Saskatchewan border. Native vegetation in this ecoregion is dominated by trembling aspen and balsam poplar. The ecoregion is level to ridged, with glacial till and glaciolacustrine deposits underlain by Paleozoic limestone. Predominant soils are Dark Gray Chernozems, with local areas of Black Chernozems, Eutric Brunisols, Gleysols and Mesisols. Five of the six ecodistricts in this ecoregion were surveyed. The northernmost ecodistrict located between Lake Winnipeg and Lake Winnipegosis did not have enough cultivated land to be included in the survey.

[10] **Smith, R. E., H. Veldhuis, G. F. Mills, R. G. Eilers, W. R. Fraser and G. W. Lelyk.** 1998. Terrestrial ecozones, ecoregions, and ecodistricts, an ecological stratification of Manitoba's natural landscapes. Technical Bulletin 98-9E. Land Resource Unit, Brandon Research Centre, Research Branch, Agriculture and Agri-Food Canada, Winnipeg, Manitoba. Report and national map at 1:1 500 000 scale.

The **Boreal Transition Ecoregion** occurs as a single ecodistrict forming a narrow belt bordering Riding Mountain and Duck Mountain. Trembling aspen and balsam poplar also dominate the native vegetation of this ecoregion. The ecoregion is a hummocky plain, with glacial till and fluvioglacial deposits underlain by Cretaceous shale. Predominant soils are Dark Gray Chernozems, with local areas of Gray Luvisols, peaty Gleysols and Mesisols.

The **Mid-Boreal Upland Ecoregion** occurs as three separate elevated uplands along the Manitoba escarpment known as Porcupine Hills, Duck Mountain and Riding Mountain. Each of these uplands is a unique ecodistrict. Native vegetation in the this ecoregion is dominated by trembling aspen, balsam poplar, white and black spruce and balsam fir. This ecoregion consists of kettled to dissected deep glacial till, glaciolacustrine and glaciofluvial deposits overlaying Cretaceous shales. Predominant soils are Gray Luvisols, with local areas of peaty Gleysols, Mesisols, Eutric Brunisols and Dark Gray Chernozems. Agriculture only occurs in the lower elevations surrounding the parks in the two southern ecodistricts.

The **Lake Manitoba Plain Ecoregion** lies south and west of the Interlake Plain Ecoregion and extends from the USA-Canada border in a northwestern direction to Lake Dauphin. It is transitional between boreal forest and aspen parkland. Native vegetation is dominated by trembling aspen, bur oak and fescue grassland. The ecoregion is underlain by limestone, and has broadly ridged glacial till in the north and smooth lacustrine deposits in the south. The predominant soil is a Black Chernozem, with local pockets of Gleysols and Vertisols. All twelve ecodistricts in this ecoregion were included in the survey.

The **Aspen Parkland Ecoregion** occupies the southwestern corner of the province and a small area between Riding Mountain and Duck Mountain. Native vegetation is mostly gone, but would have been dominated by trembling aspen, bur oak and fescue grasslands. The ecoregion is underlain by Cretaceous shale, and is undulating to kettled to gently undulating to level, with glacial till, glaciolacustrine and glaciofluvial deposits. The dominant soil is a Black Chernozem, with pockets of Regosols and Gleysols. This ecoregion is a highly productive agricultural area. All twelve ecodistricts in this ecoregion were included in the survey.

The **Southwest Manitoba Uplands** consists of two distinct uplands (Pembina Hills and Turtle Mountain) in south-central Manitoba surrounded by the Aspen Parkland Ecoregion. The native vegetation is trembling aspen, balsam poplar and bur oak. The Southwest Manitoba Uplands is hummocky to kettled glacial till with fluvioglacial deposits, underlain by Cretaceous or Tertiary shale. The predominant soils are Dark Gray and Black Chernozems, with local areas of Gray Luvisols, peaty Gleysols and Mesisols. Agriculture is significant only in Pembina Hills. The majority of Turtle Mountain is included in a provincial park; therefore, there was not have enough cultivated land to include this ecodistrict in the survey.

The **Lake of the Woods Ecoregion** occupies the southeastern corner of the province. This ecoregion is a mixed forest region, with native vegetation dominated by trembling aspen, paper birch, jack pine, white spruce, eastern white cedar, black ash and white elm. The area has glacial till with fluvioglacial deposits, overlaying Archean bedrock. The predominant soils are Organics Mesisols, Fibrisols, Brunisols, and Gray Luvisols with Dark Gray Chernozemic and Gleysolic soils found in local areas. Agriculture is not a major occupation in this ecoregion, limited to lowlands along rivers and streams where artificial drainage systems have been developed. Only one of the five ecodistricts, located along the western edge of the ecoregion, had enough cultivated area to be included in the survey. Since few sites were surveyed in this ecoregion, it was combined with the Interlake Plain Ecoregion in the summary tables.

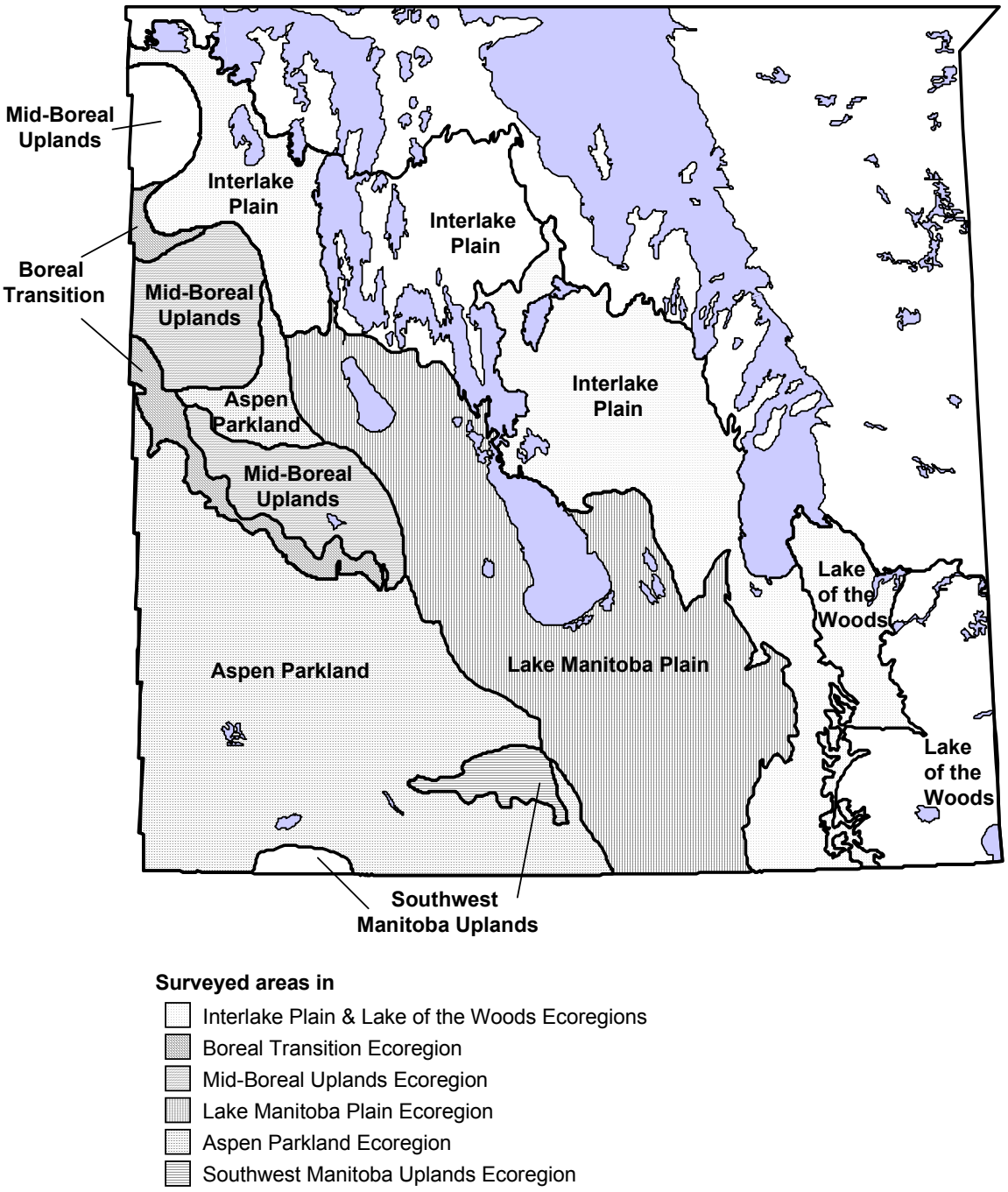

Figure 1. Area surveyed in ecoregions[11] included in the weed survey. Major ecoregions are indicated by larger font. Ecoregions that are grouped in summaries are shaded with the same pattern.

[11] **Agriculture and Agri-Food Canada.** 1999. Overview of ecostratification coverage. [Online] Available: http://sis.agr.gc.ca/cansis/nsdb/ecostrat/coverage/intro.html [10 October 2002]

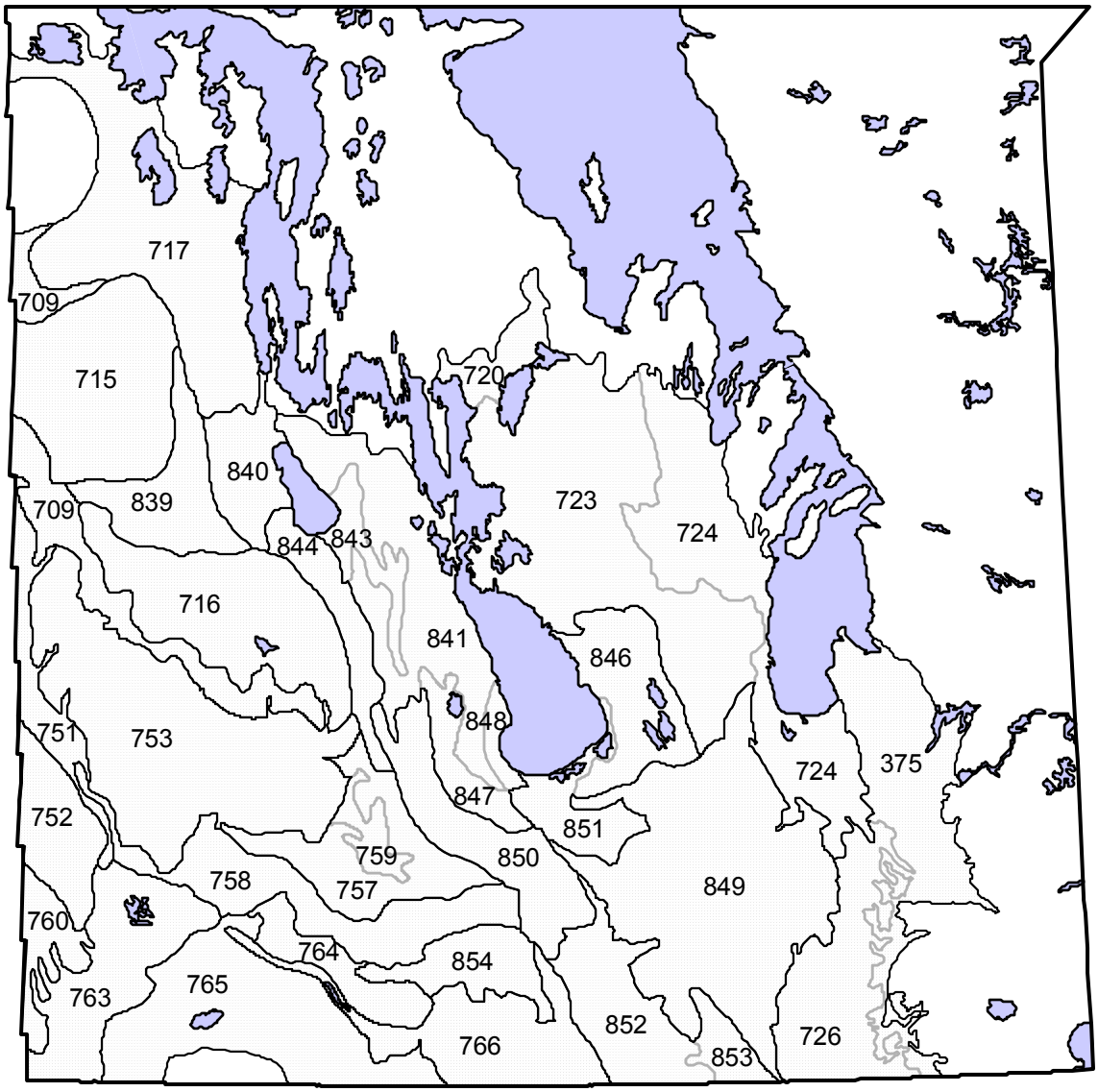

Figure 2. Ecodistricts[12] included in the weed survey. Ecodistricts that are surrounded by a thick black line on the map are grouped in summaries. Ecodistrict names are found in Table 1.

[12] **Agriculture and Agri-Food Canada.** 1999. Overview of ecostratification coverage. [Online] Available: http://sis.agr.gc.ca/cansis/nsdb/ecostrat/coverage/intro.html [10 October 2002]

Table 1. Climate normals for the ecodistricts included in the Manitoba survey[13]

Ecoregion and Ecodistrict[14]	Average Daily Temperature (°C) January	July	Annual Precipitation (mm)	Precipitation Surplus/ Deficit (mm)[15]	Growing Season Length (days)[16]
Interlake Plain & Lake of the Woods					
Swan Lake (717)	-19.3	17.9	494	-34	174
Gimli (724)	-19.4	18.8	523	-11	176
Ashern (723)	-19.3	18.5	510	-21	175
Gypsumville (720)	-18.9	18.8	523	-6	173
Steinbach (726)	-18.2	19.5	513	-40	184
Stead (375)	-18.7	19.2	537	-6	180
Boreal Transition					
Swan River (709)	-19.3	17.6	478	-37	171
Mid-Boreal Uplands					
Duck Mountain (715)	-19.0	18.3	502	-30	174
Riding Mountain (716)	-18.5	17.8	504	-13	173
Lake Manitoba Plain					
Dauphin (840)	-17.9	18.7	501	-37	177
McCreary (844)	-17.0	19.2	519	-26	179
Gladstone (847)	-17.9	19.2	487	-59	179
Alonsa (841)	-17.8	19.3	512	-31	177
Ste. Rose (843)	-17.1	19.3	524	-22	179
Langruth (848)	-17.6	19.2	518	-28	178
Winnipeg (849)	-18.3	19.6	514	-42	183
MacGregor (850)	-17.4	19.4	503	-52	182
Portage (851)	-17.6	19.6	514	-41	181
Lundar (846)	-18.2	19.3	486	-66	181
Winkler (852)	-16.8	20.0	514	-52	185
Emerson (853)	-17.5	20.2	537	-34	187
Aspen Parkland					
St. Lazare (751)	-18.0	18.5	441	-94	177
Melville (752)	-17.2	18.6	441	-95	178
Hamiota (753)	-18.5	18.2	463	-63	175
Shilo (757)	-17.9	19.2	482	-66	181
Carberry (759)	-18.2	19.1	473	-74	181
Stockton (758)	-17.5	19.3	493	-58	181
Gainsborough Creek (760)	-16.3	19.1	454	-89	180
Oak Lake (763)	-16.8	19.5	468	-84	182
Hilton (764)	-17.3	19.2	513	-34	182
Killarney (765)	-16.7	19.4	502	-49	183
Manitou (766)	-17.1	19.4	530	-21	183
Grandview (839)	-18.7	18.2	496	-30	173
Southwest Manitoba Uplands					
Pembina Hills (854)	-17.1	19.3	541	-7	182

[13] **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 [10 October 2002]

[14] Indented ecodistricts are combined with preceding ecodistricts in summaries

[15] Annual potential evapotranspiration (PE) was estimated from climatic normals for each ecodistrict using the Thornthwaite method. A precipitation surplus/deficit was computed by subtracting the PE from total precipitation.

[16] The date of the growing season start (GSS) and end (GSE) were determined by the first and last day of the year when the mean daily air temperature equals or exceeds 5 degrees Celsius. Growing season length (GSL) was computed as GLS=GSE-GSS+1, where GSE and GSS are calendar (Julian) days.

Crop Selection

The selection of cereal and oilseed crops to be included in the 2002 survey was based on the March seeding intentions in the province[17] (Table 2). It was assumed that a similar proportion of crops would be grown in 2002. A minimum of 20 fields was set as the limit for inclusion of a crop in the survey. Based on a survey target of 630 fields in Manitoba (4000 fields distributed proportionally amongst Alberta, Saskatchewan and Manitoba), three cereal crops and two oilseed crops were selected.

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

Crop	Seeding Intentions (1,000 ha)	Proportion of area (%)	Expected number of fields
Cereal			
Spring wheat	1562	45.8	288
Barley	506	14.8	93
Oat	374	11.0	69
Oilseed			
Canola	789	23.1	146
Flax	182	5.3	34
Total	3413	100.0	630

Stratification of Sites

Ecodistricts were used as the strata in a stratified random-sampling procedure. The number of fields in an ecodistrict was allocated in proportion to the seeded area of the selected crops in the ecodistrict, relative to the total area seeded to selected crops in all ecodistricts (Table 3). Hectarage of field crops derived from the 1996 census data of Statistics Canada for each soil landscape complex (a subunit of ecodistrict) was obtained from the Soil Landscapes of Canada Database[18] and summed to obtain hectarage per ecodistrict. To facilitate the organization of the survey for provincial staff, fields allocated to ecodistricts were subsequently allocated to Agricultural Districts based on proportion of each ecodistrict's area cultivated in each Agricultural District (Figure 3).

[17] **Statistics Canada.** 2002. March intentions of Principal Field Crop Areas, Canada 2002. Field Crop Reporting Series No. 2, Vol. 81. Ottawa, Canada.

[18] Information supplied by **Saskatchewan Land Resource Centre**, University of Saskatchewan and Land Resource Unit (Semiarid Prairie Agricultural Research Centre), Saskatoon from Soil Landscapes of Canada Database for Manitoba, Saskatchewan and Alberta.

Table 3. Allocation of sites based on ecodistrict area and number of sites actually surveyed in each ecodistrict.

Ecoregion and Ecodistrict[19]	Allocated	Surveyed
Interlake Plain & Lake of the Woods *(Ecodistrict 375)*	**62**	**62**
Swan Lake (717)	18	18
Gimli (724)	24	24
Ashern (723)	4	4
Gypsumville (720)	1	1
Steinbach (726)	6	6
Stead (375)	9	9
Boreal Transition	**21**	**20**
Swan River (709)	21	20
Mid-Boreal Uplands	**13**	**14**
Duck Mountain (715)	5	5
Riding Mountain (716)	8	9
Lake Manitoba Plain Ecoregion	**223**	**222**
Dauphin (840)	11	11
McCreary (844)	10	11
Gladstone (847)	10	9
Alonsa (841)	6	5
Ste. Rose (843)	4	4
Langruth (848)	3	3
Winnipeg (849)	109	109
MacGregor (850)	18	17
Portage (851)	11	12
Lundar (846)	1	1
Winkler (852)	31	31
Emerson (853)	9	9
Aspen Parkland Ecoregion	**295**	**296**
St. Lazare (751)	14	13
Melville (752)	16	17
Hamiota (753)	69	69
Shilo (757)	10	10
Carberry (759)	6	6
Stockton (758)	27	27
Gainsborough Creek (760)	11	12
Oak Lake (763)	18	19
Hilton (764)	11	11
Killarney (765)	65	65
Manitou (766)	30	29
Grandview (839)	18	18
Southwest Manitoba Uplands Ecoregion	**16**	**17**
Pembina Hills (854)	16	17
Manitoba	**630**	**631**

[19] Indented ecodistricts are combined with preceding ecodistricts in summaries

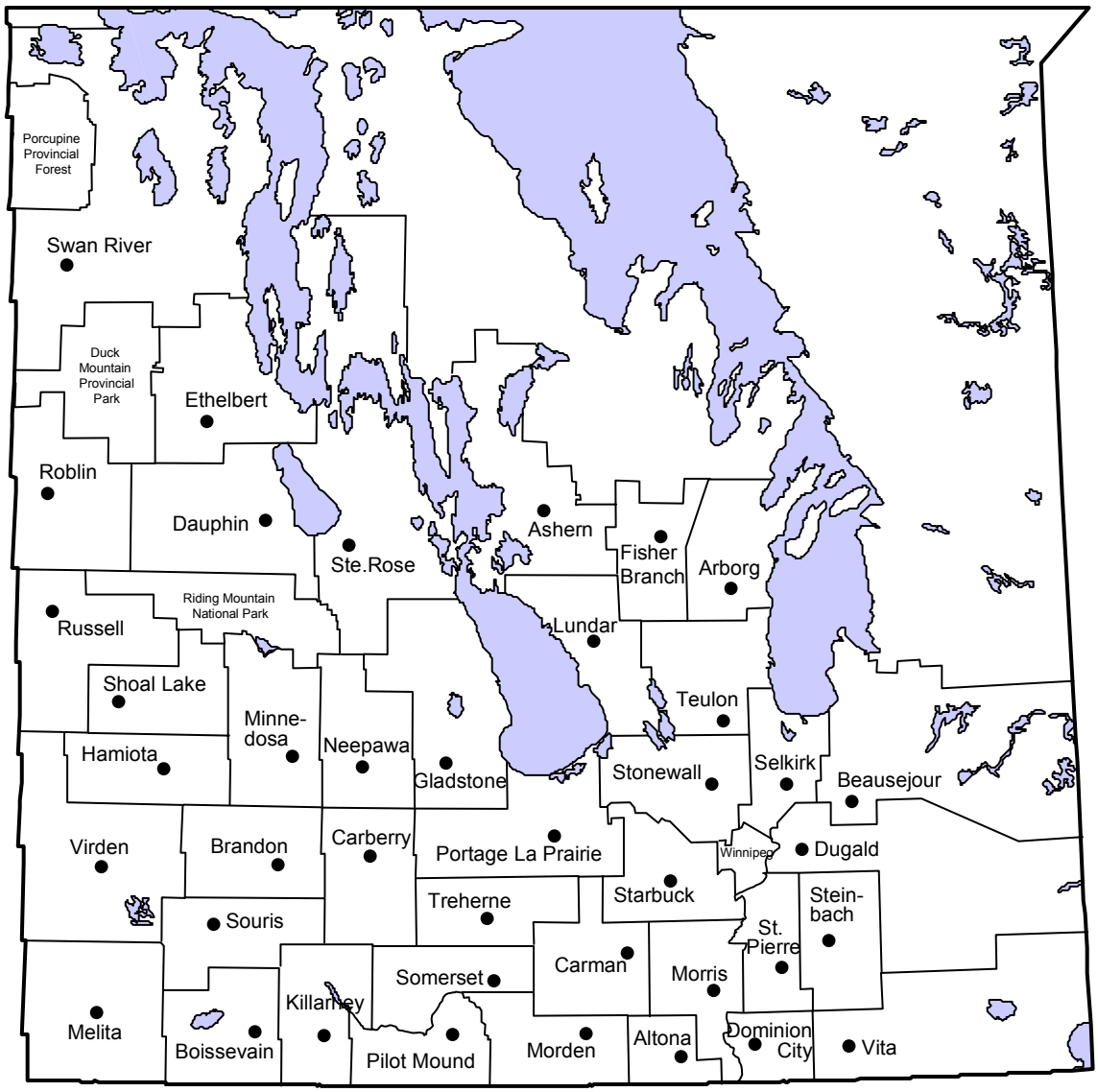

Figure 3. Agricultural Districts[20] included in the weed survey.

[20] **Manitoba Agriculture.** 1998. Manitoba Agriculture Regions and Districts. Soil Resource Section, Soils and Crops Branch. Map at 1:1 300 000 scale.

Random Site Selection

The random selection of sites used the grid established by the Dominion Land Survey System[21] in western Canada. A random sample was selected from all quarter sections (65 ha) that had greater than 16 cultivated hectares within each target ecodistrict and municipality or county. A list that contained four times the allocated number of sites was developed for each ecodistrict.

Staff in the Agricultural Districts were responsible for determining ownership of the land and for qualifying sites. 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 2002)?
5. Is the identified field accessible by road?
6. Do you agree to complete a questionnaire on management practices used on the identified field in the fall?
7. Do you agree to allow a resistant weed survey to be conducted on same quarter in August?

If a field in a quarter section did not qualify, 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 same person as the preselected quarter section. For each site, the following information was recorded on a form:

(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 and the identity of the underseeded crop if present,
(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 provided.

Field Survey Personnel and Orientation Sessions

The majority of the fields were surveyed by Manitoba Agriculture and Food personnel (74%) including Agricultural Representatives, summer students, crop specialists, weed specialists and technicians. 54% of the fields were surveyed by the Agricultural Representative for the District. University of Manitoba Plant Science graduate students and staff surveyed 16% of the fields, and members of the Manitoba Weed Supervisors Association and surveyed 7% of the fields. Agriculture and Agri-Food Canada employees surveyed the remaining fields. A total of 48 people contributed to the weed counts.

An orientation session was held in Brandon on June 18 prior to the start of the field survey. Approximately 70% of the weed surveyors attended the session. The purpose of the session was to explain reasons for conducting a weed survey, how to implement the protocol, how to handle unknown weeds, and how to record the weed data on the field sheets. The afternoon of the training session was devoted to weed identification, including a slide show and a tour of the weed garden at the Brandon Research Centre. Potential identification problems with specific groups of species were highlighted during the session. Each surveyor was provided with a booklet summarizing the material presented at the training session. This booklet was made available to those who could not attend.

[21] **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.

Timing of Weed Counts

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

Weed Counts 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 4). 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 m^2 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.

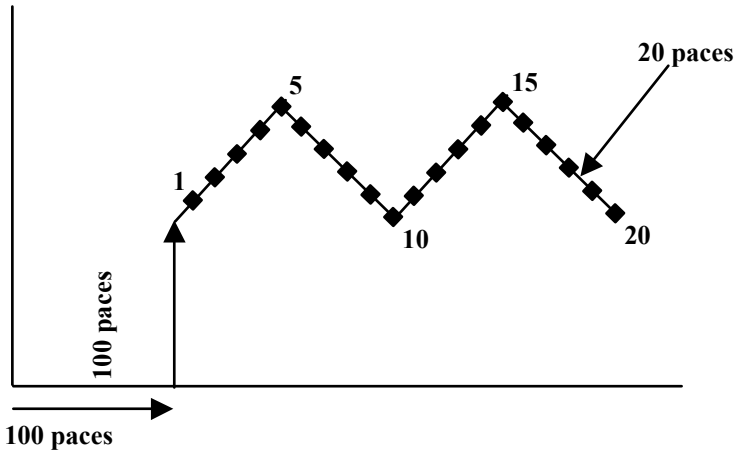

Figure 4. W-pattern used for field counts.

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. The underseeded crop in a field was not counted.

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 101 weeds found in 2002 are listed in Table 4.

Table 4. Common and scientific names[22] of plants that appear in this report

Common Name	Scientific Name
Absinth	*Artemisia absinthium* L.
American dragonhead	*Dracocephalum parviflorum* Nutt.
American vetch	*Vicia americana* Muhl. ex Willd. var. *americana*
Annual blue grass	*Poa annua* L.
Annual sow-thistle spp.	*Sonchus asper* (L.) Hill & *S. oleraceus* L.
Aspen poplar	*Populus tremuloides* Michx.
Ball mustard	*Neslia paniculata* (L.) Desv.
Barnyard grass	*Echinochloa crusgalli* (L.) P. Beauv.
Bicknell's geranium	*Geranium bicknellii* Britton
Biennial wormwood	*Artemisia biennis* Willd.
Black medick	*Medicago lupulina* L.
Black mustard	*Brassica nigra* (L.) W.D.J. Koch
Bladder campion	*Silene vulgaris* (Moench) Garcke
Blue grass species	*Poa* spp.
Bluebur	*Lappula squarrosa* (Retz.) Dumort.
Broad-leaved plantain	*Plantago major* L.
Canada goldenrod	*Solidago canadensis* L. var. *canadenis*
Canada thistle	*Cirsium arvense* (L.) Scop.
Chickweed	*Stellaria media* (L.) Vill.
Cleavers	*Galium aparine* L.
Cocklebur	*Xanthium strumarium* L.
Common groundsel	*Senecio vulgaris* L.
Common pepper-grass	*Lepidium densiflorum* Schrad.
Common ragweed	*Ambrosia artemisiifolia* L.
Cow cockle	*Vaccaria hispanica* (Mill.) Rauschert
Curled dock	*Rumex crispus* L.
Dandelion	*Taraxacum officinale* G. H. Weber ex Wiggers
Dog mustard	*Erucastrum gallicum* (Willd.) O.E. Schultz
False ragweed	*Iva xanthifolia* Nutt.
Field horsetail	*Equisetum arvense* L.
Flixweed	*Descurainia sophia* (L.) Webb ex Prantl
Foxtail barley	*Hordeum jubatum* L.
Giant ragweed	*Ambrosia trifida* L.
Green foxtail	*Setaria viridis* (L.) P. Beauv.
Hemp-nettle	*Galeopsis tetrahit* L.
Henbit	*Lamium amplexicaule* L.
Kochia	*Kochia scoparia* (L.) Schrad.
Lamb's-quarters	*Chenopodium album* L.
Leafy spurge	*Euphorbia esula* L.
Manitoba maple	*Acer negundo* L.
Maple-leaved goosefoot	*Chenopodium simplex* (Torr.) Raf.
Mouse-eared chickweed	*Cerastium fontanum* Baumg. subsp. *vulgare* (Hartm.) Greuter & Burdet
Narrow-leaved hawk's-beard	*Crepis tectorum* L.
Night-flowering catchfly	*Silene noctiflora* L.
Oak-leaved goosefoot	*Chenopodium glaucum* L.
Pale smartweed	*Polygonum lapathifolium* L.
Perennial sow-thistle	*Sonchus arvensis* L.
Pineappleweed	*Matricaria discoidea* D.C.
Prickly lettuce	*Lactuca serriola* L.

(Table continued on next page)

Table 4. Common and scientific names[22] of plants that appear in this report *(continued)*

Common Name	Scientific Name
Proso millet	*Panicum miliaceum* L.
Prostrate knotweed	*Polygonum aviculare* L.
Prostrate pigweed	*Amaranthus blitoides* S. Watson
Purple milk-vetch	*Astragalus agrestis* Douglas ex G. Don
Purslane	*Portulaca oleracea* L.
Quack grass	*Elytrigia repens* (L.) Desv. ex B. D. Jacks
Red clover	*Trifolium pratense* L.
Redroot pigweed	*Amaranthus retroflexus* L.
Rose species	*Rosa* spp.
Round-leaved mallow	*Malva pusilla* Sm.
Russian thistle	*Salsola kali* L. subsp. *ruthenica* (Iljin) Soó
Scentless chamomile	*Matricaria perforata* Merat
Scouring-rush	*Equisetum hyemale* L.
Shepherd's-purse	*Capsella bursa-pastoris* (L.) Medik.
Showy milkweed	*Asclepias speciosa* Torr.
Silverberry	*Elaeagnus commutata* Bernh. ex Rydb.
Slender wheat grass	*Elymus trachycaulus* (Link) Gould ex. Shinners
Small-flowered geranium	*Geranium pusillum* L.
Stinkweed	*Thlaspi arvense* L.
Stork's-bill	*Erodium cicutarium* (L.) L'Her.ex Aiton
Tansy	*Tanacetum vulgare* L.
Thyme-leaved spurge	*Euphorbia serpyllifolia* Pers.
Timothy	*Phleum pratense* L.
Tumble mustard	*Sisymbrium altissimum* L.
Vetch species	*Vicia* spp.
Volunteer alfalfa	*Medicago sativa* L.
Volunteer barley	*Hordeum vulgare* L.
Volunteer buckwheat	*Fagopyrum esculentum* Moench
Volunteer canary grass	*Phalaris canariensis* L.
Volunteer canola (Argentine)	*Brassica napus* L.
Volunteer canola (Polish)	*Brassica rapa* L.
Volunteer coriander	*Coriandrum sativum* L.
Volunteer corn	*Zea mays* L.
Volunteer fababean	*Vicia faba* L.
Volunteer field bean	*Phaseolus vularis* L.
Volunteer flax	*Linum usitatissimum* L.
Volunteer oats	*Avena sativa* L.
Volunteer peas	*Pisum arvense* L.
Volunteer rye grass	*Lolium* spp.
Volunteer sunflower	*Helianthus annuus* L.
Volunteer wheat	*Triticum aestivum* L.
Volunteer white mustard	*Sinapis alba* L.
Water smartweed	*Polygonum amphibium* L. subsp. *laevimarginatum* Hultén
White clover	*Trifolium repens* L.
White cockle	*Silene pratensis* (Raf.) Godr. & Gren.
Wild buckwheat	*Polygonum convolvulus* L.
Wild licorice	*Glycyrrhiza lepidota* Pursh
Wild mustard	*Sinapis arvensis* L.
Wild oats	*Avena fatua* L.

(Table continued on next page)

Table 4. Common and scientific names[22] of plants that appear in this report *(continued)*

Common Name	Scientific Name
Wild tomato	*Solanum triflorum* Nutt.
Witch grass	*Panicum capillare* L.
Wormseed mustard	*Erysimum cheiranthoides* L.
Yellow foxtail	*Setaria pumila* (Poir.) Roem. & Schult.
Yellow sweet-clover	*Melilotus officinalis* (L.) Pall.

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.

Weed data were summarized in tables using ecological, agronomic, and jurisdictional variables including ecoregion, ecodistrict, crop, Agricultural Districts and Agricultural Regions (Figure 5). 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 flax in the Northwest was not provided, however, the fields were included in the overall summary for Manitoba flax. Geographic areas (ecoregions, ecodistricts and Agricultural Districts) with fewer fields than required were combined with adjacent areas.

The geographic distribution of 36 frequently occurring species is presented in maps based on ecodistricts. Relative abundance is used as the mapping variable. Distribution maps were produced with ArcView GIS 3.2 from Environmental Systems Research Institute, Inc..

Data were summarized using seven quantitative variables. Details for the calculation of these variables are described elsewhere[23].

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.

[22] **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.

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

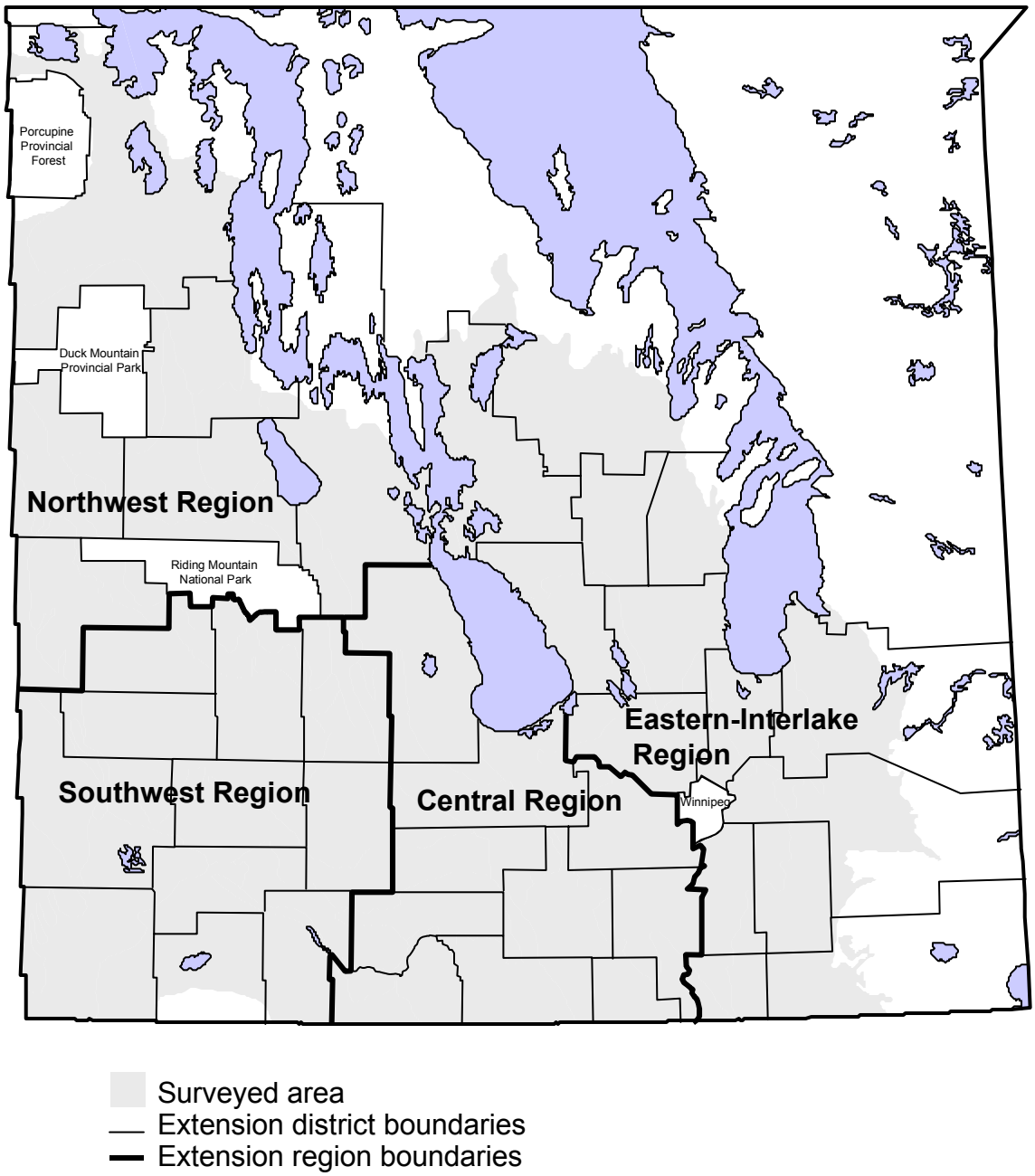

Figure 5. Surveyed area in Agricultural Regions[24].

[24] **Manitoba Agriculture.** 1998. Manitoba Agriculture Regions and Districts. Soil Resource Section, Soils and Crops Branch. Map at 1:1 300 000 scale.

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 frequency, field uniformity (all fields) and field density (all fields) values for each species.

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

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

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

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

Guide to the Use of the Field Survey Summary Tables

For the purposes of illustration, the meaning of the variables is explained for the species wild buckwheat in the provincial summary table (Table 5). A **frequency** of 57.7% means that wild buckwheat occurred at least once in 364 of the 631 cereal and oilseed fields surveyed. This variable estimates the geographic extent of the weed.

Field uniformity shows the proportion of quadrats (20 per field) in which the species occurred. In the example, the value for **all field uniformity** means that wild buckwheat occurred in 15.1% of the quadrats surveyed. This variable can be used as an estimate of the area occupied by a weed. The **occurrence field uniformity** value means that wild buckwheat was present in 26.2% of the quadrats when considering only the 364 occurrence fields.

Three density variables are included in the tables. Wild buckwheat had an **occurrence field density** of 2.8 plants per square metre and an **all field density** of 1.6 plants per metre square. The density for fields in which the species occurred is always equal to or higher than the density for all the fields in the summary. The **maximum density** shows that at least one field had a density of 80.6 wild buckwheat plants per square metre.

The final column shows the abundance of each species surveyed relative to each other. Values in this column add up to 300. **Relative abundance** is derived from the values of the frequency, field uniformity (all fields) and density (all fields) variables. The relative abundance variable is used for ranking species such as wild buckwheat and barnyard grass. Because the frequency and all field uniformity value of wild buckwheat is larger than that for wild oats, wild buckwheat is ranked higher, even though barnyard grass has a higher all field density. The relative abundance value of 25.9 for wild buckwheat is higher than the value of 16.9 for barnyard grass.

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 area of agriculture in the province. Only the major agricultural 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.

For a variety of reasons, some sites on the final list are different from those on the stratified random list developed initially. Sometimes site qualification was difficult because land owners could not be identified or contacted. In these instances, provincial staff may not have used the selected sites in the order given them, but may have selected producers in the area that they knew to be cooperative. This will have biased qualification of sites. When surveyors went to the field, they were given a list of preselected and qualified sites. Sometimes mistakes were made, and the legal description given was not in an appropriate crop, sufficiently accessible, or in another way not a legitimate site. In this instance, the surveyor made an alternative selection, usually in the immediate vicinity. Sometimes the alternate selections were in different ecodistricts. Fields planted to durum may have been surveyed and included with the spring wheat summaries. In two cases, the field was planted to mixture of the selected crops. These fields were included in overall summaries, but a separate summary was not made for mixed crops.

The distribution of the fields amongst the surveyed crops differs from expected based on original estimates (Table 2). When compared to September 2002 estimates of harvested area[25], the survey included a higher proportion of oat fields and lower number of canola and wheat fields than expected.

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 lamb's-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, however, the annual sow-thistles were combined to from a group.

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. This 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 Manitoba in 2002. It might be argued that 2002 is not indicative of a typical year throughout the Manitoba as parts of the province experienced extremely low precipitation while other areas had extremely high precipitation in comparison with historic levels (Figure 6). Differences in precipitation and temperature may favour some weeds over others, or may result in higher or lower weed numbers in some areas than usual for the period as a whole. Consequently, only dramatic or consistent trends in the weed data are considered as important. Minor fluctuations may result from simple year-to-year variation.

[25] **Statistics Canada.** 2002. September Estimates of Principal Field Crop Areas, Canada 2002. Field Crop Reporting Series No. 7, Vol. 81. Ottawa, Canada.

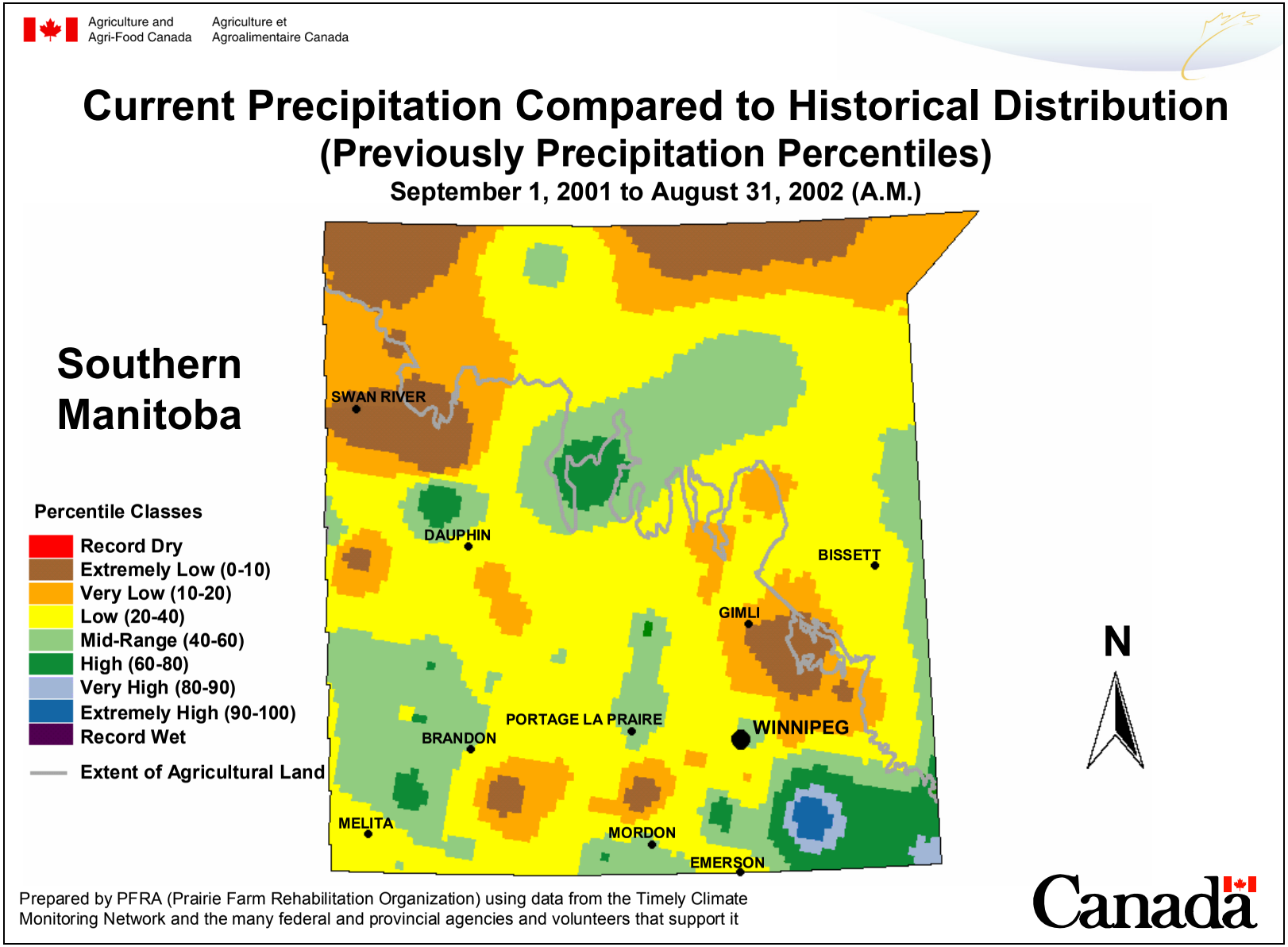

Figure 6. 2002 precipitation compared to historical distribution. A percentile is a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it. For example, extremely low precipitation (0 to 10th percentile) indicates the precipitation accumulation in 2002 equals the lowest or is equal to or less than the lowest 10% of the values in the historical record. The precipitation for 2002 matches the lowest precipitation conditions or the lowest that occur on average 10 times in every 100 years.

List of Summary Tables in Part III

Table 5. Provincial summary (631 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	65.0	27.7	42.6	15.5	23.8	1070.0	75.8
2	Wild oats	56.6	20.2	35.6	6.6	11.7	449.8	43.6
3	Wild buckwheat	57.7	15.1	26.2	1.6	2.8	80.6	25.9
4	Barnyard grass	24.1	6.0	24.9	2.9	12.0	582.8	16.9
5	Canada thistle	41.4	7.3	17.6	0.8	1.8	18.2	14.8
6	Redroot pigweed	27.9	5.9	21.2	0.9	3.4	48.2	12.0
7	Lamb's-quarters	24.6	5.2	21.1	0.7	2.9	59.6	10.2
8	Pale smartweed	27.1	5.1	19.0	0.5	1.9	27.0	10.1
9	Dandelion	20.6	3.3	16.0	0.3	1.5	20.8	7.0
10	Volunteer canola (Argentine)	16.6	3.3	20.0	0.5	2.7	86.0	6.7
11	Wild mustard	16.5	2.9	17.3	0.4	2.1	45.2	6.0
12	Volunteer wheat	15.8	2.9	18.2	0.3	2.1	21.0	5.9
13	Annual sow-thistle spp.	16.8	2.3	13.4	0.2	1.1	11.4	5.2
14	Quack grass	12.7	1.9	15.3	0.5	4.1	139.8	5.1
15	Cleavers	10.8	2.7	25.3	0.4	3.8	40.6	5.1
16	Kochia	8.6	1.6	18.6	0.5	6.2	197.0	4.2
17	Round-leaved mallow	11.6	2.0	17.6	0.2	1.5	13.0	4.0
18	Night-flowering catchfly	10.1	1.7	16.7	0.2	1.5	11.0	3.5
19	Perennial sow-thistle	12.0	1.2	9.7	0.1	0.9	6.4	3.3
20	Stinkweed	8.4	1.3	15.3	0.3	3.2	74.2	3.2
21	Thyme-leaved spurge	7.1	1.5	21.3	0.2	2.2	14.4	2.8
22	Chickweed	4.9	1.4	27.7	0.3	5.2	44.0	2.6
23	Field horsetail	5.9	0.9	14.9	0.3	4.3	96.6	2.4
24	Hemp-nettle	6.8	1.1	16.4	0.1	1.6	10.6	2.3
25	Volunteer flax	3.8	1.2	30.8	0.2	5.1	26.8	2.1
26	Volunteer barley	5.2	0.8	15.6	0.1	1.7	10.0	1.8
27	Shepherd's-purse	5.4	0.7	12.2	0.1	1.3	8.4	1.6
28	Black medick	2.5	0.6	22.5	0.1	3.1	15.6	1.1
29	Volunteer alfalfa	2.5	0.5	19.7	0.1	2.6	13.4	1.0
30	Prostrate knotweed	3.2	0.4	13.8	< 0.1	1.0	4.4	1.0
31	Stork's-bill	1.7	0.4	24.5	0.1	3.7	25.6	0.8
32	Yellow foxtail	1.9	0.3	15.4	0.1	4.4	28.6	0.8
33	American dragonhead	2.2	0.2	11.1	< 0.1	0.7	3.4	0.6
34	Volunteer buckwheat	0.2	0.2	100.0	0.2	96.6	96.6	0.6
35	Volunteer oats	1.1	0.3	22.9	0.1	5.1	15.4	0.5
36	Common ragweed	1.6	0.2	15.0	< 0.1	1.8	7.2	0.5
37	Broad-leaved plantain	1.7	0.2	10.9	< 0.1	1.6	11.4	0.5
38	Showy milkweed	1.6	0.2	14.0	< 0.1	1.3	4.4	0.5
39	Volunteer field bean	0.8	0.2	25.0	< 0.1	1.6	3.2	0.3
40	Curled dock	1.3	0.1	7.5	< 0.1	0.5	1.6	0.3
41	Cocklebur	1.1	0.1	10.0	< 0.1	1.1	4.4	0.3
42	Dog mustard	0.6	0.2	28.8	< 0.1	3.5	8.8	0.3
43	Biennial wormwood	1.1	0.1	10.7	< 0.1	0.7	2.2	0.3
44	Pineappleweed	0.6	0.1	17.5	< 0.1	5.3	19.8	0.3
45	Narrow-leaved hawk's-beard	1.0	0.1	12.5	< 0.1	0.8	2.8	0.3
46	Water smartweed	1.0	0.1	10.8	< 0.1	0.9	2.0	0.3
47	Common groundsel	0.8	0.1	14.0	< 0.1	2.0	7.0	0.3
48	Flixweed	1.0	0.1	10.0	< 0.1	1.1	2.4	0.3
49	Yellow sweet-clover	0.6	0.1	20.0	< 0.1	1.9	5.8	0.2
50	Prostrate pigweed	1.0	0.1	7.5	< 0.1	0.5	1.0	0.2
51	Wild tomato	0.5	0.1	23.3	< 0.1	4.5	11.2	0.2
52	Volunteer canola (Polish)	0.8	0.1	9.0	< 0.1	1.2	3.8	0.2

(Table continued on next page)

Table 5. Provincial summary (631 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Red clover	0.2	0.1	45.0	< 0.1	29.4	29.4	0.2
54	Russian thistle	0.8	0.1	9.0	< 0.1	0.9	2.8	0.2
55	White cockle	0.5	0.1	21.7	< 0.1	3.5	4.8	0.2
56	Foxtail barley	0.6	0.1	10.0	< 0.1	1.3	4.6	0.2
57	Volunteer white mustard	0.2	0.1	80.0	< 0.1	10.8	10.8	0.2
58	Absinth	0.6	< 0.1	6.3	< 0.1	0.4	0.6	0.1
59	Maple-leaved goosefoot	0.3	0.1	25.0	< 0.1	3.3	6.4	0.1
60	American vetch	0.6	< 0.1	5.0	< 0.1	0.5	0.8	0.1
61	Volunteer coriander	0.3	0.1	27.5	< 0.1	2.2	3.8	0.1
62	Volunteer rye grass	0.3	0.1	27.5	< 0.1	2.2	3.8	0.1
63	Manitoba maple	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
64	Bluebur	0.3	0.1	22.5	< 0.1	2.5	3.0	0.1
65	Purslane	0.5	< 0.1	10.0	< 0.1	0.7	1.2	0.1
66	Volunteer sunflower	0.5	< 0.1	8.3	< 0.1	0.6	1.0	0.1
67	Mouse-eared chickweed	0.5	< 0.1	6.7	< 0.1	0.9	1.4	0.1
68	Tansy	0.3	0.1	17.5	< 0.1	1.3	2.2	0.1
69	Volunteer corn	0.3	< 0.1	10.0	< 0.1	0.7	1.2	0.1
70	Scouring-rush	0.3	< 0.1	7.5	< 0.1	0.5	0.8	0.1
71	Henbit	0.3	< 0.1	5.0	< 0.1	1.0	1.8	0.1
72	Small-flowered geranium	0.3	< 0.1	7.5	< 0.1	0.3	0.4	0.1
73	White clover	0.3	< 0.1	7.5	< 0.1	0.3	0.4	0.1
74	Blue grass species	0.3	< 0.1	5.0	< 0.1	0.7	1.2	0.1
75	Black mustard	0.2	< 0.1	30.0	< 0.1	2.2	2.2	0.1
76	Oak-leaved goosefoot	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
77	Cow cockle	0.2	< 0.1	25.0	< 0.1	2.6	2.6	0.1
78	Proso millet	0.2	< 0.1	15.0	< 0.1	2.6	2.6	0.1
79	Volunteer peas	0.2	< 0.1	20.0	< 0.1	1.0	1.0	0.1
80	Canada goldenrod	0.2	< 0.1	15.0	< 0.1	2.2	2.2	0.1
81	Prickly lettuce	0.2	< 0.1	20.0	< 0.1	0.8	0.8	0.1
82	Timothy	0.2	< 0.1	15.0	< 0.1	1.8	1.8	0.1
83	Rose species	0.2	< 0.1	15.0	< 0.1	1.2	1.2	0.1
84	Purple milk-vetch	0.2	< 0.1	15.0	< 0.1	0.6	0.6	< 0.1
85	Bicknell's geranium	0.2	< 0.1	10.0	< 0.1	1.8	1.8	< 0.1
86	False ragweed	0.2	< 0.1	10.0	< 0.1	1.4	1.4	< 0.1
87	Scentless chamomile	0.2	< 0.1	10.0	< 0.1	1.2	1.2	< 0.1
88	Bladder campion	0.2	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
89	Silverberry	0.2	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
90	Volunteer fababean	0.2	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
91	Giant ragweed	0.2	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
92	Witch grass	0.2	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
93	Aspen poplar	0.2	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
94	Slender wheat grass	0.2	< 0.1	5.0	< 0.1	0.4	0.4	< 0.1
95	Wild licorice	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
96	Ball mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
97	Tumble mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
98	Wormseed mustard	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
99	Common pepper-grass	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
100	Leafy spurge	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
101	Volunteer canary grass	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Table 6. 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 (%)
Spring wheat	248	34.8	5.3	34.3
Barley	79	29.3	5.5	31.7
Oats	112	53.2	6.3	17.5
Canola	153	23.6	5.8	38.3
Flax	37	47.9	6.0	23.2
Mixed crops	2	26.2	9.0	12.5
All crops	631	35.4	5.7	31.2

Table 7. Spring wheat (248 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	62.9	27.7	44.1	13.9	22.0	392.2	73.5
2	Wild oats	58.9	22.6	38.4	9.4	16.0	449.8	55.9
3	Wild buckwheat	53.6	13.6	25.4	1.2	2.2	18.6	24.2
4	Canada thistle	46.0	8.3	18.0	0.9	1.9	17.4	17.6
5	Redroot pigweed	24.2	5.7	23.4	1.0	4.3	48.2	12.0
6	Barnyard grass	19.8	4.5	23.0	1.5	7.7	129.2	11.7
7	Volunteer canola (Argentine)	23.8	4.3	18.0	0.7	2.9	86.0	9.8
8	Lamb's-quarters	21.4	4.0	18.5	0.4	1.7	8.6	8.2
9	Pale smartweed	22.2	3.5	15.7	0.3	1.3	7.8	7.7
10	Annual sow-thistle spp.	20.6	2.8	13.4	0.2	1.2	7.8	6.7
11	Cleavers	13.3	3.3	25.2	0.5	4.0	40.6	6.7
12	Dandelion	19.8	2.8	14.0	0.2	1.2	9.4	6.6
13	Kochia	10.1	1.6	15.8	1.0	9.5	197.0	5.9
14	Wild mustard	12.9	2.1	16.4	0.3	2.3	24.6	4.9
15	Perennial sow-thistle	13.3	1.5	11.5	0.2	1.1	6.4	4.1
16	Field horsetail	6.9	1.5	21.2	0.5	7.4	96.6	3.9
17	Round-leaved mallow	10.5	1.9	17.9	0.2	1.5	8.6	3.9
18	Night-flowering catchfly	10.1	1.7	17.2	0.2	1.7	7.0	3.7
19	Quack grass	11.3	1.2	10.7	0.2	1.4	13.0	3.5
20	Chickweed	4.4	1.6	35.9	0.4	9.7	44.0	3.3
21	Volunteer flax	4.8	1.5	30.8	0.2	4.9	20.2	2.8
22	Hemp-nettle	5.6	1.5	27.1	0.1	2.3	9.4	2.6
23	Thyme-leaved spurge	5.2	1.2	22.7	0.1	2.2	9.6	2.2
24	Volunteer barley	5.2	1.0	18.8	0.1	2.1	10.0	2.1
25	Stinkweed	6.5	0.4	6.9	< 0.1	0.5	2.6	1.6
26	Volunteer buckwheat	0.4	0.4	100.0	0.4	96.6	96.6	1.5
27	Shepherd's-purse	4.0	0.4	11.0	0.1	1.6	8.4	1.3
28	Common ragweed	2.0	0.4	19.0	< 0.1	2.0	6.0	0.8
29	Prostrate knotweed	2.4	0.3	14.2	< 0.1	1.0	4.4	0.8
30	Volunteer field bean	1.6	0.5	30.0	< 0.1	2.0	3.2	0.8
31	Volunteer oats	1.2	0.3	25.0	0.1	7.3	15.4	0.7
32	Black medick	2.0	0.3	16.0	< 0.1	1.4	3.0	0.7
33	Volunteer alfalfa	1.6	0.1	8.8	< 0.1	2.4	8.2	0.5
34	Cocklebur	1.6	0.2	10.0	< 0.1	1.4	4.4	0.5
35	Yellow foxtail	1.2	0.1	10.0	0.1	4.3	10.6	0.5
36	Volunteer white mustard	0.4	0.3	80.0	< 0.1	10.8	10.8	0.5
37	Volunteer wheat	1.6	0.2	10.0	< 0.1	0.5	0.8	0.5
38	White cockle	0.8	0.2	30.0	< 0.1	3.2	4.8	0.4
39	Showy milkweed	1.2	0.2	15.0	< 0.1	1.3	2.6	0.4
40	Foxtail barley	1.2	0.1	11.7	< 0.1	1.7	4.6	0.4
41	Water smartweed	1.2	0.1	10.0	< 0.1	1.1	2.0	0.4
42	Bluebur	0.8	0.2	22.5	< 0.1	2.5	3.0	0.4
43	American dragonhead	1.2	0.1	6.7	< 0.1	0.3	0.6	0.3
44	Stork's-bill	0.8	0.1	15.0	< 0.1	0.7	1.0	0.3
45	Common groundsel	0.8	0.1	12.5	< 0.1	1.1	1.4	0.3
46	Russian thistle	0.8	0.1	7.5	< 0.1	1.5	2.8	0.2
47	Narrow-leaved hawk's-beard	0.8	0.1	10.0	< 0.1	0.4	0.6	0.2
48	Mouse-eared chickweed	0.8	0.1	7.5	< 0.1	1.0	1.4	0.2
49	Prostrate pigweed	0.8	< 0.1	5.0	< 0.1	0.5	0.8	0.2
50	Broad-leaved plantain	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Biennial wormwood	0.4	0.1	15.0	< 0.1	2.2	2.2	0.1
52	Rose species	0.4	0.1	15.0	< 0.1	1.2	1.2	0.1

(Table continued on next page)

Table 7. Spring wheat (248 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Volunteer rye grass	0.4	0.1	15.0	< 0.1	0.6	0.6	0.1
54	Volunteer sunflower	0.4	< 0.1	10.0	< 0.1	1.0	1.0	0.1
55	Absinth	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.1
56	Wild tomato	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.1
57	Volunteer fababean	0.4	< 0.1	10.0	< 0.1	0.6	0.6	0.1
58	Henbit	0.4	< 0.1	5.0	< 0.1	1.8	1.8	0.1
59	Tansy	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.1
60	Giant ragweed	0.4	< 0.1	5.0	< 0.1	0.6	0.6	0.1
61	Small-flowered geranium	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
62	Oak-leaved goosefoot	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
63	Wild licorice	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
64	Leafy spurge	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	American vetch	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
66	Blue grass species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	White clover	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Yellow sweet-clover	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
69	Manitoba maple	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 8. Barley (79 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	59.5	24.9	41.8	9.8	16.5	336.0	63.8
2	Green foxtail	64.6	24.2	37.5	9.7	15.0	119.4	63.6
3	Wild buckwheat	57.0	15.9	27.9	1.2	2.1	11.2	26.9
4	Canada thistle	38.0	7.1	18.7	0.7	1.8	14.2	14.8
5	Pale smartweed	27.8	6.4	23.0	0.6	2.3	13.6	12.2
6	Redroot pigweed	27.8	4.7	16.8	0.9	3.3	25.8	11.8
7	Volunteer wheat	29.1	4.6	15.7	0.4	1.4	14.0	10.3
8	Barnyard grass	16.5	4.0	24.2	1.1	6.6	38.0	9.8
9	Lamb's-quarters	17.7	3.9	21.8	0.4	2.1	9.0	7.5
10	Volunteer canola (Argentine)	15.2	3.8	25.0	0.5	3.2	19.2	7.4
11	Cleavers	8.9	3.5	40.0	0.9	9.7	29.4	7.3
12	Dandelion	15.2	2.7	17.5	0.2	1.4	3.2	5.6
13	Kochia	8.9	2.5	27.9	0.6	6.7	27.6	5.6
14	Night-flowering catchfly	12.7	2.4	19.0	0.2	1.9	5.8	5.0
15	Quack grass	15.2	1.4	9.2	0.2	1.5	9.6	4.6
16	Round-leaved mallow	12.7	2.0	15.5	0.1	1.2	3.2	4.3
17	Annual sow-thistle spp.	15.2	1.6	10.4	0.1	0.6	1.8	4.3
18	Volunteer flax	5.1	2.0	40.0	0.4	8.6	26.8	4.0
19	Wild mustard	13.9	1.5	10.5	0.1	0.5	1.4	3.9
20	Hemp-nettle	10.1	1.3	13.1	0.1	1.1	4.8	3.3
21	Perennial sow-thistle	11.4	1.0	8.9	0.1	0.9	2.2	3.2
22	Chickweed	5.1	1.3	25.0	0.2	4.4	7.0	2.7
23	Stinkweed	7.6	0.8	10.0	0.1	0.8	1.8	2.2
24	Volunteer oats	2.5	0.5	20.0	0.1	5.6	10.8	1.3
25	Shepherd's-purse	5.1	0.4	7.5	< 0.1	0.4	0.8	1.3
26	Thyme-leaved spurge	2.5	0.7	27.5	< 0.1	1.6	2.0	1.1
27	Pineappleweed	3.8	0.4	10.0	< 0.1	0.5	0.6	1.0
28	Volunteer coriander	1.3	0.5	40.0	< 0.1	3.8	3.8	0.8
29	Broad-leaved plantain	2.5	0.3	10.0	< 0.1	0.7	1.2	0.7
30	Prostrate knotweed	2.5	0.2	7.5	< 0.1	0.4	0.6	0.6
31	Volunteer barley	1.3	0.2	15.0	0.1	5.6	5.6	0.6
32	Showy milkweed	1.3	0.3	20.0	0.1	4.4	4.4	0.6
33	Wild tomato	1.3	0.4	30.0	< 0.1	1.8	1.8	0.6
34	Prostrate pigweed	2.5	0.1	5.0	< 0.1	0.4	0.4	0.6
35	Yellow foxtail	2.5	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Field horsetail	2.5	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Scouring-rush	1.3	0.1	10.0	< 0.1	0.8	0.8	0.4
38	Cocklebur	1.3	0.1	10.0	< 0.1	0.6	0.6	0.4
39	Volunteer canola (Polish)	1.3	0.1	5.0	< 0.1	1.0	1.0	0.3
40	Mouse-eared chickweed	1.3	0.1	5.0	< 0.1	0.8	0.8	0.3
41	Aspen poplar	1.3	0.1	5.0	< 0.1	0.4	0.4	0.3
42	Water smartweed	1.3	0.1	5.0	< 0.1	0.4	0.4	0.3
43	Slender wheat grass	1.3	0.1	5.0	< 0.1	0.4	0.4	0.3
44	Foxtail barley	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
45	American dragonhead	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
46	Oak-leaved goosefoot	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
47	Narrow-leaved hawk's-beard	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
48	Henbit	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Black medick	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
50	Common ragweed	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
51	Russian thistle	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
52	American vetch	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3

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Table 8. Barley (79 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Volunteer alfalfa	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
54	Volunteer canary grass	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 9. Oat (112 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	79.5	40.2	50.6	31.0	39.0	575.8	94.9
2	Wild oats	66.1	24.6	37.3	4.9	7.5	54.4	34.5
3	Wild buckwheat	66.1	19.8	29.9	2.8	4.3	80.6	27.6
4	Barnyard grass	34.8	9.6	27.4	4.0	11.4	167.0	18.7
5	Canada thistle	38.4	7.9	20.7	1.0	2.5	18.2	12.6
6	Quack grass	17.0	4.4	26.1	2.1	12.1	139.8	9.2
7	Dandelion	26.8	5.6	21.0	0.7	2.7	20.8	9.0
8	Volunteer wheat	25.9	5.4	20.9	0.8	3.0	21.0	8.8
9	Redroot pigweed	27.7	5.0	17.9	0.5	1.9	7.8	8.3
10	Lamb's-quarters	24.1	4.9	20.2	0.7	2.7	18.8	8.0
11	Pale smartweed	25.0	4.9	19.5	0.6	2.3	27.0	7.9
12	Wild mustard	14.3	3.3	23.4	0.6	4.3	45.2	5.4
13	Volunteer canola (Argentine)	15.2	3.2	20.9	0.3	2.2	13.0	4.9
14	Thyme-leaved spurge	12.5	2.7	21.8	0.3	2.6	14.4	4.2
15	Round-leaved mallow	11.6	2.4	20.4	0.2	2.1	13.0	3.7
16	Annual sow-thistle spp.	11.6	2.0	17.3	0.2	1.5	11.4	3.4
17	Volunteer barley	12.5	1.7	13.2	0.2	1.3	5.8	3.3
18	Volunteer alfalfa	7.1	2.2	30.6	0.3	3.7	13.4	2.9
19	Night-flowering catchfly	8.0	1.8	22.2	0.2	2.0	11.0	2.6
20	Perennial sow-thistle	11.6	0.9	7.7	0.1	0.7	4.4	2.5
21	Stinkweed	7.1	1.0	14.4	0.2	2.6	13.4	2.1
22	Black medick	4.5	1.5	33.0	0.2	4.8	15.6	2.0
23	Stork's-bill	2.7	1.4	51.7	0.3	10.7	25.6	1.8
24	Hemp-nettle	7.1	0.7	10.0	0.1	1.0	3.2	1.7
25	Cleavers	5.4	1.0	18.3	0.1	2.2	7.0	1.7
26	Kochia	6.3	0.7	10.7	0.1	0.9	1.8	1.5
27	Chickweed	4.5	0.7	16.0	0.1	1.6	5.2	1.3
28	Field horsetail	2.7	0.6	23.3	0.2	7.6	20.6	1.2
29	Volunteer flax	3.6	0.7	18.8	< 0.1	1.3	2.2	1.1
30	Prostrate knotweed	4.5	0.4	10.0	< 0.1	0.5	1.4	1.0
31	Yellow sweet-clover	1.8	0.6	35.0	0.1	3.5	5.8	0.8
32	Broad-leaved plantain	2.7	0.4	16.7	< 0.1	1.1	2.2	0.7
33	Curled dock	3.6	0.2	6.3	< 0.1	0.4	0.4	0.7
34	Pineappleweed	0.9	0.4	40.0	0.2	19.8	19.8	0.7
35	Showy milkweed	2.7	0.3	10.0	< 0.1	0.9	1.8	0.6
36	American dragonhead	2.7	0.1	5.0	< 0.1	0.3	0.4	0.5
37	Volunteer canola (Polish)	1.8	0.3	15.0	< 0.1	2.1	3.8	0.5
38	Narrow-leaved hawk's-beard	1.8	0.3	15.0	< 0.1	1.6	2.8	0.5
39	Water smartweed	1.8	0.3	15.0	< 0.1	0.9	1.0	0.5
40	Volunteer rye grass	0.9	0.4	40.0	< 0.1	3.8	3.8	0.4
41	Volunteer corn	1.8	0.2	10.0	< 0.1	0.7	1.2	0.4
42	Volunteer sunflower	1.8	0.1	7.5	< 0.1	0.4	0.4	0.4
43	Common ragweed	1.8	0.1	5.0	< 0.1	0.3	0.4	0.3
44	Flixweed	1.8	0.1	5.0	< 0.1	0.2	0.2	0.3
45	Shepherd's-purse	1.8	0.1	5.0	< 0.1	0.2	0.2	0.3
46	Proso millet	0.9	0.1	15.0	< 0.1	2.6	2.6	0.3
47	Volunteer peas	0.9	0.2	20.0	< 0.1	1.0	1.0	0.3
48	Prickly lettuce	0.9	0.2	20.0	< 0.1	0.8	0.8	0.3
49	Timothy	0.9	0.1	15.0	< 0.1	1.8	1.8	0.3
50	Russian thistle	0.9	0.1	15.0	< 0.1	0.8	0.8	0.2
51	Purple milk-vetch	0.9	0.1	15.0	< 0.1	0.6	0.6	0.2
52	Volunteer coriander	0.9	0.1	15.0	< 0.1	0.6	0.6	0.2

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Table 9. Oat (112 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Bicknell's geranium	0.9	0.1	10.0	< 0.1	1.8	1.8	0.2
54	Scentless chamomile	0.9	0.1	10.0	< 0.1	1.2	1.2	0.2
55	Cocklebur	0.9	0.1	10.0	< 0.1	1.2	1.2	0.2
56	Bladder campion	0.9	0.1	10.0	< 0.1	0.6	0.6	0.2
57	White clover	0.9	0.1	10.0	< 0.1	0.4	0.4	0.2
58	Blue grass species	0.9	< 0.1	5.0	< 0.1	1.2	1.2	0.2
59	Dog mustard	0.9	< 0.1	5.0	< 0.1	0.6	0.6	0.2
60	American vetch	0.9	< 0.1	5.0	< 0.1	0.6	0.6	0.2
61	Absinth	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
62	Witch grass	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
63	Yellow foxtail	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
64	Common pepper-grass	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
65	Scouring-rush	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
66	Volunteer field bean	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 10. Canola (153 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	58.8	19.7	33.6	5.0	8.6	141.0	47.9
2	Barnyard grass	26.1	7.1	27.1	5.8	22.2	582.8	35.0
3	Wild oats	47.7	12.6	26.4	2.5	5.1	53.2	29.1
4	Wild buckwheat	56.2	13.1	23.3	1.6	2.9	51.0	27.5
5	Lamb's-quarters	34.0	8.0	23.6	1.3	3.7	59.6	17.9
6	Redroot pigweed	32.0	7.6	23.9	1.3	4.0	28.6	17.3
7	Canada thistle	36.6	4.8	13.1	0.5	1.3	10.8	12.3
8	Pale smartweed	31.4	4.9	15.5	0.4	1.3	9.4	11.2
9	Volunteer wheat	24.2	4.3	17.7	0.5	2.0	12.2	9.7
10	Wild mustard	23.5	4.4	18.6	0.5	1.9	9.2	9.6
11	Stinkweed	12.4	3.0	24.5	0.8	6.7	74.2	8.2
12	Dandelion	20.3	2.6	12.7	0.2	0.8	4.2	6.3
13	Cleavers	11.8	3.1	26.4	0.3	2.4	14.0	5.8
14	Annual sow-thistle spp.	17.0	1.9	11.2	0.2	1.0	9.8	5.3
15	Quack grass	11.1	1.8	16.2	0.2	2.0	10.6	4.4
16	Kochia	8.5	2.1	24.2	0.3	3.3	16.8	4.4
17	Thyme-leaved spurge	9.8	2.0	20.0	0.2	1.9	4.8	4.1
18	Shepherd's-purse	10.5	1.5	14.7	0.2	1.5	6.0	3.7
19	Round-leaved mallow	9.8	1.6	16.0	0.1	1.4	7.4	3.6
20	Volunteer canola (Argentine)	8.5	1.6	18.8	0.2	1.8	8.2	3.4
21	Chickweed	6.5	1.5	23.0	0.2	2.6	9.6	3.1
22	Perennial sow-thistle	10.5	0.9	9.1	0.1	0.5	1.8	2.8
23	Hemp-nettle	7.2	0.8	10.9	0.1	1.5	10.6	2.4
24	Volunteer flax	2.6	0.9	33.8	0.2	6.0	20.8	1.8
25	Field horsetail	7.2	0.5	6.4	0.1	0.7	2.6	1.8
26	Night-flowering catchfly	7.2	0.5	6.4	< 0.1	0.3	0.6	1.7
27	Yellow foxtail	2.0	0.5	26.7	0.2	10.3	28.6	1.6
28	Black medick	2.0	0.6	31.7	0.1	5.5	15.2	1.3
29	Prostrate knotweed	3.9	0.6	14.2	< 0.1	0.9	2.8	1.3
30	American dragonhead	3.3	0.6	19.0	< 0.1	1.4	3.4	1.3
31	Red clover	0.7	0.3	45.0	0.2	29.4	29.4	1.2
32	Biennial wormwood	3.9	0.4	10.0	< 0.1	0.5	1.6	1.1
33	Broad-leaved plantain	2.6	0.3	10.0	0.1	3.1	11.4	1.0
34	Stork's-bill	3.3	0.3	9.0	< 0.1	0.6	1.4	0.9
35	Dog mustard	1.3	0.4	32.5	0.1	4.5	8.8	0.8
36	Common groundsel	2.0	0.3	15.0	0.1	2.7	7.0	0.8
37	Volunteer barley	2.6	0.3	11.3	< 0.1	0.8	2.0	0.8
38	Common ragweed	1.3	0.3	20.0	< 0.1	3.7	7.2	0.6
39	Flixweed	2.0	0.2	10.0	< 0.1	1.4	2.4	0.6
40	Wild tomato	0.7	0.2	30.0	0.1	11.2	11.2	0.6
41	Purslane	2.0	0.2	10.0	< 0.1	0.7	1.2	0.6
42	Volunteer oats	1.3	0.3	22.5	< 0.1	1.2	1.8	0.5
43	Volunteer alfalfa	1.3	0.2	12.5	< 0.1	1.2	2.2	0.4
44	Prostrate pigweed	1.3	0.2	12.5	< 0.1	0.6	1.0	0.4
45	Curled dock	1.3	0.1	10.0	< 0.1	1.0	1.6	0.4
46	Black mustard	0.7	0.2	30.0	< 0.1	2.2	2.2	0.3
47	Tansy	0.7	0.2	25.0	< 0.1	2.2	2.2	0.3
48	Absinth	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Canada goldenrod	0.7	0.1	15.0	< 0.1	2.2	2.2	0.3
50	White cockle	0.7	< 0.1	5.0	< 0.1	4.0	4.0	0.3
51	Narrow-leaved hawk's-beard	0.7	0.1	20.0	< 0.1	0.8	0.8	0.2
52	False ragweed	0.7	0.1	10.0	< 0.1	1.4	1.4	0.2

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Table 10. Canola (153 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Showy milkweed	0.7	0.1	10.0	< 0.1	1.0	1.0	0.2
54	Silverberry	0.7	0.1	10.0	< 0.1	0.6	0.6	0.2
55	Cocklebur	0.7	0.1	10.0	< 0.1	0.4	0.4	0.2
56	Russian thistle	0.7	0.1	10.0	< 0.1	0.4	0.4	0.2
57	Volunteer canola (Polish)	0.7	< 0.1	5.0	< 0.1	0.4	0.4	0.2
58	Maple-leaved goosefoot	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
59	Ball mustard	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
60	Tumble mustard	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
61	Yellow sweet-clover	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
62	Manitoba maple	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 11. Flax (37 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	59.5	28.0	47.0	34.7	58.3	1070.0	102.1
2	Wild buckwheat	64.9	15.5	24.0	1.0	1.6	4.8	24.0
3	Pale smartweed	45.9	15.7	34.1	2.0	4.3	16.4	22.9
4	Wild oats	40.5	12.4	30.7	3.2	7.9	28.2	22.2
5	Canada thistle	45.9	7.7	16.8	0.7	1.4	9.2	14.5
6	Redroot pigweed	35.1	5.9	16.9	0.4	1.0	3.8	10.8
7	Barnyard grass	29.7	5.3	17.7	0.6	1.9	6.2	9.9
8	Lamb's-quarters	18.9	4.5	23.6	1.4	7.5	45.8	9.3
9	Night-flowering catchfly	21.6	4.6	21.3	0.4	2.0	10.8	7.8
10	Round-leaved mallow	24.3	4.3	17.8	0.3	1.3	5.0	7.8
11	Dandelion	21.6	4.3	20.0	0.4	1.8	7.0	7.5
12	Volunteer wheat	18.9	4.3	22.9	0.4	1.9	5.2	7.0
13	Wild mustard	24.3	3.1	12.8	0.2	0.8	2.0	6.6
14	Volunteer canola (Argentine)	10.8	3.6	33.8	0.4	4.0	13.8	5.3
15	Stinkweed	10.8	1.6	15.0	0.2	2.2	8.0	3.4
16	Annual sow-thistle spp.	8.1	1.9	23.3	0.1	1.6	3.4	3.0
17	Yellow foxtail	8.1	1.6	20.0	0.2	2.5	5.2	2.9
18	Quack grass	10.8	1.2	11.3	0.1	0.8	1.6	2.8
19	Perennial sow-thistle	10.8	0.7	6.3	0.1	0.6	1.8	2.4
20	Field horsetail	8.1	0.7	8.3	< 0.1	0.3	0.4	1.9
21	Chickweed	2.7	1.5	55.0	0.1	5.0	5.0	1.8
22	Maple-leaved goosefoot	2.7	1.2	45.0	0.2	6.4	6.4	1.7
23	Showy milkweed	5.4	0.9	17.5	< 0.1	0.8	1.0	1.7
24	Dog mustard	2.7	1.2	45.0	0.1	4.2	4.2	1.6
25	Kochia	5.4	0.7	12.5	< 0.1	0.9	1.4	1.5
26	Prostrate knotweed	2.7	1.1	40.0	0.1	4.4	4.4	1.5
27	Stork's-bill	2.7	1.1	40.0	0.1	4.4	4.4	1.5
28	Hemp-nettle	5.4	0.5	10.0	< 0.1	0.9	1.6	1.4
29	American dragonhead	5.4	0.5	10.0	< 0.1	0.6	1.0	1.3
30	Black medick	5.4	0.4	7.5	< 0.1	0.5	0.8	1.2
31	Curled dock	5.4	0.4	7.5	< 0.1	0.4	0.4	1.2
32	Cleavers	5.4	0.3	5.0	< 0.1	0.2	0.2	1.1
33	Manitoba maple	5.4	0.3	5.0	< 0.1	0.2	0.2	1.1
34	Cow cockle	2.7	0.7	25.0	0.1	2.6	2.6	1.1
35	Volunteer barley	2.7	0.7	25.0	< 0.1	1.0	1.0	1.0
36	Flixweed	2.7	0.5	20.0	0.1	2.0	2.0	0.9
37	Shepherd's-purse	2.7	0.5	20.0	< 0.1	1.6	1.6	0.9
38	Small-flowered geranium	2.7	0.3	10.0	< 0.1	0.4	0.4	0.7
39	American vetch	2.7	0.1	5.0	< 0.1	0.8	0.8	0.6
40	Thyme-leaved spurge	2.7	0.1	5.0	< 0.1	0.4	0.4	0.6
41	Wormseed mustard	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6
42	Volunteer alfalfa	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6
43	Volunteer canola (Polish)	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6

Table 12. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed ecoregions

Ecoregion	Number of Fields Surveyed	Density (number/m^2)	Species (number/field)	Weed-free Quadrats (%)
Interlake Plain & Lake of the Woods	62	36.8	6.3	28.4
Boreal Transition	20	23.3	5.4	35.8
Mid-Boreal Uplands	14	22.1	7.4	22.5
Lake Manitoba Plain	222	31.9	5.5	32.8
Aspen Parkland	296	39.9	5.7	30.6
Southwest Manitoba Uplands	17	21.4	5.9	34.7

Table 13. Number of fields surveyed for each crop in each ecoregion

Ecoregion	Spring wheat	Barley	Oats	Canola	Flax	Mixed crops
Interlake Plain & Lake of the Woods	26	8	9	14	5	0
Boreal Transition	12	2	3	2	0	1
Mid-Boreal Uplands	7	3	1	2	1	0
Lake Manitoba Plain	76	20	58	55	13	0
Aspen Parkland	122	44	39	74	16	1
Southwest Manitoba Uplands	5	2	2	6	2	0

Table 14. All fields in the Interlake Plain & Lake of the Woods Ecoregions (62 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	51.6	17.1	33.1	13.9	26.9	449.8	57.1
2	Green foxtail	50.0	19.3	38.5	4.9	9.8	44.6	33.9
3	Wild buckwheat	59.7	16.9	28.4	1.6	2.7	21.6	24.9
4	Barnyard grass	46.8	11.3	24.1	3.0	6.3	38.0	22.9
5	Lamb's-quarters	38.7	11.8	30.4	2.1	5.4	59.6	19.5
6	Redroot pigweed	38.7	11.6	30.0	1.9	5.0	28.6	19.0
7	Pale smartweed	37.1	9.6	25.9	1.3	3.5	27.0	15.7
8	Canada thistle	33.9	5.2	15.5	0.5	1.6	10.2	10.3
9	Field horsetail	11.3	3.5	31.4	2.0	18.1	96.6	9.7
10	Dandelion	25.8	4.4	17.2	0.3	1.1	4.6	7.8
11	Night-flowering catchfly	17.7	4.9	27.7	0.6	3.6	11.0	7.8
12	Quack grass	17.7	3.9	21.8	0.7	3.7	13.2	7.2
13	Wild mustard	19.4	4.1	21.3	0.3	1.6	4.4	6.6
14	Cleavers	14.5	3.1	21.1	0.3	2.2	14.0	5.2
15	Chickweed	3.2	1.8	55.0	0.7	22.2	44.0	3.6
16	Volunteer wheat	11.3	2.0	17.9	0.1	1.3	5.6	3.5
17	Volunteer canola (Argentine)	11.3	2.0	17.9	0.1	0.9	1.2	3.4
18	Yellow foxtail	6.5	1.4	21.3	0.5	7.8	28.6	3.3
19	Volunteer alfalfa	11.3	1.7	15.0	0.1	1.0	4.6	3.2
20	Perennial sow-thistle	12.9	1.3	10.0	0.1	0.8	1.8	3.2
21	Annual sow-thistle spp.	8.1	1.5	18.0	0.1	1.3	4.6	2.5
22	Broad-leaved plantain	6.5	1.1	17.5	0.2	3.8	11.4	2.4
23	Round-leaved mallow	6.5	1.5	23.8	0.1	1.7	3.4	2.3
24	Volunteer flax	1.6	1.4	85.0	0.3	20.8	20.8	2.1
25	Hemp-nettle	9.7	0.6	6.7	< 0.1	0.3	0.4	2.0
26	Stinkweed	8.1	0.5	6.0	< 0.1	0.3	0.4	1.7
27	Yellow sweet-clover	3.2	1.1	35.0	0.1	3.5	5.8	1.6
28	Thyme-leaved spurge	3.2	1.0	30.0	0.1	4.1	4.8	1.5
29	Shepherd's-purse	4.8	0.7	15.0	0.1	1.5	3.4	1.4
30	Volunteer barley	4.8	0.8	16.7	< 0.1	1.0	2.0	1.4
31	White cockle	3.2	0.8	25.0	0.1	4.4	4.8	1.4
32	Water smartweed	4.8	0.8	16.7	< 0.1	0.7	1.0	1.4
33	Flixweed	4.8	0.5	10.0	0.1	1.5	2.4	1.3
34	American dragonhead	4.8	0.4	8.3	< 0.1	0.5	1.0	1.1
35	Curled dock	4.8	0.3	6.7	< 0.1	0.4	0.4	1.0
36	Stork's-bill	4.8	0.3	6.7	< 0.1	0.3	0.4	1.0
37	Showy milkweed	3.2	0.3	10.0	< 0.1	1.0	1.8	0.8
38	Kochia	1.6	0.5	30.0	< 0.1	1.6	1.6	0.6
39	Prostrate knotweed	1.6	0.3	20.0	< 0.1	1.4	1.4	0.5
40	Timothy	1.6	0.2	15.0	< 0.1	1.8	1.8	0.5
41	Purple milk-vetch	1.6	0.2	15.0	< 0.1	0.6	0.6	0.4
42	Volunteer rye grass	1.6	0.2	15.0	< 0.1	0.6	0.6	0.4
43	Absinth	1.6	0.2	10.0	< 0.1	0.6	0.6	0.4
44	Bladder campion	1.6	0.2	10.0	< 0.1	0.6	0.6	0.4
45	Small-flowered geranium	1.6	0.2	10.0	< 0.1	0.4	0.4	0.4
46	Narrow-leaved hawk's-beard	1.6	0.2	10.0	< 0.1	0.4	0.4	0.4
47	White clover	1.6	0.2	10.0	< 0.1	0.4	0.4	0.4
48	Witch grass	1.6	0.1	5.0	< 0.1	0.4	0.4	0.3
49	Blue grass species	1.6	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 15. Spring wheat fields in the Interlake Plain & Lake of the Woods Ecoregions (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	61.5	24.0	39.1	28.7	46.6	449.8	91.2
2	Green foxtail	53.8	23.3	43.2	6.2	11.6	36.0	42.5
3	Wild buckwheat	53.8	14.2	26.4	1.1	2.1	9.8	24.8
4	Barnyard grass	42.3	8.8	20.9	2.4	5.8	33.0	20.8
5	Field horsetail	15.4	5.8	37.5	4.0	26.3	96.6	16.1
6	Canada thistle	26.9	4.6	17.1	0.4	1.6	7.0	10.1
7	Lamb's-quarters	26.9	4.6	17.1	0.3	1.1	2.2	9.8
8	Dandelion	23.1	4.8	20.8	0.4	1.6	4.6	9.4
9	Redroot pigweed	19.2	5.0	26.0	0.5	2.5	6.6	8.9
10	Chickweed	7.7	4.2	55.0	1.7	22.2	44.0	8.5
11	Pale smartweed	15.4	5.0	32.5	0.6	4.1	7.8	8.5
12	Cleavers	19.2	3.3	17.0	0.2	0.9	1.6	6.9
13	Night-flowering catchfly	15.4	2.9	18.8	0.4	2.8	7.0	6.3
14	Volunteer canola (Argentine)	11.5	1.7	15.0	0.1	0.9	1.2	4.0
15	Annual sow-thistle spp.	7.7	2.1	27.5	0.2	2.5	4.6	3.7
16	Perennial sow-thistle	11.5	1.2	10.0	0.1	0.6	0.8	3.4
17	White cockle	3.8	1.7	45.0	0.2	4.8	4.8	2.6
18	Wild mustard	7.7	1.0	12.5	0.1	1.0	1.6	2.5
19	Water smartweed	7.7	1.0	12.5	< 0.1	0.6	1.0	2.4
20	Quack grass	7.7	0.8	10.0	< 0.1	0.6	0.8	2.3
21	Round-leaved mallow	3.8	1.2	30.0	0.1	3.4	3.4	2.0
22	Shepherd's-purse	3.8	1.0	25.0	0.1	3.4	3.4	1.8
23	Thyme-leaved spurge	3.8	0.8	20.0	0.1	3.4	3.4	1.7
24	Volunteer alfalfa	3.8	0.6	15.0	< 0.1	1.0	1.0	1.3
25	Volunteer rye grass	3.8	0.6	15.0	< 0.1	0.6	0.6	1.3
26	Absinth	3.8	0.4	10.0	< 0.1	0.6	0.6	1.1
27	Stork's-bill	3.8	0.4	10.0	< 0.1	0.4	0.4	1.1
28	American dragonhead	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
29	Hemp-nettle	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
30	Broad-leaved plantain	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
31	Stinkweed	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0
32	Blue grass species	3.8	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 16. Canola fields in the Interlake Plain & Lake of the Woods Ecoregions (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	50.0	25.0	50.0	6.8	13.5	59.6	41.6
2	Redroot pigweed	64.3	26.1	40.6	5.4	8.4	28.6	40.2
3	Wild oats	50.0	15.7	31.4	5.3	10.6	53.2	31.9
4	Wild buckwheat	71.4	20.4	28.5	2.5	3.5	21.6	29.4
5	Green foxtail	35.7	14.3	40.0	3.6	10.0	42.2	23.9
6	Pale smartweed	57.1	8.9	15.6	0.6	1.1	3.4	15.3
7	Barnyard grass	42.9	7.5	17.5	1.0	2.4	6.8	13.7
8	Yellow foxtail	14.3	5.4	37.5	2.2	15.3	28.6	11.6
9	Wild mustard	28.6	6.8	23.8	0.6	2.2	4.4	9.9
10	Volunteer wheat	28.6	6.4	22.5	0.5	1.8	5.6	9.4
11	Canada thistle	42.9	3.6	8.3	0.3	0.7	2.8	9.3
12	Cleavers	14.3	6.8	47.5	1.0	7.2	14.0	9.0
13	Volunteer flax	7.1	6.1	85.0	1.5	20.8	20.8	8.9
14	Dandelion	28.6	3.6	12.5	0.2	0.6	0.8	6.7
15	Round-leaved mallow	21.4	4.6	21.7	0.2	1.1	2.0	6.5
16	Broad-leaved plantain	7.1	1.8	25.0	0.8	11.4	11.4	4.5
17	Thyme-leaved spurge	7.1	2.9	40.0	0.3	4.8	4.8	3.7
18	Hemp-nettle	14.3	1.1	7.5	< 0.1	0.3	0.4	2.9
19	Stinkweed	14.3	1.1	7.5	< 0.1	0.3	0.4	2.9
20	Kochia	7.1	2.1	30.0	0.1	1.6	1.6	2.6
21	Perennial sow-thistle	7.1	1.8	25.0	0.1	1.4	1.4	2.4
22	Prostrate knotweed	7.1	1.4	20.0	0.1	1.4	1.4	2.2
23	White cockle	7.1	0.4	5.0	0.3	4.0	4.0	2.1
24	Field horsetail	7.1	1.1	15.0	0.1	0.8	0.8	1.8
25	Shepherd's-purse	7.1	1.1	15.0	0.1	0.8	0.8	1.8
26	Flixweed	7.1	0.4	5.0	0.2	2.4	2.4	1.8
27	Night-flowering catchfly	7.1	0.4	5.0	< 0.1	0.2	0.2	1.3
28	Stork's-bill	7.1	0.4	5.0	< 0.1	0.2	0.2	1.3
29	Volunteer alfalfa	7.1	0.4	5.0	< 0.1	0.2	0.2	1.3

Table 17. All fields in the Boreal Transition Ecoregion (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	60.0	32.5	54.2	10.7	17.8	73.8	82.4
2	Green foxtail	55.0	17.0	30.9	4.5	8.1	31.8	42.7
3	Canada thistle	60.0	12.8	21.3	1.5	2.4	17.4	27.4
4	Cleavers	35.0	6.5	18.6	0.5	1.5	4.4	13.8
5	Dandelion	25.0	7.3	29.0	0.7	2.7	7.6	13.2
6	Wild buckwheat	40.0	5.3	13.1	0.3	0.9	4.6	13.0
7	Annual sow-thistle spp.	35.0	3.5	10.0	0.2	0.5	1.8	10.1
8	Field horsetail	25.0	4.3	17.0	0.5	1.9	7.4	10.0
9	Lamb's-quarters	15.0	5.8	38.3	0.6	4.1	9.0	9.9
10	Hemp-nettle	20.0	5.0	25.0	0.5	2.5	4.8	9.8
11	Volunteer canola (Argentine)	25.0	3.0	12.0	0.2	0.7	1.4	7.7
12	Volunteer wheat	5.0	4.0	80.0	0.8	16.2	16.2	7.5
13	Volunteer alfalfa	5.0	4.0	80.0	0.7	13.4	13.4	6.9
14	Volunteer white mustard	5.0	4.0	80.0	0.5	10.8	10.8	6.4
15	Pale smartweed	20.0	1.8	8.8	0.1	0.4	0.8	5.4
16	Perennial sow-thistle	20.0	1.3	6.3	0.1	0.3	0.4	4.9
17	Barnyard grass	10.0	2.0	20.0	0.1	1.4	2.4	4.0
18	Stinkweed	15.0	1.0	6.7	0.1	0.6	1.0	4.0
19	Chickweed	5.0	1.8	35.0	0.3	6.4	6.4	3.7
20	Shepherd's-purse	10.0	1.0	10.0	0.1	0.5	0.6	2.9
21	Narrow-leaved hawk's-beard	5.0	1.0	20.0	0.1	2.8	2.8	2.3
22	Stork's-bill	5.0	1.0	20.0	0.1	1.0	1.0	1.9
23	Volunteer flax	5.0	0.8	15.0	0.1	1.8	1.8	1.9
24	Quack grass	5.0	0.8	15.0	0.1	1.0	1.0	1.7
25	Volunteer oats	5.0	0.5	10.0	< 0.1	0.6	0.6	1.5
26	Blue grass species	5.0	0.3	5.0	0.1	1.2	1.2	1.4
27	Prostrate knotweed	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Black medick	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
29	American vetch	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2

Table 18. Spring wheat fields in the Boreal Transition Ecoregion (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	66.7	42.1	63.1	16.3	24.5	73.8	116.1
2	Green foxtail	58.3	14.2	24.3	3.9	6.7	31.4	41.2
3	Canada thistle	41.7	10.4	25.0	1.8	4.4	17.4	26.0
4	Cleavers	33.3	6.7	20.0	0.6	1.8	4.4	15.9
5	Field horsetail	33.3	5.8	17.5	0.7	2.1	7.4	15.6
6	Hemp-nettle	25.0	5.8	23.3	0.4	1.7	3.0	12.7
7	Volunteer canola (Argentine)	33.3	4.2	12.5	0.2	0.7	1.4	12.3
8	Volunteer white mustard	8.3	6.7	80.0	0.9	10.8	10.8	11.4
9	Pale smartweed	25.0	2.5	10.0	0.1	0.4	0.8	8.4
10	Wild buckwheat	25.0	1.7	6.7	0.1	0.4	0.6	7.6
11	Barnyard grass	8.3	2.9	35.0	0.2	2.4	2.4	5.3
12	Annual sow-thistle spp.	16.7	1.3	7.5	0.1	0.5	0.8	5.3
13	Lamb's-quarters	8.3	2.5	30.0	0.2	2.8	2.8	5.1
14	Stork's-bill	8.3	1.7	20.0	0.1	1.0	1.0	3.7
15	Quack grass	8.3	1.3	15.0	0.1	1.0	1.0	3.4
16	Dandelion	8.3	0.8	10.0	< 0.1	0.4	0.4	2.8
17	Stinkweed	8.3	0.4	5.0	0.1	1.0	1.0	2.6
18	Perennial sow-thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	2.4
19	American vetch	8.3	0.4	5.0	< 0.1	0.2	0.2	2.4

Table 19. All fields in the Mid-Boreal Uplands Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Cleavers	57.1	26.8	46.9	5.1	8.9	29.4	45.1
2	Wild oats	57.1	28.2	49.4	3.7	6.5	28.0	39.6
3	Chickweed	50.0	20.0	40.0	2.6	5.3	9.6	29.3
4	Wild buckwheat	64.3	22.9	35.6	1.6	2.6	7.8	28.3
5	Canada thistle	64.3	11.1	17.2	1.0	1.6	5.8	19.2
6	Pale smartweed	42.9	12.1	28.3	1.5	3.4	13.6	18.9
7	Stinkweed	21.4	8.9	41.7	1.4	6.5	15.2	14.0
8	Hemp-nettle	50.0	8.2	16.4	0.6	1.1	3.2	13.7
9	Annual sow-thistle spp.	35.7	5.4	15.0	0.3	0.9	1.2	9.2
10	Volunteer barley	14.3	5.4	37.5	0.7	5.1	10.0	8.1
11	Green foxtail	21.4	4.3	20.0	0.6	2.7	3.8	7.8
12	Wild mustard	28.6	3.9	13.8	0.3	1.0	2.2	7.2
13	Field horsetail	35.7	2.9	8.0	0.2	0.5	1.2	7.1
14	Volunteer canola (Argentine)	21.4	3.9	18.3	0.3	1.5	4.0	6.5
15	Volunteer alfalfa	7.1	4.6	65.0	0.6	8.4	8.4	6.2
16	Dandelion	28.6	2.5	8.8	0.1	0.5	1.0	5.8
17	Quack grass	21.4	1.4	6.7	0.4	1.7	4.6	5.3
18	Lamb's-quarters	21.4	2.1	10.0	0.2	0.9	2.2	4.9
19	Perennial sow-thistle	21.4	1.8	8.3	0.1	0.5	1.2	4.4
20	Black medick	7.1	2.5	35.0	0.2	3.0	3.0	3.3
21	Volunteer wheat	14.3	1.8	12.5	0.1	0.6	1.0	3.3
22	Volunteer oats	7.1	2.5	35.0	0.1	1.8	1.8	2.9
23	Bluebur	7.1	1.1	15.0	0.1	2.0	2.0	2.2
24	Henbit	7.1	0.4	5.0	0.1	1.8	1.8	1.7
25	Redroot pigweed	7.1	0.4	5.0	< 0.1	0.4	0.4	1.3
26	Broad-leaved plantain	7.1	0.4	5.0	< 0.1	0.4	0.4	1.3
27	Night-flowering catchfly	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2
28	American dragonhead	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2
29	Maple-leaved goosefoot	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2

Table 20. All fields in the Lake Manitoba Plain Ecoregion (222 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	58.6	20.1	34.3	9.4	16.1	316.0	56.7
2	Wild oats	45.9	15.4	33.5	5.7	12.4	336.0	38.8
3	Barnyard grass	36.5	10.6	29.0	6.5	17.7	582.8	35.5
4	Wild buckwheat	61.3	17.0	27.7	2.2	3.5	80.6	31.9
5	Redroot pigweed	33.8	7.7	22.7	1.3	3.8	46.8	16.5
6	Canada thistle	41.0	6.1	14.9	0.7	1.7	18.2	14.6
7	Pale smartweed	34.2	5.9	17.3	0.5	1.5	11.2	12.7
8	Lamb's-quarters	26.1	5.0	19.0	0.7	2.6	45.8	10.9
9	Quack grass	13.5	2.3	16.8	1.0	7.5	139.8	7.5
10	Thyme-leaved spurge	16.7	3.9	23.2	0.4	2.3	14.4	7.4
11	Dandelion	19.4	3.2	16.3	0.3	1.8	20.8	7.2
12	Wild mustard	16.2	2.8	17.5	0.5	3.2	45.2	6.9
13	Volunteer canola (Argentine)	13.1	2.9	22.4	0.7	5.1	86.0	6.9
14	Volunteer wheat	14.4	2.9	19.8	0.4	2.5	21.0	6.1
15	Annual sow-thistle spp.	14.4	1.6	11.4	0.1	0.8	7.8	4.3
16	Round-leaved mallow	11.3	1.8	16.0	0.1	1.3	13.0	4.0
17	Perennial sow-thistle	10.4	1.0	9.6	0.1	0.9	4.4	3.0
18	Volunteer flax	4.1	0.9	23.3	0.1	2.4	6.6	1.8
19	Hemp-nettle	4.5	0.8	18.5	0.1	1.7	9.4	1.7
20	Stork's-bill	1.8	0.9	51.3	0.2	9.4	25.6	1.6
21	Night-flowering catchfly	5.4	0.5	8.8	< 0.1	0.5	2.4	1.5
22	Kochia	3.6	0.7	18.8	0.1	2.0	10.2	1.4
23	Common ragweed	3.2	0.6	19.3	0.1	2.5	7.2	1.3
24	Stinkweed	4.5	0.4	9.5	< 0.1	0.9	5.0	1.3
25	Yellow foxtail	3.2	0.4	13.6	0.1	3.0	10.6	1.2
26	Field horsetail	4.1	0.4	9.4	< 0.1	0.7	2.2	1.1
27	Cleavers	2.7	0.6	20.8	0.1	2.1	8.6	1.1
28	Volunteer barley	3.2	0.5	15.0	0.1	1.6	5.8	1.1
29	Shepherd's-purse	2.7	0.4	14.2	0.1	2.4	8.4	1.0
30	Volunteer field bean	2.3	0.6	25.0	< 0.1	1.6	3.2	1.0
31	Dog mustard	1.8	0.5	28.8	0.1	3.5	8.8	0.9
32	Showy milkweed	2.3	0.4	16.0	< 0.1	1.1	2.6	0.8
33	Volunteer oats	0.9	0.3	35.0	0.1	10.7	15.4	0.7
34	Cocklebur	2.3	0.2	11.0	< 0.1	1.4	4.4	0.7
35	Chickweed	1.8	0.3	17.5	< 0.1	1.8	5.2	0.7
36	Curled dock	2.3	0.2	8.0	< 0.1	0.6	1.6	0.6
37	Prostrate knotweed	1.8	0.1	7.5	< 0.1	0.4	0.8	0.5
38	Black medick	1.4	0.2	13.3	< 0.1	1.1	1.6	0.4
39	Volunteer canola (Polish)	1.4	0.2	11.7	< 0.1	1.5	3.8	0.4
40	Volunteer coriander	0.9	0.2	27.5	< 0.1	2.2	3.8	0.4
41	Volunteer alfalfa	1.4	0.1	10.0	< 0.1	0.9	2.2	0.4
42	Prostrate pigweed	1.4	0.1	10.0	< 0.1	0.7	1.0	0.4
43	Broad-leaved plantain	1.4	0.1	10.0	< 0.1	0.5	1.0	0.4
44	Water smartweed	1.4	0.1	5.0	< 0.1	1.1	2.0	0.3
45	Maple-leaved goosefoot	0.5	0.2	45.0	< 0.1	6.4	6.4	0.3
46	Tansy	0.9	0.2	17.5	< 0.1	1.3	2.2	0.3
47	Purslane	0.9	0.1	12.5	< 0.1	0.9	1.2	0.3
48	Volunteer corn	0.9	0.1	10.0	< 0.1	0.7	1.2	0.3
49	Volunteer sunflower	0.9	0.1	7.5	< 0.1	0.7	1.0	0.2
50	American dragonhead	0.9	0.1	7.5	< 0.1	0.4	0.6	0.2
51	Pineappleweed	0.9	0.1	7.5	< 0.1	0.4	0.6	0.2
52	Absinth	0.9	< 0.1	5.0	< 0.1	0.3	0.4	0.2

(Table continued on next page)

Table 20. All fields in the Lake Manitoba Plain Ecoregion (222 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Proso millet	0.5	0.1	15.0	< 0.1	2.6	2.6	0.2
54	Prickly lettuce	0.5	0.1	20.0	< 0.1	0.8	0.8	0.2
55	Common groundsel	0.5	0.1	15.0	< 0.1	1.4	1.4	0.2
56	Bicknell's geranium	0.5	< 0.1	10.0	< 0.1	1.8	1.8	0.1
57	Scentless chamomile	0.5	< 0.1	10.0	< 0.1	1.2	1.2	0.1
58	Silverberry	0.5	< 0.1	10.0	< 0.1	0.6	0.6	0.1
59	Volunteer fababean	0.5	< 0.1	10.0	< 0.1	0.6	0.6	0.1
60	American vetch	0.5	< 0.1	5.0	< 0.1	0.8	0.8	0.1
61	Wormseed mustard	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
62	Russian thistle	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
63	White clover	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
64	Yellow sweet-clover	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Manitoba maple	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
66	Volunteer canary grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 21. Spring wheat fields in the Lake Manitoba Plain Ecoregion (76 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	47.4	18.4	38.8	13.5	28.5	316.0	67.8
2	Wild oats	39.5	12.2	31.0	5.8	14.6	260.0	36.7
3	Wild buckwheat	63.2	16.4	26.0	1.8	2.8	18.6	32.6
4	Barnyard grass	30.3	8.2	27.0	3.4	11.2	129.2	23.8
5	Redroot pigweed	32.9	8.8	26.6	1.6	4.9	46.8	19.3
6	Canada thistle	46.1	6.5	14.1	0.8	1.6	11.2	17.2
7	Volunteer canola (Argentine)	22.4	4.8	21.5	1.5	6.9	86.0	13.5
8	Lamb's-quarters	25.0	4.6	18.4	0.5	2.1	8.6	10.6
9	Pale smartweed	28.9	3.9	13.6	0.3	1.1	4.4	10.2
10	Annual sow-thistle spp.	23.7	2.2	9.4	0.2	0.8	7.8	7.2
11	Thyme-leaved spurge	14.5	3.6	24.5	0.3	2.3	9.6	7.0
12	Wild mustard	14.5	2.0	14.1	0.4	2.6	11.0	5.8
13	Dandelion	14.5	1.8	12.7	0.2	1.3	8.6	5.0
14	Round-leaved mallow	11.8	2.3	19.4	0.2	1.4	3.2	4.9
15	Perennial sow-thistle	9.2	0.9	10.0	0.1	0.9	4.2	2.9
16	Common ragweed	6.6	1.3	19.0	0.1	2.0	6.0	2.8
17	Quack grass	10.5	0.7	6.3	< 0.1	0.4	1.0	2.8
18	Volunteer field bean	5.3	1.6	30.0	0.1	2.0	3.2	2.8
19	Volunteer flax	5.3	1.3	23.8	0.2	3.5	6.6	2.7
20	Hemp-nettle	2.6	1.4	55.0	0.1	5.5	9.4	2.3
21	Volunteer oats	2.6	0.9	35.0	0.3	10.7	15.4	2.2
22	Stinkweed	6.6	0.6	9.0	< 0.1	0.7	2.6	2.0
23	Kochia	5.3	0.7	12.5	< 0.1	0.9	2.0	1.8
24	Shepherd's-purse	3.9	0.7	16.7	0.1	3.2	8.4	1.8
25	Yellow foxtail	3.9	0.4	10.0	0.2	4.3	10.6	1.7
26	Cocklebur	3.9	0.5	11.7	0.1	1.7	4.4	1.4
27	Cleavers	3.9	0.5	11.7	< 0.1	0.9	1.8	1.3
28	Field horsetail	2.6	0.5	20.0	< 0.1	1.3	2.2	1.1
29	Volunteer barley	3.9	0.3	6.7	< 0.1	0.7	1.6	1.1
30	Showy milkweed	2.6	0.5	17.5	< 0.1	1.6	2.6	1.1
31	Black medick	2.6	0.3	12.5	< 0.1	1.2	1.6	0.9
32	Night-flowering catchfly	2.6	0.3	12.5	< 0.1	0.6	1.0	0.9
33	Prostrate pigweed	2.6	0.1	5.0	< 0.1	0.5	0.8	0.7
34	Common groundsel	1.3	0.2	15.0	< 0.1	1.4	1.4	0.5
35	Volunteer sunflower	1.3	0.1	10.0	< 0.1	1.0	1.0	0.4
36	Volunteer wheat	1.3	0.1	10.0	< 0.1	0.8	0.8	0.4
37	American dragonhead	1.3	0.1	10.0	< 0.1	0.6	0.6	0.4
38	Volunteer fababean	1.3	0.1	10.0	< 0.1	0.6	0.6	0.4
39	Water smartweed	1.3	0.1	5.0	< 0.1	2.0	2.0	0.4
40	Tansy	1.3	0.1	10.0	< 0.1	0.4	0.4	0.4
41	Prostrate knotweed	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
42	Volunteer alfalfa	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
43	White clover	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
44	Yellow sweet-clover	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3
45	Manitoba maple	1.3	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 22. Barley fields in the Lake Manitoba Plain Ecoregion (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	45.0	23.5	52.2	21.2	47.2	336.0	101.0
2	Wild buckwheat	55.0	19.3	35.0	1.5	2.7	7.8	34.3
3	Green foxtail	50.0	7.8	15.5	1.2	2.4	10.4	21.1
4	Pale smartweed	55.0	8.5	15.5	0.6	1.1	3.6	20.8
5	Redroot pigweed	35.0	3.3	9.3	1.7	4.8	25.8	15.4
6	Canada thistle	40.0	5.5	13.8	0.3	0.9	2.8	14.2
7	Volunteer canola (Argentine)	10.0	5.3	52.5	1.0	10.1	19.2	10.3
8	Barnyard grass	20.0	2.8	13.8	0.8	3.8	12.2	9.0
9	Volunteer wheat	25.0	2.8	11.0	0.3	1.0	2.2	8.3
10	Lamb's-quarters	20.0	2.8	13.8	0.4	1.9	6.4	7.7
11	Cleavers	10.0	3.0	30.0	0.4	4.4	8.6	6.3
12	Annual sow-thistle spp.	15.0	2.3	15.0	0.1	0.9	1.8	5.5
13	Perennial sow-thistle	15.0	1.8	11.7	0.2	1.1	2.2	5.1
14	Thyme-leaved spurge	10.0	2.8	27.5	0.2	1.6	2.0	5.1
15	Quack grass	15.0	1.8	11.7	0.1	0.7	1.2	5.0
16	Round-leaved mallow	15.0	1.5	10.0	0.1	0.5	0.8	4.6
17	Wild mustard	15.0	1.3	8.3	0.1	0.6	1.0	4.4
18	Volunteer coriander	5.0	2.0	40.0	0.2	3.8	3.8	3.5
19	Hemp-nettle	10.0	1.0	10.0	< 0.1	0.4	0.6	3.0
20	Pineappleweed	10.0	0.8	7.5	< 0.1	0.4	0.6	2.8
21	Volunteer flax	5.0	1.0	20.0	0.1	1.6	1.6	2.2
22	Cocklebur	5.0	0.5	10.0	< 0.1	0.6	0.6	1.5
23	Water smartweed	5.0	0.3	5.0	< 0.1	0.4	0.4	1.3
24	Dandelion	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
25	Field horsetail	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
26	Stinkweed	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
27	Russian thistle	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Volunteer alfalfa	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
29	Volunteer canary grass	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2

Table 23. Oat fields in the Lake Manitoba Plain Ecoregion (58 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	75.9	28.4	37.4	12.2	16.1	201.2	62.6
2	Wild buckwheat	75.9	21.8	28.8	3.9	5.2	80.6	36.8
3	Wild oats	62.1	22.2	35.7	4.5	7.2	53.8	36.2
4	Barnyard grass	44.8	14.0	31.2	6.6	14.7	167.0	33.5
5	Quack grass	15.5	4.5	28.9	3.3	21.3	139.8	14.1
6	Canada thistle	39.7	7.0	17.6	0.9	2.2	18.2	13.3
7	Volunteer wheat	29.3	7.5	25.6	1.1	3.8	21.0	12.6
8	Redroot pigweed	32.8	7.0	21.3	0.8	2.5	7.8	12.0
9	Dandelion	32.8	6.6	20.0	0.8	2.6	20.8	11.8
10	Pale smartweed	27.6	5.2	18.8	0.4	1.6	9.8	9.0
11	Thyme-leaved spurge	22.4	5.2	23.1	0.6	2.8	14.4	8.6
12	Lamb's-quarters	22.4	3.9	17.3	0.4	1.8	11.6	7.2
13	Wild mustard	8.6	2.5	29.0	0.8	9.8	45.2	5.2
14	Round-leaved mallow	13.8	2.4	17.5	0.3	1.9	13.0	4.5
15	Stork's-bill	3.4	2.6	75.0	0.6	16.0	25.6	3.7
16	Perennial sow-thistle	13.8	1.2	8.8	0.1	1.0	4.4	3.4
17	Volunteer canola (Argentine)	12.1	1.5	12.1	0.1	0.8	3.0	3.2
18	Annual sow-thistle spp.	8.6	1.3	15.0	0.1	0.8	1.8	2.4
19	Volunteer barley	5.2	1.0	20.0	0.1	2.7	5.8	1.9
20	Volunteer flax	5.2	1.2	23.3	0.1	1.5	2.2	1.8
21	Hemp-nettle	6.9	0.6	8.8	< 0.1	0.7	1.4	1.6
22	Chickweed	3.4	1.0	30.0	0.1	3.2	5.2	1.5
23	Volunteer canola (Polish)	3.4	0.5	15.0	0.1	2.1	3.8	1.1
24	Night-flowering catchfly	5.2	0.3	5.0	< 0.1	0.2	0.2	1.0
25	Kochia	3.4	0.5	15.0	< 0.1	1.1	1.8	1.0
26	Broad-leaved plantain	3.4	0.4	12.5	< 0.1	0.6	1.0	0.9
27	Volunteer corn	3.4	0.3	10.0	< 0.1	0.7	1.2	0.8
28	Curled dock	3.4	0.2	5.0	< 0.1	0.3	0.4	0.7
29	Stinkweed	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
30	Proso millet	1.7	0.3	15.0	< 0.1	2.6	2.6	0.6
31	Prickly lettuce	1.7	0.3	20.0	< 0.1	0.8	0.8	0.5
32	Black medick	1.7	0.3	15.0	< 0.1	1.0	1.0	0.5
33	Volunteer coriander	1.7	0.3	15.0	< 0.1	0.6	0.6	0.5
34	Bicknell's geranium	1.7	0.2	10.0	< 0.1	1.8	1.8	0.5
35	Scentless chamomile	1.7	0.2	10.0	< 0.1	1.2	1.2	0.4
36	Cocklebur	1.7	0.2	10.0	< 0.1	1.2	1.2	0.4
37	Field horsetail	1.7	0.2	10.0	< 0.1	1.0	1.0	0.4
38	Showy milkweed	1.7	0.2	10.0	< 0.1	0.6	0.6	0.4
39	Water smartweed	1.7	0.1	5.0	< 0.1	0.8	0.8	0.4
40	Dog mustard	1.7	0.1	5.0	< 0.1	0.6	0.6	0.4
41	Absinth	1.7	0.1	5.0	< 0.1	0.4	0.4	0.4
42	Volunteer sunflower	1.7	0.1	5.0	< 0.1	0.4	0.4	0.4
43	American dragonhead	1.7	0.1	5.0	< 0.1	0.2	0.2	0.3
44	Yellow foxtail	1.7	0.1	5.0	< 0.1	0.2	0.2	0.3
45	Volunteer field bean	1.7	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 24. Canola fields in the Lake Manitoba Plain Ecoregion (55 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	38.2	13.0	34.0	13.9	36.4	582.8	68.2
2	Green foxtail	54.5	16.7	30.7	4.9	8.9	141.0	43.1
3	Wild oats	40.0	11.2	28.0	2.3	5.8	34.4	26.2
4	Wild buckwheat	43.6	11.7	26.9	1.3	3.1	22.0	24.0
5	Redroot pigweed	38.2	9.6	25.2	1.5	3.9	14.6	21.6
6	Lamb's-quarters	34.5	6.5	18.9	0.6	1.7	11.6	14.8
7	Canada thistle	40.0	5.3	13.2	0.6	1.5	10.8	14.7
8	Pale smartweed	34.5	4.8	13.9	0.4	1.2	9.0	12.6
9	Wild mustard	27.3	5.3	19.3	0.6	2.3	9.2	12.3
10	Thyme-leaved spurge	18.2	4.2	23.0	0.4	1.9	3.6	8.6
11	Quack grass	14.5	2.5	17.5	0.5	3.3	10.6	6.9
12	Dandelion	18.2	1.7	9.5	0.1	0.5	1.2	5.4
13	Volunteer wheat	12.7	1.5	12.1	0.1	1.1	3.4	4.4
14	Volunteer canola (Argentine)	5.5	1.7	31.7	0.1	1.7	2.2	3.0
15	Perennial sow-thistle	9.1	0.8	9.0	0.1	0.6	1.8	2.7
16	Kochia	3.6	1.3	35.0	0.2	5.2	10.2	2.5
17	Annual sow-thistle spp.	9.1	0.6	7.0	< 0.1	0.3	0.4	2.4
18	Dog mustard	3.6	1.2	32.5	0.2	4.5	8.8	2.4
19	Night-flowering catchfly	9.1	0.5	6.0	< 0.1	0.2	0.4	2.3
20	Shepherd's-purse	5.5	0.6	11.7	0.1	1.6	3.6	1.9
21	Common ragweed	3.6	0.7	20.0	0.1	3.7	7.2	1.8
22	Stinkweed	3.6	0.6	17.5	0.1	2.6	5.0	1.6
23	Prostrate knotweed	5.5	0.5	8.3	< 0.1	0.4	0.8	1.6
24	Round-leaved mallow	5.5	0.5	8.3	< 0.1	0.4	0.6	1.6
25	Field horsetail	5.5	0.3	5.0	< 0.1	0.5	0.6	1.4
26	Purslane	3.6	0.5	12.5	< 0.1	0.9	1.2	1.2
27	Hemp-nettle	3.6	0.4	10.0	< 0.1	1.2	2.2	1.2
28	Curled dock	3.6	0.4	10.0	< 0.1	1.0	1.6	1.2
29	Cleavers	1.8	0.5	30.0	< 0.1	1.4	1.4	0.9
30	Tansy	1.8	0.5	25.0	< 0.1	2.2	2.2	0.9
31	Chickweed	3.6	0.2	5.0	< 0.1	0.3	0.4	0.9
32	Volunteer flax	1.8	0.5	25.0	< 0.1	1.6	1.6	0.9
33	Volunteer alfalfa	1.8	0.4	20.0	< 0.1	2.2	2.2	0.8
34	Prostrate pigweed	1.8	0.4	20.0	< 0.1	1.0	1.0	0.8
35	Stork's-bill	1.8	0.3	15.0	< 0.1	1.0	1.0	0.7
36	Silverberry	1.8	0.2	10.0	< 0.1	0.6	0.6	0.6
37	Yellow foxtail	1.8	0.1	5.0	< 0.1	0.4	0.4	0.5
38	Volunteer canola (Polish)	1.8	0.1	5.0	< 0.1	0.4	0.4	0.5
39	Absinth	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4
40	Broad-leaved plantain	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4

Table 25. Flax fields in the Lake Manitoba Plain Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	76.9	26.2	34.0	5.5	7.2	40.8	61.3
2	Pale smartweed	61.5	21.5	35.0	2.2	3.6	11.2	37.6
3	Wild buckwheat	69.2	17.3	25.0	1.2	1.7	4.8	30.5
4	Lamb's-quarters	23.1	8.5	36.7	3.6	15.6	45.8	29.3
5	Barnyard grass	53.8	11.2	20.7	0.9	1.7	3.8	22.1
6	Wild oats	38.5	8.8	23.0	1.0	2.6	4.0	18.2
7	Dandelion	15.4	6.2	40.0	0.6	3.8	7.0	10.1
8	Yellow foxtail	15.4	4.2	27.5	0.6	3.7	5.2	8.7
9	Canada thistle	23.1	4.2	18.3	0.3	1.3	2.4	8.5
10	Redroot pigweed	23.1	3.1	13.3	0.2	0.7	1.6	7.0
11	Volunteer wheat	15.4	3.8	25.0	0.2	1.4	2.6	6.5
12	Maple-leaved goosefoot	7.7	3.5	45.0	0.5	6.4	6.4	6.4
13	Night-flowering catchfly	15.4	2.7	17.5	0.2	1.3	2.4	5.6
14	Dog mustard	7.7	3.5	45.0	0.3	4.2	4.2	5.5
15	Stork's-bill	7.7	3.1	40.0	0.3	4.4	4.4	5.3
16	Showy milkweed	15.4	2.7	17.5	0.1	0.8	1.0	5.2
17	Round-leaved mallow	15.4	2.3	15.0	0.1	0.9	1.6	5.0
18	Annual sow-thistle spp.	7.7	3.1	40.0	0.3	3.4	3.4	4.9
19	Quack grass	15.4	1.5	10.0	0.1	0.6	0.8	4.2
20	Wild mustard	15.4	1.2	7.5	0.1	0.4	0.6	3.8
21	Field horsetail	15.4	1.2	7.5	< 0.1	0.3	0.4	3.7
22	Volunteer barley	7.7	1.9	25.0	0.1	1.0	1.0	3.1
23	Curled dock	7.7	0.8	10.0	< 0.1	0.4	0.4	2.0
24	American vetch	7.7	0.4	5.0	0.1	0.8	0.8	1.9
25	Thyme-leaved spurge	7.7	0.4	5.0	< 0.1	0.4	0.4	1.8
26	Wormseed mustard	7.7	0.4	5.0	< 0.1	0.2	0.2	1.7

Table 26. All fields in the Aspen Parkland Ecoregion (296 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	75.3	37.1	49.2	24.1	32.0	1070.0	100.6
2	Wild oats	65.2	23.5	36.1	5.8	9.0	170.8	43.2
3	Wild buckwheat	55.4	13.5	24.3	1.3	2.3	51.0	22.7
4	Canada thistle	40.9	8.0	19.6	0.8	2.0	14.2	15.1
5	Redroot pigweed	25.0	4.3	17.2	0.6	2.6	48.2	9.1
6	Lamb's-quarters	22.0	4.3	19.5	0.5	2.3	24.0	8.2
7	Kochia	15.2	2.8	18.3	1.1	7.1	197.0	7.4
8	Volunteer canola (Argentine)	19.3	4.0	20.6	0.4	2.1	13.8	7.3
9	Dandelion	20.6	3.1	15.1	0.3	1.4	14.2	6.6
10	Pale smartweed	18.2	3.3	18.0	0.3	1.8	16.4	6.4
11	Volunteer wheat	18.9	3.0	16.1	0.3	1.7	14.0	6.3
12	Annual sow-thistle spp.	18.6	2.7	14.7	0.3	1.4	11.4	5.9
13	Cleavers	12.5	3.0	23.8	0.5	3.8	40.6	5.6
14	Wild mustard	15.2	2.7	18.0	0.3	1.8	24.6	5.4
15	Barnyard grass	11.8	2.1	17.6	0.6	5.5	93.6	5.2
16	Round-leaved mallow	14.2	2.6	18.5	0.2	1.7	9.4	5.0
17	Stinkweed	10.5	1.8	17.3	0.5	4.4	74.2	4.3
18	Night-flowering catchfly	11.8	2.0	16.6	0.2	1.3	6.6	3.9
19	Quack grass	11.1	1.5	13.2	0.2	1.6	13.0	3.5
20	Perennial sow-thistle	12.2	1.3	10.4	0.1	1.0	6.4	3.4
21	Chickweed	5.4	1.2	22.2	0.2	4.2	34.8	2.4
22	Shepherd's-purse	7.8	0.9	11.5	0.1	1.0	6.0	2.2
23	Volunteer barley	7.1	1.0	13.6	0.1	1.5	8.2	2.2
24	Volunteer flax	3.7	1.3	34.1	0.2	6.7	26.8	2.2
25	Black medick	3.4	0.9	27.5	0.1	4.2	15.6	1.6
26	Prostrate knotweed	4.7	0.7	15.7	0.1	1.2	4.4	1.5
27	Hemp-nettle	4.1	0.6	15.8	0.1	2.2	10.6	1.4
28	Field horsetail	3.4	0.4	11.0	< 0.1	1.4	3.4	1.0
29	American dragonhead	2.4	0.4	15.0	< 0.1	1.1	3.4	0.7
30	Biennial wormwood	2.4	0.3	10.7	< 0.1	0.7	2.2	0.6
31	Thyme-leaved spurge	2.0	0.1	6.7	< 0.1	0.9	3.8	0.5
32	Wild tomato	1.0	0.2	23.3	< 0.1	4.5	11.2	0.5
33	Common groundsel	1.4	0.2	13.8	< 0.1	2.2	7.0	0.4
34	Pineappleweed	0.7	0.2	27.5	0.1	10.2	19.8	0.4
35	Red clover	0.3	0.2	45.0	0.1	29.4	29.4	0.4
36	Volunteer oats	1.0	0.2	15.0	< 0.1	3.9	10.8	0.4
37	Foxtail barley	1.4	0.1	10.0	< 0.1	1.3	4.6	0.4
38	Russian thistle	1.4	0.1	10.0	< 0.1	1.1	2.8	0.4
39	Narrow-leaved hawk's-beard	1.4	0.2	11.3	< 0.1	0.5	0.8	0.4
40	Showy milkweed	1.0	0.1	13.3	< 0.1	2.0	4.4	0.3
41	Volunteer alfalfa	1.0	0.1	8.3	< 0.1	3.4	8.2	0.3
42	Flixweed	1.0	0.1	10.0	< 0.1	0.7	1.2	0.3
43	Mouse-eared chickweed	1.0	0.1	6.7	< 0.1	0.9	1.4	0.3
44	Prostrate pigweed	1.0	0.1	5.0	< 0.1	0.3	0.4	0.2
45	Common ragweed	1.0	0.1	5.0	< 0.1	0.3	0.4	0.2
46	Broad-leaved plantain	1.0	0.1	5.0	< 0.1	0.2	0.2	0.2
47	Volunteer rye grass	0.3	0.1	40.0	< 0.1	3.8	3.8	0.2
48	Scouring-rush	0.7	0.1	7.5	< 0.1	0.5	0.8	0.2
49	Cocklebur	0.7	0.1	7.5	< 0.1	0.3	0.4	0.2
50	Bluebur	0.3	0.1	30.0	< 0.1	3.0	3.0	0.2
51	Volunteer canola (Polish)	0.7	< 0.1	5.0	< 0.1	0.6	1.0	0.2
52	Black mustard	0.3	0.1	30.0	< 0.1	2.2	2.2	0.2

(Table continued on next page)

Table 26. All fields in the Aspen Parkland Ecoregion (296 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	American vetch	0.7	< 0.1	5.0	< 0.1	0.4	0.6	0.2
54	Oak-leaved goosefoot	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
55	Stork's-bill	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
56	Manitoba maple	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
57	Cow cockle	0.3	0.1	25.0	< 0.1	2.6	2.6	0.1
58	Volunteer peas	0.3	0.1	20.0	< 0.1	1.0	1.0	0.1
59	Canada goldenrod	0.3	0.1	15.0	< 0.1	2.2	2.2	0.1
60	White cockle	0.3	0.1	15.0	< 0.1	1.6	1.6	0.1
61	Rose species	0.3	0.1	15.0	< 0.1	1.2	1.2	0.1
62	False ragweed	0.3	< 0.1	10.0	< 0.1	1.4	1.4	0.1
63	Volunteer sunflower	0.3	< 0.1	10.0	< 0.1	0.4	0.4	0.1
64	Giant ragweed	0.3	< 0.1	5.0	< 0.1	0.6	0.6	0.1
65	Aspen poplar	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
66	Slender wheat grass	0.3	< 0.1	5.0	< 0.1	0.4	0.4	0.1
67	Absinth	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Yellow foxtail	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
69	Henbit	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
70	Wild licorice	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
71	Ball mustard	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Tumble mustard	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Common pepper-grass	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
74	Purslane	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1
75	Leafy spurge	0.3	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 27. Spring wheat fields in the Aspen Parkland Ecoregion (122 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	77.0	37.5	48.6	17.9	23.2	392.2	91.4
2	Wild oats	68.9	27.2	39.5	7.6	11.1	170.8	53.7
3	Wild buckwheat	50.0	12.7	25.3	0.9	1.9	8.4	21.0
4	Canada thistle	49.2	9.5	19.3	0.9	1.9	12.2	18.5
5	Kochia	17.2	2.8	16.4	1.9	11.2	197.0	10.6
6	Redroot pigweed	23.0	4.9	21.3	1.0	4.4	48.2	10.6
7	Volunteer canola (Argentine)	25.4	4.4	17.3	0.3	1.4	9.0	8.8
8	Cleavers	14.8	4.3	29.4	0.9	6.0	40.6	8.3
9	Dandelion	23.0	3.1	13.6	0.3	1.3	9.4	7.3
10	Lamb's-quarters	19.7	3.8	19.2	0.3	1.7	7.2	7.3
11	Annual sow-thistle spp.	20.5	3.1	15.2	0.3	1.4	6.4	6.8
12	Pale smartweed	17.2	2.7	15.7	0.2	1.2	5.4	5.7
13	Wild mustard	13.1	2.7	20.6	0.3	2.6	24.6	5.3
14	Perennial sow-thistle	15.6	2.0	13.2	0.2	1.5	6.4	5.0
15	Night-flowering catchfly	12.3	2.4	19.7	0.2	1.7	6.6	4.6
16	Round-leaved mallow	12.3	2.1	17.0	0.2	1.5	8.6	4.3
17	Barnyard grass	9.8	1.4	14.6	0.4	4.0	26.4	3.9
18	Quack grass	11.5	1.6	13.9	0.2	2.0	13.0	3.9
19	Chickweed	4.9	1.7	34.2	0.4	8.7	34.8	3.3
20	Volunteer flax	4.9	1.8	36.7	0.3	6.7	20.2	3.1
21	Volunteer barley	7.4	1.3	17.2	0.1	1.7	8.2	2.6
22	Stinkweed	7.4	0.5	6.1	< 0.1	0.3	0.6	1.7
23	Prostrate knotweed	4.1	0.7	16.0	< 0.1	1.2	4.4	1.4
24	Field horsetail	3.3	0.7	20.0	0.1	2.3	3.4	1.3
25	Hemp-nettle	2.5	0.7	30.0	0.1	3.0	4.6	1.2
26	Shepherd's-purse	4.9	0.3	5.8	< 0.1	0.4	1.0	1.2
27	Foxtail barley	2.5	0.3	11.7	< 0.1	1.7	4.6	0.8
28	Volunteer wheat	2.5	0.2	10.0	< 0.1	0.4	0.8	0.7
29	Volunteer alfalfa	1.6	0.1	7.5	0.1	4.2	8.2	0.6
30	Russian thistle	1.6	0.1	7.5	< 0.1	1.5	2.8	0.5
31	Black medick	1.6	0.2	10.0	< 0.1	0.8	0.8	0.5
32	Narrow-leaved hawk's-beard	1.6	0.2	10.0	< 0.1	0.4	0.6	0.4
33	Mouse-eared chickweed	1.6	0.1	7.5	< 0.1	1.0	1.4	0.4
34	Bluebur	0.8	0.2	30.0	< 0.1	3.0	3.0	0.4
35	Biennial wormwood	0.8	0.1	15.0	< 0.1	2.2	2.2	0.3
36	White cockle	0.8	0.1	15.0	< 0.1	1.6	1.6	0.3
37	Rose species	0.8	0.1	15.0	< 0.1	1.2	1.2	0.3
38	Common groundsel	0.8	0.1	10.0	< 0.1	0.8	0.8	0.2
39	Showy milkweed	0.8	0.1	10.0	< 0.1	0.6	0.6	0.2
40	Wild tomato	0.8	0.1	10.0	< 0.1	0.6	0.6	0.2
41	Giant ragweed	0.8	< 0.1	5.0	< 0.1	0.6	0.6	0.2
42	Volunteer oats	0.8	< 0.1	5.0	< 0.1	0.4	0.4	0.2
43	Cocklebur	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
44	Oak-leaved goosefoot	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
45	Wild licorice	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
46	Broad-leaved plantain	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	Leafy spurge	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Thyme-leaved spurge	0.8	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 28. Barley fields in the Aspen Parkland Ecoregion (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	79.5	37.4	47.0	16.3	20.5	119.4	95.8
2	Wild oats	65.9	24.5	37.2	6.2	9.4	66.4	50.5
3	Wild buckwheat	59.1	14.1	23.8	1.0	1.8	11.2	24.6
4	Canada thistle	34.1	7.8	23.0	0.8	2.4	14.2	14.7
5	Volunteer wheat	36.4	6.4	17.5	0.6	1.7	14.0	13.3
6	Redroot pigweed	27.3	4.9	17.9	0.4	1.4	4.8	9.8
7	Kochia	15.9	4.4	27.9	1.1	6.7	27.6	9.7
8	Volunteer canola (Argentine)	15.9	3.8	23.6	0.4	2.3	9.0	6.9
9	Barnyard grass	11.4	3.2	28.0	0.7	6.1	14.2	6.7
10	Night-flowering catchfly	18.2	2.6	14.4	0.3	1.5	5.8	6.1
11	Dandelion	18.2	2.6	14.4	0.3	1.4	3.2	6.1
12	Round-leaved mallow	15.9	2.8	17.9	0.2	1.5	3.2	5.8
13	Pale smartweed	13.6	3.0	21.7	0.3	2.1	6.0	5.6
14	Volunteer flax	4.5	2.8	62.5	0.7	15.4	26.8	5.2
15	Lamb's-quarters	13.6	2.3	16.7	0.2	1.1	3.4	4.7
16	Quack grass	13.6	0.8	5.8	0.1	0.5	1.4	3.3
17	Annual sow-thistle spp.	11.4	1.0	9.0	0.1	0.5	1.6	3.0
18	Stinkweed	9.1	1.1	12.5	0.1	1.2	1.8	2.8
19	Perennial sow-thistle	9.1	0.8	8.8	0.1	1.0	1.8	2.5
20	Wild mustard	9.1	0.9	10.0	< 0.1	0.5	0.8	2.5
21	Volunteer oats	4.5	0.9	20.0	0.3	5.6	10.8	2.3
22	Shepherd's-purse	6.8	0.6	8.3	< 0.1	0.5	0.8	1.8
23	Hemp-nettle	4.5	0.5	10.0	< 0.1	0.5	0.6	1.2
24	Cleavers	4.5	0.3	7.5	< 0.1	0.4	0.4	1.1
25	Volunteer barley	2.3	0.3	15.0	0.1	5.6	5.6	1.1
26	Showy milkweed	2.3	0.5	20.0	0.1	4.4	4.4	1.1
27	Wild tomato	2.3	0.7	30.0	< 0.1	1.8	1.8	1.1
28	Prostrate pigweed	4.5	0.2	5.0	< 0.1	0.4	0.4	1.1
29	Chickweed	2.3	0.3	15.0	0.1	2.6	2.6	0.9
30	Pineappleweed	2.3	0.3	15.0	< 0.1	0.6	0.6	0.7
31	Scouring-rush	2.3	0.2	10.0	< 0.1	0.8	0.8	0.6
32	Prostrate knotweed	2.3	0.2	10.0	< 0.1	0.6	0.6	0.6
33	Volunteer canola (Polish)	2.3	0.1	5.0	< 0.1	1.0	1.0	0.6
34	Mouse-eared chickweed	2.3	0.1	5.0	< 0.1	0.8	0.8	0.6
35	Aspen poplar	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
36	Slender wheat grass	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
37	Foxtail barley	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
38	American dragonhead	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
39	Yellow foxtail	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
40	Oak-leaved goosefoot	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
41	Narrow-leaved hawk's-beard	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
42	Henbit	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
43	Broad-leaved plantain	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
44	Common ragweed	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
45	American vetch	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 29. Oat fields in the Aspen Parkland Ecoregion (39 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	89.7	63.1	70.3	66.9	74.5	575.8	134.7
2	Wild oats	82.1	32.9	40.2	6.6	8.1	54.4	42.2
3	Wild buckwheat	46.2	13.3	28.9	1.3	2.9	18.8	17.8
4	Canada thistle	30.8	8.1	26.3	1.0	3.2	13.0	11.5
5	Volunteer canola (Argentine)	17.9	5.6	31.4	0.8	4.3	13.0	7.5
6	Redroot pigweed	23.1	3.2	13.9	0.3	1.1	2.2	6.3
7	Lamb's-quarters	17.9	3.1	17.1	0.7	3.8	18.8	5.9
8	Wild mustard	17.9	2.8	15.7	0.2	1.3	5.4	5.2
9	Dandelion	12.8	3.2	25.0	0.5	4.2	14.2	4.8
10	Volunteer wheat	20.5	1.8	8.8	0.1	0.5	1.6	4.8
11	Round-leaved mallow	12.8	3.2	25.0	0.3	2.5	9.4	4.6
12	Volunteer barley	17.9	1.8	10.0	0.2	1.0	3.6	4.5
13	Annual sow-thistle spp.	12.8	2.9	23.0	0.4	2.8	11.4	4.5
14	Black medick	7.7	3.7	48.3	0.6	7.6	15.6	4.3
15	Pale smartweed	12.8	2.8	22.0	0.2	1.8	5.6	4.2
16	Barnyard grass	17.9	1.3	7.1	0.1	0.7	1.4	4.1
17	Quack grass	12.8	1.9	15.0	0.3	2.6	5.2	3.8
18	Stinkweed	10.3	1.8	17.5	0.4	3.8	13.4	3.4
19	Prostrate knotweed	12.8	1.3	10.0	0.1	0.5	1.4	3.1
20	Kochia	12.8	1.2	9.0	0.1	0.8	1.0	3.1
21	Night-flowering catchfly	7.7	1.9	25.0	0.1	1.8	2.0	2.7
22	Cleavers	7.7	1.5	20.0	0.2	2.9	7.0	2.6
23	Pineappleweed	2.6	1.0	40.0	0.5	19.8	19.8	1.7
24	Volunteer rye grass	2.6	1.0	40.0	0.1	3.8	3.8	1.2
25	Perennial sow-thistle	5.1	0.4	7.5	< 0.1	0.3	0.4	1.2
26	Chickweed	5.1	0.3	5.0	< 0.1	0.3	0.4	1.1
27	Common ragweed	5.1	0.3	5.0	< 0.1	0.3	0.4	1.1
28	Shepherd's-purse	5.1	0.3	5.0	< 0.1	0.2	0.2	1.1
29	Volunteer peas	2.6	0.5	20.0	< 0.1	1.0	1.0	0.8
30	Russian thistle	2.6	0.4	15.0	< 0.1	0.8	0.8	0.7
31	Hemp-nettle	2.6	0.3	10.0	0.1	3.2	3.2	0.7
32	Volunteer alfalfa	2.6	0.3	10.0	< 0.1	1.8	1.8	0.7
33	Volunteer sunflower	2.6	0.3	10.0	< 0.1	0.4	0.4	0.6
34	American vetch	2.6	0.1	5.0	< 0.1	0.6	0.6	0.6
35	Volunteer flax	2.6	0.1	5.0	< 0.1	0.6	0.6	0.6
36	Thyme-leaved spurge	2.6	0.1	5.0	< 0.1	0.4	0.4	0.5
37	American dragonhead	2.6	0.1	5.0	< 0.1	0.2	0.2	0.5
38	Flixweed	2.6	0.1	5.0	< 0.1	0.2	0.2	0.5
39	Common pepper-grass	2.6	0.1	5.0	< 0.1	0.2	0.2	0.5
40	Scouring-rush	2.6	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 30. Canola fields in the Aspen Parkland Ecoregion (74 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	68.9	25.3	36.7	6.1	8.8	79.4	62.2
2	Wild buckwheat	63.5	13.9	21.9	1.9	3.0	51.0	31.3
3	Wild oats	52.7	13.2	25.1	2.2	4.2	41.6	30.6
4	Lamb's-quarters	32.4	6.8	20.8	0.9	2.7	24.0	15.2
5	Volunteer wheat	35.1	6.5	18.5	0.8	2.2	12.2	14.9
6	Stinkweed	16.2	4.2	25.8	1.4	8.8	74.2	13.2
7	Barnyard grass	14.9	3.4	22.7	1.5	9.9	93.6	12.5
8	Canada thistle	31.1	4.6	14.8	0.4	1.4	4.8	11.0
9	Redroot pigweed	24.3	3.5	14.4	0.5	2.1	17.8	9.4
10	Annual sow-thistle spp.	24.3	3.2	13.3	0.3	1.4	9.8	8.3
11	Wild mustard	20.3	3.7	18.3	0.4	1.8	6.2	8.2
12	Pale smartweed	21.6	3.2	15.0	0.3	1.4	9.4	7.7
13	Cleavers	16.2	3.5	21.7	0.3	2.0	7.8	7.1
14	Dandelion	20.3	3.0	15.0	0.2	0.9	4.2	6.8
15	Kochia	13.5	2.9	21.5	0.4	3.1	16.8	6.7
16	Shepherd's-purse	14.9	2.4	15.9	0.2	1.6	6.0	5.6
17	Volunteer canola (Argentine)	13.5	2.0	15.0	0.2	1.8	8.2	5.1
18	Round-leaved mallow	12.2	2.0	16.7	0.2	1.8	7.4	4.7
19	Quack grass	9.5	1.7	17.9	0.1	1.1	2.4	3.5
20	Black medick	4.1	1.3	31.7	0.2	5.5	15.2	2.8
21	Red clover	1.4	0.6	45.0	0.4	29.4	29.4	2.7
22	Perennial sow-thistle	10.8	0.8	7.5	< 0.1	0.4	0.8	2.7
23	Chickweed	8.1	0.9	11.7	0.1	1.1	2.8	2.6
24	American dragonhead	5.4	1.2	22.5	0.1	1.8	3.4	2.4
25	Hemp-nettle	5.4	0.7	12.5	0.2	3.0	10.6	2.2
26	Biennial wormwood	8.1	0.8	10.0	< 0.1	0.5	1.6	2.2
27	Field horsetail	8.1	0.4	5.0	0.1	0.9	2.6	2.0
28	Common groundsel	4.1	0.6	15.0	0.1	2.7	7.0	1.7
29	Night-flowering catchfly	6.8	0.5	7.0	< 0.1	0.3	0.6	1.6
30	Volunteer barley	5.4	0.6	11.3	< 0.1	0.8	2.0	1.6
31	Thyme-leaved spurge	5.4	0.4	7.5	0.1	1.3	3.8	1.6
32	Wild tomato	1.4	0.4	30.0	0.2	11.2	11.2	1.3
33	Prostrate knotweed	2.7	0.5	20.0	< 0.1	1.5	2.8	1.1
34	Flixweed	2.7	0.3	12.5	< 0.1	0.9	1.2	0.8
35	Volunteer flax	2.7	0.3	12.5	< 0.1	0.7	0.8	0.8
36	Black mustard	1.4	0.4	30.0	< 0.1	2.2	2.2	0.7
37	Stork's-bill	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6
38	Canada goldenrod	1.4	0.2	15.0	< 0.1	2.2	2.2	0.5
39	Narrow-leaved hawk's-beard	1.4	0.3	20.0	< 0.1	0.8	0.8	0.5
40	False ragweed	1.4	0.1	10.0	< 0.1	1.4	1.4	0.4
41	Showy milkweed	1.4	0.1	10.0	< 0.1	1.0	1.0	0.4
42	Cocklebur	1.4	0.1	10.0	< 0.1	0.4	0.4	0.4
43	Russian thistle	1.4	0.1	10.0	< 0.1	0.4	0.4	0.4
44	Absinth	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
45	Ball mustard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
46	Tumble mustard	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
47	Prostrate pigweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
48	Broad-leaved plantain	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Purslane	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
50	Manitoba maple	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 31. Flax fields in the Aspen Parkland Ecoregion (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	43.8	25.9	59.3	73.2	167.4	1070.0	109.0
2	Wild oats	50.0	18.4	36.9	6.2	12.4	28.2	28.8
3	Wild buckwheat	68.8	15.0	21.8	1.0	1.4	3.0	23.6
4	Canada thistle	68.8	13.4	19.5	1.2	1.8	9.2	22.7
5	Pale smartweed	31.3	9.7	31.0	1.8	5.8	16.4	14.3
6	Round-leaved mallow	37.5	7.5	20.0	0.6	1.5	5.0	12.4
7	Redroot pigweed	37.5	4.4	11.7	0.2	0.5	0.8	9.7
8	Dandelion	31.3	4.7	15.0	0.4	1.3	3.8	9.1
9	Volunteer canola (Argentine)	12.5	6.6	52.5	0.9	7.3	13.8	7.9
10	Wild mustard	18.8	3.4	18.3	0.3	1.4	2.0	5.9
11	Lamb's-quarters	18.8	3.1	16.7	0.4	1.9	5.0	5.8
12	Night-flowering catchfly	18.8	3.1	16.7	0.1	0.7	1.6	5.6
13	Volunteer wheat	18.8	2.5	13.3	0.3	1.4	2.0	5.3
14	Stinkweed	12.5	3.1	25.0	0.5	4.1	8.0	5.0
15	Chickweed	6.3	3.4	55.0	0.3	5.0	5.0	3.9
16	Perennial sow-thistle	18.8	0.9	5.0	< 0.1	0.2	0.2	3.9
17	Annual sow-thistle spp.	12.5	1.9	15.0	0.1	0.7	1.2	3.6
18	Kochia	12.5	1.6	12.5	0.1	0.9	1.4	3.4
19	Prostrate knotweed	6.3	2.5	40.0	0.3	4.4	4.4	3.2
20	Hemp-nettle	12.5	1.3	10.0	0.1	0.9	1.6	3.1
21	Black medick	12.5	0.9	7.5	0.1	0.5	0.8	2.9
22	Cow cockle	6.3	1.6	25.0	0.2	2.6	2.6	2.4
23	Shepherd's-purse	6.3	1.3	20.0	0.1	1.6	1.6	2.1
24	Quack grass	6.3	0.3	5.0	< 0.1	0.4	0.4	1.3
25	Cleavers	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3
26	American dragonhead	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3
27	Manitoba maple	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3
28	Volunteer canola (Polish)	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3

Table 32. All fields in the Southwest Manitoba Uplands Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	70.6	25.3	35.8	7.6	10.8	85.8	69.5
2	Wild oats	58.8	13.8	23.5	2.5	4.2	20.2	33.5
3	Volunteer buckwheat	5.9	5.9	100.0	5.7	96.6	96.6	32.7
4	Wild buckwheat	58.8	16.8	28.5	1.4	2.3	6.8	30.8
5	Pale smartweed	47.1	9.4	20.0	0.7	1.6	4.0	19.5
6	Canada thistle	41.2	7.1	17.1	0.8	1.8	8.6	16.6
7	Barnyard grass	29.4	5.3	18.0	0.5	1.6	6.4	11.7
8	Night-flowering catchfly	29.4	4.4	15.0	0.4	1.2	3.6	10.5
9	Wild mustard	41.2	2.9	7.1	0.2	0.4	1.4	10.3
10	Hemp-nettle	23.5	4.4	18.8	0.3	1.3	2.2	9.2
11	Volunteer wheat	11.8	3.2	27.5	0.3	2.9	5.2	6.4
12	Volunteer flax	11.8	3.2	27.5	0.3	2.5	3.8	6.2
13	Volunteer canola (Argentine)	23.5	1.8	7.5	0.1	0.4	0.4	5.9
14	Lamb's-quarters	11.8	1.5	12.5	0.1	0.6	0.6	3.6
15	Redroot pigweed	11.8	1.5	12.5	0.1	0.5	0.6	3.5
16	Annual sow-thistle spp.	11.8	0.9	7.5	< 0.1	0.4	0.6	3.0
17	Round-leaved mallow	11.8	0.9	7.5	< 0.1	0.3	0.4	2.9
18	Cleavers	5.9	1.2	20.0	0.2	3.0	3.0	2.8
19	Perennial sow-thistle	11.8	0.6	5.0	< 0.1	0.4	0.6	2.7
20	Quack grass	11.8	0.6	5.0	< 0.1	0.2	0.2	2.6
21	Stork's-bill	5.9	0.9	15.0	0.1	1.4	1.4	2.1
22	Chickweed	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
23	Field horsetail	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
24	Volunteer alfalfa	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
25	Dandelion	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
26	American dragonhead	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
27	Small-flowered geranium	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
28	Black medick	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
29	Stinkweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
30	Yellow sweet-clover	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
31	Manitoba maple	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3

Table 33. Number of fields surveyed in each ecodistrict

Ecoregion and Ecodistrict Group	Ecodistrict	Number of Fields Surveyed
Interlake Plain & Lake of the Woods		
Swan Lake (717)	717 Swan Lake	18
Gimli, Ashern & Gypsumville (724, 723 & 720)	724 Gimli	24
	723 Ashern	4
	720 Gypsumville	1
Steinbach & Stead (726 & 375)	726 Steinbach	6
	375 Stead	9
Boreal Transition		
Swan River (709)	709 Swan River	20
Mid-Boreal Uplands		
Duck Mountain & Riding Mountain (715 & 716)	715 Duck Mountain	5
	716 Riding Mountain	9
Lake Manitoba Plain		
Dauphin (840)	840 Dauphin	11
McCreary (844)	844 McCreary	11
Gladstone, Alonsa, Ste. Rose & Langruth	847 Gladstone	9
(847, 841, 843 & 848)	841 Alonsa	5
	843 Ste. Rose	4
	848 Langruth	3
Winnipeg (849)	849 Winnipeg	109
MacGregor (850)	850 MacGregor	17
Portage & Lundar (851 & 846)	851 Portage	12
	846 Lundar	1
Winkler & Emerson (852 & 853)	852 Winkler	31
	853 Emerson	9
Aspen Parkland		
St. Lazare (751)	751 St. Lazare	13
Melville (752)	752 Melville	17
Hamiota (753)	753 Hamiota	69
Shilo & Carberry (757 & 759)	757 Shilo	10
	759 Carberry	6
Stockton (758)	758 Stockton	27
Gainsborough Creek (760)	760 Gainsborough Creek	12
Oak Lake (763)	763 Oak Lake	19
Hilton (764)	764 Hilton	11
Killarney (765)	765 Killarney	65
Manitou (766)	766 Manitou	29
Grandview (839)	839 Grandview	18
Southwest Manitoba Uplands		
Pembina Hills (854)	854 Pembina Hills	17

Table 34. Swan Lake Ecodistrict (717) in the Interlake Plain & Lake of the Woods Ecoregions (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	77.8	35.6	45.7	44.8	57.5	449.8	130.7
2	Green foxtail	44.4	15.6	35.0	4.1	9.2	34.0	34.1
3	Field horsetail	33.3	9.4	28.3	5.9	17.7	96.6	28.0
4	Wild buckwheat	38.9	11.7	30.0	1.2	3.2	12.6	24.0
5	Chickweed	5.6	5.6	100.0	2.4	44.0	44.0	11.1
6	Barnyard grass	22.2	1.7	7.5	0.1	0.6	1.0	7.7
7	Cleavers	16.7	3.1	18.3	0.1	0.9	1.4	7.7
8	Lamb's-quarters	11.1	2.5	22.5	0.3	2.6	4.8	5.9
9	Canada thistle	16.7	1.1	6.7	0.1	0.7	1.2	5.7
10	Pale smartweed	11.1	2.2	20.0	0.1	1.0	1.8	5.3
11	Wild mustard	11.1	1.9	17.5	0.1	1.1	2.0	5.1
12	Water smartweed	11.1	1.4	12.5	0.1	0.6	1.0	4.4
13	Night-flowering catchfly	11.1	1.1	10.0	0.1	0.5	0.8	4.1
14	Dandelion	11.1	1.1	10.0	0.1	0.5	0.8	4.1
15	Perennial sow-thistle	11.1	0.8	7.5	0.1	0.5	0.6	3.8
16	Volunteer canola (Argentine)	5.6	1.1	20.0	< 0.1	0.8	0.8	2.6
17	Redroot pigweed	5.6	0.8	15.0	0.1	2.2	2.2	2.5
18	Quack grass	5.6	0.6	10.0	0.2	3.2	3.2	2.3
19	Volunteer alfalfa	5.6	0.6	10.0	< 0.1	0.4	0.4	2.0
20	American dragonhead	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
21	Flixweed	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
22	Broad-leaved plantain	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
23	Stork's-bill	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7
24	Blue grass species	5.6	0.3	5.0	< 0.1	0.2	0.2	1.7

Table 35. Gimli, Ashern & Gypsumville Ecodistricts (724, 723 & 720) in the Interlake Plain & Lake of the Woods Ecoregions (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	55.2	25.0	45.3	5.8	10.4	42.2	38.9
2	Wild buckwheat	69.0	25.5	37.0	2.4	3.5	21.6	30.0
3	Redroot pigweed	55.2	20.2	36.6	3.2	5.9	28.6	28.2
4	Barnyard grass	55.2	13.3	24.1	4.0	7.3	38.0	27.3
5	Lamb's-quarters	48.3	16.6	34.3	3.6	7.4	59.6	26.5
6	Pale smartweed	48.3	14.5	30.0	1.6	3.4	9.4	19.1
7	Wild oats	48.3	12.1	25.0	1.7	3.4	16.2	18.0
8	Canada thistle	48.3	8.6	17.9	0.9	1.9	10.2	13.8
9	Night-flowering catchfly	31.0	9.8	31.7	1.3	4.3	11.0	13.4
10	Dandelion	37.9	6.7	17.7	0.5	1.2	4.6	9.9
11	Quack grass	17.2	5.2	30.0	0.9	5.0	13.2	7.8
12	Wild mustard	20.7	6.0	29.2	0.5	2.4	4.4	7.4
13	Cleavers	20.7	4.7	22.5	0.6	2.8	14.0	7.0
14	Volunteer wheat	24.1	4.3	17.9	0.3	1.3	5.6	6.4
15	Volunteer canola (Argentine)	20.7	3.6	17.5	0.2	0.9	1.2	5.2
16	Volunteer alfalfa	20.7	3.3	15.8	0.2	1.1	4.6	5.2
17	Volunteer flax	3.4	2.9	85.0	0.7	20.8	20.8	4.3
18	Perennial sow-thistle	17.2	2.1	12.0	0.2	0.9	1.8	3.9
19	Thyme-leaved spurge	6.9	2.1	30.0	0.3	4.1	4.8	2.9
20	White cockle	6.9	1.7	25.0	0.3	4.4	4.8	2.8
21	Annual sow-thistle spp.	6.9	1.9	27.5	0.2	2.5	4.6	2.4
22	Stinkweed	13.8	0.9	6.3	< 0.1	0.3	0.4	2.4
23	Shepherd's-purse	6.9	1.4	20.0	0.1	2.1	3.4	2.1
24	Hemp-nettle	10.3	0.9	8.3	< 0.1	0.3	0.4	1.9
25	Volunteer barley	6.9	1.4	20.0	0.1	1.3	2.0	1.9
26	Flixweed	6.9	0.9	12.5	0.2	2.2	2.4	1.9
27	Round-leaved mallow	3.4	1.2	35.0	0.1	2.0	2.0	1.3
28	Stork's-bill	6.9	0.5	7.5	< 0.1	0.3	0.4	1.2
29	Prostrate knotweed	3.4	0.7	20.0	< 0.1	1.4	1.4	1.0
30	Timothy	3.4	0.5	15.0	0.1	1.8	1.8	0.9
31	American dragonhead	3.4	0.5	15.0	< 0.1	1.0	1.0	0.8
32	Purple milk-vetch	3.4	0.5	15.0	< 0.1	0.6	0.6	0.8
33	Volunteer rye grass	3.4	0.5	15.0	< 0.1	0.6	0.6	0.8
34	Chickweed	3.4	0.3	10.0	< 0.1	0.4	0.4	0.7
35	Small-flowered geranium	3.4	0.3	10.0	< 0.1	0.4	0.4	0.7
36	Curled dock	3.4	0.2	5.0	< 0.1	0.4	0.4	0.6
37	Yellow foxtail	3.4	0.2	5.0	< 0.1	0.2	0.2	0.6

Table 36. Steinbach & Stead Ecodistricts (726 & 375) in the Interlake Plain & Lake of the Woods Ecoregions (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	60.0	19.0	31.7	4.3	7.1	27.4	43.4
2	Green foxtail	46.7	12.7	27.1	4.2	9.0	44.6	36.0
3	Lamb's-quarters	53.3	13.7	25.6	1.4	2.6	6.0	25.0
4	Pale smartweed	46.7	9.0	19.3	2.1	4.4	27.0	23.4
5	Redroot pigweed	46.7	8.0	17.1	1.6	3.4	21.0	20.4
6	Wild buckwheat	66.7	6.7	10.0	0.4	0.6	1.8	17.0
7	Yellow foxtail	20.0	5.3	26.7	2.1	10.3	28.6	16.5
8	Quack grass	33.3	5.3	16.0	0.8	2.5	5.2	12.9
9	Broad-leaved plantain	20.0	4.3	21.7	1.0	4.9	11.4	10.9
10	Wild oats	26.7	4.7	17.5	0.5	1.9	6.0	9.9
11	Field horsetail	6.7	3.3	50.0	1.4	20.6	20.6	9.9
12	Canada thistle	26.7	3.7	13.8	0.3	1.3	4.2	8.4
13	Yellow sweet-clover	13.3	4.7	35.0	0.5	3.5	5.8	7.8
14	Round-leaved mallow	20.0	4.0	20.0	0.3	1.6	3.4	7.6
15	Wild mustard	26.7	3.0	11.3	0.2	0.8	1.4	7.2
16	Dandelion	20.0	4.0	20.0	0.2	1.1	2.6	7.2
17	Annual sow-thistle spp.	20.0	2.3	11.7	0.1	0.5	1.0	5.2
18	Hemp-nettle	20.0	1.0	5.0	0.1	0.3	0.4	4.0
19	Showy milkweed	13.3	1.3	10.0	0.1	1.0	1.8	3.6
20	Kochia	6.7	2.0	30.0	0.1	1.6	1.6	3.1
21	Curled dock	13.3	1.0	7.5	0.1	0.4	0.4	3.0
22	Water smartweed	6.7	1.7	25.0	0.1	1.0	1.0	2.6
23	Absinth	6.7	0.7	10.0	< 0.1	0.6	0.6	1.7
24	Bladder campion	6.7	0.7	10.0	< 0.1	0.6	0.6	1.7
25	Narrow-leaved hawk's-beard	6.7	0.7	10.0	< 0.1	0.4	0.4	1.6
26	Volunteer barley	6.7	0.7	10.0	< 0.1	0.4	0.4	1.6
27	White clover	6.7	0.7	10.0	< 0.1	0.4	0.4	1.6
28	Perennial sow-thistle	6.7	0.3	5.0	< 0.1	0.6	0.6	1.4
29	American dragonhead	6.7	0.3	5.0	< 0.1	0.4	0.4	1.4
30	Witch grass	6.7	0.3	5.0	< 0.1	0.4	0.4	1.4
31	Shepherd's-purse	6.7	0.3	5.0	< 0.1	0.2	0.2	1.3
32	Stinkweed	6.7	0.3	5.0	< 0.1	0.2	0.2	1.3

Table 37. Swan River Ecodistrict (709) in the Boreal Transition Ecoregion (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	60.0	32.5	54.2	10.7	17.8	73.8	82.4
2	Green foxtail	55.0	17.0	30.9	4.5	8.1	31.8	42.7
3	Canada thistle	60.0	12.8	21.3	1.5	2.4	17.4	27.4
4	Cleavers	35.0	6.5	18.6	0.5	1.5	4.4	13.8
5	Dandelion	25.0	7.3	29.0	0.7	2.7	7.6	13.2
6	Wild buckwheat	40.0	5.3	13.1	0.3	0.9	4.6	13.0
7	Annual sow-thistle spp.	35.0	3.5	10.0	0.2	0.5	1.8	10.1
8	Field horsetail	25.0	4.3	17.0	0.5	1.9	7.4	10.0
9	Lamb's-quarters	15.0	5.8	38.3	0.6	4.1	9.0	9.9
10	Hemp-nettle	20.0	5.0	25.0	0.5	2.5	4.8	9.8
11	Volunteer canola (Argentine)	25.0	3.0	12.0	0.2	0.7	1.4	7.7
12	Volunteer wheat	5.0	4.0	80.0	0.8	16.2	16.2	7.5
13	Volunteer alfalfa	5.0	4.0	80.0	0.7	13.4	13.4	6.9
14	Volunteer white mustard	5.0	4.0	80.0	0.5	10.8	10.8	6.4
15	Pale smartweed	20.0	1.8	8.8	0.1	0.4	0.8	5.4
16	Perennial sow-thistle	20.0	1.3	6.3	0.1	0.3	0.4	4.9
17	Barnyard grass	10.0	2.0	20.0	0.1	1.4	2.4	4.0
18	Stinkweed	15.0	1.0	6.7	0.1	0.6	1.0	4.0
19	Chickweed	5.0	1.8	35.0	0.3	6.4	6.4	3.7
20	Shepherd's-purse	10.0	1.0	10.0	0.1	0.5	0.6	2.9
21	Narrow-leaved hawk's-beard	5.0	1.0	20.0	0.1	2.8	2.8	2.3
22	Stork's-bill	5.0	1.0	20.0	0.1	1.0	1.0	1.9
23	Volunteer flax	5.0	0.8	15.0	0.1	1.8	1.8	1.9
24	Quack grass	5.0	0.8	15.0	0.1	1.0	1.0	1.7
25	Volunteer oats	5.0	0.5	10.0	< 0.1	0.6	0.6	1.5
26	Blue grass species	5.0	0.3	5.0	0.1	1.2	1.2	1.4
27	Prostrate knotweed	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Black medick	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2
29	American vetch	5.0	0.3	5.0	< 0.1	0.2	0.2	1.2

Table 38. Duck Mountain & Riding Mountain Ecodistricts (715 & 716) in the Mid-Boreal Uplands Ecoregion (14 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Cleavers	57.1	26.8	46.9	5.1	8.9	29.4	45.1
2	Wild oats	57.1	28.2	49.4	3.7	6.5	28.0	39.6
3	Chickweed	50.0	20.0	40.0	2.6	5.3	9.6	29.3
4	Wild buckwheat	64.3	22.9	35.6	1.6	2.6	7.8	28.3
5	Canada thistle	64.3	11.1	17.2	1.0	1.6	5.8	19.2
6	Pale smartweed	42.9	12.1	28.3	1.5	3.4	13.6	18.9
7	Stinkweed	21.4	8.9	41.7	1.4	6.5	15.2	14.0
8	Hemp-nettle	50.0	8.2	16.4	0.6	1.1	3.2	13.7
9	Annual sow-thistle spp.	35.7	5.4	15.0	0.3	0.9	1.2	9.2
10	Volunteer barley	14.3	5.4	37.5	0.7	5.1	10.0	8.1
11	Green foxtail	21.4	4.3	20.0	0.6	2.7	3.8	7.8
12	Wild mustard	28.6	3.9	13.8	0.3	1.0	2.2	7.2
13	Field horsetail	35.7	2.9	8.0	0.2	0.5	1.2	7.1
14	Volunteer canola (Argentine)	21.4	3.9	18.3	0.3	1.5	4.0	6.5
15	Volunteer alfalfa	7.1	4.6	65.0	0.6	8.4	8.4	6.2
16	Dandelion	28.6	2.5	8.8	0.1	0.5	1.0	5.8
17	Quack grass	21.4	1.4	6.7	0.4	1.7	4.6	5.3
18	Lamb's-quarters	21.4	2.1	10.0	0.2	0.9	2.2	4.9
19	Perennial sow-thistle	21.4	1.8	8.3	0.1	0.5	1.2	4.4
20	Black medick	7.1	2.5	35.0	0.2	3.0	3.0	3.3
21	Volunteer wheat	14.3	1.8	12.5	0.1	0.6	1.0	3.3
22	Volunteer oats	7.1	2.5	35.0	0.1	1.8	1.8	2.9
23	Bluebur	7.1	1.1	15.0	0.1	2.0	2.0	2.2
24	Henbit	7.1	0.4	5.0	0.1	1.8	1.8	1.7
25	Redroot pigweed	7.1	0.4	5.0	< 0.1	0.4	0.4	1.3
26	Broad-leaved plantain	7.1	0.4	5.0	< 0.1	0.4	0.4	1.3
27	Night-flowering catchfly	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2
28	American dragonhead	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2
29	Maple-leaved goosefoot	7.1	0.4	5.0	< 0.1	0.2	0.2	1.2

Table 39. Dauphin Ecodistrict (840) in the Lake Manitoba Plain Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	72.7	48.6	66.9	14.0	19.2	53.8	79.6
2	Green foxtail	45.5	32.3	71.0	6.4	14.0	40.8	43.6
3	Lamb's-quarters	63.6	15.0	23.6	4.5	7.1	45.8	31.4
4	Dandelion	63.6	19.5	30.7	2.8	4.3	20.8	28.6
5	Wild buckwheat	72.7	12.3	16.9	0.6	0.9	2.6	19.6
6	Dog mustard	27.3	10.0	36.7	1.2	4.4	8.8	13.2
7	Pale smartweed	36.4	8.6	23.8	0.7	1.9	5.8	12.3
8	Canada thistle	45.5	6.4	14.0	0.4	0.8	1.4	11.5
9	Night-flowering catchfly	45.5	5.0	11.0	0.3	0.7	2.4	10.6
10	Annual sow-thistle spp.	36.4	5.0	13.8	0.4	1.1	3.4	9.4
11	Maple-leaved goosefoot	9.1	4.1	45.0	0.6	6.4	6.4	5.3
12	Cleavers	18.2	3.6	20.0	0.2	0.9	1.4	5.2
13	Stork's-bill	9.1	3.6	40.0	0.4	4.4	4.4	4.6
14	Redroot pigweed	18.2	1.4	7.5	0.1	0.4	0.6	3.7
15	Field horsetail	18.2	1.4	7.5	0.1	0.3	0.4	3.7
16	Hemp-nettle	9.1	2.7	30.0	0.1	1.6	1.6	3.3
17	Chickweed	9.1	2.3	25.0	0.1	1.2	1.2	2.9
18	Quack grass	9.1	1.4	15.0	0.1	0.8	0.8	2.3
19	Wild mustard	9.1	0.9	10.0	0.1	0.6	0.6	2.0
20	Kochia	9.1	0.9	10.0	< 0.1	0.4	0.4	2.0
21	Shepherd's-purse	9.1	0.5	5.0	0.1	0.6	0.6	1.8
22	Wormseed mustard	9.1	0.5	5.0	< 0.1	0.2	0.2	1.7
23	Broad-leaved plantain	9.1	0.5	5.0	< 0.1	0.2	0.2	1.7

Table 40. Gladstone, Alonsa, Ste. Rose & Langruth Ecodistricts (847, 841, 843 & 848) in the Lake Manitoba Plain Ecoregion (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	38.1	11.4	30.0	5.5	14.3	56.6	62.1
2	Wild buckwheat	38.1	9.8	25.6	1.3	3.5	11.6	31.6
3	Canada thistle	42.9	7.4	17.2	0.9	2.1	6.2	26.8
4	Wild oats	28.6	6.9	24.2	0.9	3.1	5.8	22.3
5	Lamb's-quarters	33.3	6.0	17.9	0.6	1.9	6.4	20.6
6	Pale smartweed	28.6	5.5	19.2	0.5	1.6	3.6	17.6
7	Redroot pigweed	19.0	2.6	13.8	1.4	7.1	25.8	17.6
8	Perennial sow-thistle	33.3	4.3	12.9	0.4	1.3	4.4	17.2
9	Wild mustard	19.0	3.8	20.0	0.4	2.2	4.8	12.6
10	Kochia	9.5	4.0	42.5	0.6	6.0	10.2	11.6
11	Barnyard grass	9.5	2.9	30.0	0.6	5.9	7.8	10.0
12	Volunteer wheat	19.0	2.4	12.5	0.3	1.4	2.6	9.8
13	Volunteer canola (Argentine)	9.5	2.9	30.0	0.2	2.6	4.6	7.9
14	Dandelion	14.3	1.2	8.3	0.2	1.1	2.2	6.3
15	Volunteer oats	4.8	1.9	40.0	0.3	6.0	6.0	5.7
16	Quack grass	4.8	1.2	25.0	0.4	7.8	7.8	5.3
17	Black medick	4.8	0.5	10.0	0.1	1.6	1.6	2.4
18	American dragonhead	4.8	0.5	10.0	< 0.1	0.6	0.6	2.0
19	Round-leaved mallow	4.8	0.5	10.0	< 0.1	0.6	0.6	2.0
20	Common ragweed	4.8	0.5	10.0	< 0.1	0.4	0.4	2.0
21	Annual sow-thistle spp.	4.8	0.2	5.0	< 0.1	0.4	0.4	1.7
22	Volunteer canola (Polish)	4.8	0.2	5.0	< 0.1	0.4	0.4	1.7
23	Volunteer sunflower	4.8	0.2	5.0	< 0.1	0.4	0.4	1.7
24	Stinkweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.6

Table 41. McCreary Ecodistrict (844) in the Lake Manitoba Plain Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	63.6	25.9	40.7	35.1	55.2	336.0	86.2
2	Green foxtail	63.6	24.1	37.9	6.4	10.0	17.4	36.6
3	Barnyard grass	36.4	13.6	37.5	6.2	17.1	61.4	25.1
4	Redroot pigweed	54.5	13.6	25.0	2.0	3.6	11.6	20.9
5	Wild buckwheat	54.5	12.7	23.3	1.3	2.4	9.6	19.2
6	Wild mustard	27.3	9.1	33.3	4.1	15.2	45.2	17.3
7	Volunteer canola (Argentine)	45.5	11.8	26.0	0.8	1.8	4.2	16.3
8	Canada thistle	27.3	9.1	33.3	0.9	3.5	8.6	11.9
9	Quack grass	45.5	4.1	9.0	0.2	0.5	0.8	10.2
10	Pale smartweed	36.4	3.2	8.8	0.2	0.5	1.2	8.1
11	Stork's-bill	18.2	5.9	32.5	0.7	3.7	6.4	7.9
12	Field horsetail	27.3	4.5	16.7	0.3	1.3	2.2	7.9
13	Lamb's-quarters	27.3	3.2	11.7	0.3	0.9	1.6	6.8
14	Annual sow-thistle spp.	27.3	1.4	5.0	0.1	0.3	0.4	5.3
15	Perennial sow-thistle	9.1	2.7	30.0	0.4	4.2	4.2	3.9
16	Cleavers	18.2	1.4	7.5	0.1	0.3	0.4	3.8
17	Prickly lettuce	9.1	1.8	20.0	0.1	0.8	0.8	2.7
18	Black medick	9.1	1.4	15.0	0.1	1.0	1.0	2.5
19	Shepherd's-purse	9.1	0.9	10.0	0.1	0.6	0.6	2.1
20	Chickweed	9.1	0.5	5.0	< 0.1	0.4	0.4	1.8
21	Night-flowering catchfly	9.1	0.5	5.0	< 0.1	0.2	0.2	1.8
22	Dandelion	9.1	0.5	5.0	< 0.1	0.2	0.2	1.8

Table 42. Winnipeg Ecodistrict (849) in the Lake Manitoba Plain Ecoregion (109 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	59.6	20.6	34.5	11.1	18.7	316.0	68.1
2	Wild buckwheat	69.7	19.8	28.4	2.7	3.8	80.6	38.0
3	Wild oats	47.7	14.8	31.1	2.7	5.8	38.0	30.5
4	Barnyard grass	43.1	12.1	28.1	3.3	7.8	129.2	29.7
5	Pale smartweed	43.1	8.5	19.7	0.8	1.8	11.2	17.3
6	Canada thistle	44.0	6.1	13.9	0.7	1.6	18.2	15.3
7	Thyme-leaved spurge	31.2	7.7	24.6	0.7	2.4	14.4	14.4
8	Redroot pigweed	25.7	5.3	20.7	0.6	2.2	11.6	10.9
9	Volunteer wheat	18.3	4.6	25.3	0.6	3.5	21.0	9.3
10	Quack grass	11.9	2.0	16.5	1.4	11.8	139.8	8.9
11	Lamb's-quarters	21.1	2.8	13.0	0.2	1.1	11.6	6.8
12	Round-leaved mallow	17.4	2.8	16.1	0.2	1.4	13.0	6.2
13	Dandelion	17.4	2.7	15.5	0.2	1.4	8.8	6.1
14	Wild mustard	15.6	1.7	10.6	0.2	1.3	10.0	4.8
15	Annual sow-thistle spp.	10.1	1.4	13.6	0.1	1.3	7.8	3.4
16	Volunteer canola (Argentine)	8.3	1.2	15.0	0.2	2.4	19.2	3.2
17	Hemp-nettle	5.5	1.1	19.2	0.1	1.8	9.4	2.2
18	Volunteer flax	5.5	0.9	16.7	0.1	1.9	6.2	2.1
19	Perennial sow-thistle	7.3	0.6	7.5	< 0.1	0.6	2.2	1.9
20	Yellow foxtail	3.7	0.6	17.5	0.2	4.6	10.6	1.8
21	Stork's-bill	0.9	0.9	100.0	0.2	25.6	25.6	1.8
22	Volunteer barley	5.5	0.7	13.3	< 0.1	0.9	1.6	1.7
23	Stinkweed	5.5	0.5	8.3	< 0.1	0.6	2.6	1.5
24	Curled dock	4.6	0.4	8.0	< 0.1	0.6	1.6	1.2
25	Cocklebur	3.7	0.4	11.3	0.1	1.6	4.4	1.2
26	Common ragweed	2.8	0.4	15.0	0.1	2.2	6.0	1.0
27	Showy milkweed	2.8	0.5	16.7	< 0.1	1.3	2.6	1.0
28	Night-flowering catchfly	3.7	0.3	8.8	< 0.1	0.4	1.0	1.0
29	Chickweed	1.8	0.4	20.0	< 0.1	2.7	5.2	0.8
30	Prostrate knotweed	2.8	0.2	8.3	< 0.1	0.4	0.8	0.7
31	Kochia	2.8	0.1	5.0	< 0.1	0.4	0.8	0.6
32	Volunteer alfalfa	1.8	0.2	12.5	< 0.1	1.2	2.2	0.6
33	Broad-leaved plantain	1.8	0.2	12.5	< 0.1	0.6	1.0	0.5
34	Volunteer canola (Polish)	0.9	0.2	25.0	< 0.1	3.8	3.8	0.5
35	Water smartweed	1.8	0.1	5.0	< 0.1	0.6	0.8	0.4
36	Field horsetail	1.8	0.1	5.0	< 0.1	0.4	0.6	0.4
37	Tansy	0.9	0.2	25.0	< 0.1	2.2	2.2	0.4
38	Proso millet	0.9	0.1	15.0	< 0.1	2.6	2.6	0.4
39	Common groundsel	0.9	0.1	15.0	< 0.1	1.4	1.4	0.3
40	Black medick	0.9	0.1	15.0	< 0.1	0.8	0.8	0.3
41	Bicknell's geranium	0.9	0.1	10.0	< 0.1	1.8	1.8	0.3
42	Purslane	0.9	0.1	15.0	< 0.1	0.6	0.6	0.3
43	Volunteer sunflower	0.9	0.1	10.0	< 0.1	1.0	1.0	0.3
44	American vetch	0.9	< 0.1	5.0	< 0.1	0.8	0.8	0.2
45	Dog mustard	0.9	< 0.1	5.0	< 0.1	0.6	0.6	0.2
46	Absinth	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	American dragonhead	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Shepherd's-purse	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
49	Russian thistle	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
50	White clover	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
51	Yellow sweet-clover	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
52	Volunteer canary grass	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 43. MacGregor Ecodistrict (850) in the Lake Manitoba Plain Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	47.1	17.4	36.9	3.8	8.1	22.0	55.5
2	Wild buckwheat	52.9	13.5	25.6	2.4	4.4	18.6	43.0
3	Quack grass	17.6	6.5	36.7	2.4	13.6	38.0	27.0
4	Wild oats	29.4	7.4	25.0	1.3	4.6	11.8	23.9
5	Lamb's-quarters	29.4	6.2	21.0	0.6	2.0	5.2	17.8
6	Volunteer canola (Argentine)	23.5	5.6	23.8	0.7	3.0	6.6	16.5
7	Barnyard grass	23.5	2.9	12.5	0.6	2.4	5.2	12.5
8	Dandelion	11.8	4.1	35.0	0.6	4.9	7.2	11.2
9	Pale smartweed	23.5	2.6	11.3	0.4	1.7	4.4	11.0
10	Perennial sow-thistle	35.3	1.8	5.0	0.1	0.3	0.6	10.9
11	Volunteer oats	5.9	1.8	30.0	0.9	15.4	15.4	9.2
12	Redroot pigweed	11.8	2.6	22.5	0.5	3.9	6.6	8.7
13	Volunteer field bean	11.8	3.2	27.5	0.2	2.1	2.2	8.1
14	Stinkweed	11.8	2.1	17.5	0.3	2.6	5.0	7.1
15	Volunteer barley	5.9	1.5	25.0	0.3	5.8	5.8	5.3
16	Canada thistle	11.8	1.5	12.5	0.1	0.9	1.0	5.1
17	Wild mustard	11.8	1.5	12.5	0.1	0.6	1.0	4.9
18	Night-flowering catchfly	11.8	0.6	5.0	< 0.1	0.2	0.2	3.6
19	Shepherd's-purse	5.9	0.9	15.0	0.1	1.0	1.0	2.8
20	Purslane	5.9	0.6	10.0	0.1	1.2	1.2	2.5
21	Showy milkweed	5.9	0.6	10.0	< 0.1	0.6	0.6	2.3
22	Hemp-nettle	5.9	0.3	5.0	< 0.1	0.8	0.8	2.0
23	Field horsetail	5.9	0.3	5.0	< 0.1	0.4	0.4	1.9
24	Volunteer canola (Polish)	5.9	0.3	5.0	< 0.1	0.4	0.4	1.9
25	Prostrate knotweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.8
26	Volunteer corn	5.9	0.3	5.0	< 0.1	0.2	0.2	1.8
27	Volunteer wheat	5.9	0.3	5.0	< 0.1	0.2	0.2	1.8

Table 44. Portage & Lundar Ecodistricts (851& 846) in the Lake Manitoba Plain Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Canada thistle	53.8	13.8	25.7	2.3	4.3	11.2	37.9
2	Wild oats	38.5	16.9	44.0	2.4	6.4	12.6	37.7
3	Redroot pigweed	46.2	13.5	29.2	2.5	5.4	12.2	36.7
4	Barnyard grass	38.5	10.8	28.0	2.3	6.0	12.2	31.4
5	Wild mustard	38.5	12.7	33.0	1.8	4.6	9.2	30.3
6	Lamb's-quarters	23.1	6.5	28.3	1.2	5.1	7.0	17.8
7	Green foxtail	30.8	4.6	15.0	0.7	2.2	4.0	15.1
8	Cleavers	15.4	5.4	35.0	0.8	5.2	8.6	12.9
9	Quack grass	15.4	4.6	30.0	0.9	5.9	10.6	12.8
10	Wild buckwheat	15.4	6.2	40.0	0.7	4.3	6.2	12.8
11	Shepherd's-purse	15.4	3.8	25.0	0.9	6.0	8.4	12.2
12	Common ragweed	15.4	4.2	27.5	0.7	4.5	7.2	11.2
13	Hemp-nettle	15.4	2.7	17.5	0.3	1.8	2.2	7.6
14	Volunteer wheat	15.4	1.9	12.5	0.1	0.9	1.6	6.1
15	Dandelion	7.7	1.9	25.0	0.2	2.6	2.6	4.6
16	Volunteer canola (Argentine)	7.7	1.2	15.0	0.1	1.0	1.0	3.3
17	Silverberry	7.7	0.8	10.0	< 0.1	0.6	0.6	2.8
18	Pale smartweed	7.7	0.4	5.0	< 0.1	0.2	0.2	2.2
19	Stinkweed	7.7	0.4	5.0	< 0.1	0.2	0.2	2.2
20	Annual sow-thistle spp.	7.7	0.4	5.0	< 0.1	0.2	0.2	2.2

Table 45. Winkler & Emerson Ecodistricts (852 & 853) in the Lake Manitoba Plain Ecoregion (40 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	47.5	15.6	32.9	23.7	49.9	582.8	60.6
2	Green foxtail	82.5	25.0	30.3	13.9	16.8	152.8	56.3
3	Wild oats	47.5	12.3	25.8	8.8	18.5	260.0	32.2
4	Wild buckwheat	67.5	20.6	30.6	2.3	3.5	34.4	30.6
5	Redroot pigweed	67.5	17.1	25.4	3.4	5.0	46.8	29.7
6	Volunteer canola (Argentine)	20.0	5.4	26.9	2.5	12.3	86.0	11.6
7	Lamb's-quarters	25.0	7.1	28.5	0.8	3.3	11.6	10.9
8	Canada thistle	42.5	4.0	9.4	0.2	0.6	2.4	10.4
9	Annual sow-thistle spp.	30.0	3.4	11.3	0.2	0.5	1.8	7.7
10	Pale smartweed	25.0	2.4	9.5	0.1	0.5	0.8	6.1
11	Dandelion	25.0	1.6	6.5	0.1	0.3	0.8	5.4
12	Round-leaved mallow	12.5	2.1	17.0	0.1	1.0	3.2	3.9
13	Volunteer flax	7.5	2.8	36.7	0.3	3.5	6.6	3.7
14	Wild mustard	10.0	1.8	17.5	0.3	3.2	11.0	3.5
15	Volunteer wheat	12.5	1.3	10.0	0.1	0.8	2.2	3.2
16	Quack grass	12.5	0.9	7.0	0.2	1.5	5.4	3.0
17	Volunteer field bean	7.5	1.8	23.3	0.1	1.3	3.2	2.7
18	Volunteer coriander	5.0	1.4	27.5	0.1	2.2	3.8	2.0
19	Prostrate pigweed	7.5	0.8	10.0	0.1	0.7	1.0	1.9
20	Thyme-leaved spurge	7.5	0.6	8.3	0.1	1.3	3.2	1.9
21	Yellow foxtail	7.5	0.6	8.3	0.1	0.9	2.2	1.8
22	Kochia	5.0	1.0	20.0	0.1	1.2	2.0	1.7
23	Pineappleweed	5.0	0.4	7.5	< 0.1	0.4	0.6	1.1
24	Common ragweed	2.5	0.6	25.0	< 0.1	1.4	1.4	0.9
25	Showy milkweed	2.5	0.5	20.0	< 0.1	1.0	1.0	0.8
26	Volunteer corn	2.5	0.4	15.0	< 0.1	1.2	1.2	0.7
27	Scentless chamomile	2.5	0.3	10.0	< 0.1	1.2	1.2	0.6
28	Cocklebur	2.5	0.3	10.0	< 0.1	0.6	0.6	0.6
29	Volunteer fababean	2.5	0.3	10.0	< 0.1	0.6	0.6	0.6
30	Perennial sow-thistle	2.5	0.3	10.0	< 0.1	0.4	0.4	0.6
31	Tansy	2.5	0.3	10.0	< 0.1	0.4	0.4	0.6
32	Water smartweed	2.5	0.1	5.0	0.1	2.0	2.0	0.6
33	Absinth	2.5	0.1	5.0	< 0.1	0.4	0.4	0.5
34	Field horsetail	2.5	0.1	5.0	< 0.1	0.4	0.4	0.5
35	Volunteer alfalfa	2.5	0.1	5.0	< 0.1	0.2	0.2	0.5
36	Manitoba maple	2.5	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 46. St. Lazare Ecodistrict (751) in the Aspen Parkland Ecoregion (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	76.9	46.2	60.0	17.9	23.3	73.0	108.9
2	Wild buckwheat	76.9	26.2	34.0	3.5	4.6	18.8	42.5
3	Wild oats	53.8	14.2	26.4	1.4	2.6	10.6	23.0
4	Annual sow-thistle spp.	46.2	3.8	8.3	0.2	0.5	1.2	10.5
5	Lamb's-quarters	30.8	4.6	15.0	0.4	1.2	2.8	9.1
6	Canada thistle	30.8	3.5	11.3	0.4	1.4	4.2	8.5
7	Black medick	15.4	5.8	37.5	0.6	3.6	7.0	8.3
8	Volunteer wheat	30.8	4.2	13.8	0.2	0.7	1.0	8.3
9	Barnyard grass	23.1	3.8	16.7	0.3	1.1	2.2	7.1
10	Round-leaved mallow	23.1	3.8	16.7	0.2	1.1	1.6	7.0
11	Redroot pigweed	23.1	3.5	15.0	0.3	1.2	2.2	6.9
12	Shepherd's-purse	23.1	3.5	15.0	0.3	1.1	2.6	6.8
13	Dandelion	23.1	2.7	11.7	0.2	0.9	2.2	6.1
14	Cleavers	15.4	3.1	20.0	0.3	2.0	3.6	5.6
15	Prostrate knotweed	15.4	2.7	17.5	0.2	1.0	1.4	4.7
16	American dragonhead	7.7	3.1	40.0	0.2	3.0	3.0	4.1
17	Volunteer canola (Argentine)	7.7	1.9	25.0	0.3	3.6	3.6	3.5
18	Volunteer barley	15.4	1.2	7.5	0.1	0.5	0.6	3.4
19	Kochia	15.4	0.8	5.0	0.1	0.4	0.4	3.1
20	Russian thistle	7.7	1.2	15.0	0.1	0.8	0.8	2.2
21	Night-flowering catchfly	7.7	1.2	15.0	< 0.1	0.6	0.6	2.1
22	Hemp-nettle	7.7	0.8	10.0	< 0.1	0.6	0.6	1.9
23	Aspen poplar	7.7	0.4	5.0	< 0.1	0.4	0.4	1.5
24	Thyme-leaved spurge	7.7	0.4	5.0	< 0.1	0.4	0.4	1.5
25	Stinkweed	7.7	0.4	5.0	< 0.1	0.4	0.4	1.5
26	Volunteer oats	7.7	0.4	5.0	< 0.1	0.4	0.4	1.5
27	Foxtail barley	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
28	Flixweed	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
29	Narrow-leaved hawk's-beard	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
30	Field horsetail	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
31	Pale smartweed	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
32	American vetch	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5
33	Biennial wormwood	7.7	0.4	5.0	< 0.1	0.2	0.2	1.5

Table 47. Melville Ecodistrict (752) in the Aspen Parkland Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	94.1	55.6	59.1	29.5	31.4	110.4	100.9
2	Wild oats	88.2	55.0	62.3	10.4	11.7	27.8	61.2
3	Wild buckwheat	88.2	10.9	12.3	0.7	0.7	2.2	18.9
4	Redroot pigweed	41.2	10.6	25.7	3.2	7.8	48.2	17.5
5	Kochia	35.3	7.1	20.0	1.1	3.2	6.8	10.7
6	Canada thistle	47.1	4.7	10.0	0.2	0.5	1.6	9.3
7	Lamb's-quarters	23.5	7.4	31.3	0.9	3.7	7.2	8.7
8	Dandelion	41.2	3.5	8.6	0.2	0.4	0.8	7.7
9	Perennial sow-thistle	29.4	4.1	14.0	0.5	1.8	6.4	7.2
10	Volunteer flax	11.8	6.2	52.5	0.9	7.9	11.8	6.7
11	Night-flowering catchfly	29.4	3.8	13.0	0.2	0.7	2.2	6.3
12	Wild mustard	17.6	4.7	26.7	0.4	2.3	4.4	5.6
13	Quack grass	23.5	2.9	12.5	0.3	1.4	4.6	5.3
14	Volunteer canola (Argentine)	17.6	3.8	21.7	0.3	1.6	4.4	4.9
15	Volunteer wheat	17.6	1.8	10.0	0.1	0.7	1.6	3.6
16	Volunteer barley	17.6	1.2	6.7	0.1	0.4	0.6	3.1
17	Round-leaved mallow	11.8	1.8	15.0	0.1	0.8	1.4	2.7
18	Pale smartweed	11.8	1.2	10.0	< 0.1	0.4	0.6	2.3
19	Shepherd's-purse	11.8	0.9	7.5	0.1	0.7	1.0	2.2
20	Prostrate knotweed	11.8	0.9	7.5	< 0.1	0.4	0.4	2.1
21	Foxtail barley	11.8	0.6	5.0	< 0.1	0.2	0.2	1.9
22	Flixweed	5.9	1.2	20.0	0.1	1.2	1.2	1.5
23	False ragweed	5.9	0.6	10.0	0.1	1.4	1.4	1.3
24	Wild tomato	5.9	0.6	10.0	< 0.1	0.6	0.6	1.2
25	American dragonhead	5.9	0.6	10.0	< 0.1	0.4	0.4	1.1
26	Russian thistle	5.9	0.6	10.0	< 0.1	0.4	0.4	1.1
27	Henbit	5.9	0.3	5.0	< 0.1	0.2	0.2	1.0
28	Tumble mustard	5.9	0.3	5.0	< 0.1	0.2	0.2	1.0
29	Broad-leaved plantain	5.9	0.3	5.0	< 0.1	0.2	0.2	1.0
30	Stinkweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.0
31	Biennial wormwood	5.9	0.3	5.0	< 0.1	0.2	0.2	1.0

Table 48. Hamiota Ecodistrict (753) in the Aspen Parkland Ecoregion (69 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	75.4	26.2	34.7	7.3	9.7	82.4	55.9
2	Green foxtail	63.8	22.8	35.7	6.1	9.6	53.4	47.5
3	Wild buckwheat	63.8	18.4	28.9	2.0	3.1	51.0	28.7
4	Canada thistle	65.2	12.8	19.6	1.3	2.0	12.2	22.5
5	Stinkweed	21.7	5.0	23.0	1.6	7.5	74.2	12.6
6	Cleavers	26.1	6.7	25.6	1.1	4.1	24.2	12.2
7	Volunteer canola (Argentine)	31.9	6.2	19.5	0.6	1.8	13.8	10.8
8	Dandelion	37.7	5.6	14.8	0.4	1.2	9.4	10.7
9	Annual sow-thistle spp.	31.9	4.6	14.5	0.4	1.1	4.2	9.0
10	Lamb's-quarters	29.0	4.2	14.5	0.3	1.1	5.4	8.1
11	Volunteer wheat	26.1	4.5	17.2	0.3	1.1	2.2	7.8
12	Volunteer flax	13.0	3.9	30.0	0.8	6.4	26.8	7.6
13	Quack grass	24.6	2.9	11.8	0.4	1.5	13.0	6.8
14	Pale smartweed	17.4	3.8	21.7	0.5	2.7	16.4	6.8
15	Wild mustard	17.4	3.6	20.4	0.3	1.6	6.2	5.9
16	Black medick	10.1	2.8	27.1	0.5	4.8	15.6	5.1
17	Chickweed	14.5	2.1	14.5	0.4	2.5	8.4	4.8
18	Redroot pigweed	18.8	2.0	10.4	0.1	0.7	3.4	4.5
19	Hemp-nettle	10.1	1.7	16.4	0.3	3.0	10.6	3.7
20	Round-leaved mallow	13.0	1.9	14.4	0.2	1.2	3.8	3.7
21	Night-flowering catchfly	11.6	2.0	16.9	0.2	1.7	6.6	3.7
22	Shepherd's-purse	11.6	1.5	13.1	0.2	1.4	6.0	3.3
23	Perennial sow-thistle	13.0	1.2	8.9	0.1	0.8	3.6	3.0
24	Prostrate knotweed	10.1	1.7	16.4	0.1	1.3	4.4	3.0
25	Volunteer barley	5.8	1.7	30.0	0.2	2.8	8.2	2.6
26	Barnyard grass	8.7	1.1	12.5	0.2	1.8	7.0	2.5
27	Field horsetail	4.3	0.4	10.0	0.1	1.5	2.2	1.2
28	Narrow-leaved hawk's-beard	2.9	0.4	12.5	< 0.1	0.5	0.8	0.7
29	Foxtail barley	1.4	0.4	25.0	0.1	4.6	4.6	0.7
30	Wild tomato	1.4	0.4	30.0	< 0.1	1.8	1.8	0.6
31	Cow cockle	1.4	0.4	25.0	< 0.1	2.6	2.6	0.6
32	Kochia	1.4	0.2	15.0	< 0.1	1.0	1.0	0.4
33	Volunteer alfalfa	1.4	0.1	10.0	< 0.1	1.8	1.8	0.4
34	Common groundsel	1.4	0.1	10.0	< 0.1	0.8	0.8	0.3
35	Mouse-eared chickweed	1.4	0.1	5.0	< 0.1	1.4	1.4	0.3
36	Giant ragweed	1.4	0.1	5.0	< 0.1	0.6	0.6	0.3
37	Volunteer oats	1.4	0.1	5.0	< 0.1	0.4	0.4	0.3
38	Oak-leaved goosefoot	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
39	Broad-leaved plantain	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
40	Thyme-leaved spurge	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
41	Manitoba maple	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
42	Volunteer canola (Polish)	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 49. Shilo & Carberry Ecodistricts (757 & 759) in the Aspen Parkland Ecoregion (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	81.3	35.3	43.5	47.1	58.0	392.2	106.8
2	Wild oats	68.8	23.8	34.5	4.2	6.1	38.2	33.1
3	Wild buckwheat	81.3	24.4	30.0	2.2	2.6	6.6	32.6
4	Barnyard grass	18.8	6.9	36.7	6.1	32.5	93.6	16.7
5	Lamb's-quarters	37.5	8.1	21.7	0.8	2.2	8.2	12.8
6	Redroot pigweed	25.0	7.2	28.8	1.9	7.6	19.8	11.7
7	Canada thistle	25.0	8.1	32.5	1.1	4.5	13.0	11.1
8	Wild mustard	31.3	6.6	21.0	0.5	1.6	3.4	10.3
9	Volunteer canola (Argentine)	25.0	6.6	26.3	0.8	3.2	10.0	9.6
10	Shepherd's-purse	25.0	3.1	12.5	0.2	0.8	2.0	6.5
11	Night-flowering catchfly	25.0	2.8	11.3	0.2	0.7	2.0	6.3
12	Stinkweed	18.8	3.8	20.0	0.2	1.2	1.8	5.9
13	Pale smartweed	18.8	3.1	16.7	0.2	1.1	1.2	5.5
14	Dandelion	12.5	3.4	27.5	0.3	2.2	4.2	4.7
15	Volunteer barley	12.5	2.8	22.5	0.3	2.0	3.8	4.3
16	Volunteer wheat	12.5	2.5	20.0	0.1	1.1	2.0	3.9
17	Volunteer rye grass	6.3	2.5	40.0	0.2	3.8	3.8	3.0
18	Quack grass	12.5	0.9	7.5	0.1	0.9	1.6	2.9
19	American dragonhead	6.3	2.2	35.0	0.2	3.4	3.4	2.8
20	Perennial sow-thistle	6.3	0.6	10.0	< 0.1	0.4	0.4	1.5
21	Volunteer sunflower	6.3	0.6	10.0	< 0.1	0.4	0.4	1.5
22	Thyme-leaved spurge	6.3	0.3	5.0	< 0.1	0.6	0.6	1.3
23	Chickweed	6.3	0.3	5.0	< 0.1	0.4	0.4	1.3
24	Common pepper-grass	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3
25	Leafy spurge	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3
26	Stork's-bill	6.3	0.3	5.0	< 0.1	0.2	0.2	1.3

Table 50. Stockton Ecodistrict (758) in the Aspen Parkland Ecoregion (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	77.8	30.0	38.6	8.0	10.3	114.6	87.7
2	Wild oats	70.4	21.9	31.1	4.7	6.7	66.4	61.0
3	Wild buckwheat	51.9	9.3	17.9	0.5	0.9	2.6	22.8
4	Redroot pigweed	33.3	5.4	16.1	0.6	1.7	8.0	15.4
5	Cleavers	3.7	3.7	100.0	1.5	40.6	40.6	12.2
6	Canada thistle	25.9	3.3	12.9	0.3	1.2	4.8	10.5
7	Volunteer canola (Argentine)	14.8	3.9	26.3	0.6	3.9	13.0	10.0
8	Round-leaved mallow	18.5	4.1	22.0	0.3	1.7	5.0	9.6
9	Pale smartweed	25.9	2.0	7.9	0.1	0.4	0.8	8.3
10	Red clover	3.7	1.7	45.0	1.1	29.4	29.4	8.1
11	Volunteer wheat	18.5	2.0	11.0	0.1	0.6	1.0	6.6
12	Annual sow-thistle spp.	7.4	3.0	40.0	0.4	5.4	9.8	6.5
13	Barnyard grass	14.8	1.7	11.3	0.1	0.7	1.2	5.4
14	Kochia	11.1	2.2	20.0	0.1	1.1	1.4	5.2
15	Wild mustard	14.8	1.5	10.0	0.1	0.6	1.2	5.2
16	Prostrate knotweed	7.4	1.9	25.0	0.2	2.3	4.4	4.3
17	Lamb's-quarters	11.1	1.5	13.3	0.1	0.7	0.8	4.3
18	Quack grass	7.4	1.5	20.0	0.1	1.4	2.4	3.6
19	Field horsetail	3.7	1.1	30.0	0.1	3.0	3.0	2.5
20	Black mustard	3.7	1.1	30.0	0.1	2.2	2.2	2.3
21	Volunteer barley	7.4	0.4	5.0	< 0.1	0.2	0.2	2.1
22	Volunteer peas	3.7	0.7	20.0	< 0.1	1.0	1.0	1.7
23	Dandelion	3.7	0.6	15.0	0.1	1.6	1.6	1.7
24	Showy milkweed	3.7	0.4	10.0	< 0.1	0.6	0.6	1.3
25	American dragonhead	3.7	0.2	5.0	< 0.1	0.2	0.2	1.0
26	Manitoba maple	3.7	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 51. Gainsborough Creek Ecodistrict (760) in the Aspen Parkland Ecoregion (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	75.0	61.3	81.7	108.3	144.4	575.8	150.2
2	Wild oats	41.7	15.0	36.0	2.4	5.7	11.6	22.3
3	Canada thistle	41.7	12.9	31.0	1.4	3.2	9.2	20.0
4	Wild buckwheat	41.7	5.8	14.0	0.4	1.0	2.4	14.3
5	Dandelion	33.3	7.1	21.3	0.6	1.7	3.8	13.3
6	Wild mustard	33.3	5.4	16.3	0.4	1.3	2.0	12.1
7	Lamb's-quarters	16.7	7.5	45.0	1.2	6.9	8.8	10.1
8	Volunteer canola (Argentine)	16.7	7.1	42.5	1.1	6.4	9.0	9.8
9	Redroot pigweed	16.7	5.0	30.0	1.5	9.0	17.8	8.7
10	Stinkweed	16.7	3.8	22.5	1.2	7.0	13.4	7.5
11	Pale smartweed	8.3	6.3	75.0	0.9	11.2	11.2	7.1
12	Round-leaved mallow	16.7	3.8	22.5	0.3	1.7	1.8	6.8
13	Kochia	16.7	1.3	7.5	0.1	0.7	1.0	5.0
14	Volunteer barley	8.3	1.3	15.0	0.3	3.6	3.6	3.1
15	Scouring-rush	8.3	0.8	10.0	0.1	0.8	0.8	2.6
16	Quack grass	8.3	0.4	5.0	0.1	1.4	1.4	2.4
17	Volunteer canola (Polish)	8.3	0.4	5.0	0.1	1.0	1.0	2.4
18	Perennial sow-thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	2.3

Table 52. Oak Lake Ecodistrict (763) in the Aspen Parkland Ecoregion (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	84.2	58.2	69.1	26.4	31.4	86.4	154.4
2	Wild oats	68.4	35.8	52.3	6.9	10.0	28.4	74.2
3	Wild buckwheat	26.3	6.1	23.0	0.6	2.1	6.8	16.0
4	Redroot pigweed	15.8	5.3	33.3	0.5	3.5	5.6	11.6
5	Canada thistle	21.1	2.6	12.5	0.2	1.1	1.4	10.3
6	Kochia	10.5	1.6	15.0	0.1	1.1	1.8	5.4
7	Volunteer barley	10.5	1.3	12.5	0.1	0.9	1.6	5.1
8	Night-flowering catchfly	5.3	2.4	45.0	0.3	5.8	5.8	4.8
9	Dandelion	5.3	1.1	20.0	0.1	2.4	2.4	3.1
10	Volunteer wheat	5.3	0.5	10.0	< 0.1	0.4	0.4	2.4
11	Barnyard grass	5.3	0.3	5.0	< 0.1	0.6	0.6	2.2
12	Quack grass	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1
13	Lamb's-quarters	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1
14	Scouring-rush	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1
15	Pale smartweed	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1
16	Perennial sow-thistle	5.3	0.3	5.0	< 0.1	0.2	0.2	2.1

Table 53. Hilton Ecodistrict (764) in the Aspen Parkland Ecoregion (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	90.9	51.8	57.0	23.0	25.3	82.2	110.4
2	Canada thistle	81.8	23.6	28.9	3.1	3.8	14.2	38.1
3	Wild oats	36.4	18.2	50.0	6.7	18.5	54.4	35.9
4	Wild buckwheat	72.7	19.5	26.9	1.7	2.4	7.0	30.1
5	Pale smartweed	27.3	5.9	21.7	0.7	2.4	5.0	10.4
6	Round-leaved mallow	27.3	5.0	18.3	0.7	2.7	7.4	9.9
7	Redroot pigweed	36.4	2.7	7.5	0.3	0.9	2.4	8.9
8	Dandelion	27.3	2.3	8.3	0.3	1.2	3.2	7.1
9	Volunteer wheat	27.3	2.3	8.3	0.1	0.3	0.6	6.4
10	Perennial sow-thistle	27.3	1.4	5.0	0.1	0.2	0.2	5.7
11	Hemp-nettle	9.1	4.1	45.0	0.4	4.2	4.2	5.3
12	Kochia	18.2	1.8	10.0	0.1	0.5	0.6	4.6
13	Lamb's-quarters	18.2	1.4	7.5	0.1	0.6	1.0	4.3
14	Wild mustard	18.2	0.9	5.0	< 0.1	0.2	0.2	3.8
15	Annual sow-thistle spp.	18.2	0.9	5.0	< 0.1	0.2	0.2	3.8
16	Showy milkweed	9.1	1.8	20.0	0.4	4.4	4.4	3.8
17	Biennial wormwood	9.1	2.7	30.0	0.1	1.6	1.6	3.8
18	Thyme-leaved spurge	9.1	1.4	15.0	0.3	3.8	3.8	3.4
19	Cleavers	9.1	0.9	10.0	< 0.1	0.4	0.4	2.3
20	Volunteer canola (Argentine)	9.1	0.5	5.0	< 0.1	0.2	0.2	1.9

Table 54. Killarney Ecodistrict (765) in the Aspen Parkland Ecoregion (65 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	84.6	43.5	51.5	34.8	41.2	1070.0	124.0
2	Wild oats	55.4	15.2	27.4	4.0	7.1	69.0	31.7
3	Kochia	33.8	7.4	21.8	4.2	12.4	197.0	21.4
4	Wild buckwheat	40.0	8.5	21.2	0.7	1.8	16.2	16.5
5	Canada thistle	27.7	4.5	16.4	0.5	1.6	11.2	10.2
6	Volunteer wheat	24.6	4.1	16.6	0.7	2.9	14.0	9.7
7	Redroot pigweed	23.1	4.2	18.3	0.5	2.2	17.0	9.1
8	Lamb's-quarters	20.0	4.4	21.9	0.7	3.4	24.0	9.0
9	Barnyard grass	20.0	2.6	13.1	0.4	1.8	5.4	6.9
10	Pale smartweed	16.9	3.3	19.5	0.4	2.1	9.4	6.9
11	Volunteer canola (Argentine)	20.0	2.6	13.1	0.2	1.1	8.2	6.6
12	Perennial sow-thistle	20.0	2.4	11.9	0.2	1.1	5.4	6.4
13	Dandelion	13.8	2.5	17.8	0.4	2.8	14.2	5.6
14	Annual sow-thistle spp.	15.4	1.7	11.0	0.2	1.5	4.6	4.9
15	Round-leaved mallow	13.8	1.8	12.8	0.1	0.9	3.6	4.5
16	Wild mustard	7.7	2.2	29.0	0.5	6.4	24.6	4.4
17	Night-flowering catchfly	7.7	1.0	13.0	0.1	1.0	4.0	2.5
18	Stinkweed	7.7	0.6	8.0	< 0.1	0.6	1.2	2.1
19	Cleavers	7.7	0.5	6.0	0.1	0.7	1.8	2.0
20	Volunteer barley	6.2	0.5	7.5	0.1	1.8	5.6	1.8
21	Quack grass	4.6	0.8	18.3	0.1	1.4	3.4	1.8
22	Common groundsel	4.6	0.7	15.0	0.1	2.7	7.0	1.7
23	Biennial wormwood	4.6	0.3	6.7	< 0.1	0.3	0.4	1.2
24	Wild tomato	1.5	0.5	30.0	0.2	11.2	11.2	1.0
25	Field horsetail	3.1	0.2	5.0	< 0.1	1.4	2.6	0.8
26	Thyme-leaved spurge	3.1	0.2	5.0	< 0.1	0.3	0.4	0.8
27	Volunteer alfalfa	1.5	0.2	10.0	0.1	8.2	8.2	0.7
28	Shepherd's-purse	1.5	0.3	20.0	< 0.1	2.2	2.2	0.6
29	Canada goldenrod	1.5	0.2	15.0	< 0.1	2.2	2.2	0.6
30	Rose species	1.5	0.2	15.0	< 0.1	1.2	1.2	0.5
31	Black medick	1.5	0.2	10.0	< 0.1	1.2	1.2	0.5
32	Showy milkweed	1.5	0.2	10.0	< 0.1	1.0	1.0	0.5
33	Cocklebur	1.5	0.2	10.0	< 0.1	0.4	0.4	0.4
34	Flixweed	1.5	0.1	5.0	< 0.1	0.6	0.6	0.4
35	Hemp-nettle	1.5	0.1	5.0	< 0.1	0.4	0.4	0.4
36	Absinth	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
37	Broad-leaved plantain	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
38	Purslane	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
39	Stork's-bill	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
40	Russian thistle	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4

Table 55. Manitou Ecodistrict (766) in the Aspen Parkland Ecoregion (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	79.3	35.9	45.2	20.8	26.2	283.8	98.4
2	Wild oats	58.6	14.3	24.4	4.1	7.0	52.6	31.7
3	Wild buckwheat	51.7	14.8	28.7	1.3	2.5	11.2	23.1
4	Round-leaved mallow	31.0	8.3	26.7	0.9	3.0	9.4	13.7
5	Canada thistle	41.4	6.4	15.4	0.6	1.4	4.6	12.9
6	Barnyard grass	17.2	5.5	32.0	1.9	10.8	26.4	12.1
7	Lamb's-quarters	27.6	6.0	21.9	1.0	3.6	18.8	11.7
8	Redroot pigweed	34.5	4.1	12.0	0.3	0.9	4.8	9.4
9	Annual sow-thistle spp.	24.1	4.1	17.1	0.4	1.5	6.4	7.9
10	Wild mustard	27.6	3.6	13.1	0.3	1.1	5.4	7.9
11	Night-flowering catchfly	24.1	3.4	14.3	0.3	1.1	2.0	7.2
12	Volunteer canola (Argentine)	20.7	4.0	19.2	0.3	1.3	3.2	7.0
13	Pale smartweed	20.7	3.1	15.0	0.3	1.3	6.0	6.3
14	Kochia	17.2	2.6	15.0	0.6	3.2	11.8	6.2
15	Pineappleweed	6.9	1.9	27.5	0.7	10.2	19.8	4.5
16	Quack grass	6.9	1.7	25.0	0.4	5.1	5.2	3.4
17	Stinkweed	13.8	1.2	8.8	0.1	0.7	1.8	3.3
18	Perennial sow-thistle	10.3	1.2	11.7	0.1	1.2	1.8	2.9
19	Volunteer wheat	6.9	1.6	22.5	0.1	1.8	2.4	2.6
20	Volunteer oats	3.4	1.2	35.0	0.4	10.8	10.8	2.5
21	Shepherd's-purse	10.3	0.7	6.7	< 0.1	0.4	0.8	2.3
22	Prostrate pigweed	10.3	0.5	5.0	< 0.1	0.3	0.4	2.1
23	Dandelion	10.3	0.5	5.0	< 0.1	0.3	0.4	2.1
24	Common ragweed	10.3	0.5	5.0	< 0.1	0.3	0.4	2.1
25	Bluebur	3.4	1.0	30.0	0.1	3.0	3.0	1.6
26	Mouse-eared chickweed	6.9	0.5	7.5	< 0.1	0.7	0.8	1.6
27	American dragonhead	6.9	0.3	5.0	< 0.1	0.2	0.2	1.4
28	Biennial wormwood	3.4	0.5	15.0	0.1	2.2	2.2	1.1
29	White cockle	3.4	0.5	15.0	0.1	1.6	1.6	1.1
30	Russian thistle	3.4	0.3	10.0	0.1	2.8	2.8	1.1
31	Cleavers	3.4	0.3	10.0	< 0.1	0.4	0.4	0.8
32	Volunteer barley	3.4	0.2	5.0	< 0.1	0.8	0.8	0.8
33	American vetch	3.4	0.2	5.0	< 0.1	0.6	0.6	0.7
34	Slender wheat grass	3.4	0.2	5.0	< 0.1	0.4	0.4	0.7
35	Cocklebur	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
36	Yellow foxtail	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
37	Oak-leaved goosefoot	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
38	Hemp-nettle	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
39	Prostrate knotweed	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
40	Wild licorice	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
41	Ball mustard	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7
42	Volunteer alfalfa	3.4	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 56. Grandview Ecodistrict (839) in the Aspen Parkland Ecoregion (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	77.8	34.2	43.9	12.6	16.2	170.8	90.0
2	Green foxtail	33.3	11.1	33.3	4.5	13.4	63.8	32.4
3	Cleavers	50.0	12.8	25.6	1.0	2.0	7.8	23.8
4	Chickweed	27.8	11.4	41.0	2.3	8.4	34.8	23.3
5	Wild buckwheat	50.0	9.7	19.4	0.6	1.2	3.2	19.9
6	Canada thistle	27.8	11.4	41.0	0.8	3.0	5.4	17.5
7	Pale smartweed	38.9	7.2	18.6	0.4	1.1	4.4	15.1
8	Annual sow-thistle spp.	33.3	6.7	20.0	0.7	2.2	11.4	14.7
9	Night-flowering catchfly	22.2	6.1	27.5	0.5	2.1	6.0	11.0
10	Redroot pigweed	22.2	3.6	16.3	0.2	1.1	1.8	8.2
11	Volunteer wheat	11.1	3.6	32.5	0.7	6.0	11.4	7.6
12	Dandelion	11.1	3.6	32.5	0.4	3.3	6.4	6.4
13	Volunteer canola (Argentine)	5.6	3.9	70.0	0.5	9.0	9.0	6.0
14	Field horsetail	16.7	1.9	11.7	0.2	1.3	3.4	5.7
15	Lamb's-quarters	11.1	3.1	27.5	0.2	2.2	4.0	5.5
16	Wild mustard	11.1	0.8	7.5	< 0.1	0.3	0.4	3.0
17	Shepherd's-purse	11.1	0.6	5.0	0.1	0.6	1.0	3.0
18	Quack grass	5.6	0.8	15.0	< 0.1	0.6	0.6	1.9
19	Narrow-leaved hawk's-beard	5.6	0.8	15.0	< 0.1	0.6	0.6	1.9
20	Hemp-nettle	5.6	0.6	10.0	< 0.1	0.4	0.4	1.6
21	American dragonhead	5.6	0.3	5.0	< 0.1	0.2	0.2	1.4

Table 57. Pembina Hills Ecodistrict (854) in the Southwest Manitoba Uplands Ecoregion (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	70.6	25.3	35.8	7.6	10.8	85.8	69.5
2	Wild oats	58.8	13.8	23.5	2.5	4.2	20.2	33.5
3	Volunteer buckwheat	5.9	5.9	100.0	5.7	96.6	96.6	32.7
4	Wild buckwheat	58.8	16.8	28.5	1.4	2.3	6.8	30.8
5	Pale smartweed	47.1	9.4	20.0	0.7	1.6	4.0	19.5
6	Canada thistle	41.2	7.1	17.1	0.8	1.8	8.6	16.6
7	Barnyard grass	29.4	5.3	18.0	0.5	1.6	6.4	11.7
8	Night-flowering catchfly	29.4	4.4	15.0	0.4	1.2	3.6	10.5
9	Wild mustard	41.2	2.9	7.1	0.2	0.4	1.4	10.3
10	Hemp-nettle	23.5	4.4	18.8	0.3	1.3	2.2	9.2
11	Volunteer wheat	11.8	3.2	27.5	0.3	2.9	5.2	6.4
12	Volunteer flax	11.8	3.2	27.5	0.3	2.5	3.8	6.2
13	Volunteer canola (Argentine)	23.5	1.8	7.5	0.1	0.4	0.4	5.9
14	Lamb's-quarters	11.8	1.5	12.5	0.1	0.6	0.6	3.6
15	Redroot pigweed	11.8	1.5	12.5	0.1	0.5	0.6	3.5
16	Annual sow-thistle spp.	11.8	0.9	7.5	< 0.1	0.4	0.6	3.0
17	Round-leaved mallow	11.8	0.9	7.5	< 0.1	0.3	0.4	2.9
18	Cleavers	5.9	1.2	20.0	0.2	3.0	3.0	2.8
19	Perennial sow-thistle	11.8	0.6	5.0	< 0.1	0.4	0.6	2.7
20	Quack grass	11.8	0.6	5.0	< 0.1	0.2	0.2	2.6
21	Stork's-bill	5.9	0.9	15.0	0.1	1.4	1.4	2.1
22	Chickweed	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
23	Field horsetail	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
24	Volunteer alfalfa	5.9	0.6	10.0	< 0.1	0.4	0.4	1.6
25	Dandelion	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
26	American dragonhead	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
27	Small-flowered geranium	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
28	Black medick	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
29	Stinkweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
30	Yellow sweet-clover	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3
31	Manitoba maple	5.9	0.3	5.0	< 0.1	0.2	0.2	1.3

Table 58. Number of fields surveyed, density, species richness and weed-free quadrats in the four regions

Agricultural Region	Number of Fields Surveyed	Density (number/m^2)	Species (number/field)	Weed-free Quadrats (%)
Northwest	109	35.1	5.7	31.3
Southwest	219	44.3	5.7	29.5
Central	197	32.8	5.4	34.1
Eastern-Interlake	106	22.0	6.3	29.3

Table 59. Number of fields surveyed for each crop in each region

Agricultural Region	Spring wheat	Barley	Oats	Canola	Flax	Mixed crops
Northwest	49	16	16	22	5	1
Southwest	90	30	29	55	15	0
Central	74	21	44	49	8	1
Eastern-Interlake	35	12	23	27	9	0

Table 60. All fields in the Northwest Agricultural Region (109 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	69.7	31.1	44.5	18.4	26.3	449.8	86.3
2	Green foxtail	45.9	19.1	41.7	5.3	11.6	73.0	36.6
3	Wild buckwheat	56.0	15.2	27.2	1.3	2.4	18.8	24.3
4	Cleavers	36.7	10.3	28.1	1.5	4.1	29.4	18.0
5	Canada thistle	43.1	9.8	22.7	0.9	2.0	12.2	16.9
6	Pale smartweed	27.5	6.0	21.8	0.5	1.8	13.6	10.5
7	Chickweed	16.5	5.5	33.3	1.1	6.8	44.0	9.9
8	Lamb's-quarters	22.9	4.4	19.4	0.8	3.3	45.8	9.3
9	Annual sow-thistle spp.	29.4	4.4	14.8	0.4	1.3	11.4	9.3
10	Field horsetail	19.3	3.4	17.9	1.1	5.9	96.6	9.1
11	Dandelion	20.2	4.3	21.1	0.5	2.3	20.8	7.9
12	Volunteer canola (Argentine)	16.5	4.2	25.6	0.4	2.6	13.8	7.1
13	Volunteer wheat	12.8	2.7	20.7	0.3	2.7	16.2	5.1
14	Night-flowering catchfly	16.5	2.3	14.2	0.2	1.0	6.0	5.0
15	Redroot pigweed	12.8	1.7	13.6	0.4	3.1	25.8	4.6
16	Hemp-nettle	11.0	2.2	20.0	0.2	1.7	4.6	4.0
17	Black medick	7.3	1.9	25.6	0.2	3.4	15.6	3.3
18	Barnyard grass	11.0	1.3	12.1	0.1	0.9	2.4	3.1
19	Stinkweed	7.3	1.3	17.5	0.3	3.7	23.0	3.0
20	Quack grass	10.1	1.1	10.5	0.1	1.5	7.8	2.9
21	Shepherd's-purse	9.2	1.1	12.5	0.1	1.2	6.0	2.7
22	Wild mustard	8.3	1.1	12.8	0.1	0.9	2.2	2.4
23	Volunteer alfalfa	3.7	1.5	41.3	0.2	6.0	13.4	2.3
24	Perennial sow-thistle	7.3	0.6	8.8	0.1	0.8	4.2	1.9
25	Dog mustard	2.8	1.0	36.7	0.1	4.4	8.8	1.5
26	Prostrate knotweed	4.6	0.5	10.0	< 0.1	0.5	1.4	1.2
27	American dragonhead	3.7	0.5	13.8	< 0.1	0.9	3.0	1.1
28	Volunteer oats	3.7	0.5	13.8	< 0.1	0.8	1.8	1.1
29	Round-leaved mallow	3.7	0.4	11.3	< 0.1	0.9	1.6	1.0
30	Volunteer white mustard	0.9	0.7	80.0	0.1	10.8	10.8	1.0
31	Maple-leaved goosefoot	1.8	0.5	25.0	0.1	3.3	6.4	0.8
32	Stork's-bill	1.8	0.4	22.5	< 0.1	2.3	4.4	0.7
33	Volunteer barley	2.8	0.2	6.7	< 0.1	0.4	0.6	0.6
34	Narrow-leaved hawk's-beard	1.8	0.3	17.5	< 0.1	1.7	2.8	0.6
35	Broad-leaved plantain	2.8	0.1	5.0	< 0.1	0.3	0.4	0.6
36	Water smartweed	1.8	0.2	12.5	< 0.1	0.6	1.0	0.5
37	Kochia	1.8	0.1	7.5	< 0.1	0.4	0.4	0.4
38	Blue grass species	1.8	0.1	5.0	< 0.1	0.7	1.2	0.4
39	Flixweed	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4
40	American vetch	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4
41	Russian thistle	0.9	0.1	15.0	< 0.1	0.8	0.8	0.3
42	Henbit	0.9	< 0.1	5.0	< 0.1	1.8	1.8	0.2
43	Mouse-eared chickweed	0.9	< 0.1	5.0	< 0.1	1.4	1.4	0.2
44	Aspen poplar	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
45	Thyme-leaved spurge	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
46	Foxtail barley	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
47	Wormseed mustard	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2
48	Biennial wormwood	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 61. Spring wheat fields in the Northwest Agricultural Region (49 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	75.5	36.0	47.7	26.0	34.5	449.8	104.7
2	Green foxtail	44.9	16.7	37.3	5.7	12.7	63.8	35.5
3	Canada thistle	44.9	13.4	29.8	1.3	2.9	12.2	22.6
4	Cleavers	38.8	10.0	25.8	1.4	3.7	24.2	19.1
5	Wild buckwheat	44.9	10.0	22.3	0.8	1.8	7.4	18.8
6	Field horsetail	22.4	5.9	26.4	2.4	10.9	96.6	14.9
7	Chickweed	14.3	6.4	45.0	1.9	13.2	44.0	12.3
8	Volunteer canola (Argentine)	26.5	6.7	25.4	0.7	2.5	9.0	12.2
9	Annual sow-thistle spp.	24.5	3.7	15.0	0.3	1.3	4.2	8.6
10	Pale smartweed	22.4	4.1	18.2	0.3	1.3	5.0	8.4
11	Hemp-nettle	12.2	3.3	26.7	0.3	2.2	4.6	5.6
12	Barnyard grass	14.3	1.7	12.1	0.1	0.8	2.4	4.5
13	Night-flowering catchfly	12.2	1.8	15.0	0.2	1.4	6.0	4.3
14	Dandelion	14.3	1.2	8.6	0.1	0.4	0.8	4.0
15	Lamb's-quarters	10.2	1.5	15.0	0.1	1.1	4.0	3.5
16	Quack grass	8.2	0.8	10.0	< 0.1	0.4	0.6	2.4
17	Perennial sow-thistle	6.1	0.9	15.0	0.1	1.7	4.2	2.2
18	Volunteer white mustard	2.0	1.6	80.0	0.2	10.8	10.8	2.2
19	Black medick	4.1	0.9	22.5	0.1	1.9	3.0	1.7
20	Redroot pigweed	4.1	0.6	15.0	< 0.1	1.1	1.8	1.4
21	Water smartweed	4.1	0.5	12.5	< 0.1	0.6	1.0	1.3
22	Wild mustard	4.1	0.3	7.5	< 0.1	0.3	0.4	1.1
23	Stinkweed	4.1	0.2	5.0	< 0.1	0.6	1.0	1.1
24	Narrow-leaved hawk's-beard	2.0	0.3	15.0	< 0.1	0.6	0.6	0.7
25	Round-leaved mallow	2.0	0.2	10.0	< 0.1	0.4	0.4	0.6
26	Henbit	2.0	0.1	5.0	< 0.1	1.8	1.8	0.6
27	Mouse-eared chickweed	2.0	0.1	5.0	< 0.1	1.4	1.4	0.6
28	Volunteer barley	2.0	0.1	5.0	< 0.1	0.6	0.6	0.5
29	Kochia	2.0	0.1	5.0	< 0.1	0.4	0.4	0.5
30	Volunteer oats	2.0	0.1	5.0	< 0.1	0.4	0.4	0.5
31	Foxtail barley	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
32	American dragonhead	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Prostrate knotweed	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
34	Broad-leaved plantain	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
35	Shepherd's-purse	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
36	American vetch	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5
37	Blue grass species	2.0	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 62. Barley fields in the Northwest Agricultural Region (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	68.8	35.3	51.4	28.5	41.4	336.0	111.8
2	Cleavers	31.3	13.8	44.0	3.7	11.8	29.4	26.8
3	Wild buckwheat	50.0	14.7	29.4	1.0	2.0	7.4	24.9
4	Green foxtail	25.0	8.4	33.8	2.6	10.5	35.0	18.5
5	Pale smartweed	25.0	9.7	38.8	1.1	4.4	13.6	15.9
6	Lamb's-quarters	25.0	7.5	30.0	1.0	4.0	9.0	13.8
7	Volunteer wheat	31.3	4.1	13.0	0.3	0.9	1.8	10.4
8	Annual sow-thistle spp.	37.5	2.8	7.5	0.2	0.4	1.0	10.3
9	Canada thistle	31.3	3.8	12.0	0.3	1.0	2.6	10.2
10	Chickweed	18.8	4.1	21.7	0.7	3.7	7.0	8.9
11	Redroot pigweed	12.5	1.6	12.5	1.6	13.1	25.8	7.7
12	Quack grass	25.0	1.9	7.5	0.3	1.3	3.2	7.3
13	Dandelion	18.8	3.4	18.3	0.2	1.1	3.0	7.2
14	Hemp-nettle	18.8	2.5	13.3	0.2	0.9	1.6	6.3
15	Perennial sow-thistle	12.5	0.6	5.0	< 0.1	0.3	0.4	3.1
16	Volunteer canola (Argentine)	12.5	0.6	5.0	< 0.1	0.2	0.2	3.1
17	Aspen poplar	6.3	0.3	5.0	< 0.1	0.4	0.4	1.6
18	Volunteer oats	6.3	0.3	5.0	< 0.1	0.4	0.4	1.6
19	Night-flowering catchfly	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
20	Field horsetail	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
21	Prostrate knotweed	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
22	Black medick	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
23	Wild mustard	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
24	Stinkweed	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5
25	American vetch	6.3	0.3	5.0	< 0.1	0.2	0.2	1.5

Table 63. Oat fields in the Northwest Agricultural Region (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	50.0	33.1	66.3	10.2	20.5	53.8	51.9
2	Green foxtail	50.0	27.2	54.4	7.8	15.7	73.0	42.2
3	Wild buckwheat	87.5	33.8	38.6	3.6	4.1	18.8	38.0
4	Dandelion	43.8	15.3	35.0	2.3	5.2	20.8	19.6
5	Canada thistle	68.8	12.2	17.7	1.0	1.5	5.0	17.7
6	Volunteer alfalfa	25.0	10.3	41.3	1.5	6.0	13.4	12.5
7	Lamb's-quarters	50.0	7.5	15.0	0.8	1.5	4.8	12.3
8	Black medick	18.8	9.1	48.3	1.4	7.6	15.6	10.9
9	Pale smartweed	37.5	7.8	20.8	0.6	1.5	5.6	10.3
10	Annual sow-thistle spp.	31.3	6.9	22.0	0.9	2.8	11.4	9.8
11	Redroot pigweed	37.5	5.3	14.2	0.5	1.3	2.2	8.8
12	Volunteer wheat	18.8	6.6	35.0	1.1	6.0	16.2	8.8
13	Cleavers	31.3	5.6	18.0	0.7	2.1	7.0	8.6
14	Stinkweed	18.8	2.5	13.3	0.3	1.7	4.2	4.5
15	Night-flowering catchfly	18.8	3.1	16.7	0.2	1.0	2.0	4.5
16	Wild mustard	12.5	3.4	27.5	0.3	2.1	2.2	4.0
17	Chickweed	18.8	2.5	13.3	0.1	0.7	1.2	4.0
18	Prostrate knotweed	18.8	2.5	13.3	0.1	0.7	1.4	4.0
19	Hemp-nettle	12.5	2.2	17.5	0.3	2.4	3.2	3.5
20	Barnyard grass	18.8	1.3	6.7	0.1	0.5	1.0	3.3
21	Round-leaved mallow	12.5	1.6	12.5	0.2	1.2	1.6	2.8
22	Volunteer canola (Argentine)	12.5	1.9	15.0	0.1	0.7	0.8	2.8
23	Volunteer barley	12.5	0.9	7.5	< 0.1	0.3	0.4	2.2
24	Flixweed	12.5	0.6	5.0	< 0.1	0.2	0.2	2.0
25	Narrow-leaved hawk's-beard	6.3	1.3	20.0	0.2	2.8	2.8	1.9
26	Russian thistle	6.3	0.9	15.0	0.1	0.8	0.8	1.4
27	Field horsetail	6.3	0.6	10.0	0.1	1.2	1.2	1.3
28	Kochia	6.3	0.6	10.0	< 0.1	0.4	0.4	1.2
29	Blue grass species	6.3	0.3	5.0	0.1	1.2	1.2	1.2
30	Quack grass	6.3	0.3	5.0	0.1	0.8	0.8	1.1
31	Thyme-leaved spurge	6.3	0.3	5.0	< 0.1	0.4	0.4	1.0
32	Shepherd's-purse	6.3	0.3	5.0	< 0.1	0.2	0.2	1.0
33	Stork's-bill	6.3	0.3	5.0	< 0.1	0.2	0.2	1.0

Table 64. Canola fields in the Northwest Agricultural Region (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	68.2	17.5	25.7	3.4	5.0	53.2	54.0
2	Green foxtail	50.0	17.7	35.5	2.1	4.2	10.8	40.8
3	Cleavers	40.9	14.3	35.0	1.1	2.7	7.8	28.6
4	Wild buckwheat	50.0	9.5	19.1	0.9	1.8	13.8	24.4
5	Volunteer wheat	27.3	5.5	20.0	0.7	2.6	11.4	15.2
6	Shepherd's-purse	31.8	4.8	15.0	0.5	1.7	6.0	14.0
7	Stinkweed	9.1	3.9	42.5	1.1	11.6	23.0	13.2
8	Chickweed	18.2	5.7	31.3	0.5	2.8	8.6	12.2
9	Pale smartweed	27.3	4.8	17.5	0.4	1.3	3.4	11.9
10	Canada thistle	27.3	3.0	10.8	0.2	0.8	2.6	9.3
11	Annual sow-thistle spp.	27.3	2.0	7.5	0.1	0.4	1.0	7.5
12	Dog mustard	9.1	3.0	32.5	0.4	4.5	8.8	7.4
13	Lamb's-quarters	18.2	2.5	13.8	0.1	0.8	2.2	6.5
14	Field horsetail	22.7	1.8	8.0	0.1	0.4	0.8	6.3
15	Dandelion	18.2	1.8	10.0	0.1	0.5	1.2	5.5
16	Redroot pigweed	9.1	1.8	20.0	0.3	3.0	5.4	5.4
17	Night-flowering catchfly	18.2	1.6	8.8	0.1	0.4	0.6	5.2
18	American dragonhead	9.1	2.0	22.5	0.1	1.6	3.0	4.6
19	Quack grass	4.5	1.1	25.0	0.4	7.8	7.8	4.6
20	Wild mustard	13.6	1.4	10.0	0.1	0.8	2.0	4.5
21	Barnyard grass	9.1	1.8	20.0	0.1	1.6	2.2	4.4
22	Volunteer oats	9.1	2.0	22.5	0.1	1.2	1.8	4.3
23	Broad-leaved plantain	9.1	0.5	5.0	< 0.1	0.3	0.4	2.2
24	Perennial sow-thistle	9.1	0.5	5.0	< 0.1	0.2	0.2	2.2
25	Round-leaved mallow	4.5	0.5	10.0	< 0.1	0.6	0.6	1.4
26	Maple-leaved goosefoot	4.5	0.2	5.0	< 0.1	0.2	0.2	1.1
27	Hemp-nettle	4.5	0.2	5.0	< 0.1	0.2	0.2	1.1
28	Black medick	4.5	0.2	5.0	< 0.1	0.2	0.2	1.1
29	Biennial wormwood	4.5	0.2	5.0	< 0.1	0.2	0.2	1.1

Table 65. All fields in the Southwest Agricultural Region (219 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	78.1	39.8	50.9	28.3	36.2	1070.0	106.2
2	Wild oats	63.5	24.9	39.2	5.5	8.6	69.0	41.4
3	Wild buckwheat	53.4	11.6	21.7	1.1	2.0	51.0	20.2
4	Canada thistle	40.2	7.3	18.2	0.8	2.0	17.4	14.1
5	Redroot pigweed	25.1	4.9	19.5	0.9	3.4	48.2	9.9
6	Kochia	16.4	3.3	20.1	1.4	8.3	197.0	8.4
7	Lamb's-quarters	22.4	4.5	19.9	0.5	2.3	24.0	8.3
8	Dandelion	24.7	3.9	15.7	0.4	1.5	14.2	8.0
9	Volunteer canola (Argentine)	21.9	4.0	18.4	0.4	1.8	13.0	7.6
10	Volunteer wheat	19.6	3.1	15.9	0.3	1.6	14.0	6.4
11	Wild mustard	15.5	3.4	21.9	0.5	3.5	45.2	6.4
12	Barnyard grass	11.9	2.3	19.2	0.9	7.7	93.6	5.8
13	Pale smartweed	16.4	2.9	17.4	0.3	2.0	16.4	5.7
14	Stinkweed	11.0	2.3	20.8	0.6	5.2	74.2	4.9
15	Perennial sow-thistle	16.9	1.7	10.1	0.2	0.9	6.4	4.6
16	Quack grass	14.6	1.8	12.5	0.2	1.4	13.0	4.4
17	Annual sow-thistle spp.	15.1	1.6	10.6	0.1	0.9	4.6	4.1
18	Round-leaved mallow	12.8	2.1	16.1	0.2	1.2	7.4	4.1
19	Cleavers	8.2	1.6	20.0	0.3	3.5	40.6	3.3
20	Volunteer barley	8.7	1.5	17.6	0.2	2.1	10.0	3.0
21	Volunteer flax	5.5	1.8	32.5	0.3	6.3	26.8	3.0
22	Night-flowering catchfly	9.1	1.4	15.8	0.1	1.4	6.6	2.9
23	Hemp-nettle	5.5	0.9	16.3	0.1	2.1	10.6	1.9
24	Shepherd's-purse	6.4	0.7	11.1	0.1	0.9	2.4	1.8
25	Chickweed	4.1	0.9	22.2	0.2	3.8	9.6	1.7
26	Prostrate knotweed	4.1	0.8	18.9	0.1	1.6	4.4	1.4
27	Field horsetail	4.6	0.4	9.5	0.1	1.2	3.0	1.2
28	Black medick	2.3	0.6	25.0	0.1	3.8	15.2	1.0
29	Stork's-bill	2.3	0.4	19.0	< 0.1	1.8	6.4	0.8
30	Wild tomato	1.4	0.3	23.3	0.1	4.5	11.2	0.6
31	Common groundsel	1.8	0.3	13.8	< 0.1	2.2	7.0	0.6
32	Biennial wormwood	1.8	0.2	12.5	< 0.1	0.6	1.6	0.5
33	Showy milkweed	1.4	0.2	13.3	< 0.1	2.0	4.4	0.4
34	Foxtail barley	1.4	0.2	11.7	< 0.1	1.7	4.6	0.4
35	Thyme-leaved spurge	1.8	0.1	5.0	< 0.1	0.4	0.6	0.4
36	Narrow-leaved hawk's-beard	1.4	0.1	10.0	< 0.1	0.4	0.8	0.4
37	American dragonhead	0.9	0.2	22.5	< 0.1	1.9	3.4	0.3
38	Volunteer canola (Polish)	1.4	0.1	5.0	< 0.1	0.5	1.0	0.3
39	Broad-leaved plantain	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
40	Flixweed	0.9	0.1	12.5	< 0.1	0.9	1.2	0.3
41	Volunteer rye grass	0.5	0.2	40.0	< 0.1	3.8	3.8	0.3
42	Purslane	0.9	0.1	7.5	< 0.1	0.7	1.2	0.2
43	Scouring-rush	0.9	0.1	7.5	< 0.1	0.5	0.8	0.2
44	Russian thistle	0.9	0.1	7.5	< 0.1	0.3	0.4	0.2
45	Volunteer alfalfa	0.5	< 0.1	10.0	< 0.1	8.2	8.2	0.2
46	Cow cockle	0.5	0.1	25.0	< 0.1	2.6	2.6	0.2
47	Volunteer peas	0.5	0.1	20.0	< 0.1	1.0	1.0	0.2
48	Prickly lettuce	0.5	0.1	20.0	< 0.1	0.8	0.8	0.2
49	Canada goldenrod	0.5	0.1	15.0	< 0.1	2.2	2.2	0.2
50	Bluebur	0.5	0.1	15.0	< 0.1	2.0	2.0	0.2
51	Rose species	0.5	0.1	15.0	< 0.1	1.2	1.2	0.1
52	False ragweed	0.5	< 0.1	10.0	< 0.1	1.4	1.4	0.1

(Table continued on next page)

Table 65. All fields in the Southwest Agricultural Region (219 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Cocklebur	0.5	< 0.1	10.0	< 0.1	0.4	0.4	0.1
54	Giant ragweed	0.5	< 0.1	5.0	< 0.1	0.6	0.6	0.1
55	Absinth	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
56	Oak-leaved goosefoot	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
57	Henbit	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
58	Tumble mustard	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
59	Common pepper-grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
60	Leafy spurge	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
61	Manitoba maple	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 66. Spring wheat fields in the Southwest Agricultural Region (90 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	82.2	40.6	49.3	21.1	25.7	392.2	100.3
2	Wild oats	66.7	27.3	40.9	6.0	8.9	69.0	47.5
3	Wild buckwheat	48.9	11.3	23.2	0.8	1.6	8.4	19.1
4	Canada thistle	46.7	7.9	16.9	0.9	1.9	17.4	16.5
5	Kochia	16.7	3.3	19.7	2.4	14.6	197.0	11.9
6	Redroot pigweed	24.4	5.6	22.7	1.3	5.3	48.2	11.8
7	Dandelion	27.8	4.2	15.0	0.4	1.4	9.4	9.0
8	Lamb's-quarters	21.1	4.2	19.7	0.4	1.9	7.2	7.9
9	Volunteer canola (Argentine)	25.6	3.0	11.7	0.2	0.7	2.8	7.2
10	Perennial sow-thistle	22.2	2.8	12.8	0.3	1.4	6.4	6.9
11	Cleavers	12.2	3.3	26.8	0.6	5.2	40.6	6.3
12	Wild mustard	14.4	3.3	23.1	0.4	3.1	24.6	6.2
13	Quack grass	17.8	2.3	13.1	0.4	2.0	13.0	5.9
14	Annual sow-thistle spp.	18.9	2.4	12.9	0.2	1.0	4.2	5.7
15	Pale smartweed	15.6	2.3	15.0	0.2	1.2	5.4	5.0
16	Volunteer flax	6.7	2.4	36.7	0.4	6.7	20.2	4.2
17	Volunteer barley	8.9	2.4	26.9	0.3	3.0	10.0	4.0
18	Round-leaved mallow	10.0	1.8	17.8	0.1	1.3	3.8	3.4
19	Barnyard grass	8.9	1.4	16.3	0.2	2.6	7.0	3.3
20	Night-flowering catchfly	7.8	1.7	21.4	0.2	2.1	6.6	3.0
21	Field horsetail	5.6	0.7	13.0	0.1	1.2	3.0	1.7
22	Hemp-nettle	4.4	0.9	20.0	0.1	1.7	4.2	1.6
23	Prostrate knotweed	4.4	0.8	18.8	0.1	1.5	4.4	1.6
24	Stinkweed	5.6	0.4	7.0	< 0.1	0.3	0.6	1.3
25	Shepherd's-purse	5.6	0.3	6.0	< 0.1	0.5	1.0	1.3
26	Chickweed	2.2	0.7	30.0	0.1	6.6	8.4	1.3
27	Volunteer wheat	3.3	0.3	10.0	< 0.1	0.4	0.8	0.9
28	Foxtail barley	2.2	0.3	15.0	0.1	2.4	4.6	0.8
29	Volunteer alfalfa	1.1	0.1	10.0	0.1	8.2	8.2	0.5
30	Stork's-bill	1.1	0.2	20.0	< 0.1	1.0	1.0	0.4
31	Bluebur	1.1	0.2	15.0	< 0.1	2.0	2.0	0.4
32	Rose species	1.1	0.2	15.0	< 0.1	1.2	1.2	0.4
33	Common groundsel	1.1	0.1	10.0	< 0.1	0.8	0.8	0.3
34	Black medick	1.1	0.1	10.0	< 0.1	0.8	0.8	0.3
35	Showy milkweed	1.1	0.1	10.0	< 0.1	0.6	0.6	0.3
36	Wild tomato	1.1	0.1	10.0	< 0.1	0.6	0.6	0.3
37	Giant ragweed	1.1	0.1	5.0	< 0.1	0.6	0.6	0.3
38	Oak-leaved goosefoot	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2
39	Narrow-leaved hawk's-beard	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2
40	Broad-leaved plantain	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2
41	Leafy spurge	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2
42	Thyme-leaved spurge	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2
43	Russian thistle	1.1	0.1	5.0	< 0.1	0.2	0.2	0.2

Table 67. Barley fields in the Southwest Agricultural Region (30 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	83.3	43.3	52.0	21.0	25.2	119.4	106.3
2	Wild oats	66.7	27.8	41.8	6.6	9.8	66.4	51.5
3	Wild buckwheat	53.3	12.5	23.4	0.8	1.6	4.0	21.8
4	Canada thistle	33.3	7.8	23.5	0.9	2.8	14.2	14.8
5	Volunteer wheat	36.7	7.3	20.0	0.8	2.1	14.0	14.6
6	Kochia	20.0	5.2	25.8	1.5	7.4	27.6	11.8
7	Redroot pigweed	26.7	4.2	15.6	0.3	1.2	3.0	9.1
8	Volunteer flax	10.0	4.7	46.7	1.1	10.9	26.8	8.4
9	Dandelion	20.0	3.5	17.5	0.4	1.8	3.2	7.5
10	Volunteer canola (Argentine)	13.3	4.3	32.5	0.5	3.7	9.0	7.1
11	Night-flowering catchfly	16.7	3.3	20.0	0.3	1.8	5.8	6.5
12	Round-leaved mallow	13.3	2.3	17.5	0.1	0.8	1.4	4.6
13	Quack grass	16.7	0.8	5.0	0.1	0.5	1.4	4.1
14	Pale smartweed	10.0	1.7	16.7	0.2	1.9	5.0	3.7
15	Lamb's-quarters	10.0	1.5	15.0	0.1	0.9	1.2	3.3
16	Stinkweed	10.0	1.0	10.0	0.1	0.9	1.2	3.0
17	Chickweed	3.3	1.2	35.0	0.2	6.4	6.4	2.1
18	Barnyard grass	6.7	0.5	7.5	0.1	1.7	3.2	2.0
19	Perennial sow-thistle	6.7	0.5	7.5	0.1	0.8	1.4	1.8
20	Hemp-nettle	3.3	1.0	30.0	0.2	4.8	4.8	1.8
21	Annual sow-thistle spp.	6.7	0.5	7.5	< 0.1	0.3	0.4	1.7
22	Showy milkweed	3.3	0.7	20.0	0.1	4.4	4.4	1.5
23	Wild tomato	3.3	1.0	30.0	0.1	1.8	1.8	1.5
24	Volunteer barley	3.3	0.5	15.0	0.2	5.6	5.6	1.5
25	Scouring-rush	3.3	0.3	10.0	< 0.1	0.8	0.8	1.0
26	Prostrate knotweed	3.3	0.3	10.0	< 0.1	0.6	0.6	1.0
27	Wild mustard	3.3	0.3	10.0	< 0.1	0.4	0.4	0.9
28	Shepherd's-purse	3.3	0.3	10.0	< 0.1	0.4	0.4	0.9
29	Volunteer canola (Polish)	3.3	0.2	5.0	< 0.1	1.0	1.0	0.9
30	Foxtail barley	3.3	0.2	5.0	< 0.1	0.2	0.2	0.8
31	Narrow-leaved hawk's-beard	3.3	0.2	5.0	< 0.1	0.2	0.2	0.8
32	Henbit	3.3	0.2	5.0	< 0.1	0.2	0.2	0.8
33	Broad-leaved plantain	3.3	0.2	5.0	< 0.1	0.2	0.2	0.8

Table 68. Oat fields in the Southwest Agricultural Region (29 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	96.6	69.3	71.8	74.4	77.1	575.8	140.9
2	Wild oats	82.8	37.4	45.2	8.1	9.8	54.4	47.1
3	Wild buckwheat	44.8	9.8	21.9	0.8	1.9	9.6	15.4
4	Volunteer canola (Argentine)	24.1	7.8	32.1	1.0	4.3	13.0	10.4
5	Canada thistle	27.6	6.4	23.1	0.9	3.2	13.0	10.1
6	Barnyard grass	20.7	4.7	22.5	2.4	11.7	61.4	9.4
7	Wild mustard	20.7	5.0	24.2	1.7	8.1	45.2	8.8
8	Redroot pigweed	24.1	4.1	17.1	0.5	2.1	6.6	7.6
9	Volunteer wheat	27.6	1.9	6.9	0.1	0.3	0.4	6.5
10	Volunteer barley	20.7	2.1	10.0	0.2	1.1	3.6	5.4
11	Dandelion	13.8	2.2	16.3	0.5	3.7	14.2	4.5
12	Kochia	13.8	1.4	10.0	0.1	0.7	1.0	3.6
13	Stinkweed	6.9	2.1	30.0	0.5	7.4	13.4	3.1
14	Night-flowering catchfly	10.3	1.2	11.7	0.1	0.8	2.0	2.8
15	Pale smartweed	10.3	1.2	11.7	0.1	0.7	1.2	2.8
16	Lamb's-quarters	10.3	1.0	10.0	0.1	0.7	1.6	2.7
17	Stork's-bill	3.4	1.7	50.0	0.2	6.4	6.4	1.9
18	Quack grass	6.9	0.7	10.0	0.1	1.1	1.6	1.8
19	Round-leaved mallow	6.9	0.5	7.5	< 0.1	0.3	0.4	1.6
20	Perennial sow-thistle	6.9	0.5	7.5	< 0.1	0.3	0.4	1.6
21	Volunteer rye grass	3.4	1.4	40.0	0.1	3.8	3.8	1.6
22	Volunteer peas	3.4	0.7	20.0	< 0.1	1.0	1.0	1.1
23	Prickly lettuce	3.4	0.7	20.0	< 0.1	0.8	0.8	1.1
24	Black medick	3.4	0.5	15.0	< 0.1	1.0	1.0	1.0
25	Field horsetail	3.4	0.3	10.0	< 0.1	1.0	1.0	0.9
26	Volunteer flax	3.4	0.2	5.0	< 0.1	0.6	0.6	0.8
27	Chickweed	3.4	0.2	5.0	< 0.1	0.4	0.4	0.8
28	Volunteer canola (Polish)	3.4	0.2	5.0	< 0.1	0.4	0.4	0.8
29	Prostrate knotweed	3.4	0.2	5.0	< 0.1	0.2	0.2	0.8
30	Common pepper-grass	3.4	0.2	5.0	< 0.1	0.2	0.2	0.8
31	Scouring-rush	3.4	0.2	5.0	< 0.1	0.2	0.2	0.8
32	Shepherd's-purse	3.4	0.2	5.0	< 0.1	0.2	0.2	0.8
33	Annual sow-thistle spp.	3.4	0.2	5.0	< 0.1	0.2	0.2	0.8

Table 69. Canola fields in the Southwest Agricultural Region (55 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	69.1	24.5	35.5	6.1	8.8	31.8	56.9
2	Wild oats	52.7	15.7	29.8	2.9	5.4	41.6	32.9
3	Wild buckwheat	63.6	12.2	19.1	1.9	3.0	51.0	27.7
4	Lamb's-quarters	40.0	8.7	21.8	1.2	2.9	24.0	18.0
5	Stinkweed	21.8	5.9	27.1	1.8	8.2	74.2	15.9
6	Barnyard grass	18.2	4.0	22.0	2.0	10.7	93.6	14.6
7	Volunteer wheat	32.7	6.2	18.9	0.7	2.2	12.2	13.0
8	Redroot pigweed	23.6	4.8	20.4	0.8	3.4	17.8	10.9
9	Canada thistle	32.7	4.7	14.4	0.4	1.2	4.6	10.4
10	Volunteer canola (Argentine)	23.6	4.5	18.8	0.4	1.8	8.2	8.9
11	Dandelion	25.5	4.2	16.4	0.3	1.1	4.2	8.3
12	Kochia	16.4	3.8	23.3	0.5	3.4	16.8	7.9
13	Wild mustard	18.2	3.9	21.5	0.4	2.3	6.2	7.7
14	Pale smartweed	21.8	3.3	15.0	0.3	1.5	9.4	7.3
15	Annual sow-thistle spp.	21.8	1.9	8.8	0.2	0.9	4.6	5.7
16	Quack grass	14.5	2.5	17.5	0.2	1.1	2.4	4.9
17	Perennial sow-thistle	18.2	1.4	7.5	0.1	0.4	0.8	4.2
18	Chickweed	9.1	1.8	20.0	0.3	2.9	9.6	4.0
19	Round-leaved mallow	12.7	1.5	12.1	0.2	1.4	7.4	3.9
20	Shepherd's-purse	10.9	1.6	15.0	0.1	1.3	2.4	3.5
21	Hemp-nettle	9.1	1.2	13.0	0.2	2.5	10.6	3.3
22	Cleavers	12.7	1.2	9.3	0.1	0.7	1.8	3.3
23	Black medick	3.6	1.6	45.0	0.3	8.2	15.2	3.2
24	Common groundsel	5.5	0.8	15.0	0.1	2.7	7.0	2.1
25	Biennial wormwood	7.3	0.9	12.5	< 0.1	0.6	1.6	2.0
26	Volunteer barley	7.3	0.8	11.3	0.1	0.8	2.0	2.0
27	Field horsetail	7.3	0.4	5.0	0.1	1.3	2.6	1.8
28	Wild tomato	1.8	0.5	30.0	0.2	11.2	11.2	1.6
29	American dragonhead	3.6	0.8	22.5	0.1	1.9	3.4	1.5
30	Night-flowering catchfly	7.3	0.4	5.0	< 0.1	0.3	0.4	1.5
31	Prostrate knotweed	3.6	0.7	20.0	0.1	1.5	2.8	1.4
32	Stork's-bill	5.5	0.5	8.3	< 0.1	0.5	1.0	1.3
33	Thyme-leaved spurge	5.5	0.3	5.0	< 0.1	0.4	0.6	1.1
34	Flixweed	3.6	0.5	12.5	< 0.1	0.9	1.2	1.1
35	Volunteer flax	3.6	0.5	12.5	< 0.1	0.7	0.8	1.0
36	Purslane	3.6	0.3	7.5	< 0.1	0.7	1.2	0.9
37	Canada goldenrod	1.8	0.3	15.0	< 0.1	2.2	2.2	0.7
38	Narrow-leaved hawk's-beard	1.8	0.4	20.0	< 0.1	0.8	0.8	0.6
39	False ragweed	1.8	0.2	10.0	< 0.1	1.4	1.4	0.5
40	Showy milkweed	1.8	0.2	10.0	< 0.1	1.0	1.0	0.5
41	Cocklebur	1.8	0.2	10.0	< 0.1	0.4	0.4	0.5
42	Russian thistle	1.8	0.2	10.0	< 0.1	0.4	0.4	0.5
43	Absinth	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4
44	Tumble mustard	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4
45	Broad-leaved plantain	1.8	0.1	5.0	< 0.1	0.2	0.2	0.4

Table 70. Flax fields in the Southwest Agricultural Region (15 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	40.0	26.7	66.7	78.1	195.1	1070.0	115.6
2	Canada thistle	66.7	14.0	21.0	1.2	1.9	9.2	25.5
3	Wild oats	40.0	14.3	35.8	4.7	11.8	26.6	24.5
4	Wild buckwheat	60.0	12.7	21.1	0.9	1.4	3.0	22.7
5	Pale smartweed	26.7	10.0	37.5	1.9	7.2	16.4	15.3
6	Round-leaved mallow	40.0	8.0	20.0	0.6	1.5	5.0	14.8
7	Dandelion	33.3	5.0	15.0	0.4	1.3	3.8	10.9
8	Redroot pigweed	33.3	4.3	13.0	0.2	0.6	0.8	10.1
9	Wild mustard	26.7	5.0	18.8	0.3	1.3	2.0	9.5
10	Volunteer wheat	20.0	2.7	13.3	0.3	1.4	2.0	6.3
11	Stinkweed	13.3	3.3	25.0	0.5	4.1	8.0	5.9
12	Lamb's-quarters	13.3	3.0	22.5	0.4	2.8	5.0	5.4
13	Perennial sow-thistle	20.0	1.0	5.0	< 0.1	0.2	0.2	4.7
14	Kochia	13.3	1.7	12.5	0.1	0.9	1.4	4.0
15	Prostrate knotweed	6.7	2.7	40.0	0.3	4.4	4.4	3.8
16	Hemp-nettle	13.3	1.3	10.0	0.1	0.9	1.6	3.8
17	Cow cockle	6.7	1.7	25.0	0.2	2.6	2.6	2.8
18	Shepherd's-purse	6.7	1.3	20.0	0.1	1.6	1.6	2.5
19	Volunteer canola (Argentine)	6.7	1.0	15.0	0.1	0.8	0.8	2.1
20	Black medick	6.7	0.7	10.0	0.1	0.8	0.8	1.9
21	Night-flowering catchfly	6.7	0.7	10.0	< 0.1	0.4	0.4	1.8
22	Quack grass	6.7	0.3	5.0	< 0.1	0.4	0.4	1.6
23	Annual sow-thistle spp.	6.7	0.3	5.0	< 0.1	0.2	0.2	1.6
24	Manitoba maple	6.7	0.3	5.0	< 0.1	0.2	0.2	1.6
25	Volunteer canola (Polish)	6.7	0.3	5.0	< 0.1	0.2	0.2	1.6

Table 71. All fields in the Central Agricultural Region (197 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	66.5	23.8	35.8	12.5	18.8	316.0	70.3
2	Wild oats	49.2	14.0	28.4	4.0	8.2	260.0	33.1
3	Wild buckwheat	58.4	17.5	30.0	2.3	4.0	80.6	32.5
4	Barnyard grass	27.4	7.0	25.6	5.5	20.0	582.8	27.6
5	Redroot pigweed	34.0	7.3	21.5	1.2	3.5	46.8	16.0
6	Canada thistle	42.1	6.7	16.0	0.8	1.9	18.2	15.8
7	Pale smartweed	29.9	4.7	15.7	0.4	1.3	11.2	10.7
8	Lamb's-quarters	22.3	4.9	21.8	0.6	2.6	18.8	10.0
9	Wild mustard	21.8	3.3	15.0	0.4	1.8	11.0	8.0
10	Volunteer canola (Argentine)	14.2	3.1	21.6	0.7	5.2	86.0	7.4
11	Quack grass	7.1	1.8	25.4	1.1	15.0	139.8	6.1
12	Thyme-leaved spurge	12.2	3.1	25.8	0.4	2.9	14.4	6.0
13	Volunteer wheat	13.7	2.6	19.1	0.3	2.3	21.0	5.7
14	Round-leaved mallow	13.2	2.6	20.0	0.2	1.8	9.4	5.4
15	Annual sow-thistle spp.	15.2	2.3	15.0	0.2	1.3	9.8	5.3
16	Dandelion	13.2	1.3	10.2	0.1	0.9	7.2	3.9
17	Perennial sow-thistle	10.7	0.9	8.8	0.1	0.8	4.4	3.0
18	Kochia	7.1	1.2	16.4	0.2	2.5	11.8	2.8
19	Night-flowering catchfly	6.6	0.9	13.8	0.1	1.1	3.6	2.2
20	Volunteer flax	4.6	1.1	23.3	0.1	2.0	6.6	2.0
21	Volunteer buckwheat	0.5	0.5	100.0	0.5	96.6	96.6	2.0
22	Hemp-nettle	4.6	1.0	22.2	0.1	2.1	9.4	2.0
23	Stinkweed	6.6	0.6	9.2	0.1	0.9	5.0	1.9
24	Common ragweed	5.1	0.8	15.0	0.1	1.8	7.2	1.9
25	Volunteer oats	1.5	0.5	35.0	0.2	10.7	15.4	1.2
26	Shepherd's-purse	3.0	0.4	14.2	0.1	2.4	8.4	1.1
27	Volunteer field bean	2.5	0.6	25.0	< 0.1	1.6	3.2	1.1
28	Yellow foxtail	3.0	0.4	12.5	< 0.1	1.4	5.2	1.0
29	Pineappleweed	2.0	0.4	17.5	0.1	5.3	19.8	1.0
30	Cocklebur	3.0	0.3	10.0	< 0.1	1.2	4.4	0.9
31	Prostrate pigweed	3.0	0.2	7.5	< 0.1	0.5	1.0	0.8
32	Red clover	0.5	0.2	45.0	0.1	29.4	29.4	0.7
33	American dragonhead	3.0	0.2	5.8	< 0.1	0.3	0.6	0.7
34	Volunteer alfalfa	2.5	0.2	9.0	< 0.1	0.6	2.2	0.7
35	Volunteer barley	2.0	0.2	10.0	< 0.1	2.1	5.8	0.7
36	Cleavers	1.5	0.2	15.0	< 0.1	1.7	3.0	0.6
37	Volunteer coriander	1.0	0.3	27.5	< 0.1	2.2	3.8	0.5
38	Black medick	1.5	0.2	10.0	< 0.1	0.9	1.6	0.4
39	Curled dock	1.5	0.2	10.0	< 0.1	0.8	1.6	0.4
40	Showy milkweed	1.0	0.2	20.0	< 0.1	1.6	2.6	0.4
41	Field horsetail	1.5	0.1	6.7	< 0.1	0.4	0.4	0.4
42	Prostrate knotweed	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
43	Manitoba maple	1.5	0.1	5.0	< 0.1	0.2	0.2	0.4
44	Biennial wormwood	1.0	0.1	10.0	< 0.1	1.2	2.2	0.3
45	Volunteer corn	1.0	0.1	10.0	< 0.1	0.7	1.2	0.3
46	Water smartweed	1.0	0.1	5.0	< 0.1	1.4	2.0	0.3
47	Mouse-eared chickweed	1.0	0.1	7.5	< 0.1	0.7	0.8	0.3
48	Bluebur	0.5	0.2	30.0	< 0.1	3.0	3.0	0.3
49	Volunteer sunflower	1.0	0.1	7.5	< 0.1	0.4	0.4	0.3
50	Black mustard	0.5	0.2	30.0	< 0.1	2.2	2.2	0.3
51	American vetch	1.0	0.1	5.0	< 0.1	0.7	0.8	0.3
52	White cockle	0.5	0.1	15.0	< 0.1	1.6	1.6	0.2

(Table continued on next page)

Table 71. All fields in the Central Agricultural Region (197 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Russian thistle	0.5	0.1	10.0	< 0.1	2.8	2.8	0.2
54	Common groundsel	0.5	0.1	15.0	< 0.1	1.4	1.4	0.2
55	Stork's-bill	0.5	0.1	15.0	< 0.1	1.4	1.4	0.2
56	Bicknell's geranium	0.5	0.1	10.0	< 0.1	1.8	1.8	0.2
57	Scentless chamomile	0.5	0.1	10.0	< 0.1	1.2	1.2	0.2
58	Silverberry	0.5	0.1	10.0	< 0.1	0.6	0.6	0.1
59	Volunteer fababean	0.5	0.1	10.0	< 0.1	0.6	0.6	0.1
60	Chickweed	0.5	0.1	10.0	< 0.1	0.4	0.4	0.1
61	Absinth	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.1
62	Volunteer canola (Polish)	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.1
63	Slender wheat grass	0.5	< 0.1	5.0	< 0.1	0.4	0.4	0.1
64	Small-flowered geranium	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Oak-leaved goosefoot	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
66	Wild licorice	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
67	Ball mustard	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Yellow sweet-clover	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1
69	Volunteer canary grass	0.5	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 72. Spring wheat fields in the Central Agricultural Region (74 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	56.8	20.9	36.9	12.7	22.4	316.0	69.3
2	Wild oats	44.6	14.0	31.4	6.5	14.6	260.0	41.2
3	Wild buckwheat	58.1	16.6	28.5	1.7	2.9	18.6	30.7
4	Redroot pigweed	32.4	8.8	27.1	1.7	5.1	46.8	19.0
5	Canada thistle	50.0	6.8	13.6	0.8	1.5	11.2	17.7
6	Volunteer canola (Argentine)	23.0	5.2	22.6	1.6	6.9	86.0	13.9
7	Lamb's-quarters	25.7	5.2	20.3	0.5	2.1	8.6	11.0
8	Barnyard grass	20.3	4.0	19.7	1.1	5.5	33.0	10.8
9	Pale smartweed	24.3	2.8	11.7	0.2	0.9	4.4	7.7
10	Annual sow-thistle spp.	23.0	2.8	12.4	0.3	1.2	7.8	7.6
11	Round-leaved mallow	17.6	3.3	18.8	0.3	1.7	8.6	7.1
12	Thyme-leaved spurge	13.5	3.5	26.0	0.3	2.4	9.6	6.6
13	Wild mustard	16.2	2.2	13.8	0.4	2.4	11.0	6.2
14	Volunteer buckwheat	1.4	1.4	100.0	1.3	96.6	96.6	5.6
15	Kochia	12.2	1.3	10.6	0.2	2.0	11.8	4.2
16	Volunteer flax	6.8	1.7	25.0	0.2	2.5	6.6	3.3
17	Night-flowering catchfly	9.5	1.3	13.6	0.1	1.1	3.6	3.2
18	Dandelion	12.2	0.7	5.6	0.1	0.5	2.2	3.0
19	Hemp-nettle	4.1	1.8	45.0	0.2	4.3	9.4	2.9
20	Common ragweed	6.8	1.3	19.0	0.1	2.0	6.0	2.8
21	Volunteer field bean	5.4	1.6	30.0	0.1	2.0	3.2	2.8
22	Perennial sow-thistle	9.5	0.7	7.1	< 0.1	0.5	1.4	2.5
23	Volunteer oats	2.7	0.9	35.0	0.3	10.7	15.4	2.2
24	Stinkweed	8.1	0.6	7.5	0.1	0.6	2.6	2.2
25	Cocklebur	5.4	0.5	10.0	0.1	1.4	4.4	1.7
26	Shepherd's-purse	2.7	0.6	22.5	0.1	4.7	8.4	1.4
27	Volunteer barley	4.1	0.2	5.0	< 0.1	0.9	1.6	1.0
28	Quack grass	4.1	0.2	5.0	< 0.1	0.4	0.6	1.0
29	Black medick	2.7	0.3	12.5	< 0.1	1.2	1.6	0.9
30	Yellow foxtail	2.7	0.3	10.0	< 0.1	1.2	2.2	0.8
31	Bluebur	1.4	0.4	30.0	< 0.1	3.0	3.0	0.7
32	Showy milkweed	1.4	0.4	30.0	< 0.1	2.6	2.6	0.7
33	American dragonhead	2.7	0.2	7.5	< 0.1	0.4	0.6	0.7
34	Prostrate pigweed	2.7	0.1	5.0	< 0.1	0.5	0.8	0.7
35	Volunteer alfalfa	2.7	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Biennial wormwood	1.4	0.2	15.0	< 0.1	2.2	2.2	0.5
37	Cleavers	1.4	0.2	15.0	< 0.1	1.8	1.8	0.5
38	White cockle	1.4	0.2	15.0	< 0.1	1.6	1.6	0.5
39	Russian thistle	1.4	0.1	10.0	< 0.1	2.8	2.8	0.5
40	Common groundsel	1.4	0.2	15.0	< 0.1	1.4	1.4	0.5
41	Volunteer wheat	1.4	0.1	10.0	< 0.1	0.8	0.8	0.4
42	Water smartweed	1.4	0.1	5.0	< 0.1	2.0	2.0	0.4
43	Mouse-eared chickweed	1.4	0.1	10.0	< 0.1	0.6	0.6	0.4
44	Volunteer fababean	1.4	0.1	10.0	< 0.1	0.6	0.6	0.4
45	Chickweed	1.4	0.1	10.0	< 0.1	0.4	0.4	0.4
46	Field horsetail	1.4	0.1	5.0	< 0.1	0.4	0.4	0.3
47	Small-flowered geranium	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
48	Prostrate knotweed	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Wild licorice	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3
50	Manitoba maple	1.4	0.1	5.0	< 0.1	0.2	0.2	0.3

Table 73. Barley fields in the Central Agricultural Region (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	85.7	21.0	24.4	3.9	4.5	19.4	51.3
2	Wild oats	52.4	18.3	35.0	4.6	8.7	28.8	47.8
3	Wild buckwheat	66.7	22.9	34.3	2.1	3.1	11.2	39.8
4	Canada thistle	42.9	9.3	21.7	0.8	2.0	8.6	18.7
5	Barnyard grass	23.8	7.1	30.0	1.4	5.9	14.2	17.1
6	Pale smartweed	42.9	7.6	17.8	0.6	1.4	6.0	16.1
7	Volunteer canola (Argentine)	23.8	6.7	28.0	1.0	4.4	19.2	14.7
8	Redroot pigweed	38.1	5.7	15.0	0.7	1.7	6.4	14.1
9	Round-leaved mallow	19.0	3.3	17.5	0.4	2.0	3.2	7.7
10	Wild mustard	28.6	2.6	9.2	0.2	0.5	1.0	7.4
11	Volunteer wheat	23.8	2.6	11.0	0.2	0.6	2.4	6.7
12	Annual sow-thistle spp.	19.0	3.1	16.3	0.2	1.0	1.8	6.5
13	Night-flowering catchfly	14.3	2.4	16.7	0.2	1.5	2.0	5.3
14	Perennial sow-thistle	19.0	1.7	8.8	0.2	0.9	1.8	5.2
15	Volunteer oats	4.8	1.7	35.0	0.5	10.8	10.8	4.9
16	Lamb's-quarters	9.5	2.4	25.0	0.2	1.9	3.4	4.4
17	Pineappleweed	14.3	1.4	10.0	0.1	0.5	0.6	3.8
18	Volunteer coriander	4.8	1.9	40.0	0.2	3.8	3.8	3.2
19	Kochia	4.8	1.9	40.0	0.1	3.0	3.0	3.0
20	Thyme-leaved spurge	4.8	1.4	30.0	0.1	2.0	2.0	2.4
21	Shepherd's-purse	9.5	0.7	7.5	< 0.1	0.5	0.8	2.3
22	Prostrate pigweed	9.5	0.5	5.0	< 0.1	0.4	0.4	2.1
23	Stinkweed	4.8	1.0	20.0	0.1	1.8	1.8	2.0
24	Volunteer flax	4.8	1.0	20.0	0.1	1.6	1.6	1.9
25	Cocklebur	4.8	0.5	10.0	< 0.1	0.6	0.6	1.3
26	Mouse-eared chickweed	4.8	0.2	5.0	< 0.1	0.8	0.8	1.2
27	Hemp-nettle	4.8	0.2	5.0	< 0.1	0.4	0.4	1.1
28	Slender wheat grass	4.8	0.2	5.0	< 0.1	0.4	0.4	1.1
29	Dandelion	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
30	American dragonhead	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
31	Yellow foxtail	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
32	Oak-leaved goosefoot	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
33	Common ragweed	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
34	Volunteer alfalfa	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0
35	Volunteer canary grass	4.8	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 74. Oat fields in the Central Agricultural Region (44 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	79.5	34.4	43.3	24.8	31.1	283.8	87.4
2	Wild buckwheat	68.2	22.4	32.8	4.6	6.8	80.6	36.2
3	Wild oats	75.0	22.2	29.5	3.0	4.0	15.6	33.9
4	Barnyard grass	34.1	8.2	24.0	5.4	15.9	167.0	22.4
5	Quack grass	13.6	5.8	42.5	4.4	32.4	139.8	15.3
6	Canada thistle	31.8	6.8	21.4	0.9	2.9	18.2	11.9
7	Redroot pigweed	31.8	6.0	18.9	0.7	2.2	7.8	10.9
8	Volunteer wheat	22.7	5.9	26.0	0.9	4.2	21.0	9.8
9	Lamb's-quarters	22.7	5.5	24.0	1.0	4.2	18.8	9.5
10	Pale smartweed	27.3	4.2	15.4	0.4	1.5	9.8	8.3
11	Thyme-leaved spurge	15.9	4.5	28.6	0.7	4.1	14.4	7.1
12	Dandelion	22.7	3.3	14.5	0.4	1.6	7.2	6.8
13	Wild mustard	15.9	2.8	17.9	0.3	1.6	5.4	5.1
14	Round-leaved mallow	11.4	2.8	25.0	0.3	2.2	9.4	4.4
15	Perennial sow-thistle	15.9	1.5	9.3	0.2	1.1	4.4	4.1
16	Volunteer canola (Argentine)	11.4	1.6	14.0	0.1	1.0	3.0	3.2
17	Annual sow-thistle spp.	6.8	1.1	16.7	0.1	0.8	1.8	2.0
18	Pineappleweed	2.3	0.9	40.0	0.5	19.8	19.8	1.9
19	Hemp-nettle	6.8	0.7	10.0	0.1	0.8	1.4	1.7
20	Volunteer flax	4.5	0.9	20.0	0.1	1.3	2.2	1.5
21	Stinkweed	6.8	0.3	5.0	< 0.1	0.2	0.2	1.4
22	Kochia	4.5	0.6	12.5	0.1	1.4	1.8	1.3
23	Volunteer corn	4.5	0.5	10.0	< 0.1	0.7	1.2	1.1
24	Volunteer sunflower	4.5	0.3	7.5	< 0.1	0.4	0.4	1.0
25	Volunteer barley	2.3	0.6	25.0	0.1	5.8	5.8	1.0
26	Common ragweed	4.5	0.2	5.0	< 0.1	0.3	0.4	1.0
27	American dragonhead	4.5	0.2	5.0	< 0.1	0.2	0.2	0.9
28	Cleavers	2.3	0.5	20.0	0.1	3.0	3.0	0.8
29	Night-flowering catchfly	2.3	0.5	20.0	< 0.1	1.4	1.4	0.8
30	Volunteer coriander	2.3	0.3	15.0	< 0.1	0.6	0.6	0.6
31	Bicknell's geranium	2.3	0.2	10.0	< 0.1	1.8	1.8	0.6
32	Scentless chamomile	2.3	0.2	10.0	< 0.1	1.2	1.2	0.6
33	Cocklebur	2.3	0.2	10.0	< 0.1	1.2	1.2	0.6
34	Showy milkweed	2.3	0.2	10.0	< 0.1	0.6	0.6	0.6
35	Volunteer alfalfa	2.3	0.2	10.0	< 0.1	0.4	0.4	0.6
36	Water smartweed	2.3	0.1	5.0	< 0.1	0.8	0.8	0.5
37	American vetch	2.3	0.1	5.0	< 0.1	0.6	0.6	0.5
38	Absinth	2.3	0.1	5.0	< 0.1	0.4	0.4	0.5
39	Yellow foxtail	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
40	Prostrate knotweed	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
41	Black medick	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5
42	Volunteer field bean	2.3	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 75. Canola fields in the Central Agricultural Region (49 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	30.6	9.7	31.7	14.7	48.1	582.8	64.6
2	Green foxtail	59.2	18.9	31.9	6.5	10.9	141.0	53.5
3	Wild buckwheat	40.8	11.3	27.8	1.4	3.4	22.0	25.1
4	Redroot pigweed	38.8	8.1	20.8	1.3	3.4	14.6	21.1
5	Wild oats	36.7	6.9	18.9	1.8	4.9	34.4	21.1
6	Canada thistle	38.8	5.7	14.7	0.8	1.9	10.8	16.8
7	Wild mustard	32.7	5.9	18.1	0.7	2.1	9.2	15.4
8	Lamb's-quarters	24.5	5.0	20.4	0.5	2.2	11.6	12.3
9	Pale smartweed	28.6	3.8	13.2	0.3	0.9	4.0	11.0
10	Volunteer wheat	16.3	1.9	11.9	0.2	1.2	3.4	6.2
11	Annual sow-thistle spp.	12.2	2.6	20.8	0.3	2.2	9.8	6.2
12	Thyme-leaved spurge	10.2	2.6	25.0	0.3	2.8	3.8	5.8
13	Quack grass	10.2	1.7	17.0	0.3	2.8	10.6	5.0
14	Dandelion	10.2	1.0	10.0	0.1	0.6	1.0	3.5
15	Red clover	2.0	0.9	45.0	0.6	29.4	29.4	3.4
16	Kochia	4.1	1.4	35.0	0.2	5.3	10.2	3.1
17	Round-leaved mallow	4.1	1.3	32.5	0.1	3.1	3.6	2.7
18	Stinkweed	6.1	0.8	13.3	0.1	1.9	5.0	2.6
19	Perennial sow-thistle	6.1	0.7	11.7	0.1	0.9	1.8	2.2
20	Common ragweed	4.1	0.8	20.0	0.2	3.7	7.2	2.2
21	Hemp-nettle	4.1	0.6	15.0	0.1	1.8	2.2	1.8
22	Shepherd's-purse	4.1	0.5	12.5	0.1	1.9	3.6	1.7
23	Prostrate pigweed	4.1	0.5	12.5	< 0.1	0.6	1.0	1.5
24	Curled dock	4.1	0.4	10.0	< 0.1	1.0	1.6	1.4
25	Black mustard	2.0	0.6	30.0	< 0.1	2.2	2.2	1.2
26	Volunteer flax	2.0	0.5	25.0	< 0.1	1.6	1.6	1.1
27	Volunteer alfalfa	2.0	0.4	20.0	< 0.1	2.2	2.2	1.0
28	Stork's-bill	2.0	0.3	15.0	< 0.1	1.4	1.4	0.9
29	Silverberry	2.0	0.2	10.0	< 0.1	0.6	0.6	0.7
30	Yellow foxtail	2.0	0.1	5.0	< 0.1	0.4	0.4	0.6
31	Field horsetail	2.0	0.1	5.0	< 0.1	0.4	0.4	0.6
32	Volunteer canola (Polish)	2.0	0.1	5.0	< 0.1	0.4	0.4	0.6
33	American dragonhead	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
34	Prostrate knotweed	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
35	Ball mustard	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
36	Biennial wormwood	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
37	Yellow sweet-clover	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6
38	Manitoba maple	2.0	0.1	5.0	< 0.1	0.2	0.2	0.6

Table 76. All fields in the Eastern-Interlake Agricultural Region (106 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	54.7	18.5	33.9	4.9	9.0	69.6	44.3
2	Barnyard grass	56.6	16.7	29.4	5.0	8.8	129.2	43.5
3	Wild buckwheat	67.0	17.6	26.3	1.6	2.3	21.6	30.3
4	Wild oats	42.5	10.7	25.1	1.6	3.7	22.0	21.5
5	Pale smartweed	43.4	9.8	22.6	1.1	2.6	27.0	19.1
6	Redroot pigweed	37.7	9.6	25.5	1.3	3.4	28.6	18.7
7	Lamb's-quarters	34.9	8.0	23.0	1.3	3.6	59.6	17.0
8	Canada thistle	40.6	5.6	13.8	0.5	1.3	10.2	12.8
9	Dandelion	26.4	4.7	17.9	0.4	1.4	8.8	9.3
10	Quack grass	21.7	3.3	15.4	0.5	2.3	13.2	8.1
11	Volunteer wheat	15.1	3.1	20.6	0.3	2.2	14.6	6.1
12	Night-flowering catchfly	12.3	3.0	24.6	0.4	3.1	11.0	5.8
13	Thyme-leaved spurge	15.1	3.0	19.7	0.2	1.6	4.8	5.6
14	Wild mustard	17.0	2.8	16.4	0.2	1.2	4.4	5.6
15	Round-leaved mallow	14.2	2.5	18.0	0.2	1.6	13.0	5.1
16	Yellow foxtail	5.7	1.0	18.3	0.4	7.3	28.6	3.5
17	Cleavers	6.6	1.8	27.1	0.2	3.6	14.0	3.4
18	Annual sow-thistle spp.	10.4	1.4	13.6	0.1	0.9	4.6	3.1
19	Volunteer canola (Argentine)	10.4	1.4	13.2	0.1	0.7	1.2	2.9
20	Volunteer flax	2.8	1.3	46.7	0.3	9.7	20.8	2.6
21	Perennial sow-thistle	9.4	1.0	10.5	0.1	0.8	2.2	2.6
22	Stork's-bill	2.8	1.1	38.3	0.2	8.7	25.6	2.3
23	Volunteer barley	6.6	1.1	17.1	0.1	0.9	2.0	2.1
24	Hemp-nettle	9.4	0.7	7.0	< 0.1	0.3	0.6	2.1
25	Broad-leaved plantain	4.7	0.8	18.0	0.2	3.2	11.4	2.0
26	Volunteer alfalfa	5.7	0.9	15.8	0.1	1.1	4.6	1.8
27	Field horsetail	2.8	0.6	20.0	0.2	7.1	20.6	1.8
28	Stinkweed	7.5	0.5	6.3	< 0.1	0.3	0.4	1.6
29	Showy milkweed	4.7	0.6	12.0	< 0.1	0.8	1.8	1.3
30	Yellow sweet-clover	2.8	0.7	25.0	0.1	2.4	5.8	1.3
31	Shepherd's-purse	3.8	0.5	12.5	< 0.1	1.2	3.4	1.1
32	Chickweed	2.8	0.5	16.7	0.1	1.9	5.2	1.0
33	Curled dock	4.7	0.3	6.0	< 0.1	0.4	0.4	1.0
34	White cockle	1.9	0.5	25.0	0.1	4.4	4.8	1.0
35	Prostrate knotweed	2.8	0.4	13.3	< 0.1	0.8	1.4	0.8
36	Flixweed	1.9	0.2	12.5	< 0.1	2.2	2.4	0.7
37	Tansy	1.9	0.3	17.5	< 0.1	1.3	2.2	0.6
38	Kochia	1.9	0.3	17.5	< 0.1	0.9	1.6	0.6
39	Water smartweed	1.9	0.3	15.0	< 0.1	0.7	1.0	0.6
40	American dragonhead	1.9	0.2	10.0	< 0.1	0.7	1.0	0.5
41	Volunteer canola (Polish)	0.9	0.2	25.0	< 0.1	3.8	3.8	0.5
42	Absinth	1.9	0.1	7.5	< 0.1	0.4	0.6	0.4
43	White clover	1.9	0.1	7.5	< 0.1	0.3	0.4	0.4
44	Proso millet	0.9	0.1	15.0	< 0.1	2.6	2.6	0.4
45	Timothy	0.9	0.1	15.0	< 0.1	1.8	1.8	0.3
46	Purple milk-vetch	0.9	0.1	15.0	< 0.1	0.6	0.6	0.3
47	Purslane	0.9	0.1	15.0	< 0.1	0.6	0.6	0.3
48	Volunteer rye grass	0.9	0.1	15.0	< 0.1	0.6	0.6	0.3
49	Volunteer sunflower	0.9	0.1	10.0	< 0.1	1.0	1.0	0.3
50	Bladder campion	0.9	0.1	10.0	< 0.1	0.6	0.6	0.2
51	Small-flowered geranium	0.9	0.1	10.0	< 0.1	0.4	0.4	0.2
52	Narrow-leaved hawk's-beard	0.9	0.1	10.0	< 0.1	0.4	0.4	0.2

(Table continued on next page)

Table 76. All fields in the Eastern-Interlake Agricultural Region (106 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Dog mustard	0.9	< 0.1	5.0	< 0.1	0.6	0.6	0.2
54	Witch grass	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.2
55	Russian thistle	0.9	< 0.1	5.0	< 0.1	0.2	0.2	0.2

Table 77. Spring wheat fields in the Eastern-Interlake Agricultural Region (35 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	51.4	24.6	47.8	9.1	17.6	69.6	67.6
2	Barnyard grass	54.3	17.6	32.4	7.7	14.2	129.2	56.7
3	Wild buckwheat	68.6	18.4	26.9	1.6	2.4	12.4	34.9
4	Wild oats	45.7	9.9	21.6	1.3	2.8	16.2	22.1
5	Pale smartweed	34.3	7.0	20.4	0.7	2.1	7.8	15.3
6	Redroot pigweed	34.3	6.4	18.8	0.5	1.5	6.6	13.9
7	Canada thistle	37.1	5.1	13.8	0.5	1.2	7.0	13.1
8	Dandelion	22.9	5.7	25.0	0.5	2.3	8.6	11.2
9	Lamb's-quarters	28.6	4.1	14.5	0.3	1.0	2.2	10.0
10	Night-flowering catchfly	14.3	2.7	19.0	0.3	2.4	7.0	6.4
11	Volunteer canola (Argentine)	17.1	2.1	12.5	0.1	0.7	1.2	5.5
12	Annual sow-thistle spp.	14.3	2.1	15.0	0.2	1.2	4.6	5.1
13	Wild mustard	14.3	1.3	9.0	0.1	0.6	1.6	4.1
14	Quack grass	14.3	1.0	7.0	0.1	0.5	1.0	3.8
15	Round-leaved mallow	8.6	1.4	16.7	0.1	1.5	3.4	3.3
16	Perennial sow-thistle	8.6	0.9	10.0	< 0.1	0.5	0.8	2.5
17	Thyme-leaved spurge	5.7	0.9	15.0	0.1	1.9	3.4	2.2
18	Shepherd's-purse	5.7	0.9	15.0	0.1	1.8	3.4	2.2
19	White cockle	2.9	1.3	45.0	0.1	4.8	4.8	2.2
20	Stinkweed	8.6	0.6	6.7	< 0.1	0.3	0.4	2.2
21	Yellow foxtail	2.9	0.3	10.0	0.3	10.6	10.6	2.0
22	Cleavers	5.7	0.9	15.0	0.1	1.0	1.6	2.0
23	Volunteer flax	2.9	0.7	25.0	0.2	6.2	6.2	1.9
24	Volunteer alfalfa	2.9	0.4	15.0	< 0.1	1.0	1.0	1.0
25	Volunteer rye grass	2.9	0.4	15.0	< 0.1	0.6	0.6	1.0
26	Volunteer sunflower	2.9	0.3	10.0	< 0.1	1.0	1.0	0.9
27	Absinth	2.9	0.3	10.0	< 0.1	0.6	0.6	0.8
28	Chickweed	2.9	0.3	10.0	< 0.1	0.4	0.4	0.8
29	Stork's-bill	2.9	0.3	10.0	< 0.1	0.4	0.4	0.8
30	Tansy	2.9	0.3	10.0	< 0.1	0.4	0.4	0.8
31	Volunteer barley	2.9	0.3	10.0	< 0.1	0.4	0.4	0.8
32	Showy milkweed	2.9	0.1	5.0	< 0.1	0.6	0.6	0.7
33	Hemp-nettle	2.9	0.1	5.0	< 0.1	0.2	0.2	0.7
34	White clover	2.9	0.1	5.0	< 0.1	0.2	0.2	0.7
35	Yellow sweet-clover	2.9	0.1	5.0	< 0.1	0.2	0.2	0.7

Table 78. Barley fields in the Eastern-Interlake Agricultural Region (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	50.0	12.5	25.0	4.4	8.7	38.0	46.7
2	Wild oats	41.7	15.0	36.0	2.5	6.0	19.4	35.8
3	Wild buckwheat	58.3	13.8	23.6	1.0	1.7	4.8	28.1
4	Pale smartweed	50.0	11.7	23.3	1.2	2.4	9.4	26.3
5	Redroot pigweed	33.3	8.3	25.0	1.9	5.6	21.0	24.5
6	Lamb's-quarters	41.7	7.5	18.0	0.5	1.3	3.4	17.0
7	Canada thistle	50.0	5.8	11.7	0.4	0.7	2.8	15.9
8	Green foxtail	33.3	2.9	8.8	0.9	2.8	10.0	14.0
9	Quack grass	25.0	4.6	18.3	0.9	3.7	9.6	14.0
10	Cleavers	16.7	5.0	30.0	0.7	4.4	8.6	11.8
11	Wild mustard	25.0	3.8	15.0	0.2	0.7	1.4	8.6
12	Dandelion	16.7	3.8	22.5	0.2	1.4	2.6	7.6
13	Hemp-nettle	25.0	2.5	10.0	0.1	0.4	0.6	7.1
14	Night-flowering catchfly	8.3	2.9	35.0	0.4	5.2	5.2	6.7
15	Volunteer wheat	16.7	1.7	10.0	0.2	1.2	2.2	5.5
16	Round-leaved mallow	16.7	1.3	7.5	0.1	0.3	0.4	4.2
17	Perennial sow-thistle	8.3	1.7	20.0	0.2	2.2	2.2	4.0
18	Thyme-leaved spurge	8.3	2.1	25.0	0.1	1.2	1.2	3.9
19	Volunteer canola (Argentine)	8.3	1.7	20.0	0.1	1.0	1.0	3.4
20	Broad-leaved plantain	8.3	1.3	15.0	0.1	1.2	1.2	3.1
21	Water smartweed	8.3	0.4	5.0	< 0.1	0.4	0.4	2.0
22	Yellow foxtail	8.3	0.4	5.0	< 0.1	0.2	0.2	1.9
23	Field horsetail	8.3	0.4	5.0	< 0.1	0.2	0.2	1.9
24	Shepherd's-purse	8.3	0.4	5.0	< 0.1	0.2	0.2	1.9
25	Stinkweed	8.3	0.4	5.0	< 0.1	0.2	0.2	1.9
26	Russian thistle	8.3	0.4	5.0	< 0.1	0.2	0.2	1.9

Table 79. Oat fields in the Eastern-Interlake Agricultural Region (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	65.2	24.1	37.0	5.8	8.9	41.2	45.6
2	Green foxtail	78.3	23.7	30.3	4.3	5.5	44.6	40.9
3	Wild buckwheat	73.9	17.6	23.8	1.4	1.9	9.8	25.4
4	Quack grass	43.5	9.3	21.5	1.4	3.3	13.2	16.8
5	Canada thistle	43.5	9.1	21.0	1.1	2.6	10.2	15.4
6	Pale smartweed	30.4	8.7	28.6	1.5	5.0	27.0	15.1
7	Wild oats	39.1	7.4	18.9	1.0	2.6	19.2	13.5
8	Volunteer wheat	34.8	8.0	23.1	1.0	3.0	14.6	13.3
9	Dandelion	39.1	7.6	19.4	0.6	1.6	8.8	12.0
10	Lamb's-quarters	26.1	6.7	25.8	0.7	2.8	6.0	10.2
11	Stork's-bill	4.3	4.3	100.0	1.1	25.6	25.6	7.5
12	Round-leaved mallow	17.4	4.3	25.0	0.6	3.5	13.0	7.2
13	Thyme-leaved spurge	26.1	4.3	16.7	0.3	1.2	3.0	7.1
14	Volunteer barley	21.7	3.7	17.0	0.2	1.0	2.0	5.9
15	Redroot pigweed	17.4	3.7	21.3	0.3	1.6	5.4	5.5
16	Night-flowering catchfly	8.7	4.1	47.5	0.5	5.6	11.0	5.4
17	Field horsetail	4.3	2.2	50.0	0.9	20.6	20.6	5.4
18	Volunteer alfalfa	13.0	3.0	23.3	0.2	1.8	4.6	4.4
19	Annual sow-thistle spp.	17.4	2.6	15.0	0.1	0.8	1.6	4.3
20	Yellow sweet-clover	8.7	3.0	35.0	0.3	3.5	5.8	4.1
21	Broad-leaved plantain	13.0	2.2	16.7	0.1	1.1	2.2	3.6
22	Curled dock	17.4	1.1	6.3	0.1	0.4	0.4	3.2
23	Perennial sow-thistle	17.4	0.9	5.0	0.1	0.3	0.6	3.0
24	Volunteer canola (Argentine)	13.0	1.3	10.0	0.1	0.4	0.8	2.7
25	Wild mustard	4.3	2.2	50.0	0.2	4.4	4.4	2.6
26	Chickweed	4.3	1.5	35.0	0.2	5.2	5.2	2.3
27	Hemp-nettle	13.0	0.7	5.0	< 0.1	0.3	0.4	2.2
28	Showy milkweed	8.7	0.9	10.0	0.1	1.0	1.8	2.0
29	Volunteer canola (Polish)	4.3	1.1	25.0	0.2	3.8	3.8	1.9
30	Volunteer flax	4.3	1.3	30.0	0.1	2.0	2.0	1.7
31	Proso millet	4.3	0.7	15.0	0.1	2.6	2.6	1.4
32	Water smartweed	4.3	1.1	25.0	< 0.1	1.0	1.0	1.4
33	Timothy	4.3	0.7	15.0	0.1	1.8	1.8	1.3
34	Purple milk-vetch	4.3	0.7	15.0	< 0.1	0.6	0.6	1.0
35	Bladder campion	4.3	0.4	10.0	< 0.1	0.6	0.6	0.9
36	Narrow-leaved hawk's-beard	4.3	0.4	10.0	< 0.1	0.4	0.4	0.9
37	White clover	4.3	0.4	10.0	< 0.1	0.4	0.4	0.9
38	Dog mustard	4.3	0.2	5.0	< 0.1	0.6	0.6	0.8
39	American dragonhead	4.3	0.2	5.0	< 0.1	0.4	0.4	0.8
40	Witch grass	4.3	0.2	5.0	< 0.1	0.4	0.4	0.8

Table 80. Canola fields in the Eastern-Interlake Agricultural Region (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	51.9	16.5	31.8	3.7	7.1	59.6	35.3
2	Wild buckwheat	74.1	20.9	28.3	2.2	2.9	21.6	34.8
3	Redroot pigweed	55.6	17.4	31.3	3.0	5.4	28.6	33.5
4	Green foxtail	44.4	13.1	29.6	2.7	6.0	42.2	27.5
5	Barnyard grass	48.1	13.0	26.9	2.1	4.4	27.8	25.5
6	Wild oats	40.7	12.4	30.5	2.1	5.1	22.0	23.7
7	Pale smartweed	59.3	10.2	17.2	0.9	1.6	9.0	19.8
8	Canada thistle	48.1	4.8	10.0	0.3	0.7	2.8	12.0
9	Thyme-leaved spurge	25.9	5.9	22.9	0.5	2.0	4.8	10.2
10	Wild mustard	25.9	5.0	19.3	0.4	1.5	4.4	9.0
11	Yellow foxtail	7.4	2.8	37.5	1.1	15.3	28.6	8.1
12	Dandelion	29.6	2.8	9.4	0.1	0.5	0.8	6.9
13	Volunteer wheat	18.5	3.7	20.0	0.3	1.5	5.6	6.5
14	Volunteer flax	3.7	3.1	85.0	0.8	20.8	20.8	6.1
15	Cleavers	7.4	3.5	47.5	0.5	7.2	14.0	5.9
16	Round-leaved mallow	18.5	3.0	16.0	0.1	0.8	2.0	5.4
17	Broad-leaved plantain	3.7	0.9	25.0	0.4	11.4	11.4	3.1
18	Prostrate knotweed	11.1	1.5	13.3	0.1	0.8	1.4	3.0
19	Quack grass	11.1	0.9	8.3	0.1	1.3	3.6	2.9
20	Hemp-nettle	11.1	0.7	6.7	< 0.1	0.3	0.4	2.3
21	Kochia	7.4	1.3	17.5	0.1	0.9	1.6	2.3
22	Night-flowering catchfly	11.1	0.6	5.0	< 0.1	0.2	0.2	2.1
23	Stinkweed	7.4	0.6	7.5	< 0.1	0.3	0.4	1.6
24	Annual sow-thistle spp.	7.4	0.6	7.5	< 0.1	0.3	0.4	1.6
25	Tansy	3.7	0.9	25.0	0.1	2.2	2.2	1.5
26	Perennial sow-thistle	3.7	0.9	25.0	0.1	1.4	1.4	1.4
27	White cockle	3.7	0.2	5.0	0.1	4.0	4.0	1.3
28	Flixweed	3.7	0.2	5.0	0.1	2.4	2.4	1.1
29	Shepherd's-purse	3.7	0.6	15.0	< 0.1	0.8	0.8	1.1
30	Purslane	3.7	0.6	15.0	< 0.1	0.6	0.6	1.0
31	Field horsetail	3.7	0.2	5.0	< 0.1	0.6	0.6	0.8
32	Absinth	3.7	0.2	5.0	< 0.1	0.2	0.2	0.7
33	Chickweed	3.7	0.2	5.0	< 0.1	0.2	0.2	0.7
34	Stork's-bill	3.7	0.2	5.0	< 0.1	0.2	0.2	0.7
35	Volunteer alfalfa	3.7	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 81. Number of fields surveyed in each Agricultural District

Agricultural Region and District Group	Agricultural District	Number of Fields Surveyed
Northwest		
Dauphin/Ethelbert	Dauphin/Ethelbert	33
Roblin	Roblin	18
Russell	Russell	23
Ste. Rose	Ste. Rose	10
Swan River	Swan River	25
Southwest		
Boissevain	Boissevain	19
Brandon	Brandon	18
Carberry	Carberry	11
Hamiota	Hamiota	17
Killarney	Killarney	22
Melita	Melita	32
Minnedosa	Minnedosa	17
Neepawa	Neepawa	12
Shoal Lake	Shoal Lake	16
Souris	Souris	21
Virden	Virden	34
Central		
Altona	Altona	12
Carman	Carman	24
Gladstone	Gladstone	18
Morden	Morden	20
Morris	Morris	22
Pilot Mound	Pilot Mound	18
Portage La Prairie	Portage La Prairie	27
Somerset	Somerset	17
Starbuck	Starbuck	26
Treherne	Treherne	13
Eastern-Interlake		
Arborg, Fisher Branch, Teulon, Ashern & Lundar	Arborg	7
	Fisher Branch	5
	Teulon	4
	Ashern	2
	Lundar	2
Beausejour & Selkirk	Beausejour	11
	Selkirk	9
Dugald	Dugald	11
St. Pierre & Steinbach	St. Pierre	16
	Steinbach	8
Stonewall	Stonewall	21
Vita/Dominion City	Vita/Dominion City	10

Table 82. Dauphin/Ethelbert in the Northwest Agricultural Region (33 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	78.8	45.2	57.3	24.3	30.8	336.0	96.5
2	Green foxtail	33.3	16.8	50.5	4.6	13.7	63.8	26.5
3	Wild buckwheat	57.6	14.5	25.3	1.2	2.0	12.6	21.9
4	Pale smartweed	42.4	10.9	25.7	1.0	2.2	13.6	16.5
5	Cleavers	39.4	9.8	25.0	1.3	3.4	29.4	16.2
6	Chickweed	21.2	10.0	47.1	2.7	12.6	44.0	15.9
7	Field horsetail	21.2	5.6	26.4	3.1	14.7	96.6	14.3
8	Canada thistle	39.4	9.4	23.8	0.6	1.6	5.4	14.3
9	Annual sow-thistle spp.	42.4	6.5	15.4	0.6	1.5	11.4	13.1
10	Lamb's-quarters	27.3	6.7	24.4	1.6	6.0	45.8	12.7
11	Dandelion	27.3	8.5	31.1	1.1	4.1	20.8	12.6
12	Night-flowering catchfly	30.3	5.2	17.0	0.4	1.2	6.0	9.5
13	Redroot pigweed	18.2	2.4	13.3	0.2	0.8	1.8	5.1
14	Dog mustard	9.1	3.3	36.7	0.4	4.4	8.8	4.6
15	Volunteer wheat	6.1	2.0	32.5	0.4	6.0	11.4	3.1
16	Quack grass	9.1	1.1	11.7	0.1	0.7	0.8	2.4
17	Volunteer canola (Argentine)	3.0	2.1	70.0	0.3	9.0	9.0	2.4
18	Wild mustard	9.1	0.8	8.3	< 0.1	0.4	0.6	2.2
19	Maple-leaved goosefoot	3.0	1.4	45.0	0.2	6.4	6.4	1.8
20	Stork's-bill	3.0	1.2	40.0	0.1	4.4	4.4	1.6
21	Shepherd's-purse	6.1	0.3	5.0	< 0.1	0.8	1.0	1.4
22	Hemp-nettle	3.0	0.9	30.0	< 0.1	1.6	1.6	1.2
23	Narrow-leaved hawk's-beard	3.0	0.5	15.0	< 0.1	0.6	0.6	0.9
24	Kochia	3.0	0.3	10.0	< 0.1	0.4	0.4	0.8
25	American dragonhead	3.0	0.2	5.0	< 0.1	0.2	0.2	0.7
26	Wormseed mustard	3.0	0.2	5.0	< 0.1	0.2	0.2	0.7
27	Broad-leaved plantain	3.0	0.2	5.0	< 0.1	0.2	0.2	0.7
28	Perennial sow-thistle	3.0	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 83. Roblin in the Northwest Agricultural Region (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	77.8	22.8	29.3	2.5	3.2	15.6	48.1
2	Cleavers	55.6	18.1	32.5	2.5	4.5	28.8	41.0
3	Wild buckwheat	55.6	18.1	32.5	1.5	2.7	13.8	33.7
4	Green foxtail	38.9	8.9	22.9	2.0	5.1	31.8	27.7
5	Chickweed	27.8	8.3	30.0	1.1	4.1	8.6	19.2
6	Volunteer wheat	27.8	7.5	27.0	1.1	3.8	16.2	17.9
7	Canada thistle	38.9	8.1	20.7	0.5	1.4	3.8	16.2
8	Lamb's-quarters	27.8	5.8	21.0	0.6	2.0	9.0	13.0
9	Hemp-nettle	38.9	5.3	13.6	0.4	0.9	3.2	12.9
10	Annual sow-thistle spp.	33.3	4.4	13.3	0.2	0.7	1.8	10.3
11	Dandelion	22.2	3.9	17.5	0.2	1.1	3.0	8.2
12	Shepherd's-purse	22.2	3.1	13.8	0.2	1.0	2.6	7.4
13	American dragonhead	11.1	2.5	22.5	0.2	1.6	3.0	5.0
14	Field horsetail	16.7	1.7	10.0	0.1	0.7	1.4	4.7
15	Volunteer oats	11.1	2.5	22.5	0.1	1.2	1.8	4.7
16	Pale smartweed	16.7	1.4	8.3	0.1	0.5	0.8	4.3
17	Perennial sow-thistle	16.7	0.8	5.0	< 0.1	0.2	0.2	3.5
18	Night-flowering catchfly	11.1	1.1	10.0	< 0.1	0.4	0.6	2.9
19	Volunteer barley	11.1	0.8	7.5	0.1	0.5	0.6	2.8
20	Black medick	11.1	0.6	5.0	< 0.1	0.2	0.2	2.3
21	Stinkweed	11.1	0.6	5.0	< 0.1	0.2	0.2	2.3
22	Redroot pigweed	5.6	0.3	5.0	< 0.1	0.4	0.4	1.2
23	Broad-leaved plantain	5.6	0.3	5.0	< 0.1	0.4	0.4	1.2
24	Aspen poplar	5.6	0.3	5.0	< 0.1	0.4	0.4	1.2
25	Maple-leaved goosefoot	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
26	Quack grass	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
27	Prostrate knotweed	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
28	Wild mustard	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
29	American vetch	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
30	Biennial wormwood	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2
31	Volunteer canola (Argentine)	5.6	0.3	5.0	< 0.1	0.2	0.2	1.2

Table 84. Russell in the Northwest Agricultural Region (23 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	69.6	34.3	49.4	10.7	15.3	73.0	54.0
2	Wild oats	56.5	22.6	40.0	12.1	21.4	82.4	50.0
3	Wild buckwheat	69.6	23.0	33.1	2.3	3.3	18.8	26.7
4	Cleavers	60.9	18.9	31.1	3.2	5.3	24.2	25.8
5	Canada thistle	73.9	19.8	26.8	2.2	2.9	12.2	25.2
6	Volunteer canola (Argentine)	52.2	12.8	24.6	1.4	2.7	13.8	16.8
7	Annual sow-thistle spp.	47.8	7.6	15.9	0.7	1.5	4.2	11.9
8	Black medick	26.1	8.5	32.5	1.2	4.5	15.6	10.7
9	Pale smartweed	30.4	8.0	26.4	0.7	2.3	5.6	9.8
10	Stinkweed	21.7	4.6	21.0	1.1	5.0	23.0	7.9
11	Chickweed	21.7	4.8	22.0	0.5	2.4	7.6	6.6
12	Barnyard grass	26.1	2.8	10.8	0.2	0.7	2.2	5.3
13	Lamb's-quarters	26.1	2.4	9.2	0.2	0.8	2.8	5.1
14	Hemp-nettle	13.0	3.9	30.0	0.5	3.6	4.6	4.9
15	Shepherd's-purse	17.4	2.6	15.0	0.3	1.8	6.0	4.4
16	Night-flowering catchfly	21.7	2.2	10.0	0.2	0.7	2.0	4.3
17	Dandelion	21.7	1.5	7.0	0.1	0.3	0.4	3.7
18	Volunteer white mustard	4.3	3.5	80.0	0.5	10.8	10.8	3.5
19	Prostrate knotweed	17.4	2.0	11.3	0.1	0.6	1.4	3.5
20	Volunteer wheat	13.0	2.0	15.0	0.2	1.3	1.6	3.1
21	Redroot pigweed	13.0	1.7	13.3	0.2	1.3	2.2	3.0
22	Round-leaved mallow	13.0	1.5	11.7	0.1	0.9	1.6	2.8
23	Quack grass	8.7	0.7	7.5	0.1	0.8	0.8	1.6
24	Volunteer oats	8.7	0.4	5.0	< 0.1	0.4	0.4	1.4
25	Volunteer alfalfa	4.3	0.4	10.0	0.1	1.8	1.8	1.0
26	Russian thistle	4.3	0.7	15.0	< 0.1	0.8	0.8	1.0
27	Henbit	4.3	0.2	5.0	0.1	1.8	1.8	0.9
28	Mouse-eared chickweed	4.3	0.2	5.0	0.1	1.4	1.4	0.8
29	Field horsetail	4.3	0.4	10.0	< 0.1	0.4	0.4	0.8
30	Blue grass species	4.3	0.2	5.0	0.1	1.2	1.2	0.8
31	Kochia	4.3	0.2	5.0	< 0.1	0.4	0.4	0.7
32	Thyme-leaved spurge	4.3	0.2	5.0	< 0.1	0.4	0.4	0.7
33	Foxtail barley	4.3	0.2	5.0	< 0.1	0.2	0.2	0.7
34	Flixweed	4.3	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 85. Ste. Rose in the Northwest Agricultural Region (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	40.0	16.5	41.3	3.2	8.1	13.2	54.0
2	Redroot pigweed	30.0	5.0	16.7	3.1	10.5	25.8	37.5
3	Wild buckwheat	70.0	11.0	15.7	0.9	1.3	3.8	35.8
4	Pale smartweed	50.0	8.0	16.0	0.6	1.2	2.8	25.5
5	Canada thistle	30.0	9.0	30.0	1.0	3.2	8.6	25.0
6	Wild oats	50.0	7.5	15.0	0.6	1.2	4.0	24.6
7	Quack grass	40.0	5.0	12.5	0.9	2.2	7.8	21.8
8	Lamb's-quarters	20.0	4.0	20.0	0.7	3.4	6.4	14.6
9	Volunteer canola (Argentine)	20.0	5.0	25.0	0.5	2.3	4.2	14.0
10	Volunteer wheat	30.0	4.0	13.3	0.3	1.0	1.8	13.8
11	Perennial sow-thistle	20.0	3.5	17.5	0.4	2.2	4.2	12.1
12	Wild mustard	20.0	2.5	12.5	0.2	1.1	2.0	9.2
13	Barnyard grass	10.0	1.5	15.0	0.1	1.4	1.4	5.1
14	Round-leaved mallow	10.0	1.0	10.0	0.1	0.6	0.6	3.9
15	Annual sow-thistle spp.	10.0	0.5	5.0	< 0.1	0.2	0.2	3.0

Table 86. Swan River in the Northwest Agricultural Region (25 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	72.0	35.6	49.4	34.9	48.4	449.8	133.7
2	Green foxtail	48.0	16.6	34.6	4.7	9.7	34.0	39.7
3	Wild buckwheat	36.0	8.6	23.9	0.7	2.0	7.8	19.6
4	Field horsetail	40.0	6.0	15.0	0.8	1.9	8.2	18.0
5	Volunteer alfalfa	12.0	6.2	51.7	0.9	7.4	13.4	11.4
6	Canada thistle	28.0	2.6	9.3	0.2	0.8	1.8	10.2
7	Barnyard grass	20.0	2.6	13.0	0.2	1.0	2.4	8.1
8	Dandelion	16.0	3.2	20.0	0.4	2.3	7.6	8.1
9	Lamb's-quarters	12.0	2.6	21.7	0.3	2.5	4.8	6.4
10	Wild mustard	12.0	2.4	20.0	0.2	1.5	2.2	5.9
11	Cleavers	12.0	1.6	13.3	0.1	0.6	1.0	4.8
12	Volunteer canola (Argentine)	8.0	1.6	20.0	0.1	0.9	1.0	3.8
13	Water smartweed	8.0	1.0	12.5	< 0.1	0.6	1.0	3.2
14	Perennial sow-thistle	8.0	0.6	7.5	< 0.1	0.5	0.6	2.7
15	Stinkweed	4.0	1.0	25.0	0.2	4.2	4.2	2.4
16	Hemp-nettle	4.0	1.0	25.0	0.1	1.6	1.6	2.2
17	Narrow-leaved hawk's-beard	4.0	0.8	20.0	0.1	2.8	2.8	2.1
18	Redroot pigweed	4.0	0.6	15.0	0.1	2.2	2.2	1.8
19	Quack grass	4.0	0.4	10.0	0.1	3.2	3.2	1.7
20	Night-flowering catchfly	4.0	0.6	15.0	< 0.1	0.8	0.8	1.7
21	Chickweed	4.0	0.4	10.0	< 0.1	0.8	0.8	1.5
22	American dragonhead	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
23	Flixweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
24	Broad-leaved plantain	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
25	Pale smartweed	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
26	Stork's-bill	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
27	American vetch	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
28	Blue grass species	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
29	Volunteer barley	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2
30	Volunteer wheat	4.0	0.2	5.0	< 0.1	0.2	0.2	1.2

Table 87. Boissevain in the Southwest Agricultural Region (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	84.2	54.5	64.7	83.4	99.0	1070.0	124.4
2	Kochia	36.8	14.2	38.6	13.2	35.9	197.0	26.8
3	Wild oats	42.1	11.3	26.9	6.0	14.4	69.0	19.1
4	Volunteer wheat	42.1	7.4	17.5	1.6	3.7	14.0	12.4
5	Wild buckwheat	52.6	6.3	12.0	0.3	0.7	1.8	12.1
6	Lamb's-quarters	47.4	6.8	14.4	0.7	1.4	5.0	11.9
7	Barnyard grass	42.1	5.5	13.1	0.8	1.8	3.2	10.4
8	Volunteer canola (Argentine)	42.1	5.5	13.1	0.6	1.4	8.2	10.2
9	Redroot pigweed	47.4	4.5	9.4	0.5	1.1	3.2	10.2
10	Perennial sow-thistle	36.8	5.3	14.3	0.5	1.2	5.4	9.2
11	Annual sow-thistle spp.	36.8	3.4	9.3	0.3	0.7	1.8	7.8
12	Pale smartweed	21.1	3.9	18.8	0.7	3.3	9.4	6.3
13	Common groundsel	15.8	2.4	15.0	0.4	2.7	7.0	4.2
14	Cleavers	21.1	1.3	6.3	0.2	0.8	1.8	4.0
15	Dandelion	15.8	2.4	15.0	0.2	1.1	2.4	4.0
16	Wild mustard	10.5	1.8	17.5	0.3	3.3	6.2	3.1
17	Volunteer barley	10.5	1.1	10.0	0.3	2.9	5.6	2.5
18	Canada thistle	10.5	1.1	10.0	< 0.1	0.4	0.6	2.2
19	Stinkweed	10.5	0.8	7.5	< 0.1	0.4	0.4	2.1
20	Round-leaved mallow	10.5	0.8	7.5	< 0.1	0.3	0.4	2.1
21	Field horsetail	10.5	0.5	5.0	0.1	1.4	2.6	2.0
22	Thyme-leaved spurge	10.5	0.5	5.0	< 0.1	0.3	0.4	1.9
23	Night-flowering catchfly	10.5	0.5	5.0	< 0.1	0.2	0.2	1.9
24	Shepherd's-purse	5.3	1.1	20.0	0.1	2.2	2.2	1.6
25	Volunteer alfalfa	5.3	0.5	10.0	0.4	8.2	8.2	1.5
26	Black medick	5.3	0.5	10.0	0.1	1.2	1.2	1.2
27	Showy milkweed	5.3	0.5	10.0	0.1	1.0	1.0	1.1
28	Cocklebur	5.3	0.5	10.0	< 0.1	0.4	0.4	1.1
29	Absinth	5.3	0.3	5.0	< 0.1	0.2	0.2	0.9
30	Quack grass	5.3	0.3	5.0	< 0.1	0.2	0.2	0.9
31	Stork's-bill	5.3	0.3	5.0	< 0.1	0.2	0.2	0.9

Table 88. Brandon in the Southwest Agricultural Region (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	77.8	36.4	46.8	29.0	37.3	392.2	113.8
2	Wild oats	83.3	38.9	46.7	9.1	10.9	66.4	69.7
3	Wild buckwheat	50.0	8.9	17.8	0.5	1.1	2.6	18.8
4	Canada thistle	38.9	6.4	16.4	0.6	1.5	4.8	14.6
5	Wild mustard	27.8	5.6	20.0	0.4	1.4	2.2	11.1
6	Redroot pigweed	33.3	4.4	13.3	0.2	0.7	1.4	11.0
7	Volunteer wheat	22.2	3.3	15.0	0.3	1.2	2.0	7.9
8	Volunteer canola (Argentine)	11.1	3.3	30.0	0.7	6.6	13.0	6.7
9	Kochia	16.7	3.1	18.3	0.2	0.9	1.0	6.3
10	Round-leaved mallow	11.1	3.6	32.5	0.3	2.7	5.0	5.9
11	Lamb's-quarters	16.7	1.7	10.0	0.1	0.9	2.2	5.1
12	Prostrate knotweed	5.6	2.2	40.0	0.2	4.4	4.4	3.5
13	Pale smartweed	11.1	1.1	10.0	< 0.1	0.4	0.4	3.3
14	Volunteer barley	11.1	0.8	7.5	< 0.1	0.3	0.4	3.1
15	Quack grass	5.6	1.9	35.0	0.1	2.4	2.4	3.0
16	Field horsetail	5.6	1.7	30.0	0.2	3.0	3.0	2.9
17	Dandelion	11.1	0.6	5.0	< 0.1	0.2	0.2	2.8
18	Shepherd's-purse	5.6	0.6	10.0	< 0.1	0.6	0.6	1.7
19	Night-flowering catchfly	5.6	0.6	10.0	< 0.1	0.4	0.4	1.7
20	Barnyard grass	5.6	0.3	5.0	< 0.1	0.4	0.4	1.4
21	Perennial sow-thistle	5.6	0.3	5.0	< 0.1	0.2	0.2	1.4
22	Leafy spurge	5.6	0.3	5.0	< 0.1	0.2	0.2	1.4
23	Stinkweed	5.6	0.3	5.0	< 0.1	0.2	0.2	1.4
24	Manitoba maple	5.6	0.3	5.0	< 0.1	0.2	0.2	1.4

Table 89. Carberry in the Southwest Agricultural Region (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	81.8	24.5	30.0	24.0	29.3	181.8	116.5
2	Wild oats	81.8	22.3	27.2	2.1	2.6	8.6	47.1
3	Wild buckwheat	63.6	19.1	30.0	1.4	2.2	5.6	37.6
4	Canada thistle	27.3	10.9	40.0	1.5	5.7	13.0	21.7
5	Redroot pigweed	18.2	3.6	20.0	1.9	10.5	19.8	13.6
6	Volunteer barley	27.3	4.5	16.7	0.4	1.4	3.8	11.9
7	Volunteer wheat	27.3	4.5	16.7	0.2	0.9	2.0	11.4
8	Volunteer rye grass	9.1	3.6	40.0	0.3	3.8	3.8	6.7
9	Quack grass	18.2	1.4	7.5	0.2	0.9	1.6	6.0
10	Lamb's-quarters	18.2	1.4	7.5	0.1	0.4	0.6	5.7
11	Pale smartweed	9.1	1.8	20.0	0.1	1.2	1.2	4.2
12	Volunteer peas	9.1	1.8	20.0	0.1	1.0	1.0	4.1
13	Round-leaved mallow	9.1	0.9	10.0	< 0.1	0.4	0.4	3.1
14	Volunteer canola (Argentine)	9.1	0.5	5.0	< 0.1	0.4	0.4	2.6
15	Barnyard grass	9.1	0.5	5.0	< 0.1	0.2	0.2	2.6
16	Wild mustard	9.1	0.5	5.0	< 0.1	0.2	0.2	2.6
17	Common pepper-grass	9.1	0.5	5.0	< 0.1	0.2	0.2	2.6

Table 90. Hamiota in the Southwest Agricultural Region (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	76.5	29.4	38.5	7.4	9.7	47.2	76.5
2	Wild buckwheat	70.6	28.5	40.4	4.7	6.6	51.0	61.3
3	Volunteer flax	23.5	9.7	41.3	2.1	8.8	26.8	23.0
4	Wild oats	41.2	6.5	15.7	1.2	3.0	14.8	20.0
5	Canada thistle	35.3	5.0	14.2	0.6	1.6	4.4	14.4
6	Black medick	17.6	5.9	33.3	1.0	5.6	15.2	13.4
7	Volunteer barley	11.8	5.9	50.0	0.6	5.1	8.2	10.3
8	Chickweed	17.6	3.5	20.0	0.7	3.8	8.4	9.9
9	Stinkweed	17.6	3.5	20.0	0.6	3.2	8.0	9.4
10	Hemp-nettle	11.8	2.4	20.0	0.6	5.5	10.6	7.6
11	Annual sow-thistle spp.	23.5	2.1	8.8	0.1	0.6	1.8	7.3
12	Volunteer wheat	11.8	3.5	30.0	0.3	2.2	2.2	6.7
13	Shepherd's-purse	11.8	2.4	20.0	0.2	2.0	2.4	5.6
14	Lamb's-quarters	17.6	1.5	8.3	0.1	0.5	1.0	5.3
15	Dandelion	11.8	1.8	15.0	0.2	1.3	2.2	4.7
16	Pale smartweed	11.8	1.8	15.0	0.1	0.8	1.2	4.4
17	Volunteer canola (Argentine)	11.8	1.5	12.5	0.1	0.6	0.8	4.0
18	Round-leaved mallow	11.8	0.9	7.5	< 0.1	0.3	0.4	3.4
19	Wild tomato	5.9	1.8	30.0	0.1	1.8	1.8	3.2
20	Redroot pigweed	11.8	0.6	5.0	< 0.1	0.4	0.6	3.2
21	Narrow-leaved hawk's-beard	11.8	0.6	5.0	< 0.1	0.2	0.2	3.1
22	Cleavers	5.9	0.3	5.0	< 0.1	0.4	0.4	1.6
23	Volunteer canola (Polish)	5.9	0.3	5.0	< 0.1	0.2	0.2	1.5

Table 91. Killarney in the Southwest Agricultural Region (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	95.5	57.0	59.8	22.8	23.8	220.2	118.2
2	Wild buckwheat	59.1	19.5	33.1	1.7	2.9	16.2	28.1
3	Wild oats	50.0	14.8	29.5	2.2	4.4	26.0	24.7
4	Canada thistle	40.9	6.8	16.7	0.6	1.4	4.8	13.4
5	Pale smartweed	36.4	8.0	21.9	0.6	1.5	5.4	13.3
6	Lamb's-quarters	22.7	7.5	33.0	1.5	6.4	24.0	13.1
7	Redroot pigweed	22.7	8.4	37.0	1.2	5.4	17.0	13.0
8	Cleavers	13.6	5.2	38.3	1.9	13.7	40.6	11.1
9	Wild mustard	13.6	4.8	35.0	1.1	8.4	24.6	8.8
10	Round-leaved mallow	27.3	3.9	14.2	0.4	1.5	7.4	8.6
11	Volunteer wheat	22.7	3.6	16.0	0.2	0.8	2.2	7.0
12	Volunteer canola (Argentine)	22.7	2.7	12.0	0.1	0.6	1.0	6.3
13	Kochia	18.2	1.8	10.0	0.1	0.5	0.6	4.7
14	Night-flowering catchfly	13.6	2.5	18.3	0.2	1.6	4.0	4.7
15	Biennial wormwood	13.6	2.0	15.0	0.1	0.7	1.6	4.1
16	Perennial sow-thistle	18.2	0.9	5.0	< 0.1	0.3	0.4	4.0
17	Quack grass	9.1	2.3	25.0	0.2	2.0	3.4	3.6
18	Hemp-nettle	4.5	2.0	45.0	0.2	4.2	4.2	2.7
19	Annual sow-thistle spp.	9.1	0.5	5.0	< 0.1	0.2	0.2	2.0
20	Barnyard grass	4.5	0.9	20.0	< 0.1	1.0	1.0	1.5
21	Rose species	4.5	0.7	15.0	0.1	1.2	1.2	1.4
22	Stinkweed	4.5	0.7	15.0	0.1	1.2	1.2	1.4
23	Showy milkweed	4.5	0.5	10.0	< 0.1	0.6	0.6	1.2
24	Dandelion	4.5	0.2	5.0	< 0.1	0.2	0.2	1.0
25	Purslane	4.5	0.2	5.0	< 0.1	0.2	0.2	1.0
26	Russian thistle	4.5	0.2	5.0	< 0.1	0.2	0.2	1.0

Table 92. Melita in the Southwest Agricultural Region (32 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	93.8	56.7	60.5	49.9	53.2	575.8	165.9
2	Wild oats	56.3	27.2	48.3	5.6	9.9	28.4	51.9
3	Wild buckwheat	31.3	4.7	15.0	0.4	1.3	6.8	14.8
4	Kochia	28.1	4.5	16.1	0.3	1.1	4.4	13.5
5	Redroot pigweed	15.6	4.8	31.0	0.9	5.6	17.8	10.8
6	Canada thistle	15.6	1.4	9.0	0.2	1.2	3.2	6.5
7	Volunteer canola (Argentine)	9.4	3.0	31.7	0.4	4.4	9.0	6.4
8	Stinkweed	6.3	1.4	22.5	0.4	7.0	13.4	4.0
9	Wild mustard	9.4	0.9	10.0	0.1	0.7	1.2	3.9
10	Volunteer barley	9.4	0.5	5.0	< 0.1	0.5	0.8	3.5
11	Dandelion	6.3	1.3	20.0	0.1	1.3	2.4	3.2
12	Lamb's-quarters	3.1	1.9	60.0	0.3	8.8	8.8	3.2
13	Volunteer wheat	6.3	0.9	15.0	0.1	1.0	1.0	2.9
14	Scouring-rush	6.3	0.5	7.5	< 0.1	0.5	0.8	2.5
15	Perennial sow-thistle	6.3	0.3	5.0	< 0.1	0.2	0.2	2.3
16	Volunteer canola (Polish)	3.1	0.2	5.0	< 0.1	1.0	1.0	1.2
17	Flixweed	3.1	0.2	5.0	< 0.1	0.6	0.6	1.2
18	Quack grass	3.1	0.2	5.0	< 0.1	0.2	0.2	1.1
19	Round-leaved mallow	3.1	0.2	5.0	< 0.1	0.2	0.2	1.1

Table 93. Minnedosa in the Southwest Agricultural Region (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	58.8	33.2	56.5	10.5	17.8	29.4	81.5
2	Canada thistle	82.4	17.4	21.1	2.7	3.2	17.4	41.3
3	Green foxtail	23.5	8.8	37.5	4.0	17.2	53.4	28.2
4	Chickweed	23.5	7.6	32.5	1.3	5.6	9.6	16.3
5	Stinkweed	23.5	7.9	33.8	1.1	4.7	15.2	15.7
6	Pale smartweed	29.4	4.7	16.0	1.1	3.8	16.4	14.1
7	Wild buckwheat	35.3	5.0	14.2	0.3	0.9	2.2	12.4
8	Dandelion	29.4	4.4	15.0	0.4	1.5	6.4	11.2
9	Hemp-nettle	23.5	3.8	16.3	0.4	1.9	4.8	9.6
10	Field horsetail	29.4	2.4	8.0	0.3	1.0	2.2	8.9
11	Quack grass	17.6	1.2	6.7	1.1	6.2	13.0	8.8
12	Volunteer barley	11.8	4.7	40.0	0.6	5.2	10.0	8.7
13	Perennial sow-thistle	23.5	2.4	10.0	0.3	1.4	3.6	7.8
14	Cleavers	17.6	1.5	8.3	0.2	0.9	1.6	5.3
15	Volunteer flax	17.6	1.5	8.3	0.2	0.9	1.8	5.3
16	Night-flowering catchfly	5.9	1.8	30.0	0.2	2.6	2.6	3.3
17	Cow cockle	5.9	1.5	25.0	0.2	2.6	2.6	3.0
18	Volunteer canola (Argentine)	11.8	0.6	5.0	< 0.1	0.3	0.4	2.9
19	Shepherd's-purse	11.8	0.6	5.0	< 0.1	0.2	0.2	2.9
20	Stork's-bill	5.9	1.2	20.0	0.1	1.0	1.0	2.4
21	Bluebur	5.9	0.9	15.0	0.1	2.0	2.0	2.4
22	Narrow-leaved hawk's-beard	5.9	1.2	20.0	< 0.1	0.8	0.8	2.3
23	Wild mustard	5.9	1.2	20.0	< 0.1	0.8	0.8	2.3
24	Annual sow-thistle spp.	5.9	0.6	10.0	< 0.1	0.4	0.4	1.7
25	Volunteer wheat	5.9	0.6	10.0	< 0.1	0.4	0.4	1.7

Table 94. Neepawa in the Southwest Agricultural Region (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	75.0	25.0	33.3	14.7	19.5	93.6	53.0
2	Green foxtail	91.7	27.5	30.0	9.4	10.3	26.6	43.6
3	Volunteer canola (Argentine)	91.7	22.1	24.1	2.0	2.2	10.0	23.9
4	Wild mustard	50.0	15.8	31.7	4.7	9.4	45.2	23.1
5	Redroot pigweed	58.3	18.3	31.4	2.8	4.8	11.6	20.7
6	Wild buckwheat	66.7	19.6	29.4	1.9	2.9	9.6	20.1
7	Lamb's-quarters	58.3	11.3	19.3	1.1	1.9	8.2	13.5
8	Wild oats	41.7	9.2	22.0	1.1	2.6	9.0	10.8
9	Night-flowering catchfly	50.0	7.9	15.8	0.8	1.6	6.6	10.4
10	Pale smartweed	58.3	6.7	11.4	0.4	0.7	2.0	9.8
11	Stinkweed	41.7	6.7	16.0	0.4	0.9	1.8	8.0
12	Perennial sow-thistle	41.7	4.2	10.0	0.3	0.6	2.2	6.6
13	Volunteer wheat	33.3	5.8	17.5	0.3	0.9	2.2	6.6
14	Stork's-bill	25.0	5.8	23.3	0.6	2.5	6.4	6.6
15	Dandelion	25.0	5.8	23.3	0.5	1.8	4.2	6.2
16	Shepherd's-purse	33.3	4.2	12.5	0.3	0.8	2.0	5.8
17	Round-leaved mallow	16.7	4.2	25.0	0.5	2.9	3.8	4.7
18	Canada thistle	25.0	2.9	11.7	0.4	1.4	2.0	4.6
19	American dragonhead	8.3	2.9	35.0	0.3	3.4	3.4	2.8
20	Field horsetail	16.7	1.3	7.5	0.1	0.8	1.0	2.5
21	Chickweed	16.7	0.8	5.0	0.1	0.4	0.4	2.2
22	Thyme-leaved spurge	16.7	0.8	5.0	0.1	0.4	0.6	2.2
23	Prickly lettuce	8.3	1.7	20.0	0.1	0.8	0.8	1.7
24	Black medick	8.3	1.3	15.0	0.1	1.0	1.0	1.6
25	Quack grass	8.3	1.3	15.0	0.1	0.8	0.8	1.6
26	Purslane	8.3	0.8	10.0	0.1	1.2	1.2	1.4
27	Common groundsel	8.3	0.8	10.0	0.1	0.8	0.8	1.4
28	Volunteer flax	8.3	0.8	10.0	0.1	0.8	0.8	1.4
29	Volunteer canola (Polish)	8.3	0.4	5.0	< 0.1	0.4	0.4	1.1
30	Broad-leaved plantain	8.3	0.4	5.0	< 0.1	0.2	0.2	1.1
31	Annual sow-thistle spp.	8.3	0.4	5.0	< 0.1	0.2	0.2	1.1

Table 95. Shoal Lake in the Southwest Agricultural Region (16 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	93.8	28.8	30.7	3.1	3.3	11.0	55.8
2	Dandelion	87.5	17.5	20.0	1.4	1.6	9.4	33.9
3	Quack grass	93.8	12.2	13.0	0.7	0.7	1.4	24.6
4	Green foxtail	62.5	10.6	17.0	1.1	1.7	3.4	23.3
5	Canada thistle	75.0	11.6	15.4	0.6	0.9	2.2	21.7
6	Annual sow-thistle spp.	87.5	10.0	11.4	0.6	0.6	3.6	21.4
7	Wild buckwheat	62.5	11.9	19.0	0.7	1.0	2.4	20.5
8	Volunteer canola (Argentine)	56.3	10.6	18.9	0.7	1.2	2.8	19.4
9	Lamb's-quarters	50.0	10.0	20.0	0.7	1.5	3.2	18.6
10	Cleavers	37.5	10.0	26.7	0.8	2.2	4.4	18.1
11	Volunteer wheat	31.3	4.4	14.0	0.2	0.7	1.4	8.4
12	Wild mustard	31.3	3.4	11.0	0.2	0.6	1.4	7.6
13	Round-leaved mallow	18.8	2.8	15.0	0.2	1.1	1.2	5.7
14	Hemp-nettle	18.8	2.2	11.7	0.2	0.8	2.0	4.9
15	Perennial sow-thistle	25.0	1.9	7.5	0.1	0.3	0.4	4.7
16	Foxtail barley	6.3	1.6	25.0	0.3	4.6	4.6	4.2
17	Redroot pigweed	18.8	1.6	8.3	0.1	0.4	0.8	3.8
18	Night-flowering catchfly	6.3	0.3	5.0	< 0.1	0.4	0.4	1.1
19	Shepherd's-purse	6.3	0.3	5.0	< 0.1	0.4	0.4	1.1
20	Stinkweed	6.3	0.3	5.0	< 0.1	0.4	0.4	1.1

Table 96. Souris in the Southwest Agricultural Region (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	71.4	36.2	50.7	17.1	24.0	82.2	103.5
2	Wild oats	66.7	21.7	32.5	6.8	10.2	54.4	56.1
3	Canada thistle	52.4	14.0	26.8	1.8	3.5	14.2	30.2
4	Dandelion	38.1	6.7	17.5	1.3	3.3	14.2	18.5
5	Wild buckwheat	33.3	5.0	15.0	0.5	1.6	7.0	13.6
6	Kochia	23.8	4.0	17.0	0.6	2.6	6.2	10.9
7	Barnyard grass	23.8	2.4	10.0	0.4	1.7	5.4	8.7
8	Perennial sow-thistle	23.8	2.4	10.0	0.3	1.2	4.4	8.3
9	Annual sow-thistle spp.	14.3	2.1	15.0	0.5	3.3	4.6	6.6
10	Volunteer wheat	14.3	1.9	13.3	0.5	3.6	10.0	6.5
11	Redroot pigweed	19.0	1.4	7.5	0.2	0.9	2.4	6.0
12	Round-leaved mallow	14.3	2.4	16.7	0.1	1.0	1.6	5.8
13	Pale smartweed	9.5	1.7	17.5	0.3	2.7	5.0	4.4
14	Wild tomato	4.8	1.4	30.0	0.5	11.2	11.2	4.1
15	Hemp-nettle	9.5	0.5	5.0	< 0.1	0.3	0.4	2.6
16	Showy milkweed	4.8	1.0	20.0	0.2	4.4	4.4	2.6
17	Lamb's-quarters	9.5	0.5	5.0	< 0.1	0.2	0.2	2.6
18	Volunteer barley	4.8	1.0	20.0	0.1	1.6	1.6	2.2
19	Volunteer canola (Argentine)	4.8	1.0	20.0	0.1	1.2	1.2	2.1
20	Canada goldenrod	4.8	0.7	15.0	0.1	2.2	2.2	2.0
21	Quack grass	4.8	0.2	5.0	< 0.1	0.4	0.4	1.3
22	Broad-leaved plantain	4.8	0.2	5.0	< 0.1	0.2	0.2	1.3

Table 97. Virden in the Southwest Agricultural Region (34 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	82.4	52.1	63.2	30.8	37.4	119.4	104.0
2	Wild oats	79.4	41.2	51.9	7.7	9.8	41.6	50.8
3	Wild buckwheat	73.5	10.9	14.8	0.8	1.1	6.4	18.9
4	Redroot pigweed	35.3	7.2	20.4	1.7	4.8	48.2	12.8
5	Canada thistle	47.1	7.5	15.9	0.6	1.2	9.2	12.5
6	Lamb's-quarters	26.5	7.2	27.2	0.8	3.0	7.2	9.7
7	Dandelion	41.2	4.6	11.1	0.3	0.8	3.8	9.4
8	Stinkweed	14.7	4.1	28.0	2.2	15.2	74.2	9.1
9	Wild mustard	23.5	6.0	25.6	0.5	2.0	4.4	7.9
10	Volunteer flax	11.8	5.6	47.5	1.1	9.2	20.2	7.1
11	Kochia	23.5	3.8	16.3	0.6	2.5	6.8	6.9
12	Prostrate knotweed	23.5	3.8	16.3	0.3	1.2	4.4	6.3
13	Night-flowering catchfly	17.6	3.2	18.3	0.3	1.5	5.8	5.0
14	Round-leaved mallow	17.6	3.2	18.3	0.2	1.1	1.8	4.9
15	Pale smartweed	14.7	3.2	22.0	0.4	2.6	11.2	4.8
16	Volunteer wheat	17.6	2.2	12.5	0.1	0.8	1.6	4.2
17	Perennial sow-thistle	14.7	2.1	14.0	0.3	1.8	6.4	3.9
18	Quack grass	14.7	1.6	11.0	0.2	1.4	4.6	3.5
19	Volunteer canola (Argentine)	11.8	2.1	17.5	0.2	1.3	4.4	3.3
20	Volunteer barley	11.8	1.0	8.8	0.1	1.2	3.6	2.6
21	Shepherd's-purse	8.8	0.6	6.7	< 0.1	0.5	1.0	1.8
22	Foxtail barley	5.9	0.3	5.0	< 0.1	0.2	0.2	1.1
23	Cleavers	2.9	0.9	30.0	< 0.1	1.6	1.6	1.0
24	Annual sow-thistle spp.	2.9	0.6	20.0	0.1	2.0	2.0	0.9
25	Flixweed	2.9	0.6	20.0	< 0.1	1.2	1.2	0.8
26	Barnyard grass	2.9	0.4	15.0	< 0.1	1.0	1.0	0.8
27	False ragweed	2.9	0.3	10.0	< 0.1	1.4	1.4	0.7
28	Wild tomato	2.9	0.3	10.0	< 0.1	0.6	0.6	0.6
29	American dragonhead	2.9	0.3	10.0	< 0.1	0.4	0.4	0.6
30	Russian thistle	2.9	0.3	10.0	< 0.1	0.4	0.4	0.6
31	Giant ragweed	2.9	0.1	5.0	< 0.1	0.6	0.6	0.6
32	Oak-leaved goosefoot	2.9	0.1	5.0	< 0.1	0.2	0.2	0.5
33	Henbit	2.9	0.1	5.0	< 0.1	0.2	0.2	0.5
34	Tumble mustard	2.9	0.1	5.0	< 0.1	0.2	0.2	0.5
35	Broad-leaved plantain	2.9	0.1	5.0	< 0.1	0.2	0.2	0.5
36	Biennial wormwood	2.9	0.1	5.0	< 0.1	0.2	0.2	0.5

Table 98. Altona in the Central Agricultural Region (12 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Redroot pigweed	75.0	18.8	25.0	5.1	6.8	46.8	66.4
2	Green foxtail	66.7	12.9	19.4	2.9	4.3	26.0	44.4
3	Wild buckwheat	66.7	19.2	28.8	1.3	1.9	6.2	39.2
4	Volunteer wheat	16.7	7.9	47.5	1.8	10.7	21.0	22.7
5	Canada thistle	41.7	5.4	13.0	0.4	0.9	2.4	15.5
6	Lamb's-quarters	16.7	5.8	35.0	1.0	6.0	11.6	15.4
7	Annual sow-thistle spp.	33.3	4.6	13.8	0.2	0.7	1.8	12.1
8	Wild oats	16.7	5.4	32.5	0.6	3.4	6.2	12.1
9	Round-leaved mallow	33.3	3.8	11.3	0.2	0.6	0.8	11.1
10	Pale smartweed	33.3	3.3	10.0	0.2	0.5	0.8	10.6
11	Dandelion	33.3	2.5	7.5	0.1	0.3	0.6	9.4
12	Volunteer canola (Argentine)	16.7	4.6	27.5	0.3	1.5	2.0	9.2
13	Volunteer field bean	8.3	4.6	55.0	0.3	3.2	3.2	7.7
14	Prostrate pigweed	16.7	2.1	12.5	0.1	0.6	1.0	5.8
15	Volunteer flax	8.3	2.9	35.0	0.2	2.2	2.2	5.6
16	Pineappleweed	16.7	1.3	7.5	0.1	0.4	0.6	4.8
17	Water smartweed	8.3	0.4	5.0	0.2	2.0	2.0	3.1
18	Kochia	8.3	0.8	10.0	< 0.1	0.4	0.4	2.6
19	Field horsetail	8.3	0.4	5.0	< 0.1	0.4	0.4	2.2

Table 99. Carman in the Central Agricultural Region (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	79.2	26.3	33.2	40.6	51.2	582.8	63.1
2	Green foxtail	100.0	36.0	36.0	25.7	25.7	201.2	56.7
3	Wild oats	79.2	25.4	32.1	17.3	21.8	260.0	40.3
4	Wild buckwheat	70.8	29.6	41.8	7.6	10.8	80.6	32.1
5	Volunteer canola (Argentine)	37.5	11.7	31.1	4.9	13.1	86.0	15.8
6	Redroot pigweed	54.2	11.3	20.8	1.5	2.8	14.6	14.5
7	Lamb's-quarters	29.2	8.1	27.9	1.4	4.9	18.8	9.5
8	Wild mustard	33.3	6.0	18.1	0.8	2.5	11.0	8.4
9	Pale smartweed	41.7	3.8	9.0	0.2	0.5	1.0	7.7
10	Canada thistle	37.5	3.3	8.9	0.2	0.5	1.6	6.9
11	Round-leaved mallow	16.7	6.5	38.8	0.8	4.6	9.4	6.3
12	Dandelion	37.5	2.1	5.6	0.1	0.3	0.8	6.2
13	Volunteer wheat	20.8	3.8	18.0	0.6	2.9	7.8	5.3
14	Annual sow-thistle spp.	16.7	3.1	18.8	0.3	1.9	6.4	4.2
15	Volunteer flax	12.5	4.0	31.7	0.4	3.1	6.6	4.1
16	Quack grass	16.7	1.9	11.3	0.3	1.9	5.4	3.5
17	Volunteer coriander	8.3	2.3	27.5	0.2	2.2	3.8	2.5
18	Volunteer alfalfa	12.5	1.3	10.0	0.1	0.9	2.2	2.4
19	Thyme-leaved spurge	4.2	2.1	50.0	0.6	14.4	14.4	2.2
20	Volunteer corn	8.3	0.8	10.0	0.1	0.7	1.2	1.6
21	Kochia	4.2	0.8	20.0	0.5	11.8	11.8	1.5
22	Night-flowering catchfly	4.2	0.8	20.0	0.2	3.6	3.6	1.1
23	Scentless chamomile	4.2	0.4	10.0	0.1	1.2	1.2	0.8
24	Absinth	4.2	0.2	5.0	< 0.1	0.4	0.4	0.7
25	Cocklebur	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
26	American dragonhead	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
27	Common ragweed	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
28	Volunteer field bean	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 100. Gladstone in the Central Agricultural Region (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	38.9	12.8	32.9	6.2	15.8	56.6	84.0
2	Wild buckwheat	38.9	8.9	22.9	1.3	3.5	11.6	37.2
3	Canada thistle	38.9	8.1	20.7	1.0	2.6	6.2	32.9
4	Perennial sow-thistle	44.4	5.3	11.9	0.5	1.2	4.4	26.2
5	Wild oats	22.2	5.8	26.3	0.7	3.2	5.8	22.0
6	Lamb's-quarters	27.8	4.2	15.0	0.3	1.0	2.4	17.2
7	Volunteer canola (Argentine)	16.7	4.7	28.3	0.5	2.7	4.6	16.4
8	Pale smartweed	11.1	2.5	22.5	0.2	1.9	3.6	9.1
9	Redroot pigweed	16.7	1.4	8.3	0.1	0.7	1.2	8.2
10	Volunteer oats	5.6	2.2	40.0	0.3	6.0	6.0	8.0
11	Wild mustard	11.1	1.1	10.0	0.1	0.9	1.4	5.9
12	Dandelion	11.1	0.8	7.5	0.1	0.6	1.0	5.2
13	Quack grass	5.6	1.1	20.0	0.1	2.0	2.0	4.4
14	Kochia	5.6	1.1	20.0	0.1	1.8	1.8	4.3
15	Volunteer wheat	5.6	0.6	10.0	0.1	2.6	2.6	3.8
16	Black medick	5.6	0.6	10.0	0.1	1.6	1.6	3.3
17	Common ragweed	5.6	0.6	10.0	< 0.1	0.4	0.4	2.7
18	Annual sow-thistle spp.	5.6	0.3	5.0	< 0.1	0.4	0.4	2.3
19	Volunteer canola (Polish)	5.6	0.3	5.0	< 0.1	0.4	0.4	2.3
20	Volunteer sunflower	5.6	0.3	5.0	< 0.1	0.4	0.4	2.3
21	Stinkweed	5.6	0.3	5.0	< 0.1	0.2	0.2	2.2

Table 101. Morden in the Central Agricultural Region (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	85.0	38.5	45.3	26.4	31.0	283.8	102.2
2	Wild buckwheat	65.0	17.8	27.3	1.6	2.5	11.2	24.4
3	Redroot pigweed	50.0	10.3	20.5	2.2	4.4	24.4	19.0
4	Wild oats	50.0	11.0	22.0	2.0	4.0	20.2	18.9
5	Lamb's-quarters	45.0	13.5	30.0	1.4	3.1	8.6	18.4
6	Barnyard grass	35.0	7.3	20.7	1.2	3.5	14.2	12.5
7	Canada thistle	50.0	6.5	13.0	0.6	1.1	4.6	12.5
8	Annual sow-thistle spp.	50.0	6.3	12.5	0.3	0.7	1.6	11.7
9	Round-leaved mallow	25.0	5.5	22.0	0.5	2.1	3.2	8.3
10	Night-flowering catchfly	35.0	4.0	11.4	0.3	0.9	2.0	8.2
11	Pale smartweed	20.0	5.0	25.0	0.4	2.2	6.0	7.1
12	Volunteer wheat	15.0	4.5	30.0	0.4	2.9	5.2	6.1
13	Wild mustard	30.0	2.3	7.5	0.1	0.4	0.8	5.8
14	Volunteer canola (Argentine)	20.0	3.8	18.8	0.2	1.1	2.8	5.7
15	Pineappleweed	10.0	2.8	27.5	1.0	10.2	19.8	5.7
16	Quack grass	15.0	2.8	18.3	0.5	3.5	5.2	5.2
17	Stinkweed	10.0	1.3	12.5	0.1	1.0	1.8	2.4
18	Kochia	5.0	2.0	40.0	0.2	3.0	3.0	2.4
19	Bluebur	5.0	1.5	30.0	0.2	3.0	3.0	2.0
20	Mouse-eared chickweed	10.0	0.8	7.5	0.1	0.7	0.8	2.0
21	Shepherd's-purse	10.0	0.8	7.5	0.1	0.5	0.8	2.0
22	Prostrate pigweed	10.0	0.5	5.0	< 0.1	0.3	0.4	1.8
23	Common ragweed	10.0	0.5	5.0	< 0.1	0.3	0.4	1.8
24	American dragonhead	10.0	0.5	5.0	< 0.1	0.2	0.2	1.7
25	Manitoba maple	10.0	0.5	5.0	< 0.1	0.2	0.2	1.7
26	Yellow foxtail	5.0	0.8	15.0	0.1	2.2	2.2	1.4
27	White cockle	5.0	0.8	15.0	0.1	1.6	1.6	1.4
28	Cleavers	5.0	0.5	10.0	< 0.1	0.4	0.4	1.1
29	Field horsetail	5.0	0.5	10.0	< 0.1	0.4	0.4	1.1
30	Volunteer field bean	5.0	0.5	10.0	< 0.1	0.4	0.4	1.1
31	Volunteer barley	5.0	0.3	5.0	< 0.1	0.8	0.8	0.9
32	American vetch	5.0	0.3	5.0	< 0.1	0.6	0.6	0.9
33	Dandelion	5.0	0.3	5.0	< 0.1	0.4	0.4	0.9
34	Oak-leaved goosefoot	5.0	0.3	5.0	< 0.1	0.2	0.2	0.9
35	Volunteer alfalfa	5.0	0.3	5.0	< 0.1	0.2	0.2	0.9

Table 102. Morris in the Central Agricultural Region (22 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	68.2	28.6	42.0	25.5	37.4	316.0	87.8
2	Wild buckwheat	86.4	27.5	31.8	2.7	3.2	13.6	37.4
3	Thyme-leaved spurge	72.7	21.8	30.0	2.0	2.7	9.6	29.8
4	Quack grass	4.5	4.5	100.0	6.4	139.8	139.8	18.3
5	Wild oats	36.4	10.5	28.8	1.8	5.0	15.6	16.5
6	Pale smartweed	50.0	8.2	16.4	0.8	1.6	9.8	14.7
7	Redroot pigweed	36.4	9.3	25.6	0.7	1.9	4.2	13.2
8	Canada thistle	45.5	6.1	13.5	0.5	1.1	4.6	12.0
9	Round-leaved mallow	27.3	4.5	16.7	0.3	1.2	2.8	7.8
10	Annual sow-thistle spp.	22.7	4.1	18.0	0.5	2.2	7.8	7.2
11	Barnyard grass	18.2	4.1	22.5	0.7	3.8	12.6	7.0
12	Cocklebur	22.7	2.5	11.0	0.3	1.4	4.4	5.7
13	Common ragweed	18.2	3.2	17.5	0.4	2.0	6.0	5.6
14	Dandelion	18.2	2.0	11.3	0.1	0.7	1.2	4.3
15	Kochia	13.6	1.8	13.3	0.1	1.0	2.0	3.5
16	Lamb's-quarters	18.2	0.9	5.0	< 0.1	0.3	0.4	3.4
17	Wild mustard	18.2	0.9	5.0	< 0.1	0.2	0.2	3.4
18	Stinkweed	13.6	1.4	10.0	0.1	1.0	2.6	3.2
19	Volunteer flax	13.6	0.9	6.7	0.1	0.5	0.8	2.8
20	Volunteer canola (Argentine)	13.6	0.7	5.0	< 0.1	0.3	0.4	2.6
21	Yellow foxtail	13.6	0.7	5.0	< 0.1	0.3	0.4	2.5
22	Curled dock	9.1	0.9	10.0	0.1	1.0	1.6	2.2
23	Perennial sow-thistle	9.1	0.7	7.5	< 0.1	0.4	0.6	1.9
24	Common groundsel	4.5	0.7	15.0	0.1	1.4	1.4	1.3
25	Black medick	4.5	0.7	15.0	< 0.1	0.8	0.8	1.2
26	Volunteer wheat	4.5	0.7	15.0	< 0.1	0.6	0.6	1.2
27	Volunteer fababean	4.5	0.5	10.0	< 0.1	0.6	0.6	1.0
28	Prostrate pigweed	4.5	0.2	5.0	< 0.1	0.8	0.8	0.9
29	American dragonhead	4.5	0.2	5.0	< 0.1	0.2	0.2	0.8
30	Prostrate knotweed	4.5	0.2	5.0	< 0.1	0.2	0.2	0.8

Table 103. Pilot Mound in the Central Agricultural Region (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	66.7	31.4	47.1	13.6	20.5	84.4	109.3
2	Wild oats	66.7	18.1	27.1	4.8	7.2	52.6	55.6
3	Wild buckwheat	38.9	11.7	30.0	1.0	2.7	4.6	26.0
4	Canada thistle	55.6	6.9	12.5	0.6	1.1	2.8	22.4
5	Redroot pigweed	27.8	3.1	11.0	0.3	1.0	2.8	10.6
6	Round-leaved mallow	22.2	3.1	13.8	0.3	1.3	3.6	9.4
7	Kochia	27.8	1.7	6.0	0.2	0.8	1.6	8.9
8	Perennial sow-thistle	16.7	1.9	11.7	0.2	1.2	1.8	6.6
9	Stinkweed	22.2	1.1	5.0	0.1	0.4	0.6	6.4
10	Barnyard grass	11.1	1.9	17.5	0.3	3.0	5.8	6.0
11	Volunteer oats	5.6	1.9	35.0	0.6	10.8	10.8	6.0
12	Biennial wormwood	11.1	1.1	10.0	0.1	1.2	2.2	4.2
13	Dandelion	11.1	0.8	7.5	0.1	0.6	0.8	3.6
14	Pale smartweed	11.1	0.8	7.5	< 0.1	0.4	0.6	3.5
15	Night-flowering catchfly	5.6	1.4	25.0	0.1	1.4	1.4	3.1
16	Russian thistle	5.6	0.6	10.0	0.2	2.8	2.8	2.5
17	Lamb's-quarters	5.6	0.3	5.0	< 0.1	0.6	0.6	1.7
18	Wild mustard	5.6	0.3	5.0	< 0.1	0.4	0.4	1.6
19	Prostrate pigweed	5.6	0.3	5.0	< 0.1	0.4	0.4	1.6
20	Slender wheat grass	5.6	0.3	5.0	< 0.1	0.4	0.4	1.6
21	Yellow foxtail	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
22	Prostrate knotweed	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
23	Wild licorice	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
24	Ball mustard	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
25	Shepherd's-purse	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6
26	Volunteer canola (Argentine)	5.6	0.3	5.0	< 0.1	0.2	0.2	1.6

Table 104. Portage La Prairie in the Central Agricultural Region (27 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	33.3	13.1	39.4	2.5	7.5	12.6	34.2
2	Canada thistle	40.7	11.5	28.2	2.3	5.5	18.2	33.1
3	Green foxtail	40.7	11.3	27.7	2.1	5.2	19.2	32.2
4	Redroot pigweed	37.0	10.7	29.0	2.1	5.6	12.2	30.4
5	Wild mustard	37.0	10.6	28.5	1.7	4.5	10.0	28.1
6	Wild buckwheat	29.6	8.7	29.4	1.4	4.9	8.6	23.3
7	Lamb's-quarters	29.6	7.0	23.8	1.0	3.4	7.0	19.4
8	Barnyard grass	25.9	6.5	25.0	1.2	4.5	11.2	18.9
9	Dandelion	14.8	3.9	26.3	0.5	3.7	7.2	10.3
10	Shepherd's-purse	11.1	2.4	21.7	0.5	4.3	8.4	7.6
11	Pale smartweed	11.1	1.7	15.0	0.3	2.3	4.4	5.7
12	Quack grass	7.4	1.7	22.5	0.4	5.7	10.6	5.7
13	Common ragweed	7.4	2.0	27.5	0.3	4.5	7.2	5.6
14	Volunteer wheat	7.4	2.2	30.0	0.3	3.7	5.8	5.4
15	Kochia	3.7	2.4	65.0	0.4	10.2	10.2	5.2
16	Volunteer oats	3.7	1.1	30.0	0.6	15.4	15.4	5.0
17	Volunteer canola (Argentine)	7.4	1.5	20.0	0.3	3.8	6.6	4.8
18	Volunteer barley	7.4	1.1	15.0	0.3	3.7	5.8	4.4
19	Stinkweed	7.4	1.3	17.5	0.2	2.6	5.0	4.1
20	Showy milkweed	7.4	1.5	20.0	0.1	1.6	2.6	3.9
21	Hemp-nettle	7.4	1.3	17.5	0.1	1.8	2.2	3.8
22	Volunteer field bean	3.7	0.9	25.0	0.1	2.0	2.0	2.2
23	Cleavers	3.7	0.6	15.0	0.1	1.8	1.8	1.8
24	American dragonhead	3.7	0.4	10.0	< 0.1	0.6	0.6	1.4
25	Silverberry	3.7	0.4	10.0	< 0.1	0.6	0.6	1.4
26	Perennial sow-thistle	3.7	0.2	5.0	< 0.1	0.6	0.6	1.2
27	Annual sow-thistle spp.	3.7	0.2	5.0	< 0.1	0.2	0.2	1.1

Table 105. Somerset in the Central Agricultural Region (17 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	76.5	26.8	35.0	7.7	10.0	85.8	81.3
2	Wild buckwheat	58.8	18.2	31.0	1.3	2.2	6.6	37.6
3	Wild oats	52.9	12.6	23.9	2.5	4.7	20.2	36.7
4	Volunteer buckwheat	5.9	5.9	100.0	5.7	96.6	96.6	35.0
5	Canada thistle	41.2	10.6	25.7	1.3	3.1	8.6	26.0
6	Wild mustard	35.3	2.9	8.3	0.2	0.5	1.4	11.7
7	Pale smartweed	17.6	3.8	21.7	0.3	1.8	2.6	9.3
8	Hemp-nettle	17.6	2.9	16.7	0.2	1.0	1.4	7.7
9	Night-flowering catchfly	11.8	2.6	22.5	0.1	1.1	2.0	5.9
10	Volunteer canola (Argentine)	17.6	1.5	8.3	0.1	0.4	0.4	5.8
11	Redroot pigweed	11.8	1.8	15.0	0.2	1.4	2.6	5.2
12	Volunteer flax	5.9	2.1	35.0	0.2	3.8	3.8	4.5
13	Round-leaved mallow	5.9	1.8	30.0	0.2	2.6	2.6	3.8
14	Perennial sow-thistle	11.8	0.6	5.0	< 0.1	0.4	0.6	3.4
15	Cleavers	5.9	1.2	20.0	0.2	3.0	3.0	3.4
16	Volunteer wheat	11.8	0.6	5.0	< 0.1	0.2	0.2	3.3
17	Thyme-leaved spurge	5.9	0.9	15.0	0.2	3.8	3.8	3.3
18	Lamb's-quarters	5.9	0.9	15.0	< 0.1	0.6	0.6	2.4
19	Chickweed	5.9	0.6	10.0	< 0.1	0.4	0.4	2.0
20	Kochia	5.9	0.3	5.0	< 0.1	0.4	0.4	1.7
21	Barnyard grass	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7
22	Quack grass	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7
23	Black medick	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7
24	Stinkweed	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7
25	Annual sow-thistle spp.	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7
26	Yellow sweet-clover	5.9	0.3	5.0	< 0.1	0.2	0.2	1.7

Table 106. Starbuck in the Central Agricultural Region (26 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	53.8	15.6	28.9	4.6	8.5	70.0	66.0
2	Wild oats	61.5	19.6	31.9	3.0	4.9	38.0	59.4
3	Wild buckwheat	57.7	12.3	21.3	1.1	1.9	11.2	35.3
4	Pale smartweed	42.3	9.4	22.3	0.8	1.9	11.2	26.4
5	Barnyard grass	38.5	7.9	20.5	0.7	1.9	3.8	23.1
6	Canada thistle	42.3	5.2	12.3	0.5	1.1	4.6	19.0
7	Volunteer wheat	30.8	4.4	14.4	0.2	0.7	2.6	13.6
8	Thyme-leaved spurge	23.1	2.9	12.5	0.3	1.4	4.2	10.9
9	Redroot pigweed	11.5	3.3	28.3	0.4	3.3	9.4	9.2
10	Hemp-nettle	7.7	3.3	42.5	0.4	4.8	9.4	8.3
11	Yellow foxtail	3.8	1.5	40.0	0.2	5.2	5.2	4.2
12	Perennial sow-thistle	11.5	0.6	5.0	< 0.1	0.3	0.4	3.6
13	Wild mustard	7.7	1.0	12.5	0.1	0.7	1.2	3.2
14	Lamb's-quarters	7.7	0.8	10.0	< 0.1	0.4	0.6	2.8
15	Volunteer flax	3.8	1.0	25.0	0.1	1.6	1.6	2.4
16	Annual sow-thistle spp.	7.7	0.4	5.0	< 0.1	0.2	0.2	2.3
17	Round-leaved mallow	3.8	0.8	20.0	< 0.1	0.8	0.8	2.0
18	Bicknell's geranium	3.8	0.4	10.0	0.1	1.8	1.8	1.9
19	Curled dock	3.8	0.4	10.0	< 0.1	0.4	0.4	1.4
20	Water smartweed	3.8	0.2	5.0	< 0.1	0.8	0.8	1.3
21	American vetch	3.8	0.2	5.0	< 0.1	0.8	0.8	1.3
22	Volunteer barley	3.8	0.2	5.0	< 0.1	0.2	0.2	1.1
23	Volunteer canary grass	3.8	0.2	5.0	< 0.1	0.2	0.2	1.1

Table 107. Treherne in the Central Agricultural Region (13 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	76.9	23.8	31.0	4.3	5.6	19.6	56.6
2	Wild buckwheat	84.6	24.2	28.6	2.6	3.1	18.6	48.1
3	Quack grass	15.4	6.5	42.5	2.9	19.1	38.0	25.1
4	Wild oats	61.5	9.2	15.0	0.7	1.1	3.0	20.9
5	Pale smartweed	69.2	7.7	11.1	0.5	0.8	4.0	20.1
6	Red clover	7.7	3.5	45.0	2.3	29.4	29.4	17.4
7	Lamb's-quarters	38.5	7.7	20.0	0.5	1.4	3.0	15.3
8	Barnyard grass	30.8	7.3	23.8	0.7	2.3	6.4	14.9
9	Annual sow-thistle spp.	15.4	6.2	40.0	0.8	5.4	9.8	12.3
10	Wild mustard	30.8	3.8	12.5	0.2	0.7	1.2	9.2
11	Redroot pigweed	30.8	3.8	12.5	0.2	0.6	0.8	9.0
12	Volunteer wheat	23.1	2.3	10.0	0.1	0.6	1.0	6.3
13	Hemp-nettle	15.4	2.3	15.0	0.2	1.5	2.2	5.6
14	Canada thistle	23.1	1.5	6.7	0.1	0.3	0.4	5.2
15	Black mustard	7.7	2.3	30.0	0.2	2.2	2.2	4.1
16	Volunteer field bean	7.7	2.3	30.0	0.2	2.2	2.2	4.1
17	Perennial sow-thistle	15.4	0.8	5.0	< 0.1	0.3	0.4	3.3
18	Volunteer canola (Argentine)	7.7	1.9	25.0	0.1	1.0	1.0	3.2
19	Night-flowering catchfly	15.4	0.8	5.0	< 0.1	0.2	0.2	3.2
20	Stork's-bill	7.7	1.2	15.0	0.1	1.4	1.4	2.8
21	Volunteer alfalfa	7.7	0.8	10.0	< 0.1	0.4	0.4	2.0
22	Volunteer sunflower	7.7	0.8	10.0	< 0.1	0.4	0.4	2.0
23	Field horsetail	7.7	0.4	5.0	< 0.1	0.4	0.4	1.7
24	American dragonhead	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6
25	Small-flowered geranium	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6
26	Prostrate knotweed	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6
27	Round-leaved mallow	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6
28	Manitoba maple	7.7	0.4	5.0	< 0.1	0.2	0.2	1.6

Table 108. Arborg, Fisher Branch, Teulon, Ashern & Lundar in the Eastern-Interlake Agricultural Region (20 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Lamb's-quarters	75.0	24.8	33.0	5.2	6.9	59.6	37.7
2	Redroot pigweed	60.0	26.8	44.6	4.5	7.5	28.6	34.6
3	Wild buckwheat	70.0	27.5	39.3	2.9	4.1	21.6	31.0
4	Green foxtail	40.0	15.0	37.5	4.2	10.6	42.2	25.7
5	Barnyard grass	40.0	10.0	25.0	3.1	7.9	38.0	19.8
6	Pale smartweed	50.0	12.0	24.0	1.4	2.8	9.4	16.4
7	Night-flowering catchfly	40.0	13.3	33.1	1.6	3.9	11.0	16.3
8	Canada thistle	45.0	9.8	21.7	1.2	2.6	10.2	14.0
9	Wild oats	45.0	9.0	20.0	0.9	2.1	5.4	12.9
10	Quack grass	30.0	8.5	28.3	1.3	4.4	13.2	12.0
11	Wild mustard	30.0	8.5	28.3	0.7	2.2	4.4	9.9
12	Volunteer wheat	35.0	6.0	17.1	0.5	1.3	5.6	8.7
13	Dandelion	30.0	5.3	17.5	0.3	1.1	3.2	7.3
14	Volunteer alfalfa	30.0	4.8	15.8	0.3	1.1	4.6	7.1
15	Volunteer flax	5.0	4.3	85.0	1.0	20.8	20.8	6.0
16	Cleavers	20.0	3.8	18.8	0.5	2.4	8.6	5.8
17	Volunteer canola (Argentine)	25.0	4.0	16.0	0.2	0.9	1.0	5.7
18	White cockle	10.0	2.5	25.0	0.4	4.4	4.8	3.9
19	Annual sow-thistle spp.	10.0	3.0	30.0	0.3	2.5	4.6	3.5
20	Volunteer barley	10.0	2.0	20.0	0.1	1.3	2.0	2.6
21	Flixweed	10.0	1.3	12.5	0.2	2.2	2.4	2.6
22	Stinkweed	15.0	0.8	5.0	< 0.1	0.3	0.4	2.4
23	Prostrate knotweed	10.0	1.3	12.5	0.1	0.8	1.4	2.1
24	Stork's-bill	10.0	0.8	7.5	< 0.1	0.3	0.4	1.7
25	Timothy	5.0	0.8	15.0	0.1	1.8	1.8	1.3
26	American dragonhead	5.0	0.8	15.0	0.1	1.0	1.0	1.1
27	Shepherd's-purse	5.0	0.8	15.0	< 0.1	0.8	0.8	1.1
28	Purple milk-vetch	5.0	0.8	15.0	< 0.1	0.6	0.6	1.1
29	Volunteer rye grass	5.0	0.8	15.0	< 0.1	0.6	0.6	1.1
30	Chickweed	5.0	0.5	10.0	< 0.1	0.4	0.4	0.9
31	Small-flowered geranium	5.0	0.5	10.0	< 0.1	0.4	0.4	0.9
32	Hemp-nettle	5.0	0.5	10.0	< 0.1	0.4	0.4	0.9
33	Round-leaved mallow	5.0	0.5	10.0	< 0.1	0.4	0.4	0.9
34	Perennial sow-thistle	5.0	0.3	5.0	< 0.1	0.2	0.2	0.8

Table 109. Beausejour & Selkirk in the Eastern-Interlake Agricultural Region (19 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	78.9	20.0	25.3	11.1	14.1	129.2	64.2
2	Green foxtail	68.4	29.5	43.1	7.8	11.4	69.6	57.6
3	Wild buckwheat	73.7	20.8	28.2	1.7	2.3	7.4	31.4
4	Wild oats	63.2	13.9	22.1	1.5	2.4	9.2	24.5
5	Pale smartweed	42.1	12.1	28.8	1.3	3.2	9.4	19.4
6	Redroot pigweed	52.6	8.2	15.5	0.6	1.1	6.6	15.8
7	Canada thistle	47.4	6.1	12.8	0.4	0.9	1.8	12.9
8	Cleavers	15.8	6.1	38.3	0.8	5.3	14.0	9.4
9	Stork's-bill	5.3	5.3	100.0	1.3	25.6	25.6	9.0
10	Dandelion	26.3	4.7	18.0	0.3	1.3	4.6	8.5
11	Perennial sow-thistle	26.3	3.2	12.0	0.3	1.0	1.8	7.1
12	Night-flowering catchfly	21.1	1.8	8.8	0.4	1.9	7.0	5.9
13	Thyme-leaved spurge	10.5	3.2	30.0	0.4	4.1	4.8	5.3
14	Lamb's-quarters	10.5	3.2	30.0	0.3	2.7	5.0	4.8
15	Volunteer canola (Argentine)	10.5	1.6	15.0	0.1	0.7	1.2	3.0
16	Quack grass	10.5	0.8	7.5	0.2	1.5	2.6	2.7
17	Round-leaved mallow	5.3	1.8	35.0	0.1	2.0	2.0	2.4
18	Curled dock	10.5	0.8	7.5	< 0.1	0.4	0.4	2.3
19	Hemp-nettle	10.5	0.8	7.5	< 0.1	0.3	0.4	2.3
20	Annual sow-thistle spp.	10.5	0.5	5.0	< 0.1	0.3	0.4	2.1
21	Volunteer wheat	5.3	0.8	15.0	< 0.1	0.6	0.6	1.5
22	Narrow-leaved hawk's-beard	5.3	0.5	10.0	< 0.1	0.4	0.4	1.2
23	Stinkweed	5.3	0.5	10.0	< 0.1	0.4	0.4	1.2
24	Wild mustard	5.3	0.3	5.0	0.1	1.0	1.0	1.2
25	American dragonhead	5.3	0.3	5.0	< 0.1	0.4	0.4	1.1
26	Chickweed	5.3	0.3	5.0	< 0.1	0.2	0.2	1.0
27	Yellow foxtail	5.3	0.3	5.0	< 0.1	0.2	0.2	1.0
28	Shepherd's-purse	5.3	0.3	5.0	< 0.1	0.2	0.2	1.0

Table 110. Dugald in the Eastern-Interlake Agricultural Region (11 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	45.5	19.1	42.0	5.0	11.0	34.8	74.1
2	Pale smartweed	36.4	12.3	33.8	1.5	4.2	6.6	37.2
3	Lamb's-quarters	45.5	10.0	22.0	0.8	1.8	3.4	31.9
4	Wild buckwheat	36.4	9.1	25.0	1.3	3.5	12.4	31.4
5	Wild mustard	54.5	7.7	14.2	0.5	0.9	1.6	29.4
6	Wild oats	18.2	8.2	45.0	1.6	8.7	16.2	27.2
7	Barnyard grass	18.2	5.0	27.5	1.4	7.5	14.8	21.8
8	Dandelion	9.1	6.4	70.0	0.8	8.6	8.6	16.2
9	Round-leaved mallow	18.2	1.8	10.0	0.1	0.5	0.8	8.4
10	Shepherd's-purse	9.1	2.3	25.0	0.3	3.4	3.4	7.8
11	Redroot pigweed	18.2	0.9	5.0	< 0.1	0.2	0.2	6.9
12	Canada thistle	9.1	0.9	10.0	0.1	0.6	0.6	4.3
13	Yellow sweet-clover	9.1	0.5	5.0	< 0.1	0.2	0.2	3.5

Table 111. St. Pierre & Steinbach in the Eastern-Interlake Agricultural Region (24 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Barnyard grass	79.2	27.7	35.0	5.4	6.8	41.2	54.9
2	Green foxtail	70.8	18.3	25.9	2.9	4.1	18.8	35.6
3	Wild buckwheat	83.3	19.8	23.8	1.6	1.9	9.8	32.1
4	Wild oats	33.3	12.3	36.9	2.9	8.8	22.0	26.6
5	Pale smartweed	45.8	10.4	22.7	0.7	1.5	5.4	16.5
6	Volunteer wheat	33.3	8.1	24.4	1.1	3.2	14.6	15.0
7	Dandelion	45.8	7.7	16.8	0.6	1.4	8.8	14.3
8	Canada thistle	50.0	5.0	10.0	0.5	1.0	4.4	12.5
9	Redroot pigweed	20.8	5.2	25.0	1.0	4.8	21.0	11.0
10	Thyme-leaved spurge	37.5	5.8	15.6	0.4	1.1	3.0	11.0
11	Quack grass	37.5	3.8	10.0	0.5	1.4	3.6	10.2
12	Yellow foxtail	12.5	3.3	26.7	1.3	10.3	28.6	10.0
13	Lamb's-quarters	25.0	3.8	15.0	0.2	0.9	2.2	6.9
14	Broad-leaved plantain	16.7	2.7	16.3	0.6	3.5	11.4	6.8
15	Round-leaved mallow	25.0	3.3	13.3	0.2	0.9	3.4	6.7
16	Volunteer barley	12.5	1.9	15.0	0.1	0.9	1.6	3.5
17	Annual sow-thistle spp.	12.5	1.5	11.7	0.1	0.7	1.6	3.1
18	Volunteer canola (Argentine)	12.5	1.3	10.0	0.1	0.4	0.8	2.8
19	Kochia	8.3	1.5	17.5	0.1	0.9	1.6	2.5
20	Wild mustard	12.5	0.6	5.0	< 0.1	0.3	0.4	2.3
21	Volunteer canola (Polish)	4.2	1.0	25.0	0.2	3.8	3.8	2.0
22	Volunteer flax	4.2	1.3	30.0	0.1	2.0	2.0	1.8
23	Tansy	4.2	1.0	25.0	0.1	2.2	2.2	1.7
24	Curled dock	8.3	0.4	5.0	< 0.1	0.3	0.4	1.5
25	Proso millet	4.2	0.6	15.0	0.1	2.6	2.6	1.5
26	Hemp-nettle	8.3	0.4	5.0	< 0.1	0.2	0.2	1.5
27	Prostrate knotweed	4.2	0.6	15.0	< 0.1	0.8	0.8	1.1
28	Absinth	4.2	0.4	10.0	< 0.1	0.6	0.6	1.0
29	Showy milkweed	4.2	0.2	5.0	< 0.1	0.6	0.6	0.8
30	Dog mustard	4.2	0.2	5.0	< 0.1	0.6	0.6	0.8
31	Field horsetail	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
32	Perennial sow-thistle	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7
33	Stinkweed	4.2	0.2	5.0	< 0.1	0.2	0.2	0.7

Table 112. Stonewall in the Eastern-Interlake Agricultural Region (21 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	33.3	9.3	27.9	5.2	15.5	62.4	61.5
2	Barnyard grass	28.6	7.6	26.7	3.1	10.9	48.8	41.9
3	Wild buckwheat	52.4	11.2	21.4	0.9	1.7	4.8	35.2
4	Wild oats	42.9	8.1	18.9	0.8	1.9	4.8	28.2
5	Canada thistle	38.1	4.8	12.5	0.3	0.9	2.8	18.3
6	Pale smartweed	38.1	3.3	8.8	0.3	0.7	1.4	15.8
7	Round-leaved mallow	14.3	4.3	30.0	0.6	4.5	13.0	14.5
8	Lamb's-quarters	33.3	2.6	7.9	0.2	0.5	1.4	12.8
9	Redroot pigweed	23.8	2.4	10.0	0.2	0.6	1.2	10.2
10	Thyme-leaved spurge	9.5	2.9	30.0	0.2	2.2	3.2	8.0
11	Dandelion	19.0	1.7	8.8	0.1	0.6	1.0	7.7
12	Chickweed	4.8	1.7	35.0	0.2	5.2	5.2	5.5
13	Hemp-nettle	14.3	1.2	8.3	< 0.1	0.3	0.6	5.4
14	Volunteer flax	4.8	1.2	25.0	0.3	6.2	6.2	5.1
15	Stinkweed	14.3	1.0	6.7	< 0.1	0.3	0.4	5.0
16	Perennial sow-thistle	9.5	1.2	12.5	0.1	1.2	2.2	4.8
17	Wild mustard	9.5	1.0	10.0	< 0.1	0.4	0.4	3.9
18	Night-flowering catchfly	4.8	1.0	20.0	< 0.1	1.0	1.0	2.9
19	Volunteer sunflower	4.8	0.5	10.0	< 0.1	1.0	1.0	2.2
20	Annual sow-thistle spp.	4.8	0.5	10.0	< 0.1	0.4	0.4	1.9
21	Water smartweed	4.8	0.2	5.0	< 0.1	0.4	0.4	1.6
22	Quack grass	4.8	0.2	5.0	< 0.1	0.2	0.2	1.5
23	Shepherd's-purse	4.8	0.2	5.0	< 0.1	0.2	0.2	1.5
24	Russian thistle	4.8	0.2	5.0	< 0.1	0.2	0.2	1.5
25	White clover	4.8	0.2	5.0	< 0.1	0.2	0.2	1.5
26	Volunteer canola (Argentine)	4.8	0.2	5.0	< 0.1	0.2	0.2	1.5

Table 113. Vita/Dominion City in the Eastern-Interlake Agricultural Region (10 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	80.0	26.0	32.5	5.6	7.0	44.6	47.6
2	Barnyard grass	100.0	30.5	30.5	4.3	4.3	26.0	47.1
3	Pale smartweed	50.0	11.5	23.0	2.9	5.8	27.0	24.6
4	Wild oats	50.0	13.0	26.0	1.4	2.8	7.0	19.2
5	Redroot pigweed	60.0	14.5	24.2	0.8	1.4	2.0	18.7
6	Wild buckwheat	80.0	11.5	14.4	0.5	0.7	1.2	18.1
7	Quack grass	50.0	7.5	15.0	1.0	2.0	5.2	14.4
8	Field horsetail	20.0	5.5	27.5	2.1	10.6	20.6	14.4
9	Canada thistle	40.0	5.5	13.8	0.5	1.3	4.2	9.9
10	Showy milkweed	40.0	5.5	13.8	0.4	0.9	1.8	9.3
11	Yellow sweet-clover	20.0	7.0	35.0	0.7	3.5	5.8	9.3
12	Yellow foxtail	20.0	2.5	12.5	1.3	6.4	10.6	9.1
13	Thyme-leaved spurge	30.0	5.5	18.3	0.3	1.1	1.8	8.1
14	Lamb's-quarters	20.0	4.0	20.0	0.7	3.5	6.0	7.6
15	Annual sow-thistle spp.	30.0	3.5	11.7	0.1	0.5	1.0	6.1
16	Round-leaved mallow	20.0	3.5	17.5	0.2	1.0	1.6	5.2
17	Volunteer barley	20.0	3.5	17.5	0.1	0.7	1.0	4.9
18	Broad-leaved plantain	10.0	2.5	25.0	0.2	2.2	2.2	3.5
19	Hemp-nettle	20.0	1.0	5.0	0.1	0.3	0.4	3.1
20	Water smartweed	10.0	2.5	25.0	0.1	1.0	1.0	3.0
21	Dandelion	10.0	1.5	15.0	0.1	0.6	0.6	2.3
22	Purslane	10.0	1.5	15.0	0.1	0.6	0.6	2.3
23	Bladder campion	10.0	1.0	10.0	0.1	0.6	0.6	2.0
24	Perennial sow-thistle	10.0	1.0	10.0	< 0.1	0.4	0.4	1.9
25	Tansy	10.0	1.0	10.0	< 0.1	0.4	0.4	1.9
26	White clover	10.0	1.0	10.0	< 0.1	0.4	0.4	1.9
27	Curled dock	10.0	0.5	5.0	< 0.1	0.4	0.4	1.6
28	Witch grass	10.0	0.5	5.0	< 0.1	0.4	0.4	1.6
29	Absinth	10.0	0.5	5.0	< 0.1	0.2	0.2	1.5

Table 114. Provincial summary in 1997 (452 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	73.9	37.8	51.1	31.9	43.1	1693.2	83.2
2	Wild oats	65.5	23.4	35.7	7.1	10.8	167.6	33.3
3	Wild buckwheat	68.8	25.6	37.2	2.9	4.3	41.0	28.1
4	Canada thistle	58.8	12.1	20.6	1.3	2.2	25.8	16.8
5	Redroot pigweed	38.7	9.4	24.2	1.6	4.0	63.8	13.0
6	Wild mustard	37.4	8.5	22.8	1.1	3.1	40.6	11.7
7	Pale smartweed	35.2	8.0	22.6	0.9	2.6	24.8	10.7
8	Perennial sow-thistle	35.6	6.8	19.2	0.9	2.5	35.2	10.1
9	Lamb's-quarters	30.5	5.8	18.9	0.7	2.3	65.0	8.5
10	Quack grass	26.1	4.9	18.8	1.3	5.0	44.8	8.4
11	Chickweed	7.3	3.4	46.4	2.7	36.8	257.8	7.3
12	Barnyard grass	18.1	3.9	21.4	1.5	8.1	131.4	7.1
13	Shepherd's-purse	13.5	3.3	24.4	0.7	5.1	66.0	4.8
14	Night-flowering catchfly	13.3	3.7	27.8	0.6	4.3	25.6	4.8
15	Cleavers	10.4	3.7	35.7	0.6	6.1	70.6	4.5
16	Hemp-nettle	13.9	3.1	22.2	0.5	3.7	55.6	4.4
17	Stinkweed	13.5	2.4	18.0	0.4	2.6	21.0	3.8
18	Volunteer flax	6.9	2.2	31.5	0.9	12.4	70.8	3.5
19	Volunteer canola	10.6	2.6	24.3	0.4	3.6	39.4	3.5
20	Round-leaved mallow	13.3	1.9	14.2	0.2	1.3	11.4	3.2
21	Volunteer wheat	10.2	2.1	21.1	0.2	2.4	18.0	3.0
22	Dandelion	13.5	1.6	12.2	0.1	0.8	9.2	3.0
23	Kochia	7.7	1.6	20.3	0.3	4.4	50.8	2.5
24	Thyme-leaved spurge	8.0	1.8	22.2	0.2	2.3	17.6	2.4
25	Field horsetail	5.3	0.6	11.5	0.1	1.9	6.6	1.2
26	Prostrate knotweed	4.2	0.8	18.2	0.1	1.9	16.6	1.1
27	American dragonhead	4.9	0.6	12.5	< 0.1	1.0	6.6	1.1
28	Volunteer barley	4.0	0.7	16.9	0.1	2.0	10.6	1.0
29	Volunteer alfalfa	3.3	0.6	19.0	0.1	1.7	9.0	0.9
30	Yellow foxtail	3.1	0.4	13.6	0.1	2.3	11.6	0.8
31	Broad-leaved plantain	3.3	0.5	13.7	< 0.1	1.3	7.8	0.8
32	Clover species	2.7	0.5	18.3	0.1	3.3	30.6	0.8
33	Russian thistle	3.1	0.5	15.7	< 0.1	1.6	12.6	0.8
34	Common ragweed	2.2	0.3	15.0	0.1	2.5	14.6	0.6
35	Annual sow-thistle spp.	2.2	0.4	17.5	< 0.1	1.3	5.0	0.6
36	Stork's-bill	2.0	0.3	16.7	0.1	3.2	16.8	0.6
37	Dog mustard	1.5	0.4	26.4	< 0.1	2.7	4.6	0.5
38	Milkweed species	2.2	0.2	7.0	< 0.1	0.6	1.8	0.4
39	Flixweed	1.3	0.3	19.2	< 0.1	3.3	10.2	0.4
40	Unknown	1.3	0.2	17.5	< 0.1	2.0	10.2	0.4
41	Rose species	2.0	0.1	5.6	< 0.1	0.4	1.0	0.4
42	Absinth	1.5	0.2	12.1	< 0.1	1.1	3.8	0.3
43	Ball mustard	1.5	0.2	11.4	< 0.1	1.2	5.2	0.3
44	Biennial wormwood	1.5	0.1	7.1	< 0.1	2.2	11.6	0.3
45	Narrow-leaved hawk's-beard	1.3	0.2	15.8	< 0.1	1.4	3.4	0.3
46	Tartary buckwheat	0.9	0.3	28.8	< 0.1	3.8	13.2	0.3
47	Indian mustard	1.1	0.2	18.0	< 0.1	1.1	2.6	0.3
48	Cocklebur	1.3	0.1	8.3	< 0.1	0.5	1.2	0.3
49	Bluebur	0.9	0.2	22.5	< 0.1	1.5	4.4	0.3
50	Volunteer white mustard	0.2	0.2	85.0	0.1	31.2	31.2	0.2
51	Purslane	1.1	0.1	6.0	< 0.1	0.4	1.0	0.2
52	Black medick	0.7	0.1	20.0	< 0.1	1.9	2.8	0.2

(Table continued on next page)

Table 114. Provincial summary in 1997 (452 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity All	Field Uniformity Occurrence	Field Density (#/m^2) All	Field Density (#/m^2) Occurrence	Field Density (#/m^2) High	Relative Abundance
53	Common groundsel	0.7	0.1	15.0	< 0.1	3.1	7.4	0.2
54	Black nightshade	0.2	0.2	70.0	< 0.1	10.6	10.6	0.2
55	Two-grooved milk-vetch	0.4	0.1	22.5	< 0.1	2.9	5.4	0.1
56	Sunflower	0.7	0.1	10.0	< 0.1	0.6	0.8	0.1
57	Manitoba maple	0.7	0.1	10.0	< 0.1	0.4	0.6	0.1
58	Proso millet	0.2	0.1	50.0	< 0.1	10.0	10.0	0.1
59	Water smartweed	0.7	< 0.1	6.7	< 0.1	0.7	1.2	0.1
60	Dock species	0.7	< 0.1	5.0	< 0.1	0.8	1.2	0.1
61	Sweet-clover species	0.4	0.1	20.0	< 0.1	1.2	2.2	0.1
62	Wild tomato	0.7	< 0.1	5.0	< 0.1	0.5	0.6	0.1
63	Volunteer buckwheat	0.2	0.1	50.0	< 0.1	7.2	7.2	0.1
64	Geranium species	0.7	< 0.1	5.0	< 0.1	0.2	0.2	0.1
65	Low cudweed	0.4	< 0.1	7.5	< 0.1	3.6	6.0	0.1
66	Witch grass	0.4	< 0.1	10.0	< 0.1	0.5	0.8	0.1
67	Prostrate pigweed	0.4	< 0.1	7.5	< 0.1	0.7	1.2	0.1
68	Rough cinquefoil	0.4	< 0.1	7.5	< 0.1	0.4	0.6	0.1
69	Volunteer caraway	0.2	0.1	35.0	< 0.1	2.6	2.6	0.1
70	Dogbane species	0.4	< 0.1	5.0	< 0.1	0.5	0.6	0.1
71	Leafy spurge	0.2	0.1	25.0	< 0.1	1.8	1.8	0.1
72	Brome species	0.2	< 0.1	20.0	< 0.1	2.0	2.0	0.1
73	Wormseed mustard	0.2	< 0.1	20.0	< 0.1	1.6	1.6	0.1
74	Oak-leaved goosefoot	0.2	< 0.1	10.0	< 0.1	3.4	3.4	0.1
75	Field bindweed	0.2	< 0.1	15.0	< 0.1	1.0	1.0	0.1
76	Knawel	0.2	< 0.1	10.0	< 0.1	1.6	1.6	< 0.1
77	White cockle	0.2	< 0.1	10.0	< 0.1	0.8	0.8	< 0.1
78	Yellow cress species	0.2	< 0.1	10.0	< 0.1	0.6	0.6	< 0.1
79	Silvery cinquefoil	0.2	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
80	Giant ragweed	0.2	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
81	American vetch	0.2	< 0.1	10.0	< 0.1	0.4	0.4	< 0.1
82	Tansy	0.2	< 0.1	5.0	< 0.1	1.6	1.6	< 0.1
83	Persian darnel	0.2	< 0.1	5.0	< 0.1	1.2	1.2	< 0.1
84	Aspen poplar	0.2	< 0.1	5.0	< 0.1	0.6	0.6	< 0.1
85	Foxtail barley	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
86	Bladder campion	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
87	Cow cockle	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
88	Tumble pigweed	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
89	Pineappleweed	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
90	Yellow nut sedge	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
91	Corn spurry	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
92	Vetch species	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
93	Bird's-foot trefoil	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1
94	Volunteer soybean	0.2	< 0.1	5.0	< 0.1	0.2	0.2	< 0.1

Table 115. Number of fields surveyed, density, species richness and weed-free quadrats in the surveyed ecoregions in 1997

Ecoregion	Number of Fields Surveyed	Density (number/m^2)	Species (number/field)	Weed-free Quadrats (%)
Interlake Plain & Lake of the Woods	39	29.2	7.5	20.3
Boreal Transition	18	93.6	9.1	6.4
Mid-Boreal Uplands	6	66.8	10.2	5.0
Lake Manitoba Plain	162	46.1	6.0	24.9
Aspen Parkland	224	73.5	7.5	16.1
Southwest Manitoba Uplands	3	27.7	10.3	15.0

Table 116. All fields in the Interlake Plain & Lake of the Woods Ecoregions in 1997 (39 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	51.3	16.4	32.0	4.1	8.1	42.4	30.0
2	Wild oats	56.4	20.0	35.5	3.0	5.3	25.6	28.6
3	Barnyard grass	46.2	11.2	24.2	3.3	7.2	37.0	23.6
4	Wild buckwheat	69.2	16.8	24.3	1.3	1.9	7.6	22.9
5	Canada thistle	59.0	13.5	22.8	1.4	2.4	16.4	20.1
6	Chickweed	17.9	10.0	55.7	3.4	19.1	39.0	19.6
7	Pale smartweed	38.5	9.7	25.3	1.7	4.5	16.0	16.3
8	Quack grass	33.3	6.9	20.8	1.9	5.8	17.2	14.8
9	Perennial sow-thistle	30.8	8.8	28.8	1.6	5.1	25.6	14.4
10	Hemp-nettle	25.6	9.5	37.0	1.5	5.7	19.4	13.6
11	Cleavers	23.1	10.4	45.0	1.1	5.0	12.8	12.7
12	Lamb's-quarters	30.8	7.9	25.8	0.7	2.3	6.2	10.9
13	Wild mustard	41.0	6.0	14.7	0.5	1.2	5.2	10.4
14	Redroot pigweed	28.2	4.6	16.4	0.6	2.1	13.6	8.3
15	Volunteer wheat	15.4	4.7	30.8	0.5	3.3	8.4	6.4
16	Night-flowering catchfly	15.4	4.2	27.5	0.6	3.7	8.8	6.3
17	Dandelion	20.5	4.1	20.0	0.3	1.7	9.2	6.2
18	Broad-leaved plantain	20.5	2.3	11.3	0.2	0.9	2.2	4.6
19	Volunteer alfalfa	17.9	2.3	12.9	0.2	1.0	5.6	4.3
20	Field horsetail	12.8	1.7	13.0	0.3	2.1	5.6	3.6
21	Volunteer flax	7.7	2.4	31.7	0.3	3.5	10.2	3.3
22	American dragonhead	10.3	0.9	8.8	< 0.1	0.4	0.6	2.0
23	Prostrate knotweed	7.7	0.9	11.7	0.1	0.7	1.4	1.7
24	Thyme-leaved spurge	5.1	1.0	20.0	0.1	1.8	2.4	1.6
25	Stinkweed	7.7	0.5	6.7	< 0.1	0.5	1.2	1.4
26	Shepherd's-purse	7.7	0.4	5.0	< 0.1	0.4	0.8	1.3
27	Black medick	2.6	0.8	30.0	0.1	2.8	2.8	1.0
28	Yellow foxtail	2.6	0.8	30.0	0.1	2.2	2.2	1.0
29	Volunteer barley	5.1	0.3	5.0	< 0.1	0.4	0.6	0.9
30	Stork's-bill	5.1	0.3	5.0	< 0.1	0.2	0.2	0.9
31	Narrow-leaved hawk's-beard	2.6	0.5	20.0	< 0.1	1.4	1.4	0.7
32	Common groundsel	2.6	0.4	15.0	< 0.1	1.6	1.6	0.7
33	Common ragweed	2.6	0.4	15.0	< 0.1	1.2	1.2	0.7
34	Witch grass	2.6	0.4	15.0	< 0.1	0.8	0.8	0.6
35	White cockle	2.6	0.3	10.0	< 0.1	0.8	0.8	0.6
36	Dock species	2.6	0.1	5.0	< 0.1	1.2	1.2	0.5
37	Dogbane species	2.6	0.1	5.0	< 0.1	0.6	0.6	0.5
38	Round-leaved mallow	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
39	Tumble pigweed	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
40	Purslane	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
41	Bird's-foot trefoil	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
42	Geranium species	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
43	Unknown	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4
44	Volunteer canola	2.6	0.1	5.0	< 0.1	0.2	0.2	0.4

Table 117. All fields in the Boreal Transition Ecoregion in 1997 (18 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Wild oats	83.3	43.9	52.7	27.1	32.6	167.6	55.7
2	Chickweed	38.9	29.2	75.0	33.8	87.0	257.8	52.1
3	Green foxtail	44.4	21.7	48.8	7.4	16.7	50.6	21.5
4	Wild buckwheat	72.2	22.5	31.2	2.8	3.9	19.2	19.9
5	Cleavers	44.4	19.7	44.4	6.3	14.2	70.6	19.5
6	Shepherd's-purse	55.6	16.9	30.5	2.5	4.5	17.0	15.6
7	Canada thistle	66.7	11.1	16.7	1.0	1.5	4.2	12.9
8	Perennial sow-thistle	61.1	11.4	18.6	1.5	2.4	12.8	12.9
9	Stinkweed	44.4	9.7	21.9	1.9	4.3	15.2	10.8
10	Volunteer wheat	33.3	6.7	20.0	1.1	3.3	16.6	7.5
11	Lamb's-quarters	33.3	6.4	19.2	0.8	2.4	8.4	7.1
12	Hemp-nettle	22.2	7.5	33.8	1.2	5.4	13.2	6.7
13	Quack grass	22.2	4.7	21.3	2.0	9.1	19.6	6.5
14	Dandelion	33.3	3.6	10.8	0.2	0.6	1.8	5.3
15	Redroot pigweed	33.3	1.9	5.8	0.1	0.4	1.0	4.6
16	Pale smartweed	16.7	4.4	26.7	0.5	2.8	5.6	4.1
17	Wild mustard	22.2	3.1	13.8	0.2	0.8	1.8	3.9
18	Field horsetail	16.7	3.1	18.3	0.5	3.1	6.6	3.6
19	American dragonhead	22.2	1.9	8.8	0.1	0.6	0.8	3.4
20	Round-leaved mallow	11.1	3.6	32.5	0.3	2.9	3.8	3.0
21	Night-flowering catchfly	22.2	1.1	5.0	0.1	0.3	0.4	3.0
22	Common ragweed	5.6	2.8	50.0	0.8	14.6	14.6	2.6
23	Kochia	11.1	2.8	25.0	0.2	1.5	2.8	2.5
24	Indian mustard	11.1	2.8	25.0	0.1	1.1	1.2	2.5
25	Barnyard grass	11.1	1.4	12.5	0.1	0.8	1.2	1.9
26	Yellow foxtail	11.1	1.1	10.0	0.1	1.1	1.8	1.8
27	Black medick	5.6	1.4	25.0	0.2	2.8	2.8	1.3
28	Annual sow-thistle spp.	5.6	1.4	25.0	0.1	1.6	1.6	1.3
29	Low cudweed	5.6	0.6	10.0	0.3	6.0	6.0	1.2
30	American vetch	5.6	0.6	10.0	< 0.1	0.4	0.4	0.9
31	Volunteer flax	5.6	0.6	10.0	< 0.1	0.4	0.4	0.9
32	Tansy	5.6	0.3	5.0	0.1	1.6	1.6	0.8
33	Wild tomato	5.6	0.3	5.0	< 0.1	0.6	0.6	0.8
34	Rough cinquefoil	5.6	0.3	5.0	< 0.1	0.2	0.2	0.7
35	Ball mustard	5.6	0.3	5.0	< 0.1	0.2	0.2	0.7
36	Volunteer canola	5.6	0.3	5.0	< 0.1	0.2	0.2	0.7

Table 118. All fields in the Lake Manitoba Plain Ecoregion in 1997 (162 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	70.4	32.5	46.1	25.8	36.6	1693.2	88.6
2	Wild oats	55.6	19.1	34.3	5.1	9.2	92.4	32.6
3	Wild buckwheat	64.8	22.7	35.0	2.6	4.1	41.0	31.2
4	Redroot pigweed	47.5	13.0	27.3	2.1	4.5	60.2	20.9
5	Canada thistle	51.2	8.2	16.1	0.9	1.7	13.4	15.7
6	Pale smartweed	43.2	8.9	20.6	0.8	1.9	10.4	14.7
7	Wild mustard	32.7	6.2	18.9	0.8	2.5	40.6	11.2
8	Barnyard grass	22.8	5.3	23.2	1.4	6.1	68.6	10.2
9	Quack grass	25.3	5.0	19.8	1.0	3.8	30.0	9.5
10	Perennial sow-thistle	26.5	4.8	17.9	0.7	2.7	35.2	9.1
11	Lamb's-quarters	22.2	5.0	22.6	0.9	4.1	65.0	8.9
12	Thyme-leaved spurge	17.3	4.1	23.9	0.5	2.6	17.6	6.5
13	Volunteer flax	6.2	2.5	40.5	1.3	21.6	66.0	5.5
14	Dandelion	12.3	1.7	13.8	0.1	1.0	6.0	3.4
15	Volunteer wheat	8.6	2.1	23.9	0.3	3.1	18.0	3.4
16	Volunteer canola	8.6	1.9	22.1	0.2	2.6	17.6	3.2
17	Round-leaved mallow	8.6	0.9	10.7	0.1	0.8	4.6	2.2
18	Yellow foxtail	6.2	0.8	13.5	0.2	2.8	11.6	1.9
19	Hemp-nettle	4.3	1.1	25.0	0.1	3.1	8.6	1.7
20	Shepherd's-purse	3.7	0.8	22.5	0.1	2.9	14.4	1.4
21	Cleavers	3.1	0.8	26.0	0.1	2.2	4.8	1.2
22	Night-flowering catchfly	3.1	0.5	17.0	0.1	2.8	11.4	1.0
23	Chickweed	1.9	0.4	21.7	0.2	10.5	30.8	1.0
24	Tartary buckwheat	1.9	0.6	35.0	0.1	4.9	13.2	0.9
25	Kochia	2.5	0.5	21.3	0.1	2.9	10.0	0.9
26	Dog mustard	1.9	0.5	28.3	0.1	3.5	4.6	0.8
27	Stork's-bill	1.9	0.5	26.7	0.1	3.5	6.2	0.8
28	Common ragweed	2.5	0.3	13.8	< 0.1	1.9	6.6	0.7
29	Cocklebur	3.1	0.3	9.0	< 0.1	0.6	1.2	0.7
30	Milkweed species	3.1	0.2	8.0	< 0.1	0.8	1.8	0.7
31	Russian thistle	2.5	0.3	11.3	< 0.1	0.5	1.0	0.6
32	Unknown	2.5	0.2	10.0	< 0.1	0.5	0.6	0.6
33	Volunteer barley	2.5	0.2	6.3	< 0.1	0.4	0.8	0.5
34	Prostrate knotweed	2.5	0.2	6.3	< 0.1	0.4	0.4	0.5
35	Field horsetail	1.9	0.2	11.7	< 0.1	1.1	1.6	0.5
36	Broad-leaved plantain	1.9	0.2	11.7	< 0.1	0.9	2.4	0.5
37	American dragonhead	1.9	0.2	8.3	< 0.1	0.3	0.6	0.4
38	Narrow-leaved hawk's-beard	1.2	0.2	17.5	< 0.1	2.2	3.4	0.4
39	Stinkweed	1.9	0.1	6.7	< 0.1	0.3	0.4	0.4
40	Volunteer buckwheat	0.6	0.3	50.0	< 0.1	7.2	7.2	0.4
41	Indian mustard	1.2	0.2	17.5	< 0.1	1.5	2.6	0.4
42	Flixweed	1.2	0.1	10.0	< 0.1	0.6	0.8	0.3
43	Prostrate pigweed	1.2	0.1	7.5	< 0.1	0.7	1.2	0.3
44	Volunteer caraway	0.6	0.2	35.0	< 0.1	2.6	2.6	0.3
45	Dock species	1.2	0.1	5.0	< 0.1	0.6	0.6	0.3
46	Absinth	0.6	0.2	35.0	< 0.1	1.4	1.4	0.3
47	Water smartweed	1.2	0.1	5.0	< 0.1	0.4	0.4	0.3
48	Geranium species	1.2	0.1	5.0	< 0.1	0.2	0.2	0.3
49	Oak-leaved goosefoot	0.6	0.1	10.0	< 0.1	3.4	3.4	0.2
50	Biennial wormwood	0.6	0.1	10.0	< 0.1	1.8	1.8	0.2
51	Bluebur	0.6	0.1	10.0	< 0.1	0.6	0.6	0.2
52	Rough cinquefoil	0.6	0.1	10.0	< 0.1	0.6	0.6	0.2

(Table continued on next page)

Table 118. All fields in the Lake Manitoba Plain Ecoregion in 1997 (162 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Yellow cress species	0.6	0.1	10.0	< 0.1	0.6	0.6	0.2
54	Silvery cinquefoil	0.6	0.1	10.0	< 0.1	0.4	0.4	0.1
55	Giant ragweed	0.6	0.1	10.0	< 0.1	0.4	0.4	0.1
56	Manitoba maple	0.6	0.1	10.0	< 0.1	0.4	0.4	0.1
57	Rose species	0.6	< 0.1	5.0	< 0.1	0.6	0.6	0.1
58	Foxtail barley	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
59	Bladder campion	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
60	Yellow nut sedge	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
61	Volunteer alfalfa	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
62	Volunteer soybean	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1
63	Clover species	0.6	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Table 119. All fields in the Aspen Parkland Ecoregion in 1997 (224 fields)

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
1	Green foxtail	83.0	47.0	56.6	44.1	53.1	1465.6	93.6
2	Wild oats	71.9	25.5	35.4	7.6	10.6	113.6	32.2
3	Wild buckwheat	70.5	29.5	41.8	3.5	4.9	35.8	28.3
4	Canada thistle	62.9	14.2	22.5	1.5	2.4	25.8	17.3
5	Wild mustard	40.6	11.0	27.0	1.6	3.8	27.6	12.8
6	Redroot pigweed	35.3	8.3	23.7	1.5	4.1	63.8	10.7
7	Perennial sow-thistle	38.8	7.2	18.4	0.8	2.1	22.2	9.8
8	Lamb's-quarters	36.2	6.0	16.5	0.6	1.6	22.8	8.5
9	Pale smartweed	28.6	6.9	24.1	0.9	3.1	24.8	8.3
10	Quack grass	24.6	4.2	17.2	1.2	5.1	44.8	7.0
11	Night-flowering catchfly	18.8	5.9	31.3	0.9	4.8	25.6	6.6
12	Shepherd's-purse	17.9	4.2	23.3	0.8	4.5	33.2	5.5
13	Stinkweed	19.2	3.7	19.2	0.5	2.7	21.0	5.1
14	Chickweed	6.3	2.3	36.1	1.9	30.6	196.6	4.5
15	Volunteer canola	13.8	3.6	25.8	0.6	4.2	39.4	4.4
16	Barnyard grass	10.7	1.9	17.7	1.4	12.9	131.4	4.2
17	Round-leaved mallow	18.8	2.8	14.9	0.3	1.4	11.4	4.2
18	Hemp-nettle	17.4	2.5	14.2	0.3	1.5	8.0	3.9
19	Kochia	12.5	2.5	19.8	0.6	5.0	50.8	3.7
20	Cleavers	8.9	2.4	26.8	0.4	4.2	30.8	2.8
21	Volunteer flax	7.1	1.9	26.9	0.7	9.7	70.8	2.8
22	Dandelion	11.6	1.0	9.0	0.1	0.5	2.8	2.1
23	Volunteer wheat	8.5	1.4	16.6	0.1	1.4	8.0	2.0
24	Prostrate knotweed	5.4	1.3	23.8	0.1	2.7	16.6	1.5
25	Volunteer barley	4.9	1.2	23.6	0.1	2.9	10.6	1.4
26	Clover species	4.5	0.9	20.0	0.2	3.8	30.6	1.3
27	Russian thistle	4.5	0.8	17.5	0.1	2.0	12.6	1.1
28	Field horsetail	5.4	0.4	8.3	0.1	1.4	3.8	1.0
29	American dragonhead	4.0	0.8	18.9	0.1	1.9	6.6	1.0
30	Annual sow-thistle spp.	4.0	0.7	16.7	0.1	1.3	5.0	0.9
31	Volunteer alfalfa	2.7	0.8	30.8	0.1	2.9	9.0	0.9
32	Rose species	3.6	0.2	5.6	< 0.1	0.4	1.0	0.6
33	Thyme-leaved spurge	2.7	0.4	15.0	< 0.1	0.9	2.0	0.6
34	Ball mustard	2.7	0.3	12.5	< 0.1	1.4	5.2	0.6
35	Flixweed	1.8	0.4	23.8	0.1	4.6	10.2	0.6
36	Biennial wormwood	2.7	0.2	6.7	0.1	2.3	11.6	0.5
37	Absinth	2.7	0.2	8.3	< 0.1	1.0	3.8	0.5
38	Dog mustard	1.8	0.4	25.0	< 0.1	2.0	4.4	0.5
39	Stork's-bill	1.8	0.3	15.0	0.1	4.4	16.8	0.5
40	Broad-leaved plantain	1.8	0.4	20.0	< 0.1	2.3	7.8	0.5
41	Volunteer white mustard	0.4	0.4	85.0	0.1	31.2	31.2	0.4
42	Bluebur	1.3	0.4	26.7	< 0.1	1.7	4.4	0.4
43	Milkweed species	2.2	0.1	6.0	< 0.1	0.4	1.0	0.4
44	Common ragweed	1.8	0.1	7.5	< 0.1	0.5	0.8	0.3
45	Purslane	1.8	0.1	6.3	< 0.1	0.5	1.0	0.3
46	Narrow-leaved hawk's-beard	1.3	0.2	13.3	< 0.1	0.8	1.0	0.3
47	Black nightshade	0.4	0.3	70.0	< 0.1	10.6	10.6	0.3
48	Sunflower	1.3	0.1	10.0	< 0.1	0.6	0.8	0.3
49	Two-grooved milk-vetch	0.9	0.2	22.5	< 0.1	2.9	5.4	0.3
50	Unknown	0.4	0.3	60.0	< 0.1	10.2	10.2	0.3
51	Common groundsel	0.9	0.1	15.0	< 0.1	3.8	7.4	0.2
52	Proso millet	0.4	0.2	50.0	< 0.1	10.0	10.0	0.2

(Table continued on next page)

Table 119. All fields in the Aspen Parkland Ecoregion in 1997 (224 fields) *(continued)*

Rank	Species	Frequency (%)	Field Uniformity		Field Density (#/m^2)			Relative Abundance
			All	Occurrence	All	Occurrence	High	
53	Sweet-clover species	0.9	0.2	20.0	< 0.1	1.2	2.2	0.2
54	Manitoba maple	0.9	0.1	10.0	< 0.1	0.4	0.6	0.2
55	Wild tomato	0.9	< 0.1	5.0	< 0.1	0.4	0.4	0.1
56	Leafy spurge	0.4	0.1	25.0	< 0.1	1.8	1.8	0.1
57	Brome species	0.4	0.1	20.0	< 0.1	2.0	2.0	0.1
58	Wormseed mustard	0.4	0.1	20.0	< 0.1	1.6	1.6	0.1
59	Field bindweed	0.4	0.1	15.0	< 0.1	1.0	1.0	0.1
60	Knawel	0.4	< 0.1	10.0	< 0.1	1.6	1.6	0.1
61	Water smartweed	0.4	< 0.1	10.0	< 0.1	1.2	1.2	0.1
62	Tartary buckwheat	0.4	< 0.1	10.0	< 0.1	0.4	0.4	0.1
63	Low cudweed	0.4	< 0.1	5.0	< 0.1	1.2	1.2	0.1
64	Persian darnel	0.4	< 0.1	5.0	< 0.1	1.2	1.2	0.1
65	Aspen poplar	0.4	< 0.1	5.0	< 0.1	0.6	0.6	0.1
66	Dogbane species	0.4	< 0.1	5.0	< 0.1	0.4	0.4	0.1
67	Cow cockle	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
68	Cocklebur	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
69	Yellow foxtail	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
70	Witch grass	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
71	Black medick	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
72	Pineappleweed	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
73	Corn spurry	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1
74	Vetch species	0.4	< 0.1	5.0	< 0.1	0.2	0.2	0.1

Residual Weed Populations in Manitoba – 1978-2002

Abstract for Poster Presented at Canadian Weed Science Society Annual Meeting, November 24-28, 2002

The comparison of the relative abundance of weeds in Manitoba in 2002 with results from the 1997, 1986 and 1978-1981 provincial surveys enables the identification of recent shifts in species ranks and life form density and relative abundance. In 2002, 631 fields of spring wheat, barley, oat, canola and flax were surveyed in Manitoba. These fields were selected using a stratified random sampling procedure based on ecodistricts. In each field, weeds were counted in 20 quadrats (50 by 50 cm) in late summer. Weed data are summarized using a relative abundance index based on frequency, field uniformity and density. Green foxtail was the most abundant weed in 2002, wild oats ranked second, and wild buckwheat ranked third. The list of the twenty most abundant species included four perennials (Canada thistle, dandelion, quack grass and perennial sow-thistle). The results from the 2002 survey are compared to results from surveys of 452 fields in 1997, 501 fields in 1986 and 1430 fields in 1978-1981. Weed community composition has been similar since the 1970's; however, shifts have occurred in relative abundance of the top twenty species. Twelve species have been ranked amongst the top twenty most abundant species in each survey. Six species ranked in the top twenty species in the 1970's and/or 1980's have since declined (volunteer barley, dog mustard, field horsetail, thyme-leaved spurge, Russian thistle, bluebur). Six species have appeared in top twenty most abundant species in the 1997 and/or 2001 (cleavers, annual sow-thistle, dandelion, volunteer canola, kochia, round-leaved mallow). Shepherd's-purse and chickweed were most abundant in the 1985 and/or 1997 surveys but have declined in the present survey. Densities of annual grass, annual broad-leaved, facultative winter annual and perennial life forms have decreased but the percent of the total relative abundance of each life form has remained nearly constant.

Residual Weed Populations in Manitoba - 1978 to 2002

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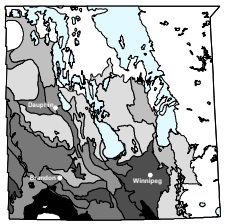
Objectives

- Present the top twenty species in 2002 Manitoba provincial weed survey
- Compare the relative abundance of weeds in Manitoba in 2002 with results from the 1997, 1986 and 1978-1981 provincial surveys
- Identify shifts in life form density and relative abundance

Methods

- Used stratified random sampling procedure to select fields in ecodistricts shown on map
- Surveyed 631 fields of spring wheat, barley, oat, canola and flax
- Counted weeds in 20 quadrats (50 by 50 cm) per field in late summer (residual populations)
- Summarized weed data using a relative abundance index based on frequency, field uniformity and density
  - Frequency = Percent of fields in which species occurred
  - Uniformity = Percent of quadrats in which species occurred
  - Density = Average density of species in occurrence fields
- Compared top twenty species from surveys of
  - 452 fields in 1997
  - 501 fields in 1986
  - 1430 fields in 1970's (1978-1981)

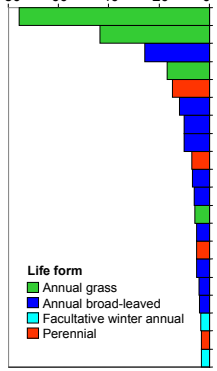
Intensity of 2002 Manitoba Survey



Fields surveyed per 1 000 000 ha

None · 5 to 24 · 25 to 49 · 50 to 74 · 75 to 99 · 100 to 124 · 125 to 130

Top 20 Species in 2002 Survey



Weed Species	Frequency (%)	Uniformity (%)	Density (m^{-2})
Green foxtail	65.0	27.7	23.8
Wild oats	56.6	20.2	11.7
Wild buckwheat	57.7	15.1	2.8
Barnyard grass	24.1	6.0	12.0
Canada thistle	41.4	7.3	1.8
Redroot pigweed	27.9	5.9	3.4
Lamb's-quarters	24.6	5.2	2.9
Pale smartweed	27.1	5.1	1.9
Dandelion	20.6	3.3	1.5
Volunteer canola (Argentine)	16.6	3.3	2.7
Wild mustard	16.5	2.9	2.1
Volunteer wheat	15.8	2.9	2.1
Annual sow-thistle spp.	16.8	2.3	1.1
Quack grass	12.7	1.9	4.1
Cleavers	10.8	2.7	3.8
Kochia	8.6	1.6	6.2
Round-leaved mallow	11.6	2.0	1.5
Night-flowering catchfly	10.1	1.7	1.5
Perennial sow-thistle	12.0	1.2	0.9
Stinkweed	8.4	1.3	3.2

Species Shifts

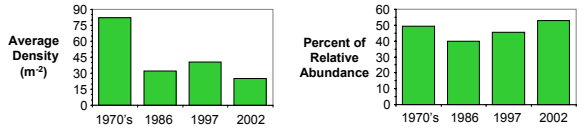
	Change in Relative Abundance Rank 1970's to 1986	1986 to 1997	1997 to 2002	1970's to 2002
Annual grass				
Barnyard grass	-14	15	8	9
Volunteer wheat	3	-3	9	9
Green foxtail	0	0	0	0
Wild oats	0	0	0	0
Volunteer barley	7	-12	2	-3
Annual broad-leaved				
Annual sow-thistle spp.	16	40	22	78
Volunteer canola	3	9	9	21
Cleavers	13	6	0	19
Kochia	1	8	7	16
Round-leaved mallow	2	4	3	9
Chickweed	13	4	-11	6
Redroot pigweed	2	2	-1	3
Wild buckwheat	0	0	0	0
Lamb's-quarters	0	-3	2	-1
Thyme-leaved spurge	-6	1	3	-2
Wild mustard	3	-2	-5	-4
Pale smartweed	-1	-2	-1	-4
Hemp-nettle	3	-2	-8	-7
Volunteer flax	5	-9	-7	-11
Dog mustard	8	-18	-5	-15
Russian thistle	-7	-11	-21	-39
Facultative winter annual				
Shepherd's-purse	3	4	-14	-7
Night-flowering catchfly	-2	-2	-4	-8
Stinkweed	1	-7	-3	-9
Bluebur	-7	-26	-15	-48
Perennial				
Dandelion	-11	14	13	16
Canada thistle	-3	4	-1	0
Quack grass	-1	3	-4	-2
Field horsetail	-2	-5	2	-5
Perennial sow-thistle	-3	3	-11	-11

Species Shift Summary

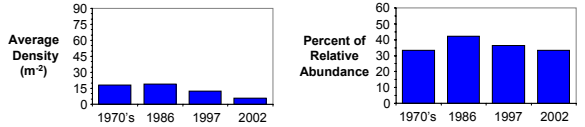
- Shifts have occurred in the relative abundance of the top 20 species
- Twelve species have been present in the top 20 in each survey since the 1970's
  - The top three species have not changed since surveys in the 1970's
- Six species in top 20 in the 1970's and/or 1980's have declined
  - Russian thistle, dog mustard, field horsetail, volunteer barley, thyme-leaved spurge, bluebur
- Six species have appeared in top 20 in 1997 and/or 2002
  - Annual sow-thistle spp., volunteer canola, cleavers, dandelion, kochia, round-leaved mallow

Life Form Shifts

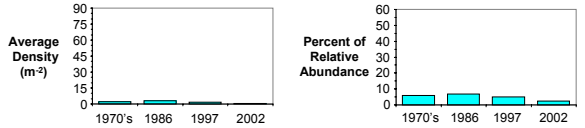
Annual grass



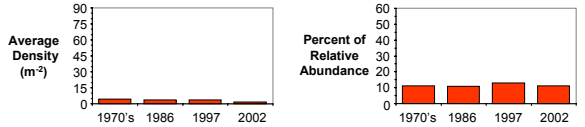
Annual broad-leaved



Facultative winter annual



Perennial



Life Form Shift Summary

- Composition of weed community similar since the 1970's but densities decreased
- Densities of all life forms have decreased
  - Largest decrease observed in annual grasses
- Relative abundance of life forms has remained more or less constant
  - Annual grasses are the highest in 2002 since the start of the survey
- Very low proportion of winter annuals
- Since relative abundance is unchanged over the years, density decrease has been proportional in life forms

Next Step

- Interpret shifts in terms of management practices based on information obtained from questionnaires completed by producers who participated in the survey

Acknowledgements

- The weed surveys were only possible because of the cooperation of over 3000 producers
- Special thanks to the many municipal, provincial and federal staff and survey personnel who participated in the 2002 survey
- Funded in part by Aventis CropScience Canada Co., BASF Canada, Bayer Inc., Dow AgroSciences Canada Inc., Dupont Canada Inc., Monsanto Canada Inc., Nufarm Agriculture Inc. and Western Co-operative Fertilizers Limited, and by Matching Investment Initiative (MII) of Agriculture and Agri-Food Canada

Sources

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- Thomas, A. G., B. L. Frick, R. C. Van Acker, S. Z. Knezevic and D. Joosse. 1998. Manitoba survey of cereal and oilseed crops in 1997. Agriculture and Agri-Food Canada Weed Survey Series Publication 98-1.
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Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada

Manitoba Agriculture and Food

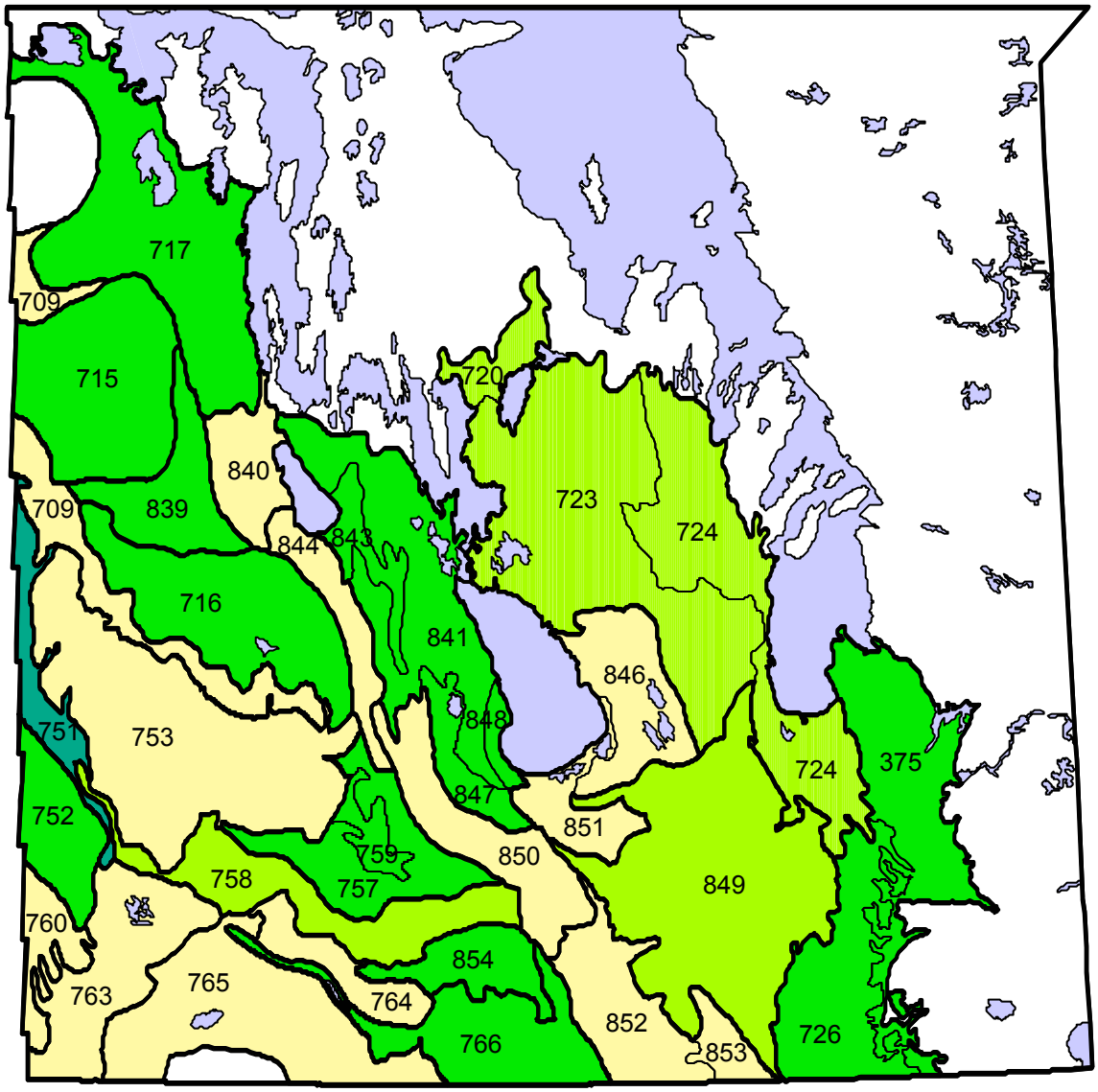
Poster Presented at:
Canadian Weed Science Society Meeting
November 24-27, 2002
Saskatoon, SK

University of Manitoba

Canada

List of Distribution Maps

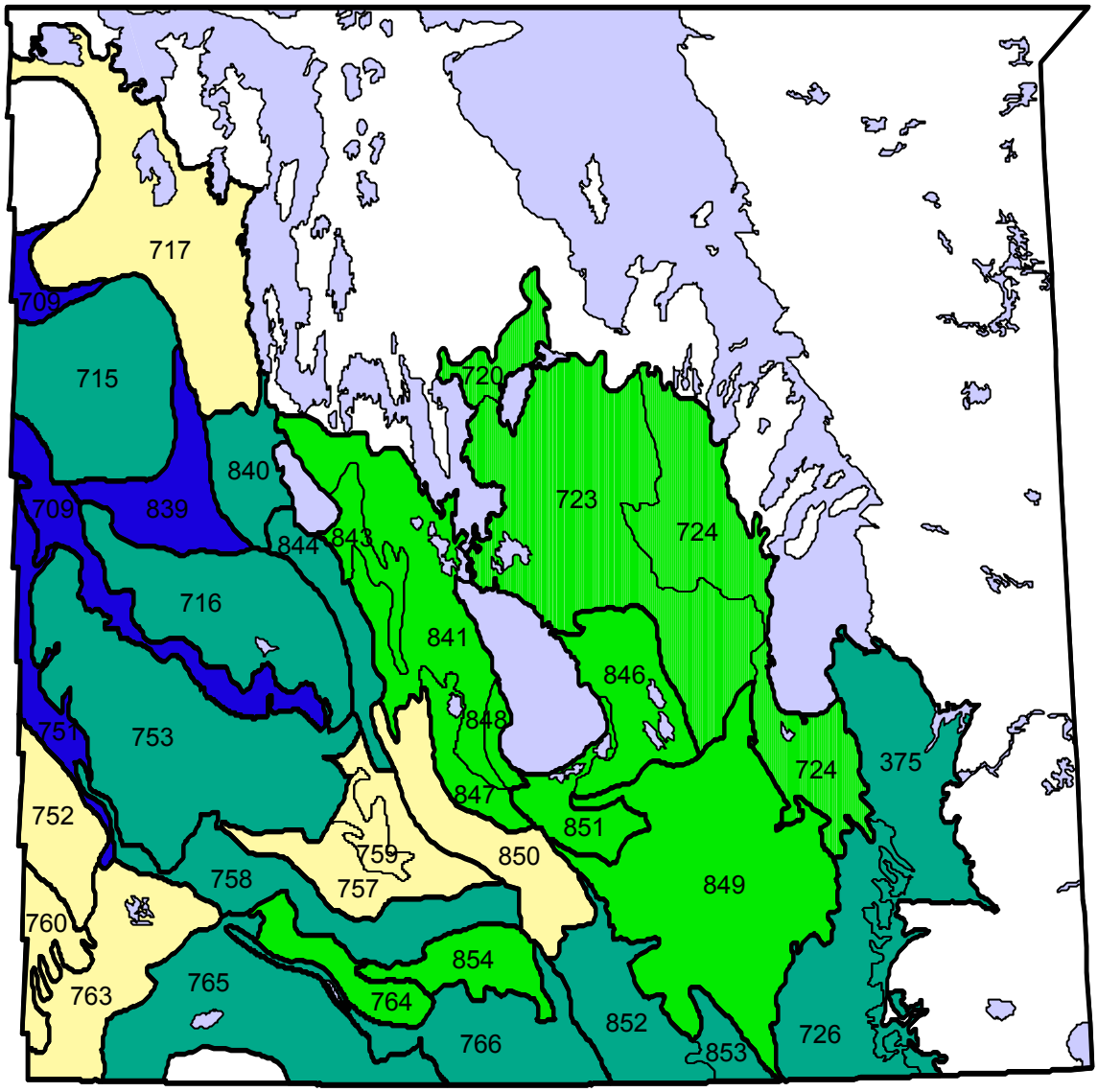
American dragonhead



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

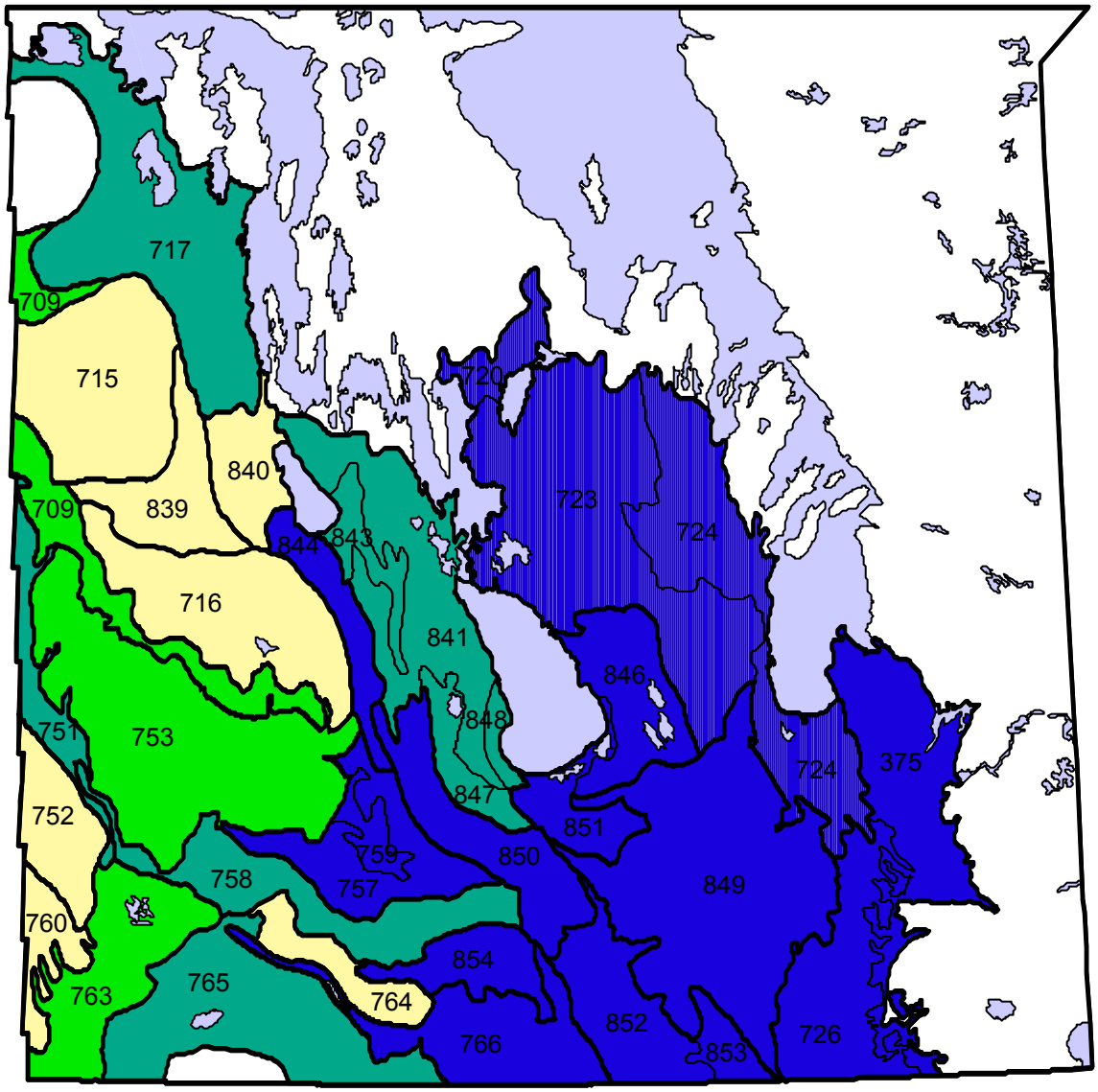
Annual sow-thistle spp.



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

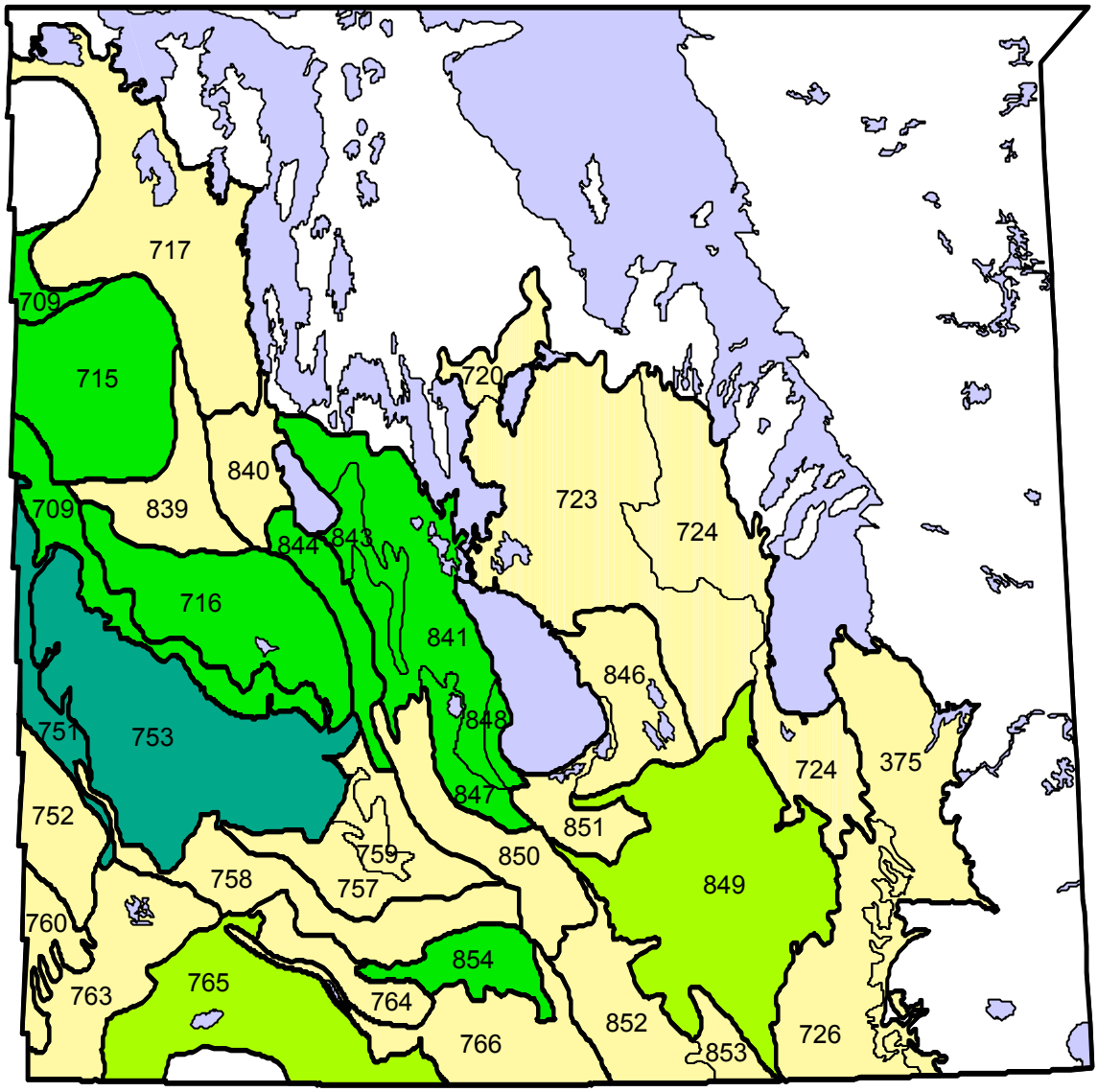
Barnyard grass



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

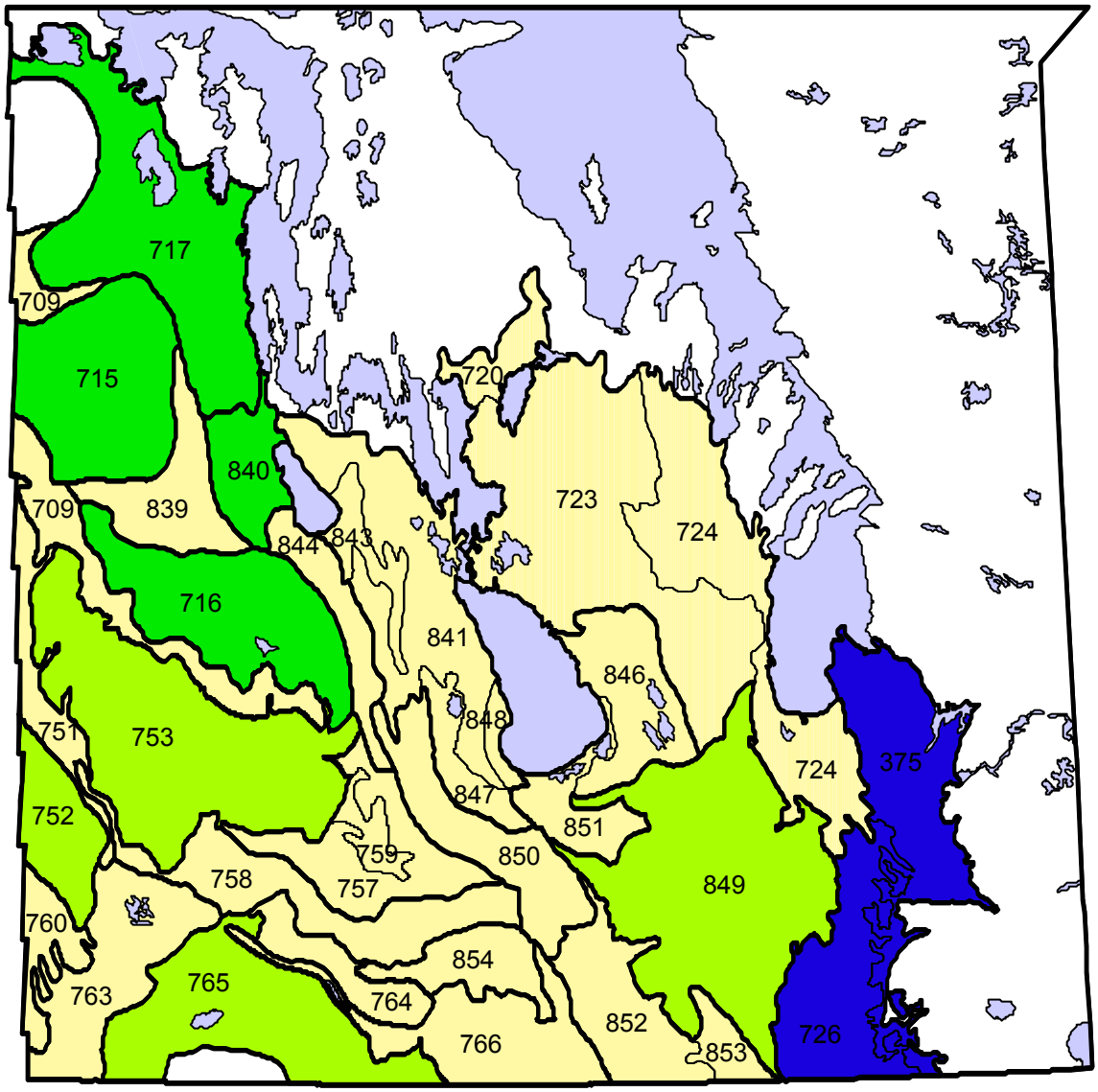
Black medick



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

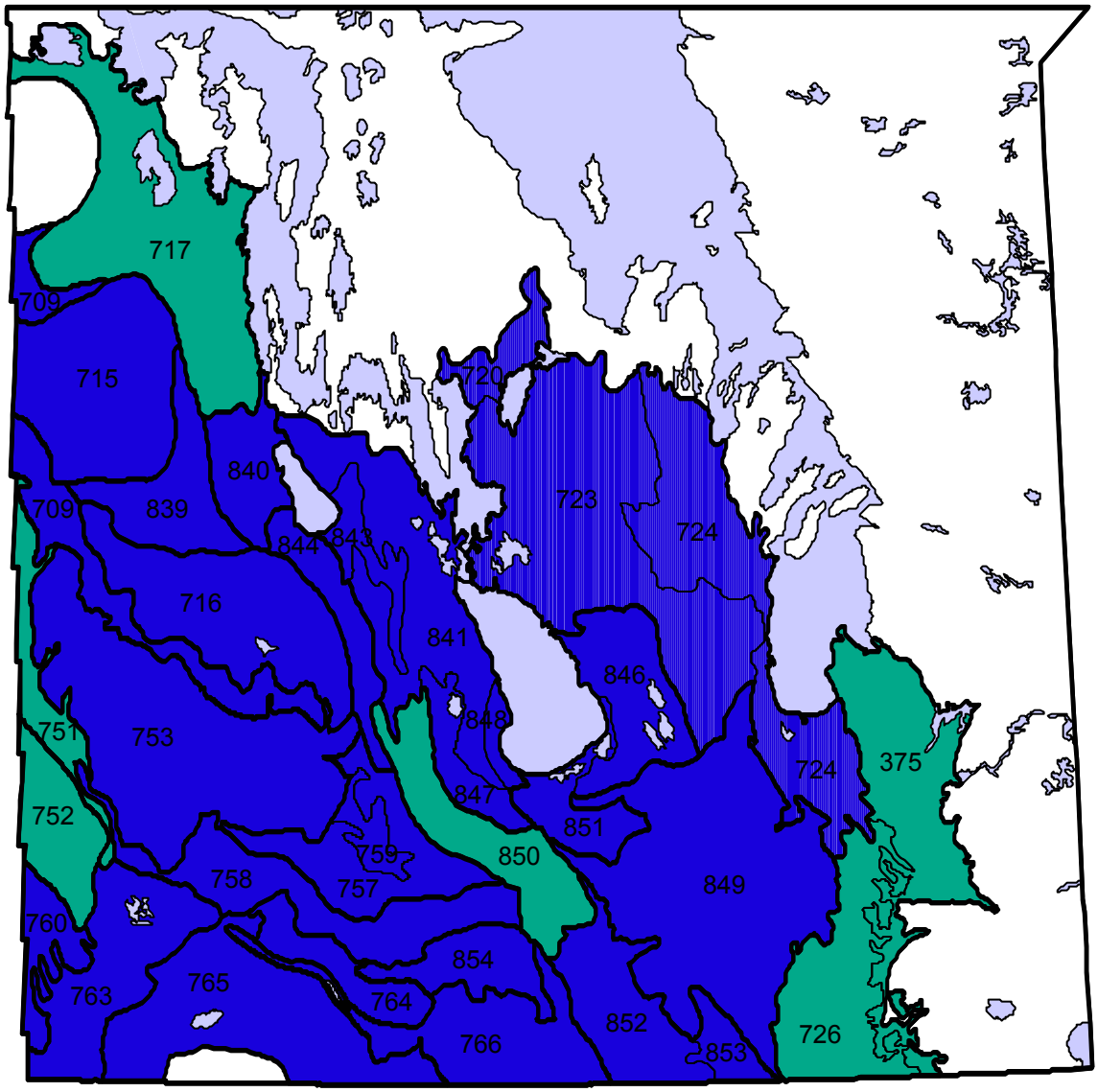
Broad-leaved plantain



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

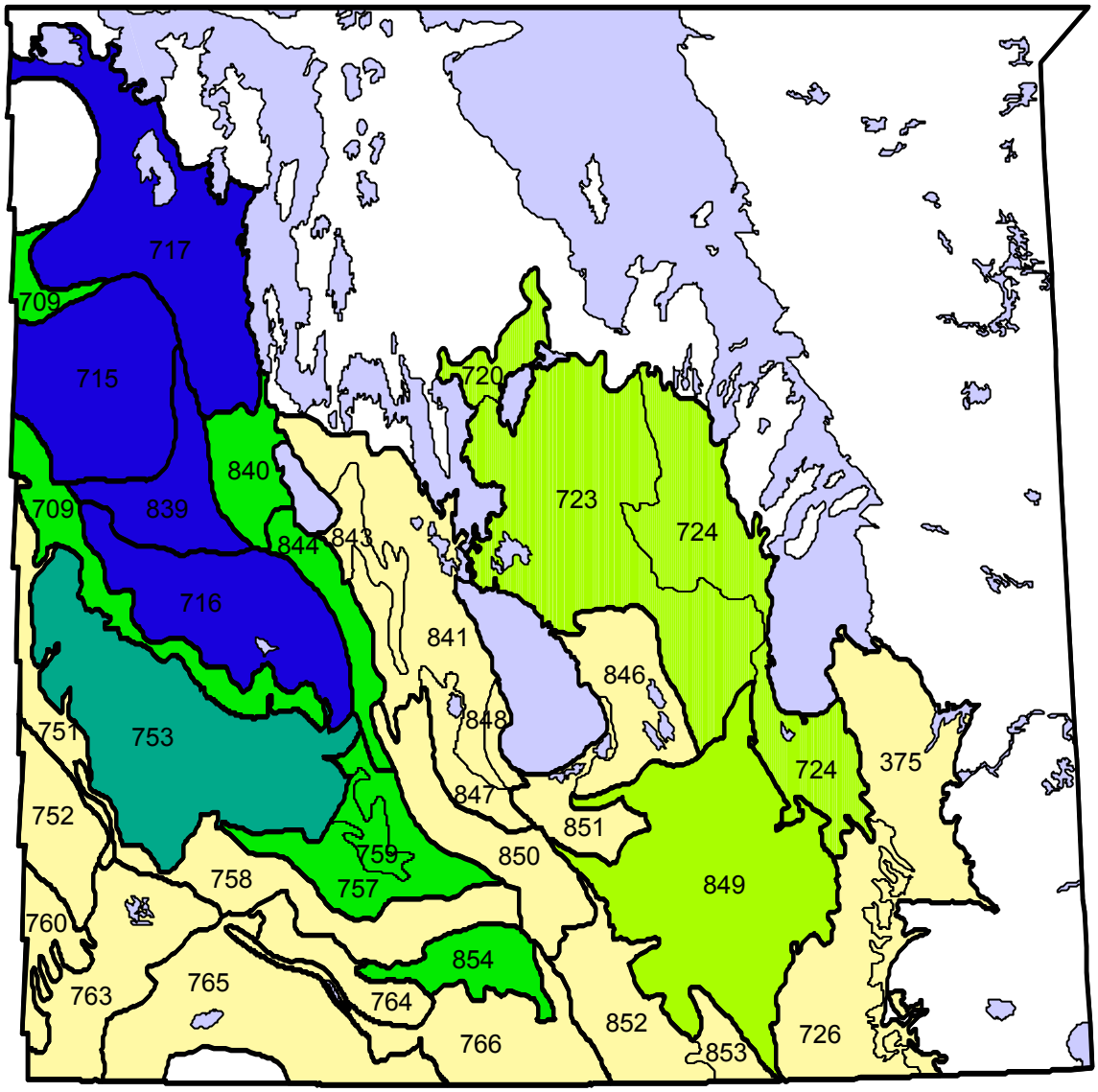
Canada thistle



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

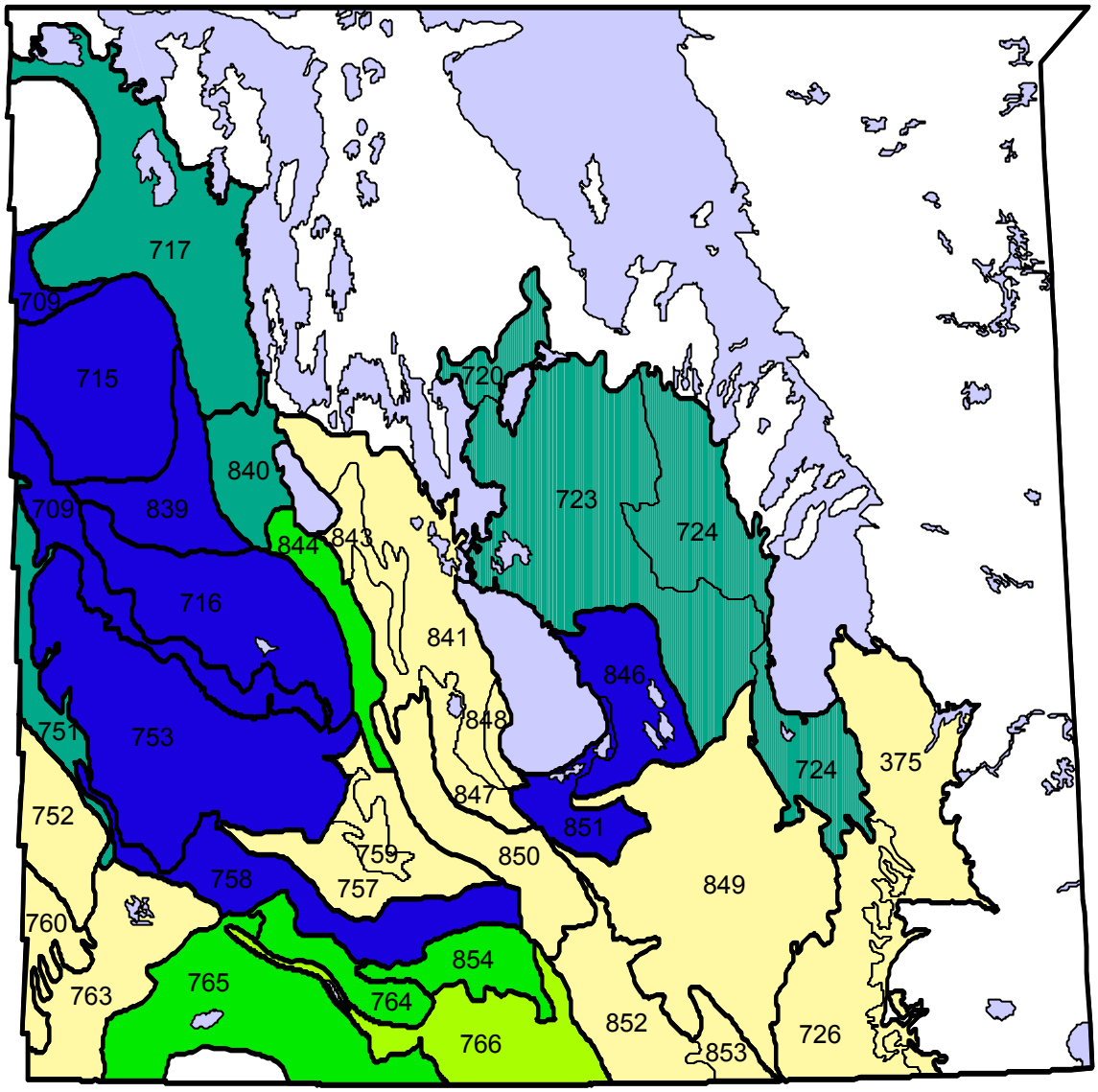
Chickweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

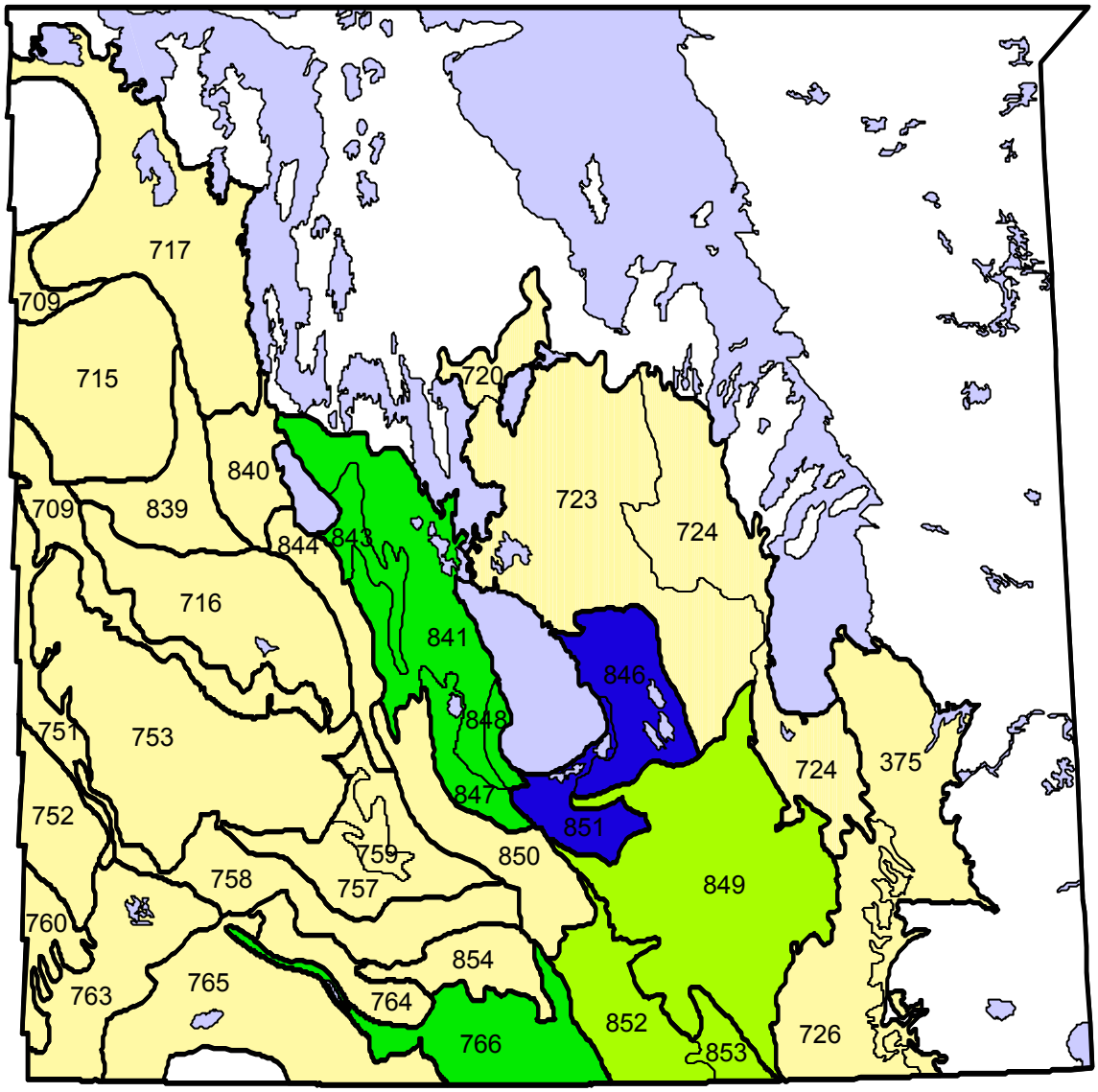
Cleavers



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

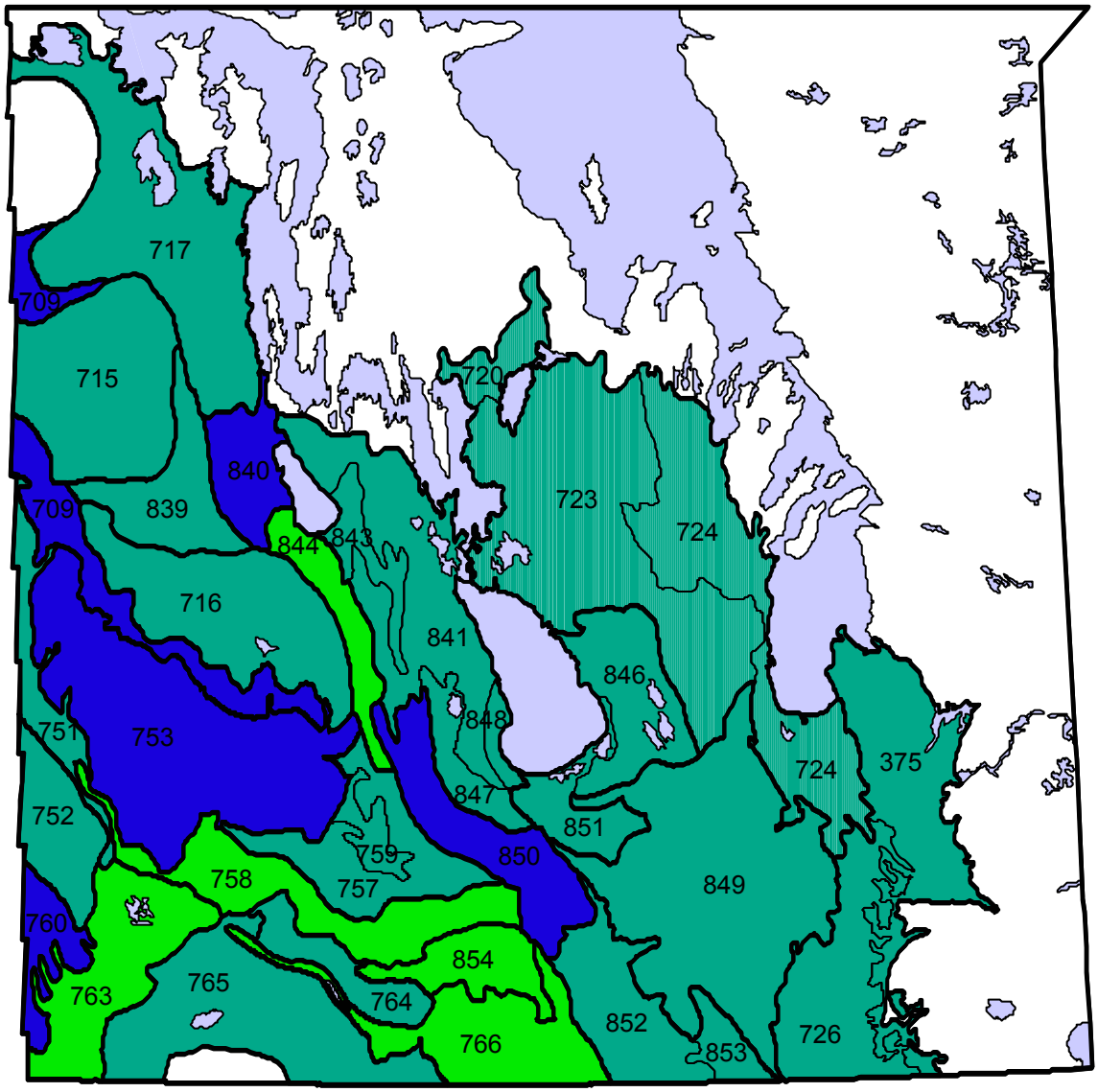
Common ragweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

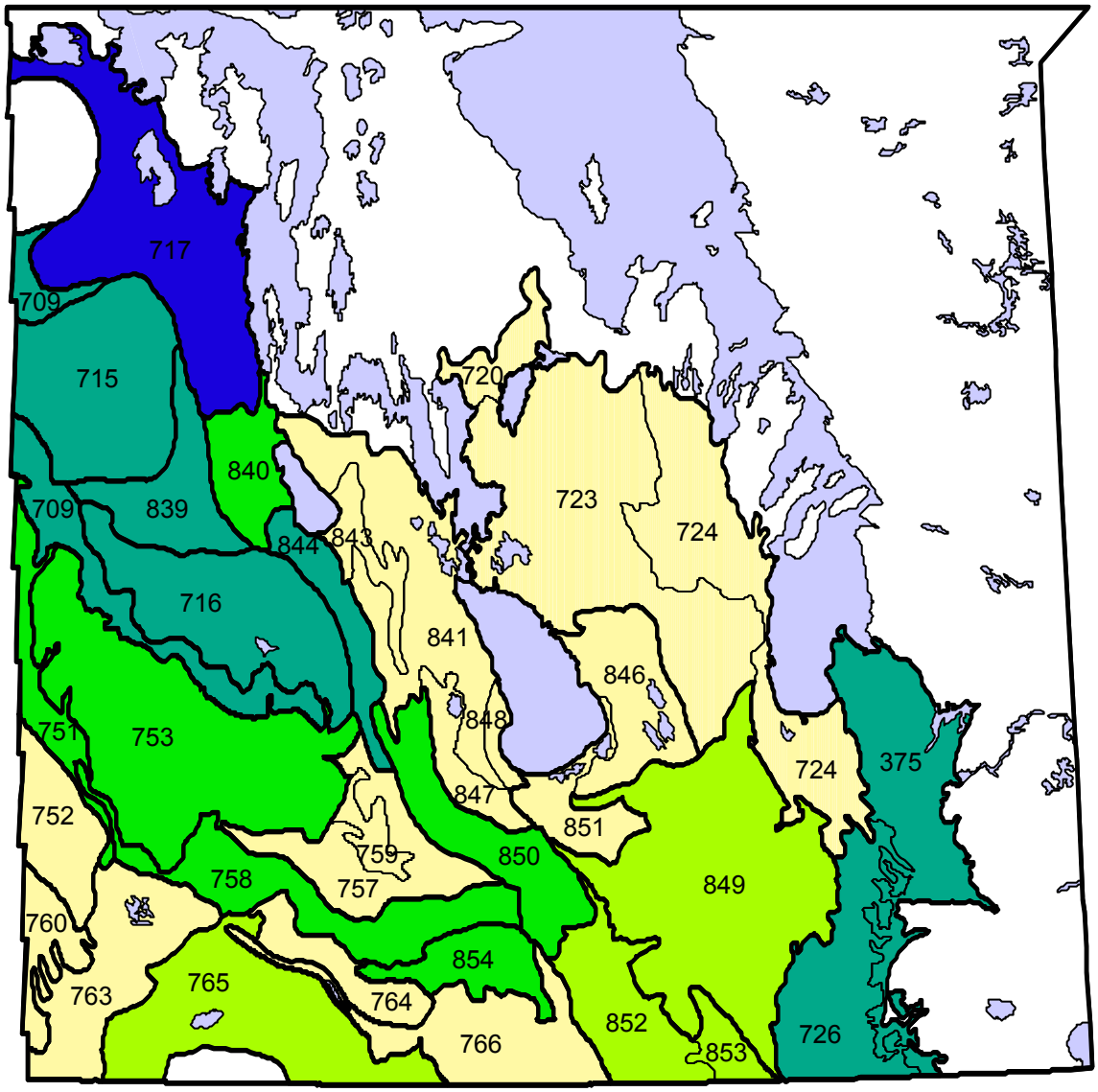
Dandelion



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

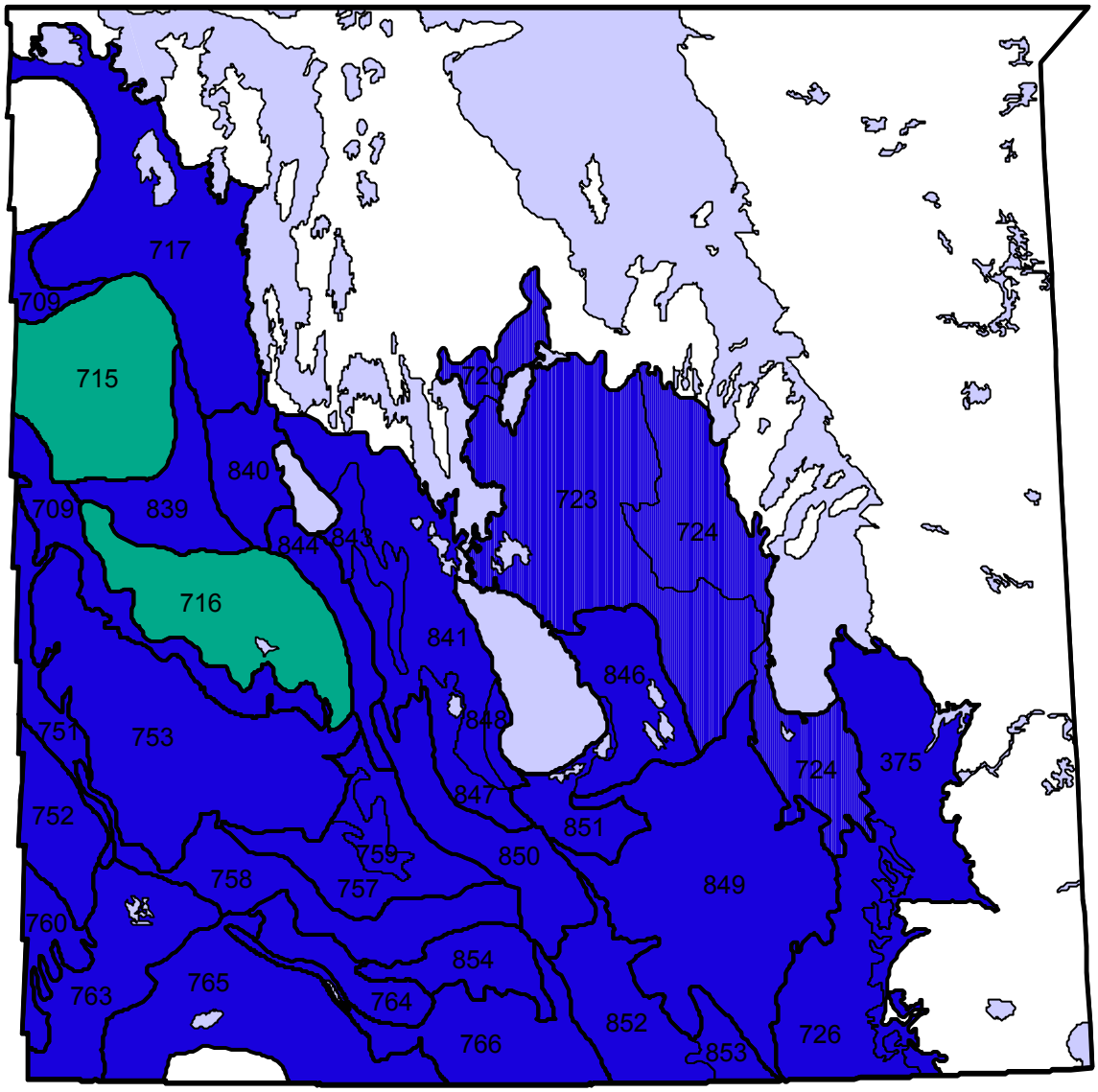
Field horsetail



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

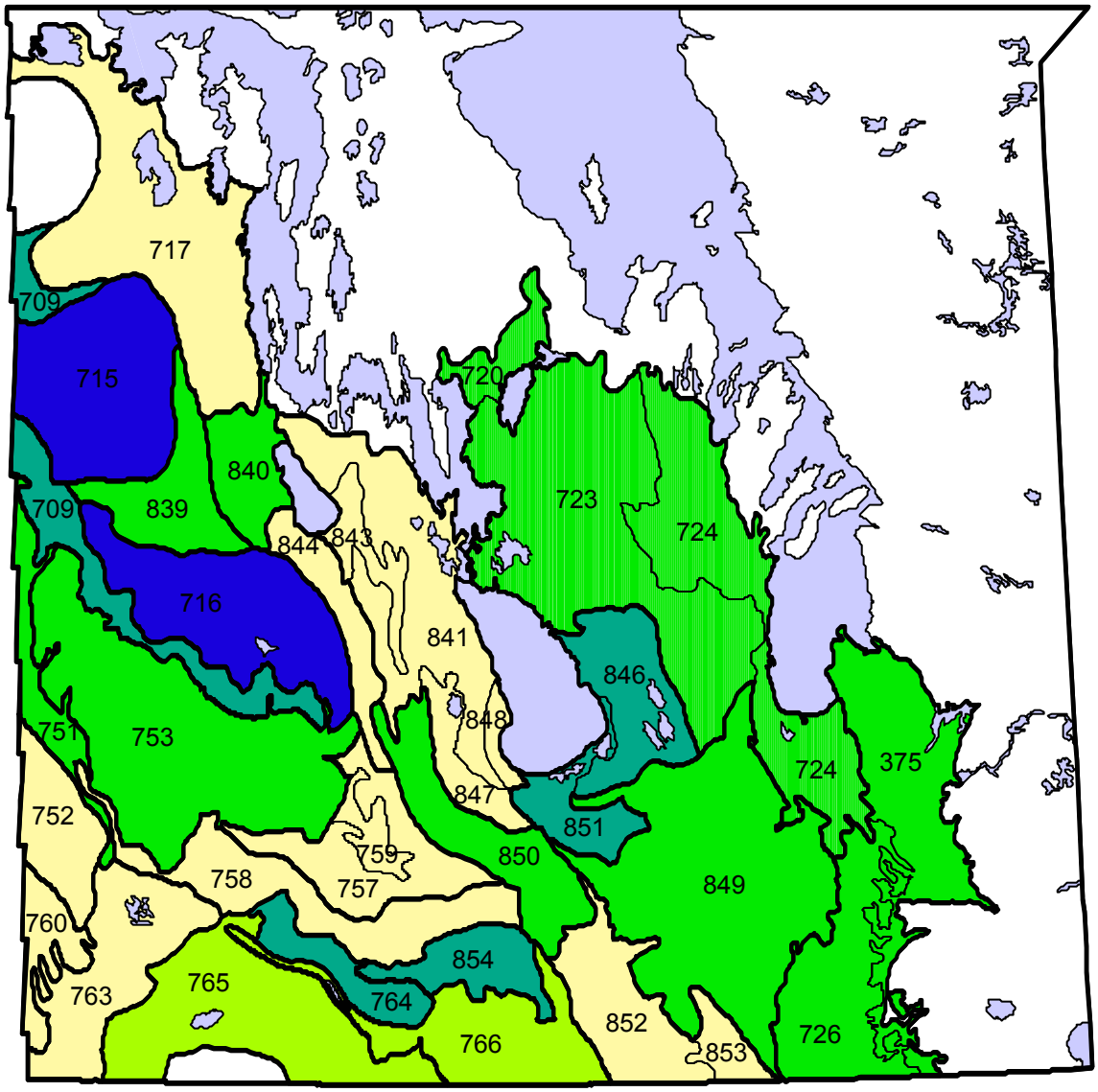
Green foxtail



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

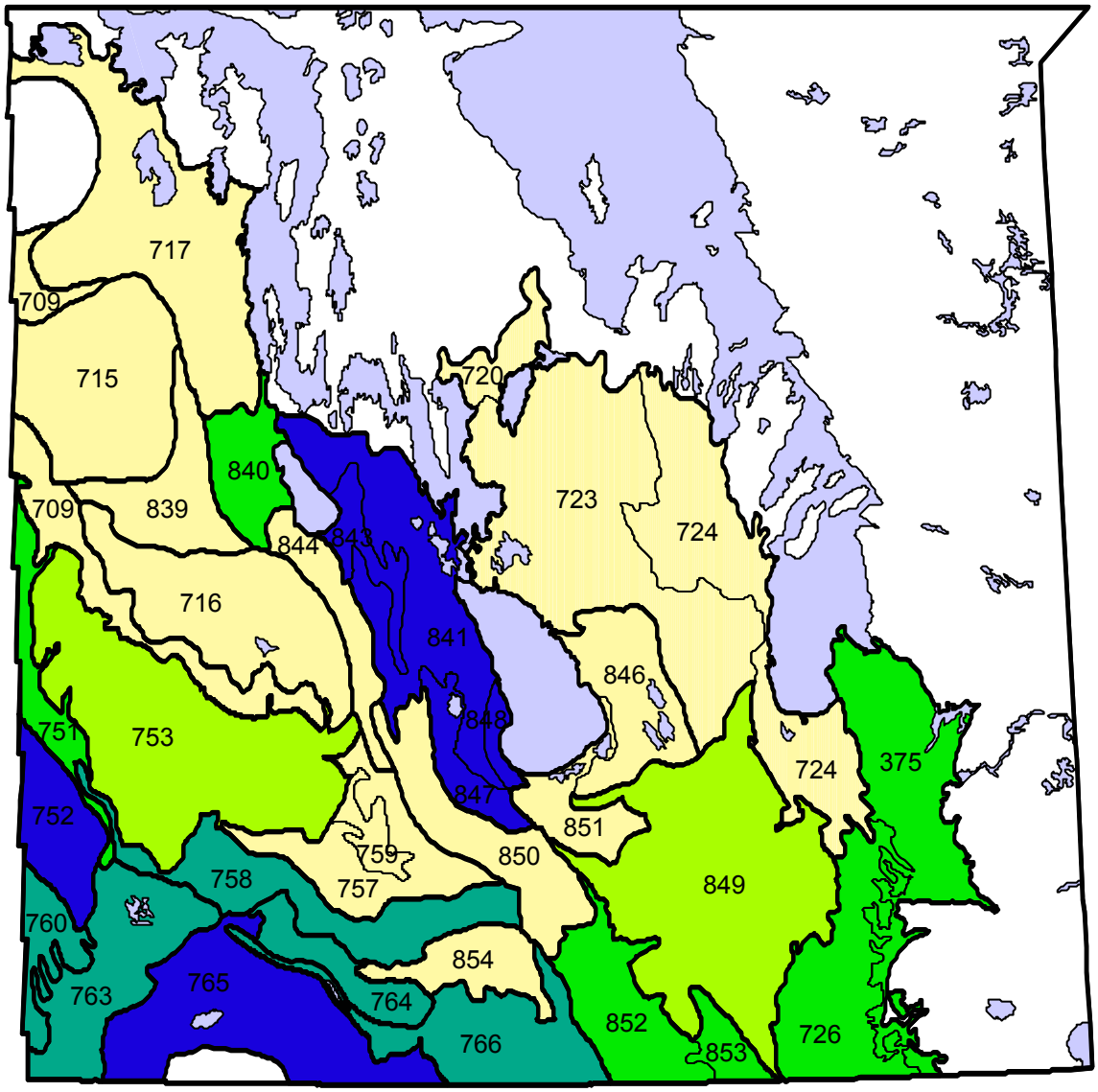
Hemp-nettle



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

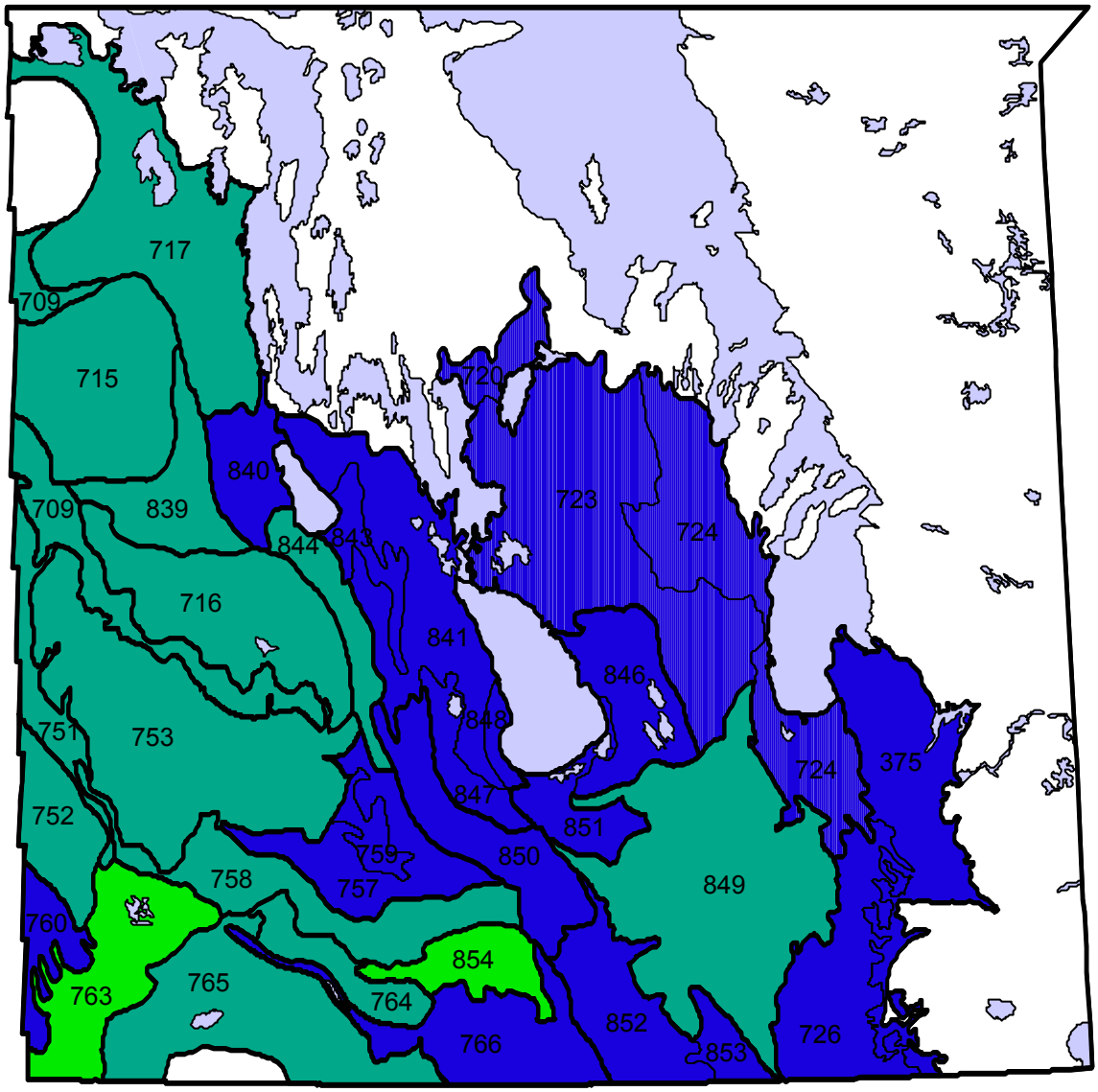
Kochia



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

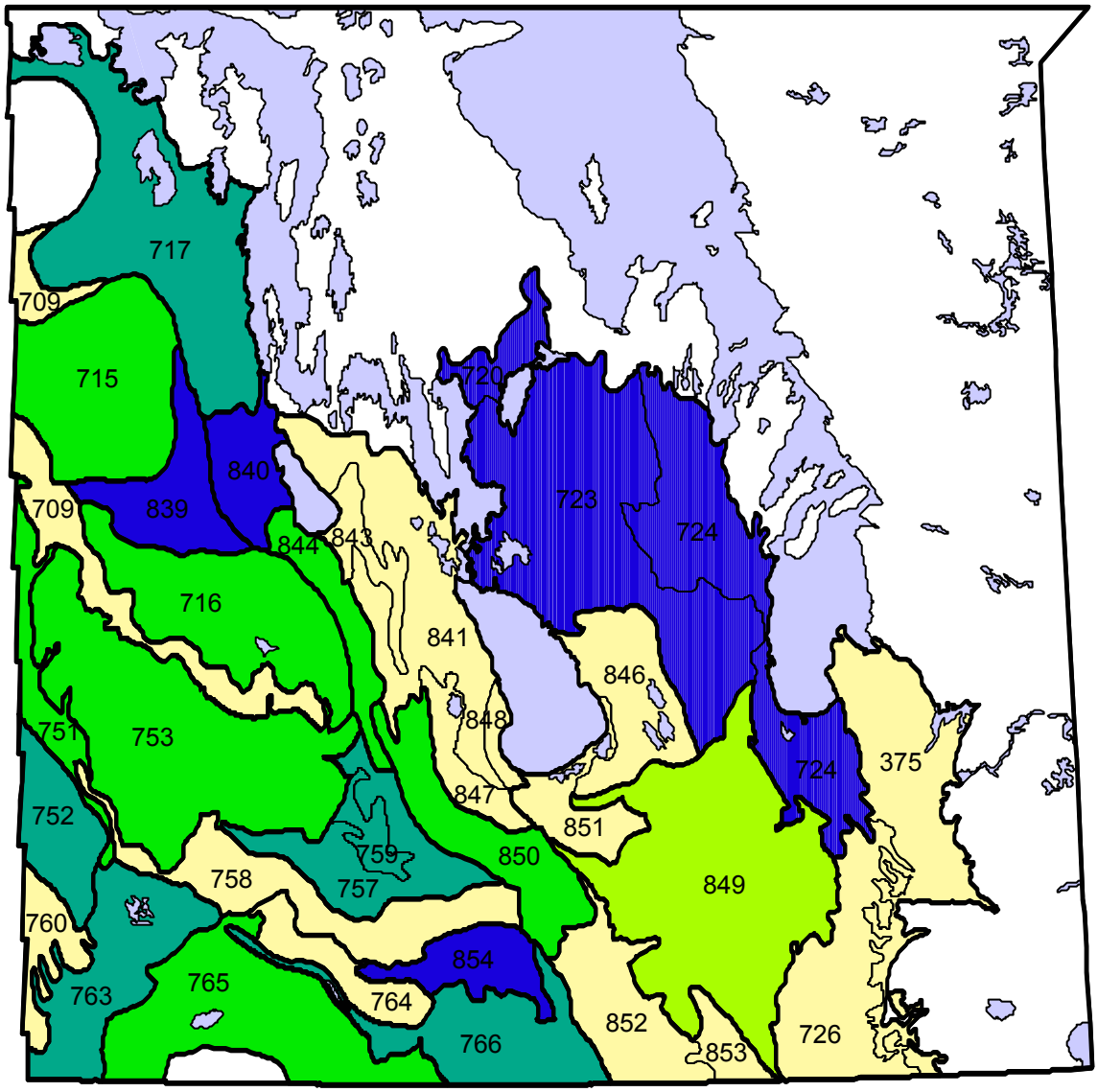
Lamb's-quarters



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

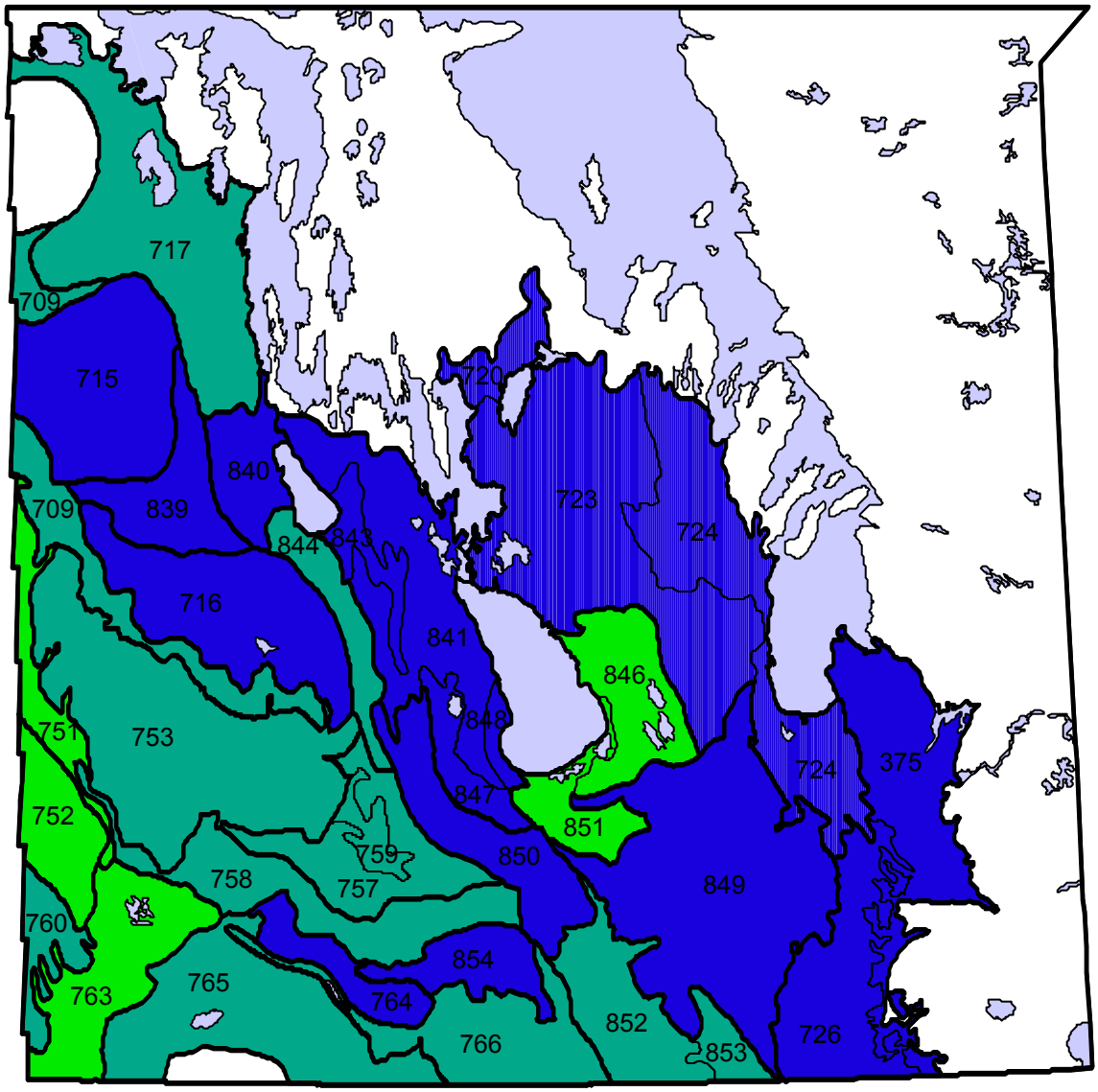
Night-flowering catchfly



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

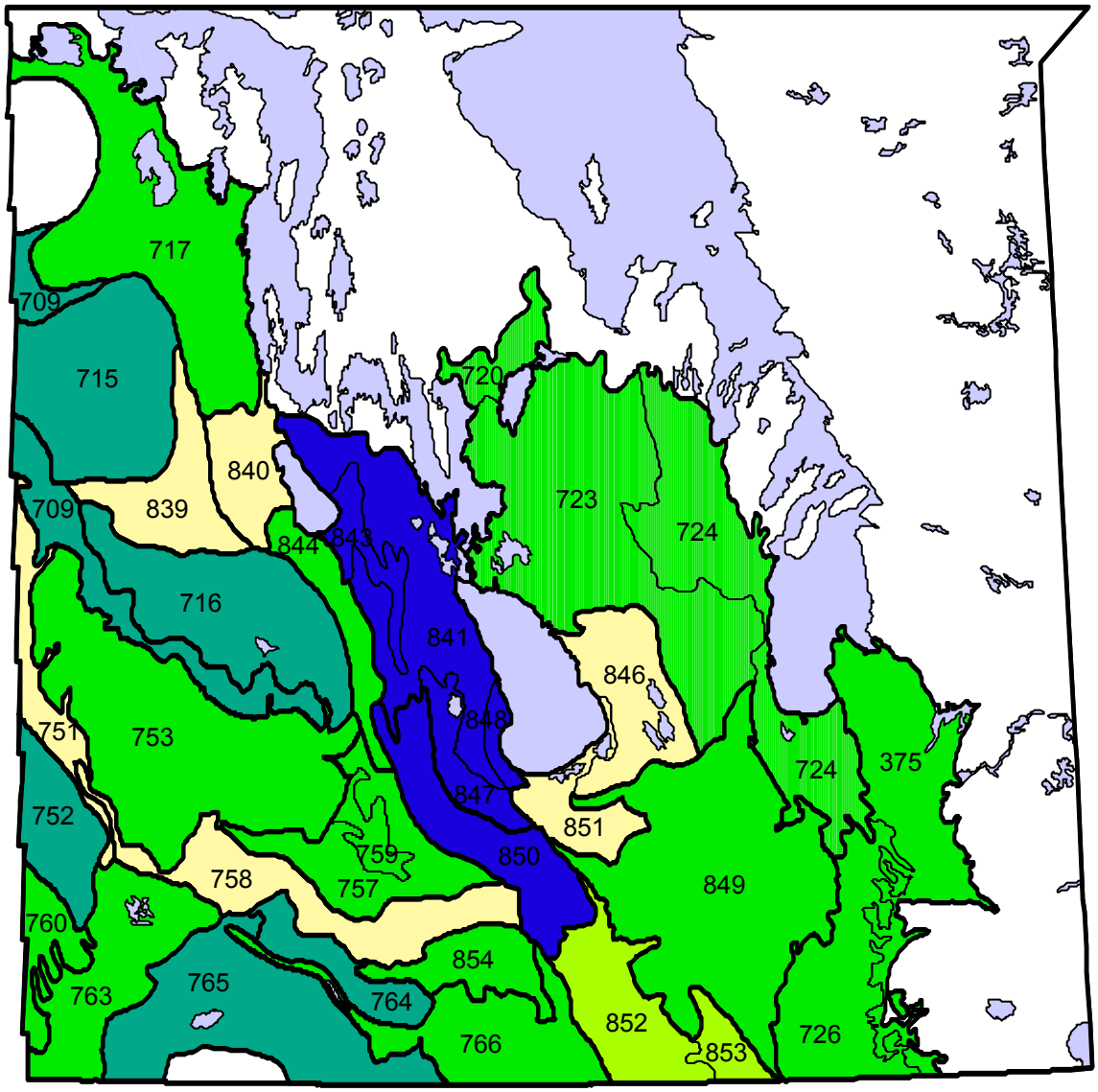
Pale smartweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

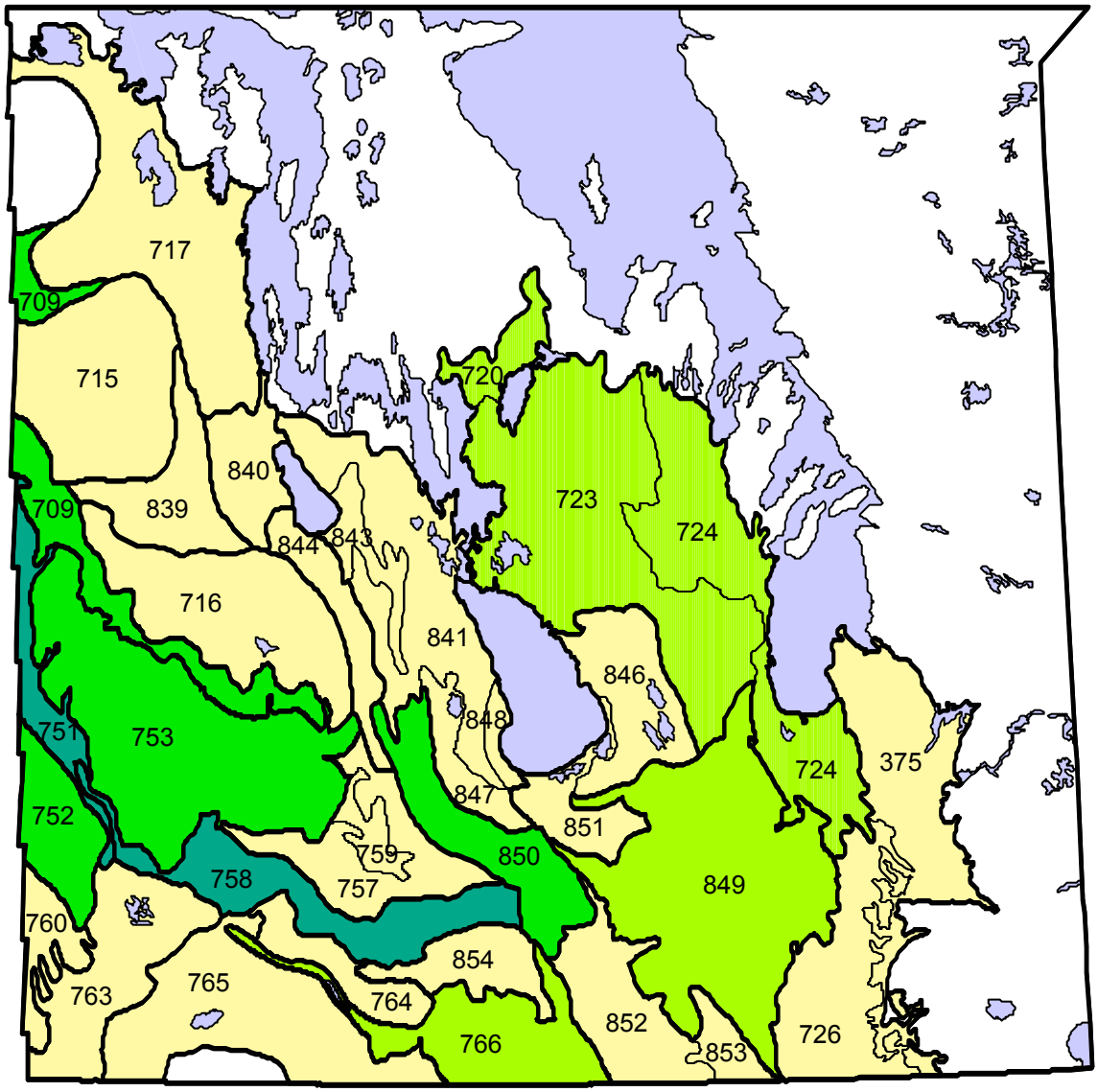
Perennial sow-thistle



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

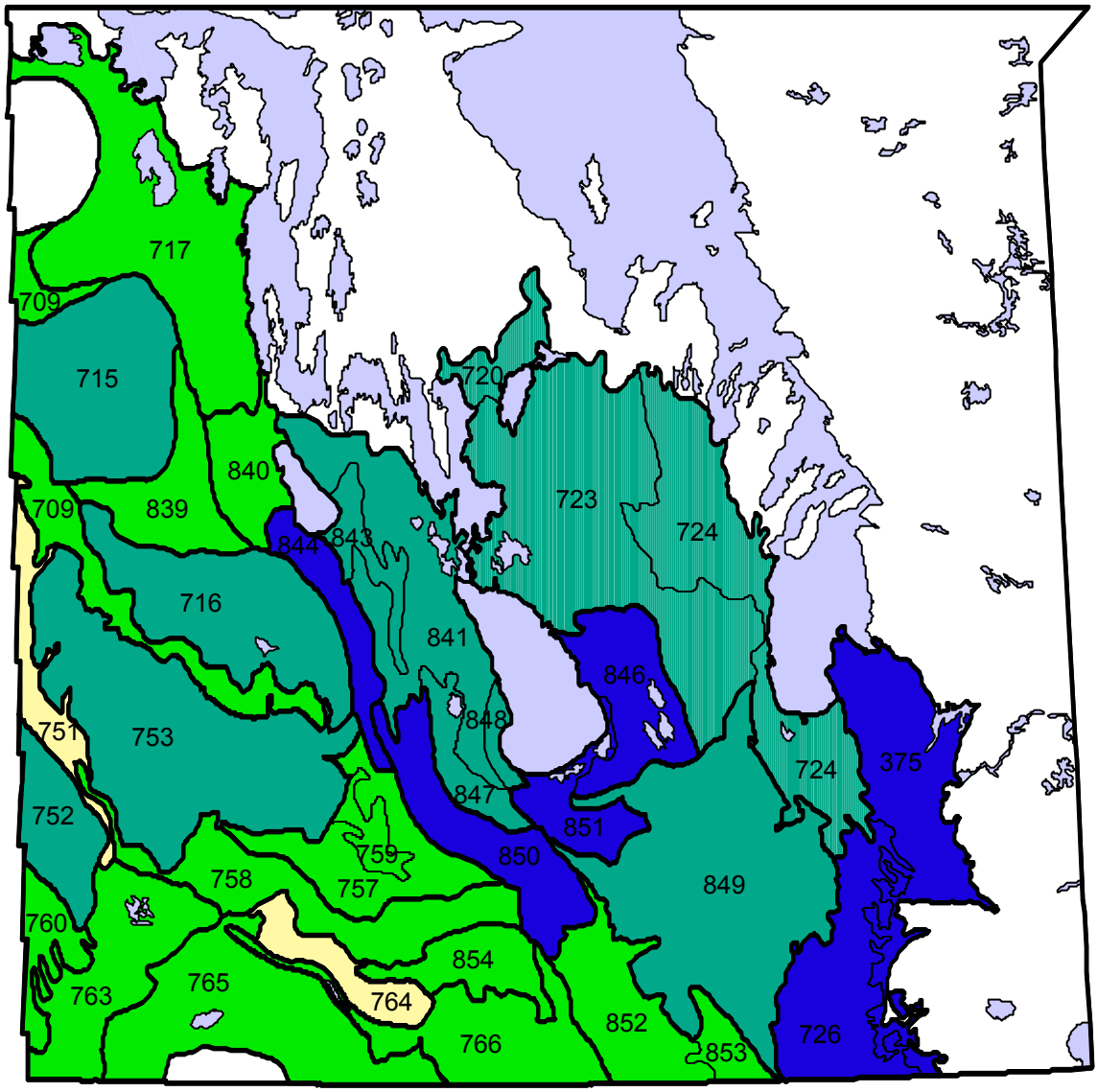
Prostrate knotweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

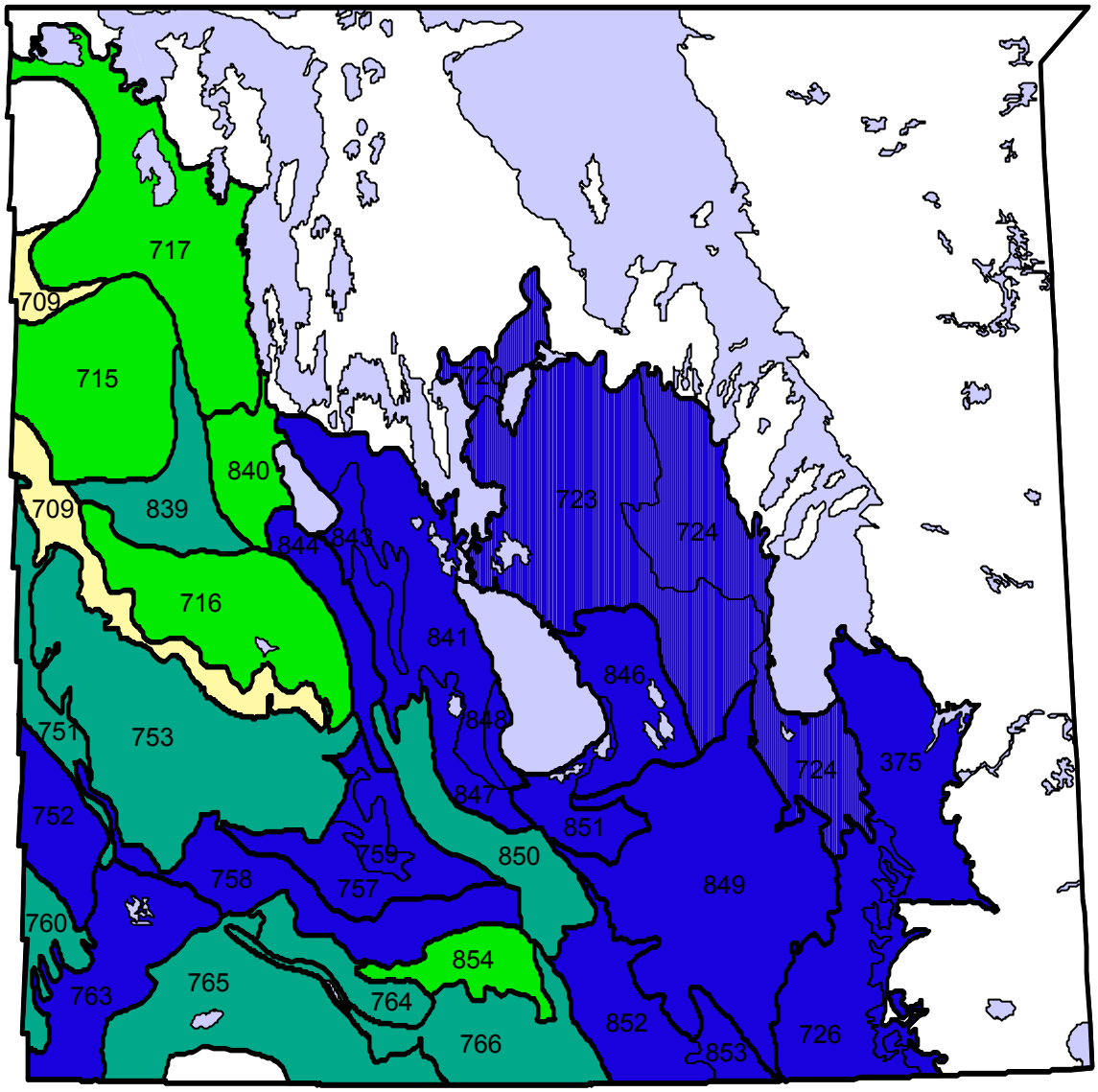
Quack grass



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

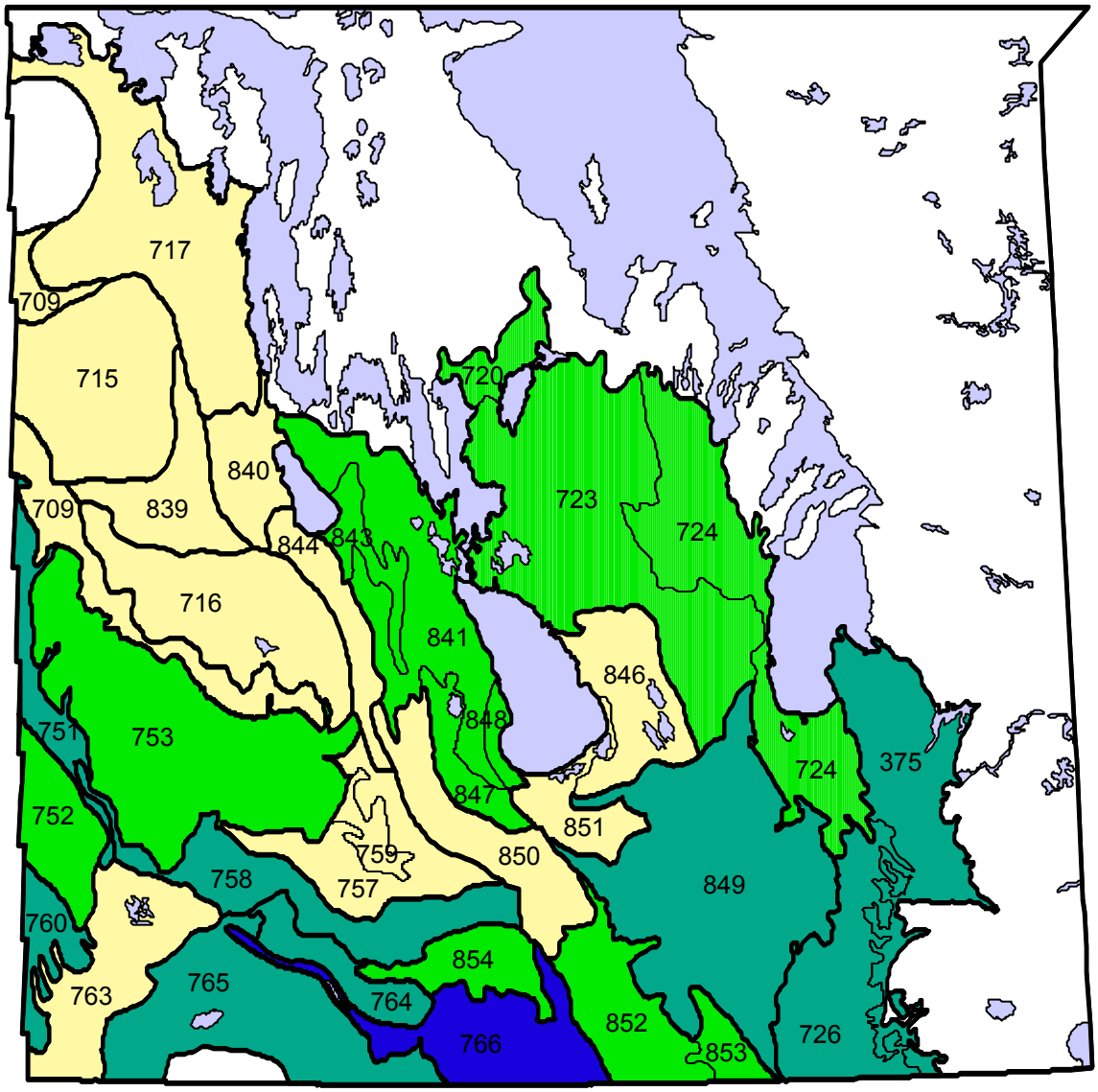
Redroot pigweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

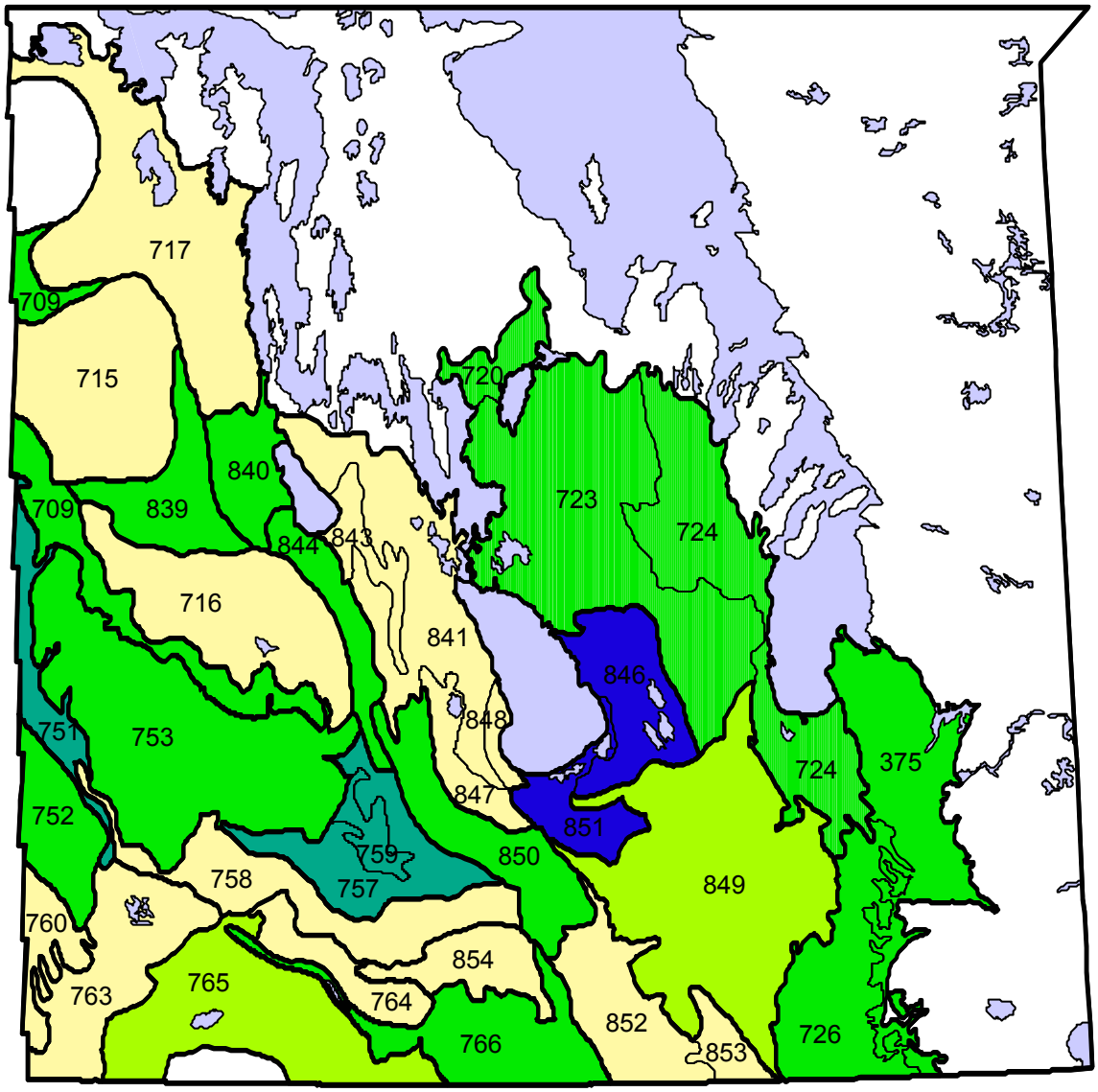
Round-leaved mallow



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

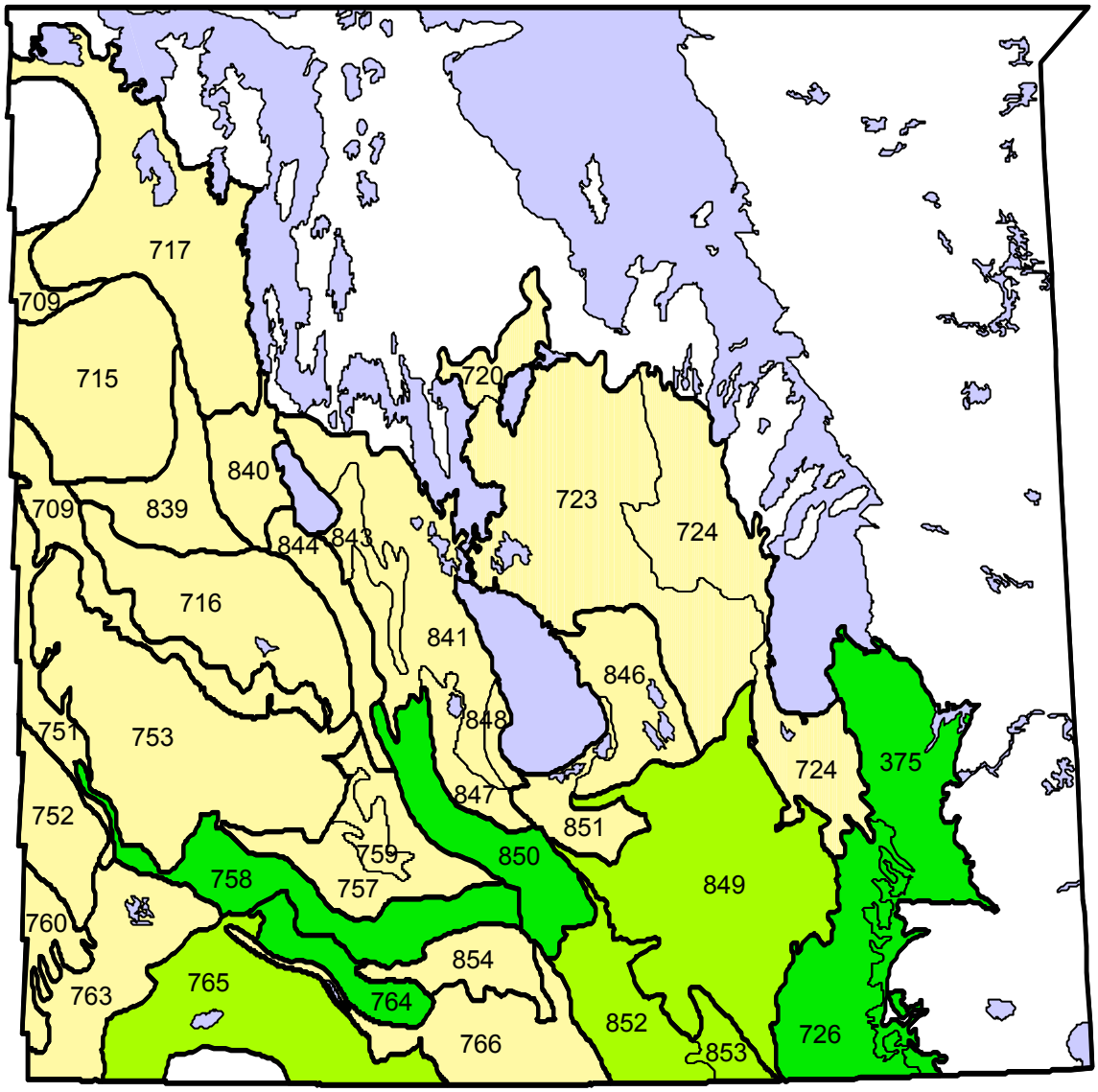
Shepherd's-purse



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

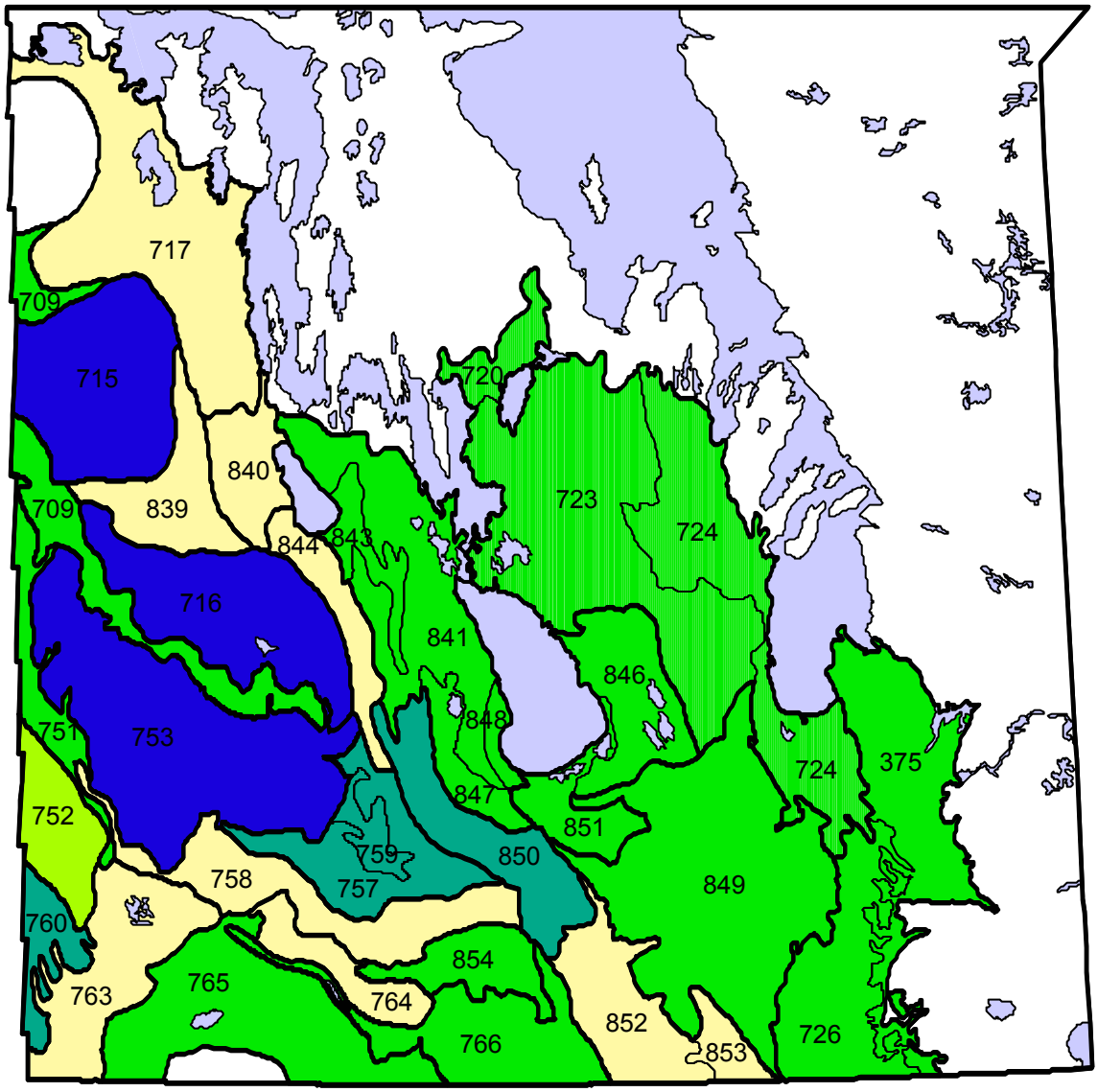
Showy milkweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

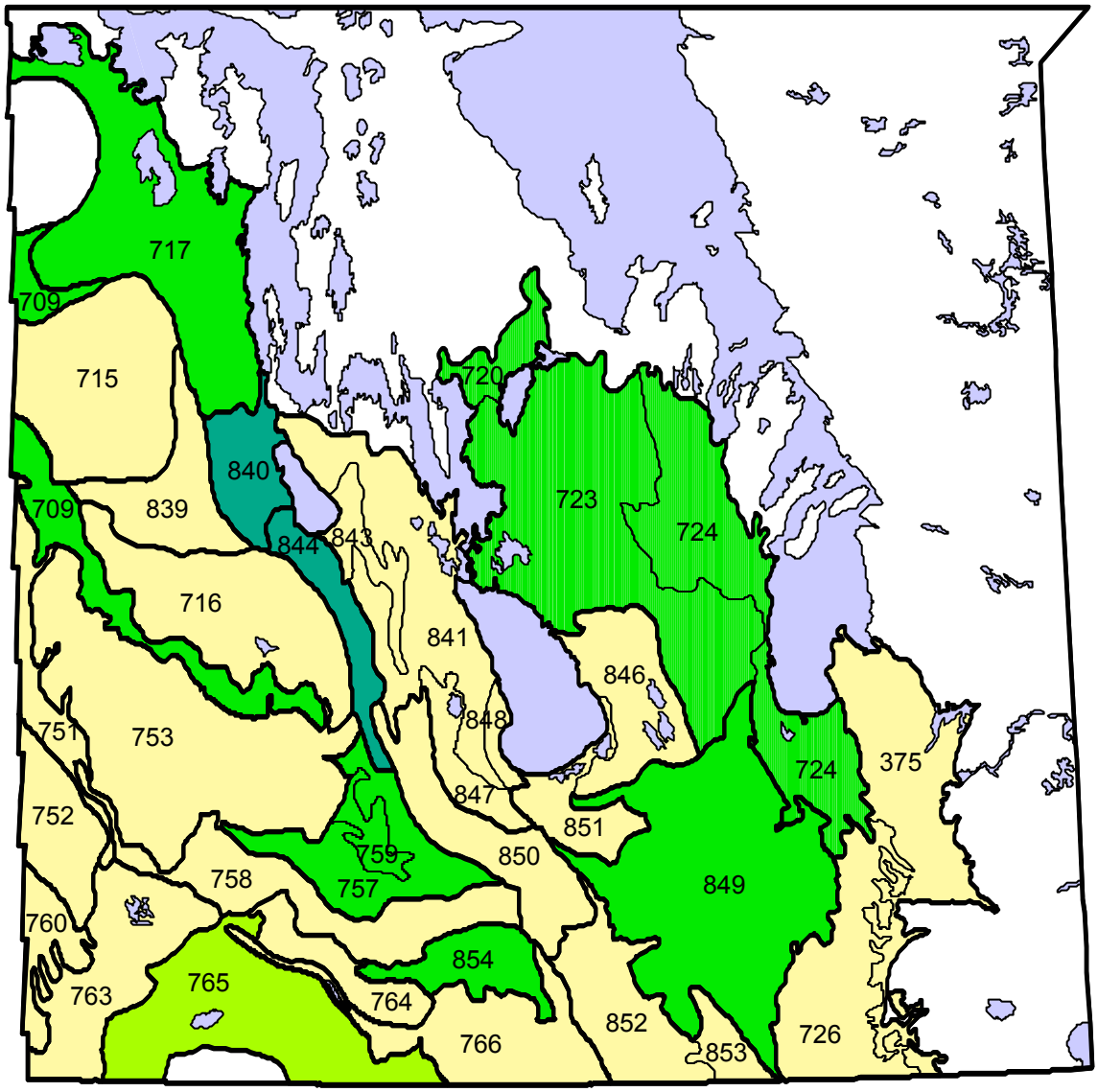
Stinkweed



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

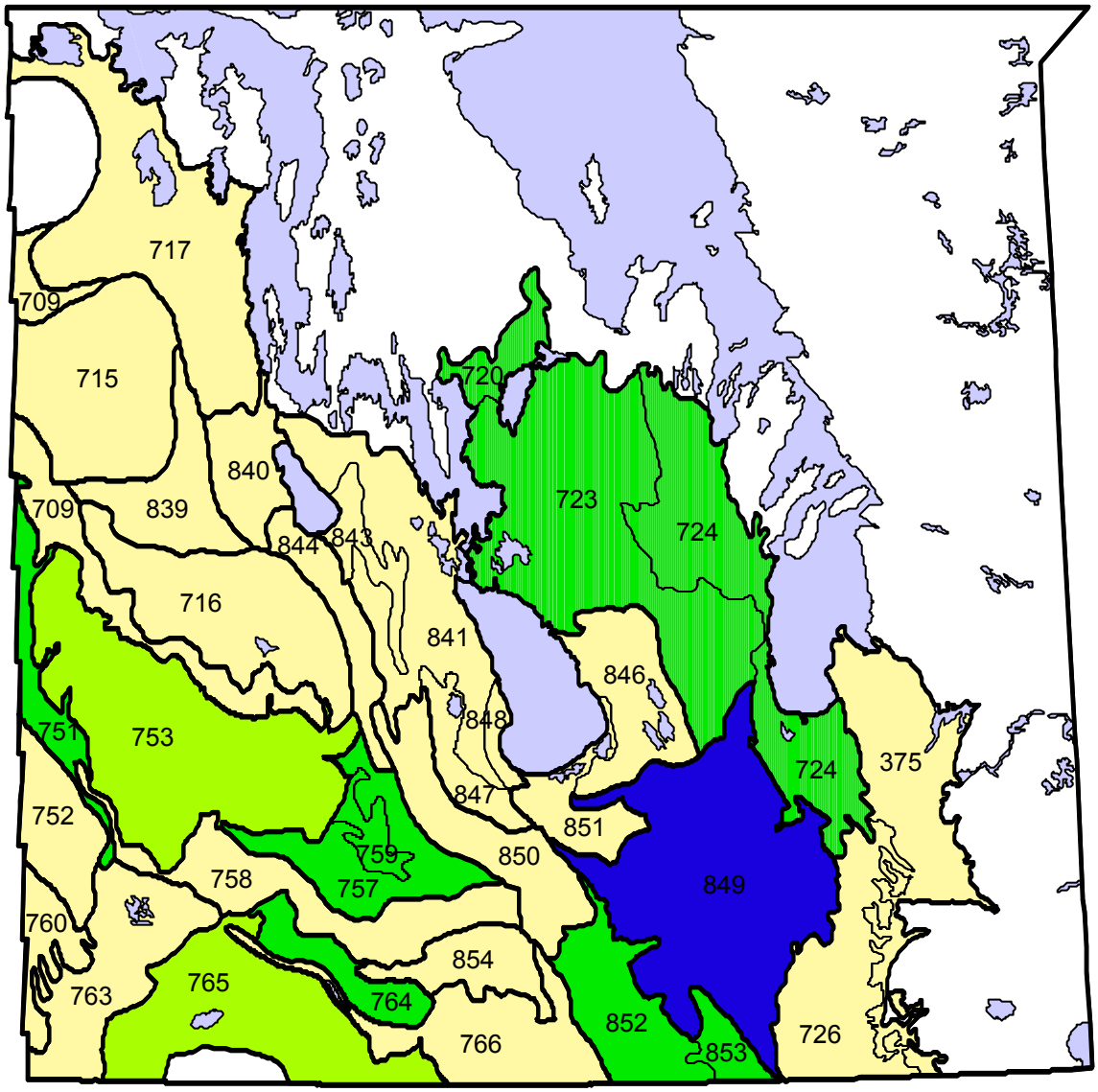
Stork's-bill



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

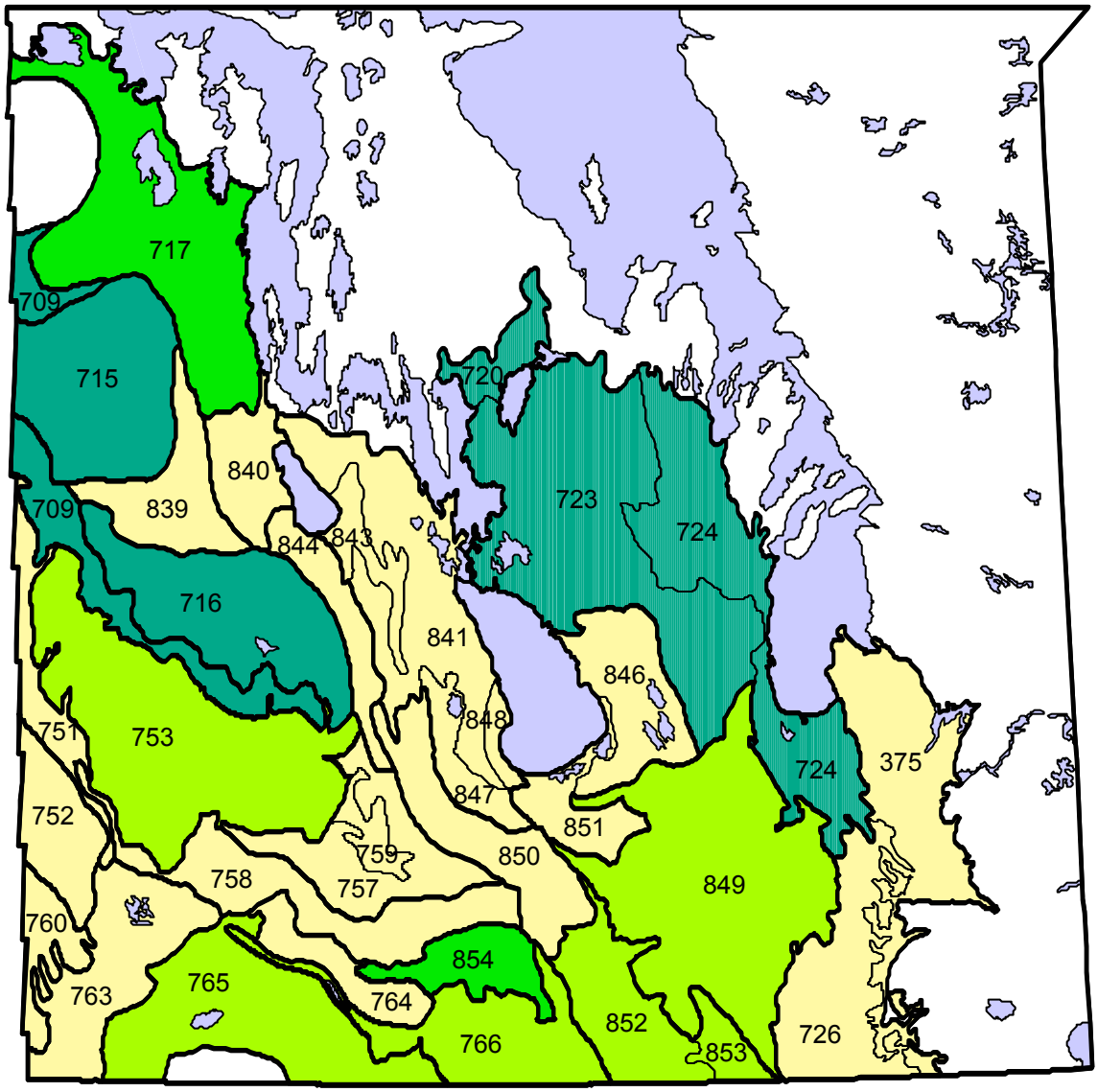
Thyme-leaved spurge



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

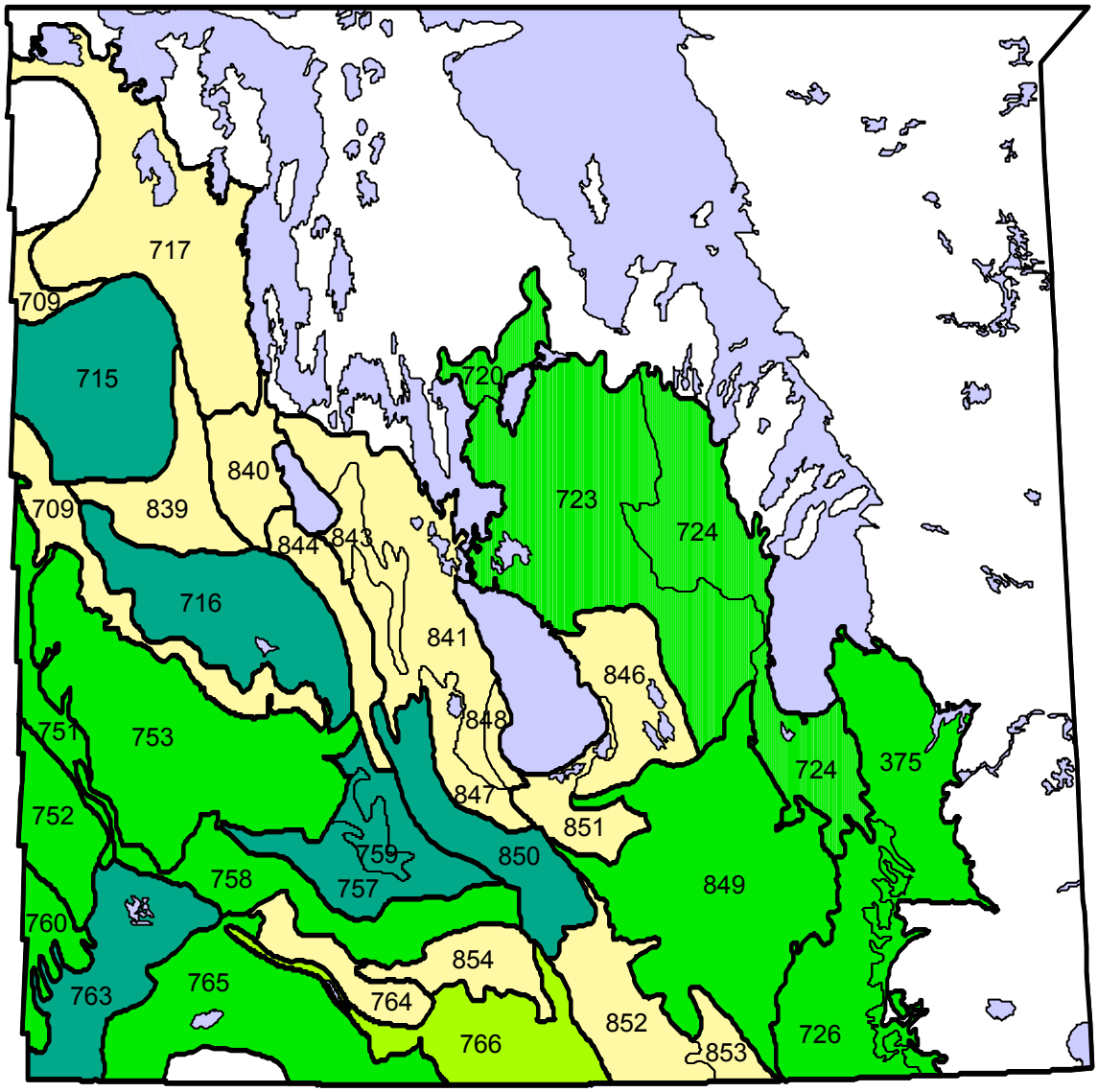
Volunteer alfalfa



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

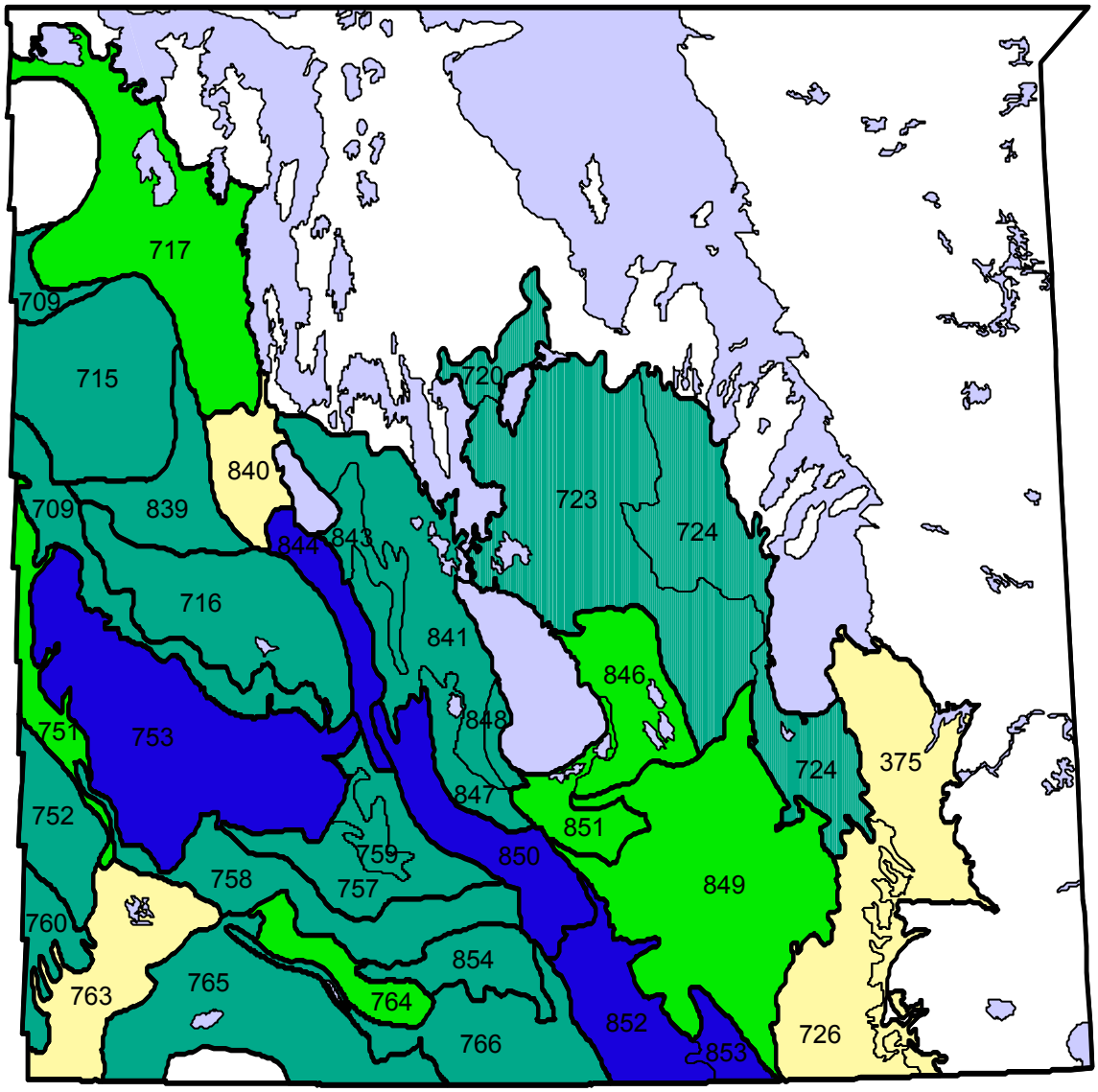
Volunteer barley



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

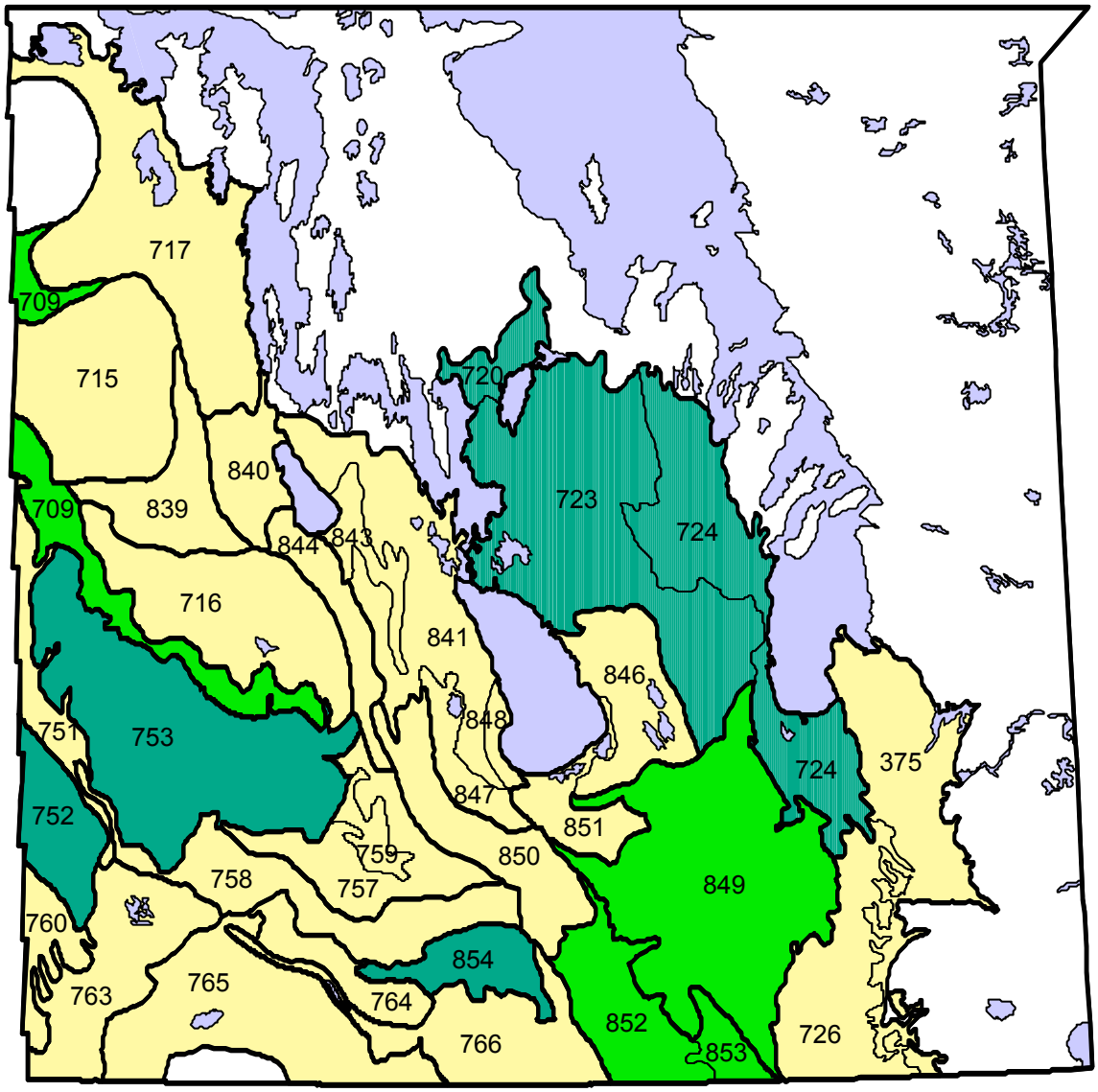
Volunteer canola (Argentine)



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

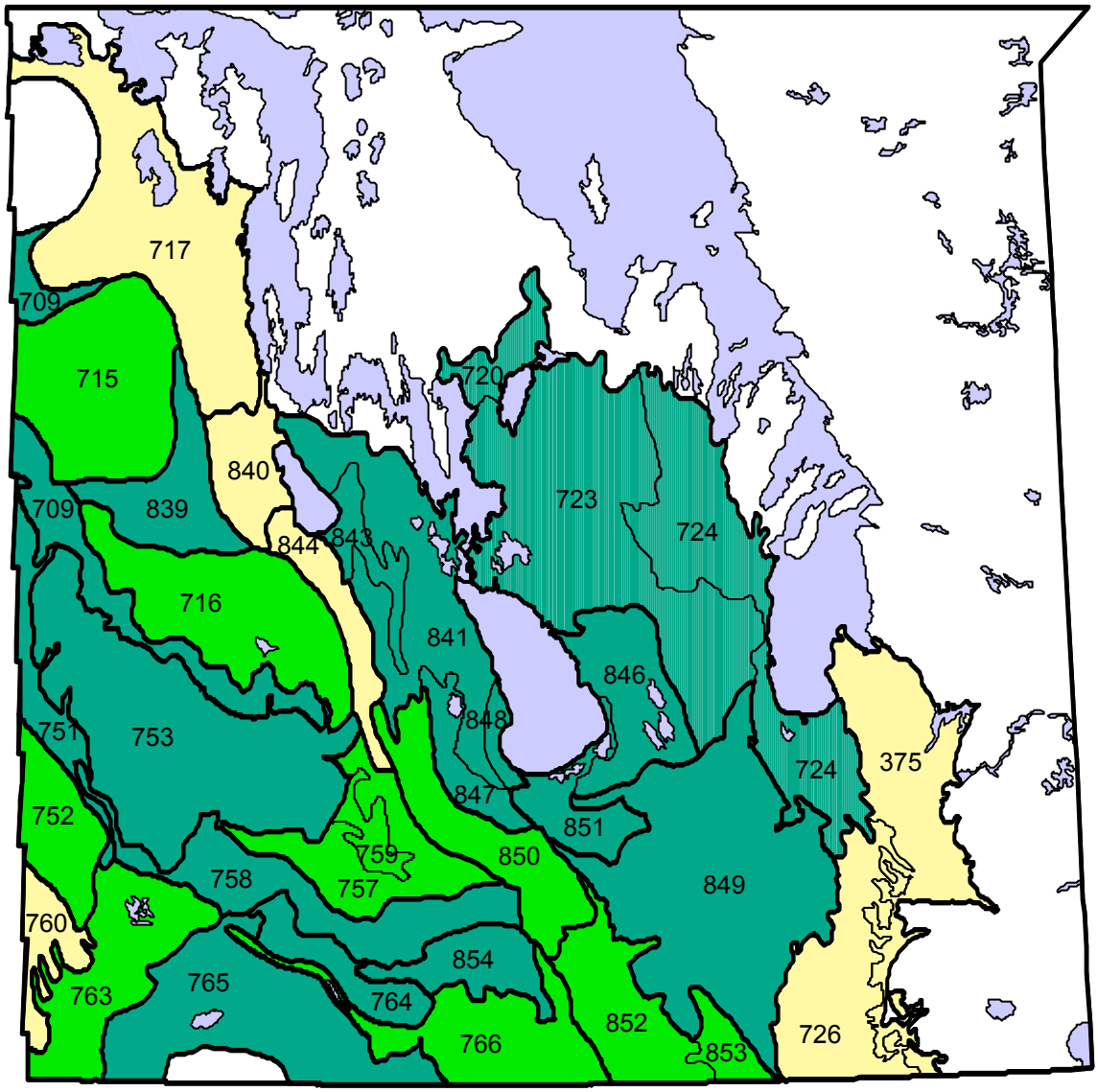
Volunteer flax



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

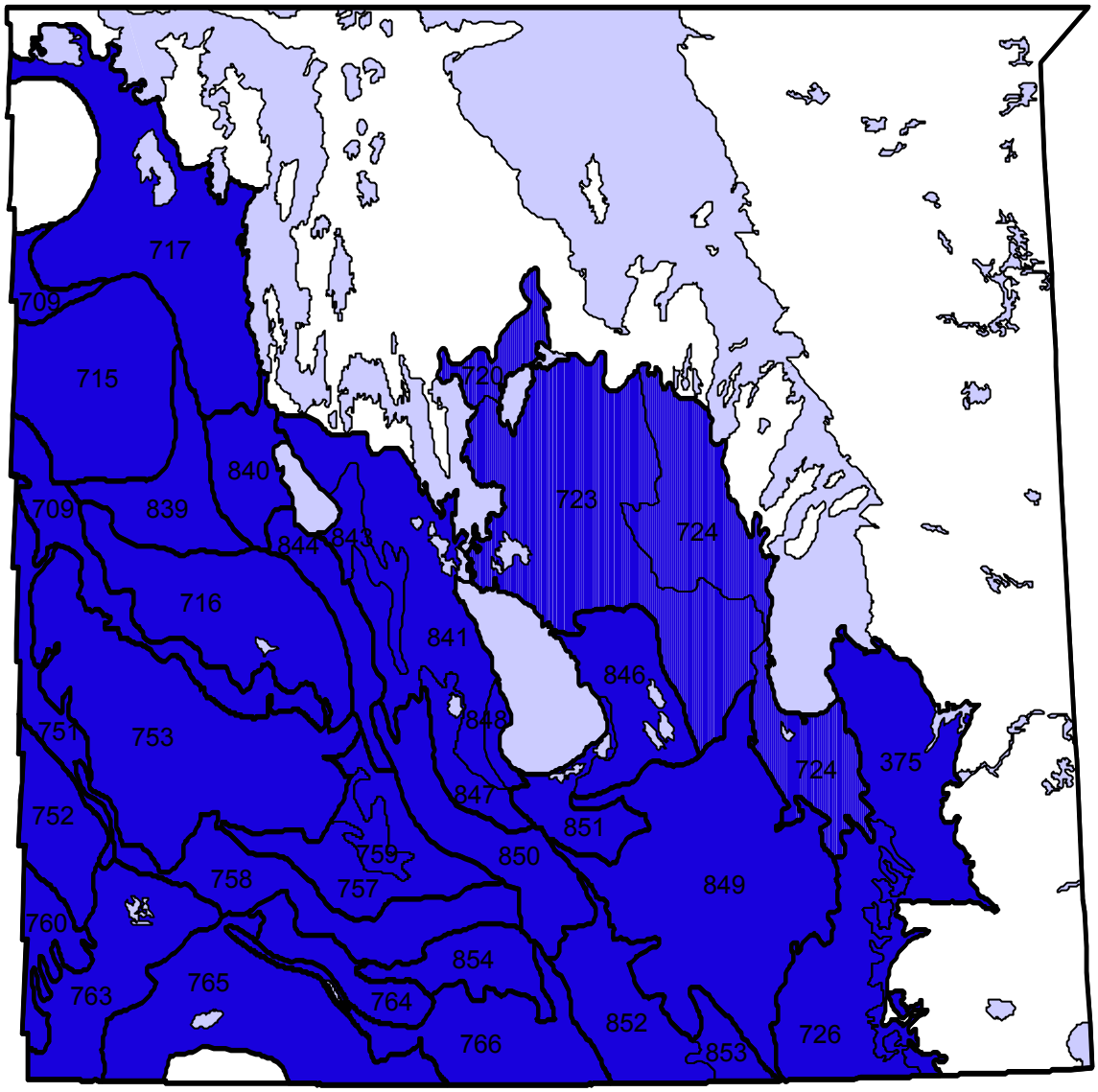
Volunteer wheat



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

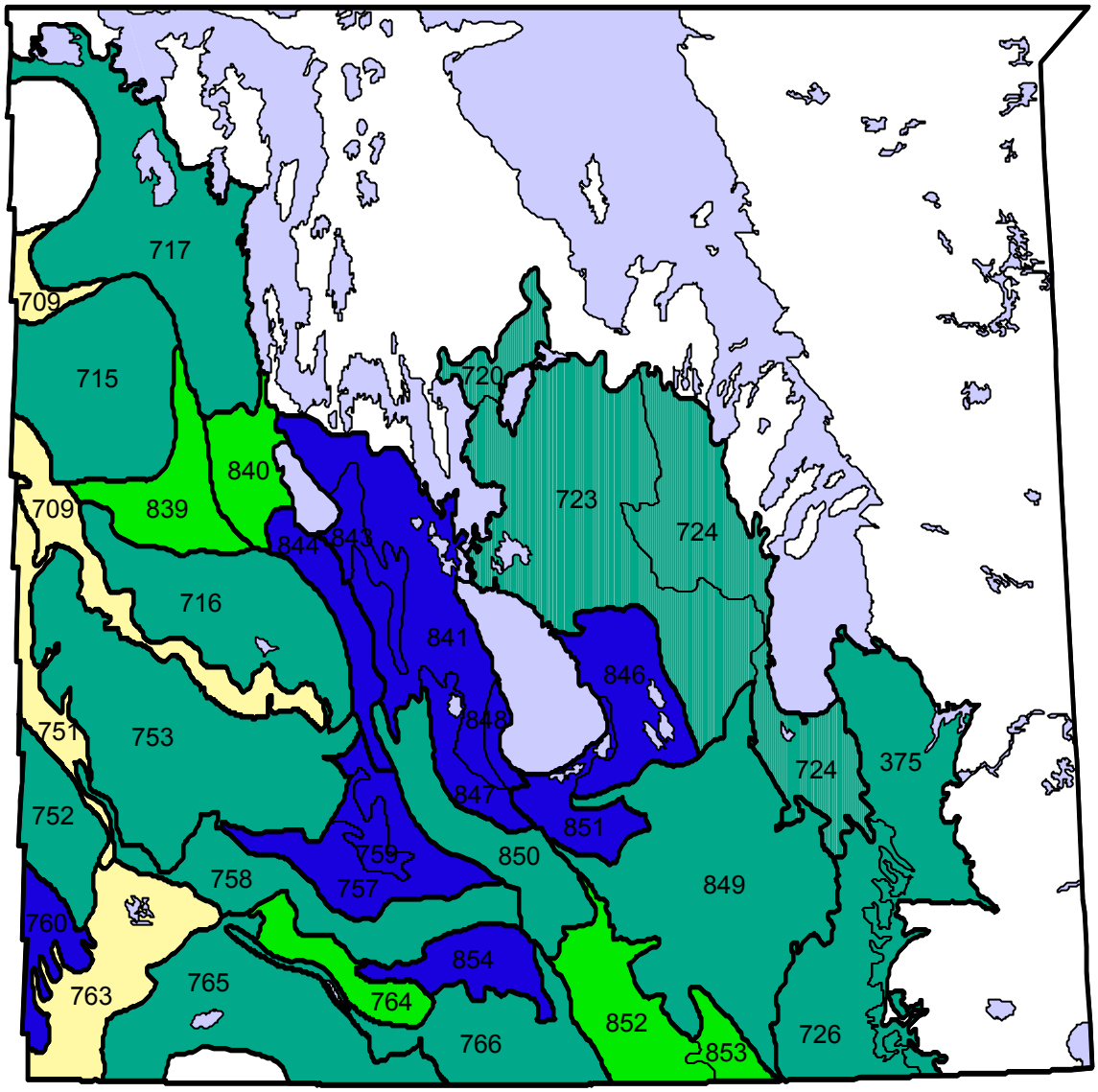
Wild buckwheat



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

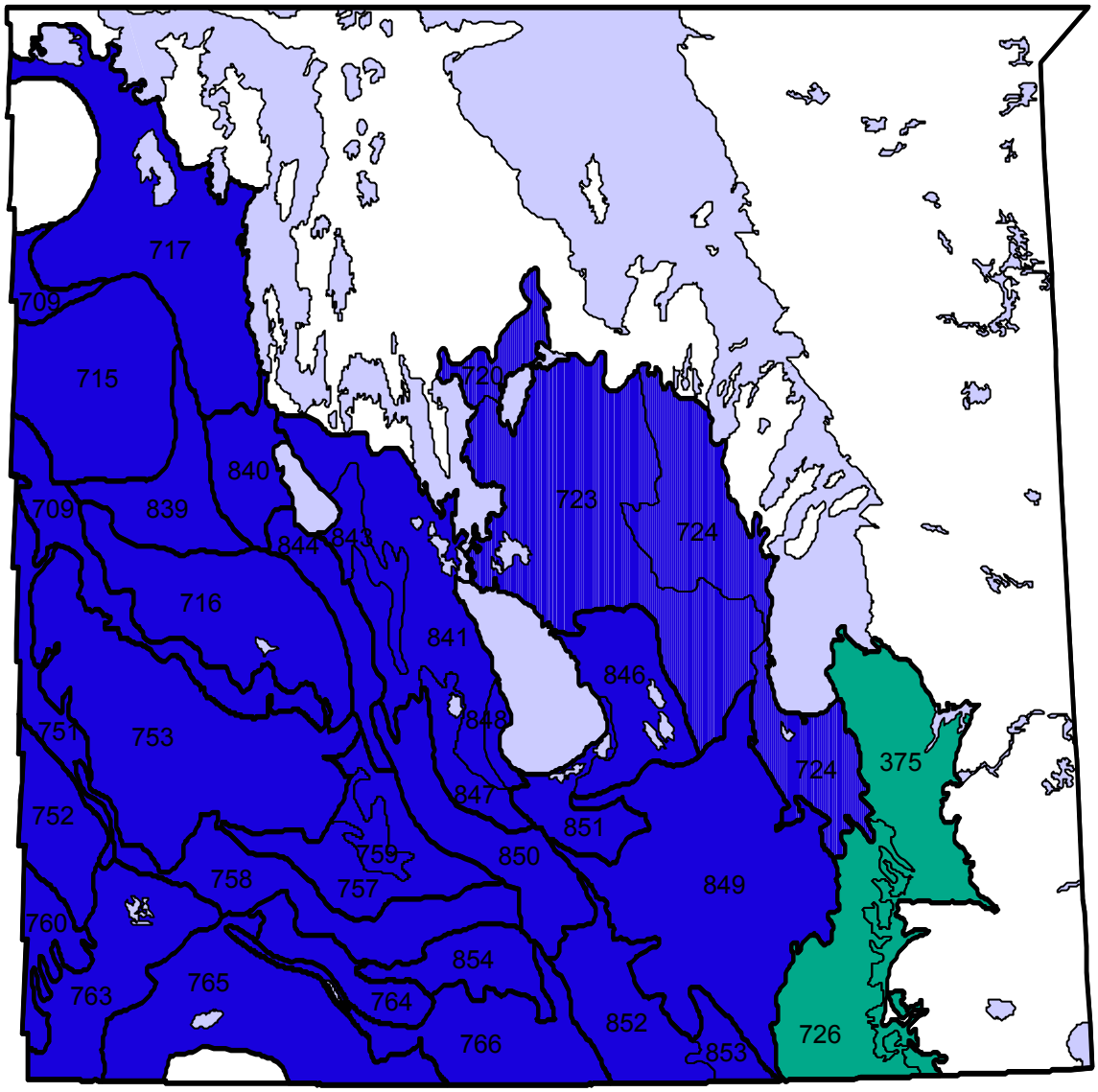
Wild mustard



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

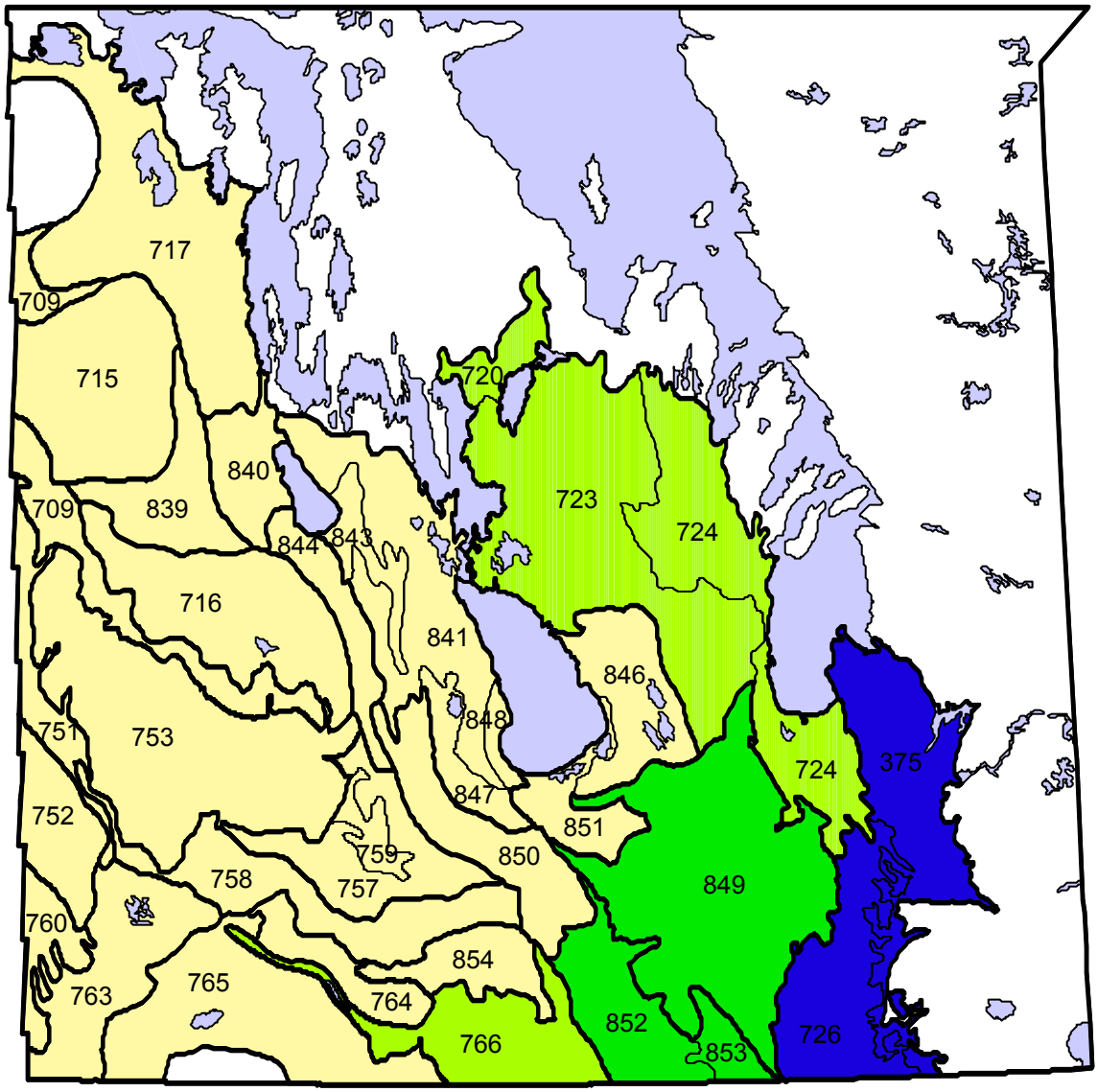
Wild oats



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10

Yellow foxtail



Relative Abundance Index

- Not included
- Absent
- 0.1 to 1
- 1.1 to 4
- 4.1 to 10
- More than 10