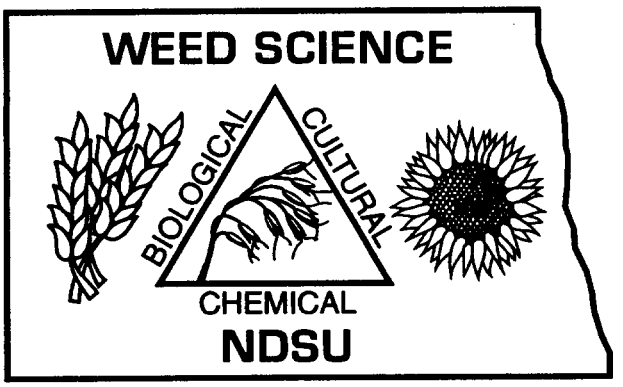
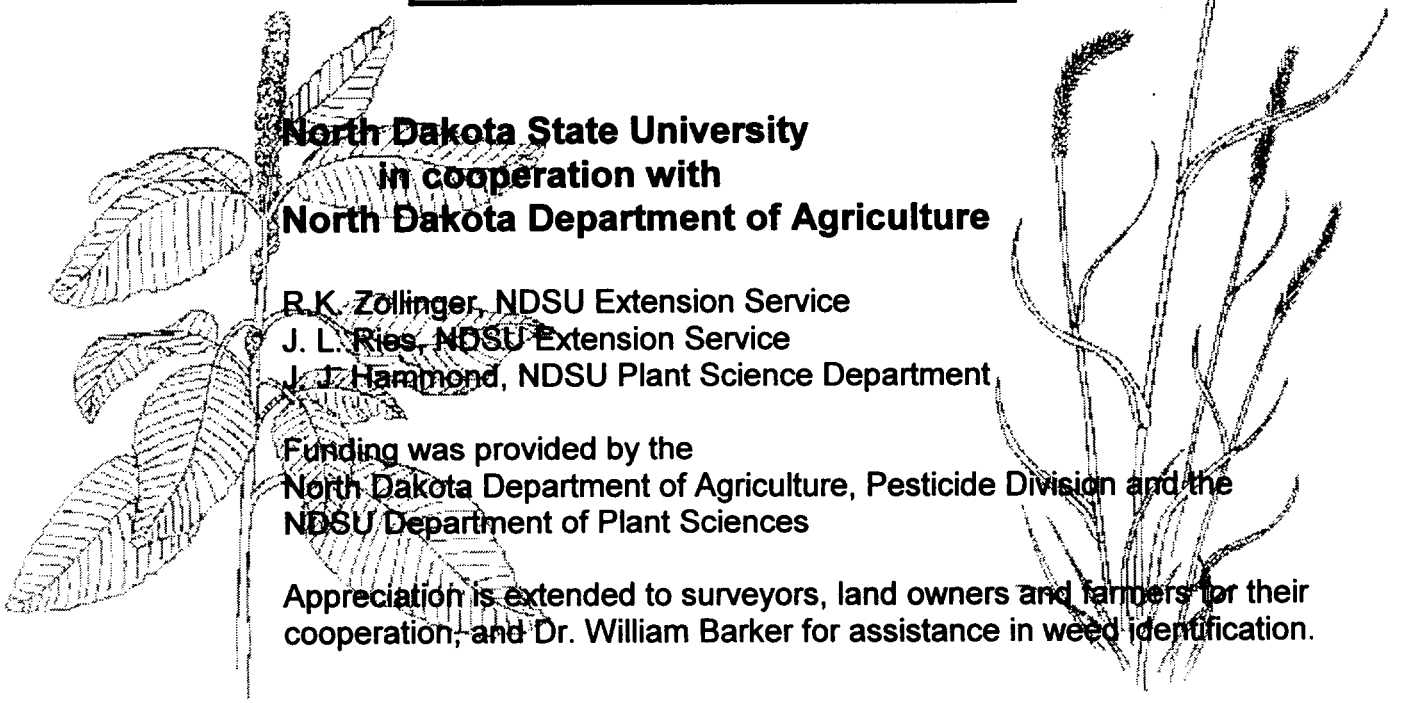
ER-83

Survey of Weeds in North Dakota - 2000





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in cooperation with
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www.ag.ndsu.nodak.edu/weeds/

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Introduction:

Two state-wide weed surveys were conducted in 2000 to meet four main objectives:

1. Determine the population and distribution of weed species.
2. Support North Dakota state pesticide registrations.
3. Provide information for herbicide benefit analysis.
4. Evaluate weed species shifts.

The surveys were based upon surveys conducted in North Dakota during 1978 and 1979, "Survey of Wild Oats and Other Weeds in North Dakota" (Dexter et al. 1981). The 1978 and 1979 surveys were conducted in the summer of each year to obtain information needed to determine the benefits from diallate and triallate for wild oat control. The 2000 surveys were conducted in the spring before herbicides were applied and again in summer prior to harvest of each crop surveyed. Results from the summer 2000 survey would compare to the results of surveys taken in the summer of 1978 and 1979. The spring 2000 survey adds significant information by identifying natural weed populations emerging in the spring prior to herbicide application.

This 2000 surveys along with the 1978 and 1979 weed surveys provide information on weed infestations for present and future herbicide benefit analysis. Also it serves as a basis for showing weed population shifts that have occurred and those that may occur in the future, especially since glyphosate has become a major component in weed control systems. Weed surveys give valuable information on the location and extent of infestation by various species, which is important in documenting emergency conditions necessary for Section 18 herbicide registrations for minor crops. Weed surveys are also important to develop weed prevention and control systems.

Methods:

The North Dakota state weed surveys were conducted from mid May through the latter part of June (spring) in 2000 prior to herbicide application and in August through September (summer) 2000, prior to harvest of small grains, canola, soybean, dry edible beans, and sunflower. The survey followed the same procedure as the surveys conducted in 1978 and 1979 so direct comparisons could be made (Dexter et al. 1981). Over 1400 fields were surveyed in 78 and 79. North Dakota had 16,708,761 total harvested acres, excluding hay, pasture, and Conservation Reserve Program (CRP) acres, according to 1997 North Dakota Agricultural Statistics. The total number of harvested acres in North Dakota was divided by 1551 (total number of fields surveyed in the spring) and 663 (total number of fields resurveyed in the summer) , so each sample would represent 10,772 acres in spring and 25,202 acres in summer. Each field surveyed in 78/79 represented 11,000 acres. A minimum of 10 fields per county was surveyed in 1979 and 2000.

The maximum number of fields in each county to be surveyed was determined by comparing the total number of crop acres in the state to the total number of crop acres in each county. The maximum number of fields per county was reduced by 25% to establish a minimum number of fields to be surveyed, as long as the number was above the minimum of 10 fields to be surveyed per county. An acceptable field was at least 40 acres and had an annual crop planted. Fields that were not acceptable to survey were: summerfallow, pasture, alfalfa and forage land, CRP, grasslands, inaccessible by road, or a small portion of the selected field was non-croppable. If none of the fields in the section were acceptable, the next closest field that met all criteria was substituted.

A North Dakota County Atlas was used to locate the number and possible townships to sample. The map illustrated townships with little or no crop acres, such as lakes, grasslands, etc., and those townships were excluded from the survey. Townships that were acceptable were numbered consecutively starting at the northwest township, moving east, and then serpentine at county borders until all usable townships were numbered. The specific section numbers (1-36) to be surveyed within each township were randomly chosen by computer using the number of qualifying townships and the maximum number of fields per county. All surveyors used county maps with township numbers and a copy of the location and number of fields to be surveyed per county.

Weed counts were taken in 0.5 by 0.5 meter (0.25 m^2) quadrats at 10 locations in the selected field with the quadrat centered over crop rows. The first count was 100 steps down the edge of the field, turning 90^0 and walking 100 paces into the field, turning 45^0 and walking 40 paces. The other samples were taken every 40 paces from the previous sampling location in a "M" pattern. Samples one through three were taken on the first leg, four and five on the next leg, six and seven on the next, and samples eight through ten were taken on the final leg. Sloughs, drainage ditches, and other areas of the field with irregularities were not sampled. Data collection sheets were used to record weed name and number of weeds. Data collection sheets were marked "weed free" when no weeds were present in sampling quadrats. Unidentified weed samples were identified by NDSU specialists and the correct weed name was entered on data collection sheets. A maximum density for an individual weed species of 99 plants/0.25 m^2 was recorded to save surveying time.

The summer survey was conducted to determine weeds species and weed densities prior to crop harvest. The chronological order in which crops were surveyed were small grains, canola, soybean, dry edible beans, and sunflower because of relative time at which harvest occurs. The objective was to resurvey approximately half of the fields that were surveyed in the spring. Of the 1551 fields sampled in the spring survey, 663 were

surveyed in the summer. Burke, Grand Forks, and Mountrail counties were not resurveyed. Each surveyor resurveyed approximately half of their fields by evenly dispersing the fields to be resurveyed throughout each county. Data collection and procedures were repeated.

Twenty seven surveyors were trained and oriented with objectives, procedures, and weed identification. Previous crop was determined by surveyors recognizing crop stubble from the previous years growth. If surveyors were not able to determine the previous crop it was listed and summarized as "unknown". Powell amaranth, redroot pigweed, and tumble pigweed were combined and called "pigweed species". Pennsylvania smartweed and ladysthumb was combined and called "annual smartweed". White and yellow whitlowwart were combined and called "whitlowwart species". Downy brome and cheat were combined and called "downy brome". Smooth brome and bromegrass were combined and called "smooth brome". Wild and volunteer sunflower were combined and called "common sunflower".

Definition of terms used in report:

County - a political subdivision of the state. North Dakota has 53 counties.

Weed Frequency - the percentage of fields surveyed that contained the weed in one or more of the 10 0.25 m^2 sample quadrats. "Weed free" in the Weed Species column of the data collection sheets indicates that at least one of the sample quadrats within the field had no weeds.

Field Uniformity (All) - The percentage of the 0.25 m^2 sample quadrats that contained the specific weed based on all sampled fields.

Field Uniformity (Infested) - The percentage of the 0.25 m^2 sample quadrats infested with the specific weed based only on fields where the weed occurred in one or more of the 10 sample quadrats.

Weed Density (All) - The average weed population or density per m^2 based upon all sample quadrats in all sampled fields.

Weed Density (Infested) - The average weed population or density per square meter based only on infested fields where the weed occurred in one or more of the sample quadrats.

Density Range - The lowest and highest density in plants per square meter recorded for a specific weed within a county or state. The highest recorded weed density was 99 plants/0.25 m^2 (equivalent to 396 plants square meter). The total number of quadrats containing more than 99 plants/0.25 m^2 meter was less than 0.4%, indicating the density range of most weeds indicated in tables are representative. Kochia, pigweed species, and green foxtail had greater than 99 plants/0.25 m^2 in 6.7%, 2.6%, and 1.7% of the total number of quadrats, respectively, so the actual mean density of the three species may be slightly higher than the mean density reported in the tables.

Weed Index - A calculated value that gives an indication of the abundance of a particular weed and can be used to determine comparisons between years and among crops. The formula used was:

$$WI = \frac{(WF) + [(3 \times FU\ (All))] + [7 \times WD\ (All)]}{3}$$

WI = Weed index
WF = Weed Frequency
FU (All) = Field uniformity for all quadrats
WD (All) = Weed density for all quadrats

The ratio of weed frequency:field uniformity:weed density was 1:3:7. These numbers were the numbers used for multiplication so that all three factors would have an approximately equal effect on weed index. Weed index does not necessarily represent the losses in crop production caused by a weed because weeds vary greatly in competitive ability.

Results and Discussion

This report contains information on the infestations of weeds in crops for both the entire state of North Dakota and individual counties. Some tables and information from the 1978 and 1979 surveys are included so comparisons can be made and changes in weed abundance can be documented over a 22 year period. Only the summer survey should be compared to the 1978/1979 surveys because the surveys were taken at similar times.

The weeds are ranked by weed index in the various tables. The 20 most important weeds in 1978, 1979 and 2000 ranked by the weed index and averaged over all crops for the entire state are given in Table 10. Green foxtail remains the most abundant weed species. The spring and summer 2000 surveys and 1978/1979 surveys are composed of mostly the same weeds but the weed rankings differ. The weed index decreased for all weeds except yellow foxtail, kochia, Canada thistle, common ragweed, quackgrass, and common cocklebur. Weeds that were in the top 10 weeds in the spring 2000 survey but not the top 10 weeds of the 1978/1979 surveys were volunteer cereals, canola, eastern black nightshade, and soybean. Weeds that were in the top 10 weeds in the summer 2000 survey but not in the top 10 weeds of the 1978/1979 survey were volunteer cereals, eastern black nightshade, perennial sowthistle, and common milkweed.

Weeds that were in the 2000 survey but not in the 1978/1979 surveys were wild-proso millet, eastern black, hairy, and cutleaf nightshade, biennial wormwood, tall waterhemp, lanceleaf sage, yellow nutsedge, Venice mallow, and swamp smartweed (Table 10). Weeds that were in the 1978/1979 surveys but not in the 2000 survey were nightflowering catchfly and prairie wild rose.

The number of weed-free fields increased from 36% in 1978 and 27% in 1979 to 36% in spring 2000 spring (Table 9) and 54% in summer 2000 (Table 80). Lower weed indexes and weed frequency but higher number of weed-free fields in 2000 as compared to 1979 indicate lower weed problems even though the plant species complex across the state has remained similar.

Green foxtail

Green foxtail was the most abundant weed throughout North Dakota from 1979 to 2000 with 94%, 66%, and 56% of the surveyed fields being infested in 1978/1979, spring 2000, and summer 2000 surveys, respectively (Tables 9 and 80). The average green foxtail density in infested fields was 48 plants /m^2 in 1978, 67 in 1979, 66 in spring 2000, and 56 in summer 2000. Only 1.7% of the total number of quadrats had more than 99 plants/m^2 so the actual average density would have been slightly higher than indicated. The weed index was 236 in 1978/1979, 103 in spring 2000, and 74 in summer 2000.

These results indicate that green foxtail has become less abundant since 1979 but density has changed little in most North Dakota fields. The competition from green foxtail with crops is not as intensive as from weeds like wild oat or wild mustard. However, high green foxtail densities and frequency would indicate that green foxtail causes large losses to the state.

Wild oat

Wild oat occurred in 66% of the surveyed fields in 1978, 60% in 1979, 32% in spring 2000, and 41% in summer 2000, with an average density in infested fields of 9, 7, 19, and 11 in 1978, 1979, spring 2000, and summer 2000, respectively (Tables 9 and 80). The weed index value for wild oat was 69 in 1978, 55 in 1979, 35 in spring 2000, and 39 in summer 2000. Lower occurrence and index value may be due to several years of good control from several effective herbicides registered since 1979.

Plant density in fields were almost twice as high in spring 2000 as compared to 1978 and 1979 indicating high seed bank populations where present in fields. High densities in spring 2000 were from natural emergence but density of 11 plants/m^2 after herbicide treatment demonstrate the ability of wild oat to survive chemical control. It was thought that low densities in 1978 and 1979 were due to late crop seeding and that wild oat densities vary widely based on year, environment, and field history. For example, the wild oat density in Cass county was ten or more times higher in 1980 than in 1978 or 1979.

Yellow foxtail

Green and yellow foxtail often respond differently to herbicides. Yellow foxtail is more difficult to control, so selection pressure from several herbicides has caused a shift to yellow foxtail in many areas of the state. Yellow foxtail occurred in 13%, 33%, 20%, and 30% of the fields and at densities of 18, 20, 31, and 24 plants/m^2 in 1978, 1979, spring 2000, and summer 2000, respectively (Tables 9 and 80). This indicates the occurrence of yellow foxtail is similar but at higher densities than two decades ago.

Waldron (1904) reported in 1903 that foxtail was common throughout North Dakota and that yellow foxtail was more abundant than green foxtail, which demonstrates a shift to green foxtail from 1903 to 1979. In the 1978 and 1979 surveys, green foxtail occurred on 94% of fields and yellow foxtail occurred on 23% of fields, but in the 2000 surveys green foxtail occurred on 60% of the fields and yellow foxtail occurred on 25% of the fields. Even though green foxtail frequencies have decreased considerably, yellow foxtail occurrence have been stable over 20 years, which confirms grower observation that yellow foxtail has become more problematic.

Kochia

Kochia was the sixth ranked weed in 1978 and spring 2000, the fourth ranked weed in summer 2000, and the ninth ranked weed in 1979 (Tables 9 and 80). Occurrences were 25%, 27%, 30%, and 40% and densities were 4, 2, 16, and 8 plants/m^2 in 1978, 1979, spring 2000, and summer 2000, respectively. In 2000, 6.7% of the total number of quadrats had more than 99 plants/m^2 so the actual average density would have been slightly higher than indicated. Kochia thrives in dry climates. Greater than normal rainfall occurred in North Dakota from 1993 through 2000, which would be expected to reduce kochia populations. However, kochia was more abundant and found at greater densities in 2000 than 1979.

Acetolactate synthase (ALS) inhibiting herbicides were introduced in the mid 1980s, and herbicides of this mode of action have been registered in most crops grown in North Dakota, including small grains, corn, soybean, dry bean, field pea and pulse crops, canola, sugarbeet, potato, and alfalfa. Kochia resistance to ALS herbicides was documented within 4 years after introduction for field use. Most fields in North Dakota contain kochia that is ALS resistant, which may explain the higher than anticipated occurrence.

Wild buckwheat

In summer 2000, wild buckwheat had a frequency and weed index similar to kochia, Canada thistle, and pigweed species, but wild buckwheat densities were higher. Frequency of wild buckwheat was 56%, 65%, 46%, and 32% in 1978, 1979, spring 2000, and summer 2000, respectively, and density was 7, 4, 13, and 10 plants/m^2 (Tables 9 and 80). Thus, wild buckwheat occurred half as frequently in 2000 as 1979 but at twice the density. Increasing broadleaf and row crop acreage and greater than normal precipitation in the 1990s may have allowed plants to emerge in high densities.

Wild buckwheat is less competitive with crops than wild oat. Thus, even though infestations were similar to wild oat, the economic losses from wild buckwheat would be less. Wild buckwheat, in addition to yield losses, causes harvesting difficulties as the plant vines cause crop lodging.

Perennial weeds: Canada thistle, field bindweed, perennial sowthistle, and common milkweed.

Canada thistle occurred in 12, 21, 39, and 34%, field bindweed in 10, 18, 13, and 12%, perennial sowthistle in 12, 10, 7, and 8%, and common milkweed in 2, 3, 7, and 9% of the surveyed fields in the 1978, 1979, spring 2000, and summer 2000 surveys, respectively (Tables 9 and 80). Density of field bindweed and perennial sowthistle doubled or nearly doubled from 1979 to 2000 and tripled for Canada thistle and common milkweed.

North Dakota state weed surveys show Canada thistle has continued to increase across the state and now surpasses leafy spurge in number of acres infested (NDDOA 2001, NDDOA 2001). Other surveys conducted in sunflower and dry bean also confirm the dramatic increase in Canada thistle populations (Lamey 2001, Lamey et al. 2001). Above average precipitation beginning in 1993, increase in number of no-till acres, high cost of control, lack of winter snow and moderate winter temperatures may be factors contributing to the increase of Canada thistle infestations.

Pigweed species

Redroot pigweed was the dominant pigweed species. Pigweed species occurred in 45% of the surveyed fields in 1978, 63% in 1979, 26% in spring 2000, and 25% in summer 2000 (Tables 9 and 80). Densities in the field were 4, 2, 15, and 8 plants/m^2 in 1978, 1979, spring and summer 2000, respectively. In 2000, 2.6% of the total number of quadrats had more than 99 plants/m^2, so the actual average density would have been slightly higher than indicated.

Redroot pigweed can produce 178,000 seeds per plant and seeds can remain viable for over five years. Despite small seed size, which normally would result in high densities, pigweed species had a lower density than weeds with larger seeds, such as yellow foxtail, kochia, and wild buckwheat. Redroot pigweed is moderately tolerant to 2,4-D and MCPA at low rates. Information on crop competition from redroot pigweed is available for soybean and sugarbeet. Lack of competition information in small grains make it difficult to estimate economic importance.

Volunteer cereals

Volunteer cereals occurred in no more than 2% of the fields in the 1978 and 1979 surveys but occurred at 15 and 12% in the spring 2000 and summer 2000 surveys, respectively (Tables 9 and 80). Volunteer cereal density was 13 plants/m^2 in the spring 2000 survey and 10 plants/m^2 in the summer 2000 survey, which was much higher than any volunteer crop in the 1978 and 1979 surveys. Volunteer cereals were ranked in the top 10 weeds by weed index for both the spring and summer 2000 surveys but did not appear in the top 20 weeds in the 1978 or 1979 surveys. Thus, volunteer cereals increased in occurrence and densities over the last 22 years.

Common ragweed

Common ragweed was ranked 18th in the 1978 survey, 21st in the 1979, 12th in the spring 2000, and 9th in the summer 2000 survey, which indicates an increase in occurrence (Tables 9 and 80). Broadleaf row crop acreage has increased substantially since 1979 and many herbicides used in row crops do not control common ragweed. Common ragweed is one of the most competitive weeds in soybean compared with other crops surveyed.

Other weeds

A total of 73 weed species were detected in crop fields in the spring 2000 and 71 in the summer 2000 surveys (Tables 9 and 80). This compares to 61 plants species in the 1978 survey and 74 in the 1979 survey. In the 2000 surveys, 50 of the plant species were found on less than 4% of the fields surveyed. Some species that were not discussed but occurred on 4% or more of surveyed fields in either the spring or summer survey were quackgrass, Russian thistle, wild mustard, eastern black nightshade, common sunflower, common cocklebur, field pennycress, prickly lettuce, flixweed/tansy mustard, common mallow, barnyardgrass, common purslane, horseweed (marestail), marshelder, and biennial wormwood. Other crop surveys (Lamey 2001, Lamey et al. 2001) have shown common cocklebur, marshelder, nightshades, and biennial wormwood to be important weeds infesting sunflower and dry edible beans.

The weeds present in the surveyed fields in each county are presented in Tables 14 through 74 for the spring 2000 survey and Tables 81 through 130 for the summer 2000 survey.

Agronomic practices used and characteristics of survey

The major weeds were similar in the various crops in spring and summer 2000 surveys (Tables 2-8, 10-13, and 76-79). The procedure used in the 2000 survey was slightly different than for the 1978 and 1979 surveys. The timing of the 2000 survey was in the spring prior to herbicide application and then again in the summer prior to harvest, which corresponds to the 1978 and 1979 surveys. Weeds found in fields surveyed in the spring would originate from accumulated weed seed banks and from natural emergence without influence from human activity, except for field preparation and planting. Weeds present in the summer would result from escaping herbicide or tillage treatment or germinating after the last weed control treatment.

Green foxtail was the most abundant weed in both spring and summer surveys. Weeds with higher ranking in the summer than spring surveys were wild oat, yellow foxtail, kochia, common ragweed, eastern black nightshade, field bindweed, perennial sowthistle, and common milkweed, indicating that these weeds survived control methods. Several herbicides are less effective on yellow versus green foxtail. Extensive use

of ALS herbicides in almost all crops would not control ALS-resistant kochia. Only above-ground control, but not root kill, of the perennial weeds, field bindweed, perennial sowthistle, and common milkweed, results when herbicides are applied in the spring.

Generally, the most abundant weeds in small grains were also most abundant in the other crops. Volunteer cereals were present in most broadleaf crops but was not counted in small grains. In the spring survey, common sunflower in corn, and nightshade and common milkweed in sugarbeet were among the ten most abundant weeds that were not present in small grain. However, the summer survey indicated canola had several weed species that were more abundant as compared to small grain. Wild mustard, giant ragweed, perennial sowthistle, and flixweed/tansy mustard were among the most abundant weeds in canola but not in small grain even though they had similar levels of abundance as small grain. Soybean and dry bean fields had more common ragweed than small grains.

Green foxtail was the most abundant weed in the spring for all crops except sugarbeet, where it was ranked third. Yellow foxtail was ranked first in sugarbeet. In the summer survey, green foxtail was ranked first in small grain, soybean, dry bean, and sunflower but ranked seventh in canola. Wild oat was ranked first in canola.

Weed populations tended to fluctuate less in small grains than in other crops. In the spring survey, most weed populations were lower in sugarbeet than in small grain and were lower in canola than in other crops except wild oat, Canada thistle, yellow foxtail and common lambsquarters in corn, and wild mustard and Canada thistle in sunflower. Compared to small grain, the population of most weeds, including Canada thistle, was higher in flax, soybean and dry beans. Inadequate yellow foxtail control in corn is a common problem reported by growers. Increase in Canada thistle populations in most crops supports state noxious weed survey results conducted each year by the North Dakota Department of Agriculture.

In the summer survey, the population of predominant weeds in canola was greater than in small grains. Yellow foxtail, kochia and Canada thistle populations were lower in soybean than small grains but similar in sunflower compared to small grains. High adoption of Roundup Ready soybean may be responsible for low weed populations in soybean.

The influences of the previous crop on weeds in spring 2000 are presented in Tables 67 through 74. Green foxtail was the weed present in highest frequency. Species composition was similar to the 20 most abundant weeds in North Dakota (Table 10) but there were a few exceptions. Common mallow was the 15th most abundant weed following canola and tame mustard but was not in the top 20 weeds in Table 10. Roundup Ready canola composes over 70% of the total canola acreage in North Dakota. Glyphosate does not adequately control common mallow, which supports the observed and measurable infestation in mustard crops.

Nightshade, common ragweed, common cocklebur, perennial sowthistle, and common milkweed were in much higher abundance following soybean and dry beans than the state average. Most soybean grown in North Dakota are Roundup Ready. Glyphosate applied in the spring does not give season long control of most of the weeds mentioned. Yellow foxtail, common cocklebur, wild-proso millet, and nightshades occurred in higher frequency than in the state average following corn. Nicosulfuron or nicosulfuron&rimsulfuron applied with dicamba have been the most used herbicide combinations in North Dakota but does not control yellow foxtail and wild-proso millet or control multiple flushes of common cocklebur and nightshades.

The 15 most prevalent weeds following flax occurred at much higher frequency than the state average, due probably to the limited number of herbicides registered in flax and the incomplete broadleaf weed control that would result. Flax is much less competitive with weeds than most other crops, which contributes to high weed frequency. Nightshades, common milkweed, common mallow, and lanceleaf sage were more frequent following sugarbeet than the state average, which is due to lack of full spectrum herbicides.

Losses in crop production

Competition data for the 1978 and 1979 surveys are found in Table 131 and data for the summer 2000 survey are found in Table 132. The 1978 and 1979 surveys only contain yield loss data for spring wheat and barley. Similar calculations and assumptions were used to calculate acres infested, yield loss, and grain loss for all surveys. Competition data, when available, from the literature was used to determine the yield losses in hard red spring (HRS) wheat, durum wheat, and barley from the various weed infestations as determined by the 1978, 1979 and summer 2000 surveys.

Losses from weed competition in barley were available for wild oat and green foxtail. HRS wheat yield loss was about 25% for wild oat and variable for green foxtail, depending on environment, density, and emergence in relation to the small grain crop. Losses in barley were assumed to be 25% less than in HRS wheat. The yield losses were determined only from weeds where competition data were available. Competition data for spring wheat were available for only seven weeds in 1979. However, by 2000, competition data for 13 weeds were available, resulting in greater calculated yield and grain loss. HRS wheat and barley data were separated in the 1978 and 1979 surveys but were combined in the 2000 survey.

The composite totals for yield loss and grain loss were calculated using individual values for total state acres and average state yield for HRS wheat, durum wheat, and barley (NDAS 2002). Many important weeds infesting small grains are listed in Table 132, but not included in the HRS wheat, durum wheat, and barley production losses because data on competition at various infestation levels were not found in the literature.

Losses in HRS wheat, durum wheat, and barley

Wild oat caused more production losses in HRS wheat and barley than any other weed in 1978 and 1979 (Table 131). However, in 2000, Canada thistle caused more yield loss than any other weed followed by wild oat, field bindweed, common milkweed, kochia, and green and yellow foxtail combined (Table 132). Canada thistle caused 35.5 million bushel HRS wheat loss in 2000. Canada thistle frequency and density were an average of 14% and 2.9 plants/m^2 in 1978 and 1979 and 32% and 8.2 plants/m^2 in 2000, which resulted in greater small grain competition and yield loss in 2000.

Wild oat frequency was higher in HRS wheat and barley in 1978 than 2000 but density was similar; thus, there was a higher loss in grain in 1978 compared to 2000 (22,551,000 bu vs. 20,852,000 bu). The infestation frequency for Canada thistle, field bindweed, and common milkweed was much less than wild oat and green and yellow foxtail. However, these three perennial weeds are highly competitive, causing important losses in small grains.

Losses from wild mustard were less in 2000 than 1978 and 1979, due mostly to a significant reduction in infestation in 2000 (Table 131). ALS herbicides registered in many crops easily control wild mustard.

The average total loss in HRS wheat and barley in 1978 and 1979 from the seven weeds listed in Table 131 was 55.6 million bushels. These seven weeds reduced HRS wheat and barley production in 2000 by 83.4 million bushels or 1.5 times more than in 1978 and 1979. The total average yield loss was 14.5% in 1978 and 1979 but was 20.3% in 2000.

Weed competition data generated prior to 1978 were used to calculate yield loss for 2000 even though different wheat and barley varieties were planted and yields have increased since 1979. The state yield average for HRS wheat was 30 bushels per acre in 1978 and 26 bushels per acre in 1979 compared to 37 bushels per acre in 2000. Barley yields increased from 46 bushels per acre in 1978 and 1979 to 55 bushels per acre in 2000. Higher average yield may be due to more effective weed management practices, better cultural practices and fertility management, more favorable growing environment for small grain production, and potentially higher harvest index for HRS wheat and barley varieties grown in 2000.

Less rainfall in 1978 and 1979 (state average of 17 and 14 inches, respectively) compared to 2000 (state average of 22 inches) may also explain difference in yields. Data are not available to determine if small grain varieties grown in 2000 are more competitive against weeds than those grown in 1978 and 1979 so the assumption for calculating yield loss was that varieties grown in 1978 and 1979 were similarly competitive with weeds as the varieties grown in 2000.

Total grain loss from the 13 weeds shown in Table 132 was over 115 million bushel, a two-fold increase from the 55.6 million average bushel loss from seven weeds found in the 1978 and 1979 survey. The additional six weeds increased the percent total yield loss from 14.5% in 1978 and 1979 to 28.1% in 2000.

These losses from weeds were based on individual weed species competition. Losses in HRS wheat or barley fields that were infested with more than one species may have been slightly less than a combined loss of each weed alone. The weeds would compete with each other to reduce the total loss. Green foxtail was the only weed that occurred commonly with other weeds and the percentage losses used for foxtail competition were slightly conservative. The competition among weeds probably did not greatly affect total crop losses.

Weeds present at the summer evaluation may have been injured by herbicide treatment and/or emerged late in the season. Thus, they may not have provided full-season competition as assumed in the calculation, but no research data are available to adjust for these possible variables. The total losses from weeds in small grains would probably exceed those given in Tables 131 and 132 if weeds not listed or competition data not given were considered. The loss of bushels of small grains from weeds in 1978, 1979, and 2000 were from control practices available at those times. The weed surveys were taken prior to harvest and do not indicate what losses would have been without control practices. The total cost of weeds in these crops would also need to include the cost of chemical, tillage, and cultural control practices.

The results of these surveys indicate that perennial weeds have become a greater problem and reduce small grain yields more in 2000 than 1979. The results also show that several weeds continue to infest small grains and cause major production losses.

Losses in canola

Competition information was available for wild oat, Canada thistle, quackgrass, perennial sowthistle, wild mustard, flixweed/tansy mustard (assumed same as wild mustard), and volunteer cereal (Table 132). Combining yield loss data from wild mustard and flixweed/tansy mustard showed a 124,080,000 pound loss in canola production. Canada thistle reduced canola production by 97,717,000 pounds, followed by wild oat at 83,952,000 pounds, and volunteer cereals at 29,832,000 pounds. All seven weeds reduced total canola production by 352,638,000 pounds, or a 21.4% reduction in yield.

Losses in soybean and dry bean

2000 survey results show that soybean and dry bean had a greater percentage loss in production than other crops surveyed (Table 132). Thirteen weeds listed in Table 132 reduced soybean and dry bean yield by 31,692,000 million bushels or a 41.7% reduction in yield. The most competitive weeds in soybean and dry beans were common sunflower and common cocklebur followed by pigweed. Common cocklebur caused the greatest single weed yield reduction of 5.2 million bushels, followed by pigweed at 4.9 million, sunflower at 4.2 million, and common ragweed at 3.4 million bushels.

Losses in sunflower

Seven weeds infesting sunflower caused the second highest reduction in production at 36.8% and a 642,328,000 pound total yield loss (Table 132). Green foxtail and kochia each reduced sunflower production by about 165,000,000 pounds, followed by wild oat at 94,229,000 pounds. Yellow foxtail and volunteer cereals each were similar in reducing sunflower production (about 70,000,000 pounds). Combining wild mustard and canola also reduced sunflower grain production by over 75,000,000 pounds.

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Table 1. Number and type of crop sites surveyed in each county, spring 2000.

COUNTY	HRS Wheat	Soy-bean	Sun-flower	Barley	Corn	Canola	Durum wheat	Tame oat	Dry bean	Flax	Sugar-beet	Tame mustard	Field pea	Lentil	Buck-wheat	Saf-flower	TOTAL
Adams	11	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	13
Barnes	18	20	20	5	1	-	-	1	1	-	-	-	-	-	-	-	66
Benson	17	-	8	8	-	1	-	1	1	-	-	-	-	-	-	-	36
Billings	5	-	-	1	-	-	-	3	-	-	-	-	-	1	-	-	10
Bottineau	17	-	5	10	1	5	-	2	-	2	-	-	1	-	-	-	43
Bowman	4	-	3	2	1	-	-	-	-	-	-	-	-	-	1	-	11
Burke	1	-	-	-	-	5	17	-	-	-	-	-	-	1	-	-	24
Burliegh	8	-	2	-	2	-	-	1	1	1	-	-	-	-	-	-	15
Cass	61	13	1	6	-	-	-	-	1	1	1	-	-	-	-	-	84
Cavalier	25	-	11	4	-	8	2	-	2	-	-	-	-	-	-	-	52
Dickey	6	1	-	1	16	-	-	3	-	-	-	-	-	-	-	-	27
Divide	22	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	23
Dunn	3	-	-	1	1	-	-	3	-	-	-	3	-	-	-	-	11
Eddy	4	1	3	-	1	2	-	1	-	-	-	-	-	-	-	-	12
Emmons	21	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	24
Foster	11	-	7	-	-	3	-	-	-	-	-	-	-	-	-	-	21
Golden Valley	7	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	10
Grand Forks	25	-	1	-	5	-	-	-	1	-	6	-	-	-	-	-	38
Grant	7	-	4	1	3	-	-	1	-	-	-	-	-	-	-	-	16
Griggs	10	3	1	3	-	-	-	-	2	-	-	-	-	-	-	-	19
Hettinger	18	-	3	1	2	4	-	1	-	3	-	-	-	-	-	-	32
Kidder	2	-	-	1	2	-	-	2	-	2	-	-	-	1	-	-	10
LaMoure	13	12	2	2	8	-	-	1	-	-	-	-	-	-	-	-	38
Logan	4	-	2	2	3	-	-	-	-	-	-	-	-	-	-	-	11
McHenry	7	-	8	2	2	-	2	2	-	-	-	2	-	-	-	-	25
McIntosh	11	-	-	1	-	-	-	4	-	-	-	-	-	-	-	-	16
McKenzie	9	-	-	5	-	2	-	11	-	-	-	-	-	-	-	1	28
McLean	25	-	2	-	1	10	-	-	4	-	-	-	2	-	-	-	44
Mercer	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Morton	19	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
Mountrail	13	-	-	2	-	1	11	2	-	2	-	-	2	-	-	-	33
Nelson	13	2	3	2	2	5	1	-	-	2	-	-	-	-	-	-	30
Oliver	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Pierce	6	-	1	7	-	2	2	1	-	2	-	-	-	-	-	-	21
Pembina	12	8	8	8	-	13	5	-	-	-	-	-	-	-	-	-	54
Ramsey	16	4	-	4	1	3	2	1	-	-	-	-	-	-	-	-	31
Ransom	5	5	-	-	5	-	-	-	-	-	-	-	-	-	-	-	15
Renville	18	-	6	4	-	-	3	-	-	3	-	-	-	-	-	-	34
Richland	20	26	1	-	14	-	-	-	-	-	-	-	-	-	-	-	61
Rolette	5	-	-	3	-	2	3	-	-	1	-	-	-	-	-	-	14
Sargent	11	13	2	-	3	-	-	-	-	-	-	-	-	-	-	-	29
Sheridan	8	-	1	6	-	1	-	1	-	-	-	-	-	-	-	-	17
Sioux	4	-	2	-	2	-	-	2	-	-	-	-	-	-	-	-	10
Slope	5	-	2	1	-	-	2	1	-	-	-	-	-	-	-	-	11
Stark	7	-	3	1	1	1	-	1	-	-	-	-	-	-	-	-	14
Steele	16	2	1	-	-	-	-	-	6	-	-	-	-	-	-	-	25
Stutsman	18	10	7	5	1	1	1	3	-	3	-	-	-	-	1	-	50
Towner	6	1	8	4	-	4	6	-	-	-	-	-	-	-	-	-	29
Traill	20	17	2	2	7	-	-	-	4	-	1	-	-	-	-	-	53
Walsh	36	24	10	3	1	2	-	-	-	1	-	-	-	-	-	-	77
Ward	28	-	7	4	1	3	14	1	-	1	-	3	-	-	-	-	62
Wells	17	-	7	11	3	-	2	-	2	-	-	-	-	-	-	-	42
Williams	23	-	-	12	-	-	2	2	-	-	-	-	-	-	-	-	39
TOTAL	719	163	156	136	91	78	75	56	25	24	8	8	5	4	2	1	1551

Table 2. North Dakota weed infestations in current crop of HRS wheat, durum wheat, barley, and tame oat based on 986 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	69.9	25.2	36.0	28.1	40.2	2.3	28.2	114.0
Wild buckwheat	52.5	18.7	35.6	7.7	14.7	0.1	5.6	54.2
Wild mustard	47.3	16.7	35.4	7.0	14.8	0.1	6.4	48.8
Wild oat	32.5	11.0	33.9	6.2	19.2	0.1	8.1	36.4
Kochia	34.5	11.3	32.7	5.6	16.2	0.2	11.6	35.8
Pigweed species	28.4	9.6	33.9	4.6	16.1	<0.1	7.9	29.8
Canada thistle	36.5	9.5	25.9	2.8	7.6	<0.1	3.6	26.3
Yellow foxtail	16.1	5.7	35.6	5.1	32.1	0.3	16.4	23.1
Common lambsquarters	26.1	7.4	28.3	2.9	11.1	<0.1	5.7	22.8
Sunflower	14.2	5.6	39.2	3.2	22.7	0.1	8.3	17.9
Russian thistle	17.3	5.1	29.6	2.6	14.9	<0.1	6.8	16.9
Field bindweed	15.4	3.8	24.8	1.3	8.3	<0.1	3.8	11.9
Field pennycress	12.6	3.8	30.2	1.5	11.6	<0.1	7.2	11.4
Quackgrass	12.6	2.7	21.1	1.5	12.1	<0.1	6.3	10.4
Common ragweed	11.0	2.8	25.2	1.0	9.5	<0.1	5.8	8.9
Canola	6.3	2.3	36.9	1.8	28.5	0.1	16.5	8.5
Soybean	7.9	2.5	31.2	0.4	5.5	<0.1	2.2	6.1
Eastern black nightshade	7.1	1.7	23.3	0.6	8.2	<0.1	3.9	5.4
Perennial sowthistle	7.3	1.5	20.7	0.5	7.2	<0.1	3.6	5.2
Volunteer cereal	4.5	1.4	31.4	0.5	11.6	<0.1	5.5	4.2
Common mallow	4.6	1.2	25.3	0.4	8.5	<0.1	4.7	3.6
Flixweed/Tansy mustard	5.4	1.3	23.6	0.2	3.7	<0.1	1.8	3.5
Prickly lettuce	5.0	1.1	21.5	0.2	4.8	<0.1	2.5	3.3
Common cocklebur	4.3	1.1	25.0	0.3	5.8	<0.1	3.3	3.1
Annual smartweed	3.8	0.7	19.1	0.4	11.7	0.1	10.3	3.0
Dandelion	4.3	1.0	24.3	0.2	4.0	<0.1	1.9	2.9
Common milkweed	3.8	0.5	13.7	0.1	3.1	<0.1	2.3	2.1
Shepherd's-purse	2.0	0.5	24.7	0.3	13.2	<0.1	7.2	1.8
Barnyardgrass	1.6	0.5	33.3	0.2	11.9	<0.1	4.1	1.5
Fairy candelabra	2.0	0.5	23.7	0.1	6.7	<0.1	3.3	1.5
Flax	1.0	0.5	53.3	0.3	27.4	<0.1	16.6	1.5
Prairie wild rose	1.9	0.4	18.9	0.1	3.9	<0.1	2.5	1.2
Sweetclover	1.5	0.4	25.0	0.1	8.0	<0.1	3.9	1.2
Downy brome	1.2	0.3	23.6	0.1	10.0	<0.1	5.5	1.0
Common purslane	1.2	0.2	20.9	0.1	5.7	<0.1	2.5	0.8
Curly dock	1.4	0.2	15.4	<0.1	3.6	<0.1	2.7	0.8
Hedge bindweed	1.1	0.3	28.0	0.1	5.0	<0.1	1.8	0.8
Wild-proso millet	0.9	0.2	26.3	0.1	13.1	<0.1	6.0	0.8
Prostrate pigweed	1.0	0.3	27.8	0.1	6.7	<0.1	3.2	0.7
Horseweed	1.2	0.2	20.0	<0.1	3.0	<0.1	1.5	0.7
Yellow woodsorrel	0.5	0.2	32.0	0.1	16.1	<0.1	6.6	0.6
Nightflowering catchfly	0.5	0.2	38.0	0.1	13.3	<0.1	3.8	0.6
Greenflower pepperweed	1.1	0.1	12.0	<0.1	1.6	<0.1	1.2	0.5
Giant ragweed	0.6	0.2	28.3	<0.1	7.4	<0.1	3.2	0.5
Biennial wormwood	0.6	0.2	33.3	<0.1	4.7	<0.1	2.0	0.5
Lanceleaf sage	0.4	0.2	37.5	0.1	11.8	<0.1	4.0	0.4
Whitlowwart species	0.6	0.1	21.7	<0.1	3.4	<0.1	1.8	0.4

Table 2. (continued).

Marshelder	0.8	0.1	14.3	<0.1	2.0	<0.1	1.4	0.4
Common chickweed	0.6	0.1	15.0	<0.1	4.7	<0.1	6.8	0.4
Alfalfa	0.5	0.1	24.0	<0.1	4.5	<0.1	2.2	0.4
Dry bean	0.6	0.1	16.7	<0.1	2.7	<0.1	1.7	0.4
Field sandbur	0.2	<0.1	10.0	0.1	48.4	<0.1	27.0	0.3
Cutleaf nightshade	0.5	0.1	18.0	<0.1	4.5	<0.1	3.4	0.3
Foxtail barley	0.6	0.1	10.0	<0.1	2.3	<0.1	2.2	0.3
Purslane speedwell	0.5	0.1	16.0	<0.1	3.7	<0.1	2.6	0.3
Venice mallow	0.5	0.1	10.0	<0.1	2.8	<0.1	4.8	0.3
Safflower	0.2	0.1	55.0	<0.1	14.0	<0.1	3.0	0.3
Hairy nightshade	0.3	<0.1	6.7	0.1	15.8	<0.1	7.7	0.2
False chamomile	0.4	0.1	15.0	<0.1	1.6	<0.1	1.0	0.2
Field pea	0.2	0.1	45.0	<0.1	9.7	<0.1	2.0	0.2
Leafy spurge	0.2	<0.1	15.0	<0.1	4.3	<0.1	2.5	0.1
Lentil	0.2	<0.1	5.0	<0.1	7.0	<0.1	24.0	0.1
Wild vetch	0.2	<0.1	15.0	<0.1	1.6	<0.1	1.0	0.1
Erect knotweed	0.2	<0.1	10.0	<0.1	1.6	<0.1	1.5	0.1
Tall waterhemp	0.1	<0.1	20.0	<0.1	2.2	<0.1	1.0	0.1
Corn	0.1	<0.1	20.0	<0.1	2.2	<0.1	1.0	0.1
Horsetail	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	<0.1
Smallseed falseflax	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	<0.1
Weed free	32.9	10.7	32.7	-	-	-	-	-

Table 3. North Dakota weed infestations in current crop of canola, tame mustard, and buckwheat based on 88 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	63.8	23.8	37.3	23.6	37.0	2.1	33.8	100.1
Wild oat	44.9	16.7	37.1	10.9	24.3	0.2	11.2	57.1
Volunteer cereal	40.6	16.5	40.7	8.6	21.1	0.1	8.1	50.1
Canada thistle	52.2	17.0	32.5	5.6	10.7	<0.1	4.3	47.4
Wild buckwheat	36.2	13.0	36.0	4.9	13.4	<0.1	5.7	36.5
Wild mustard	39.1	13.2	33.7	3.9	10.0	<0.1	3.7	35.4
Quackgrass	31.9	8.6	26.8	6.0	18.7	0.3	11.5	33.1
Kochia	24.6	8.1	32.9	3.8	15.3	<0.1	7.6	25.1
Yellow foxtail	13.0	5.2	40.0	3.9	29.8	0.3	15.8	18.6
Pigweed species	15.9	6.7	41.8	2.5	16.0	<0.1	4.5	17.9
Russian thistle	17.4	5.4	30.8	1.4	8.2	<0.1	5.5	14.5
Field pennycress	18.8	3.5	18.5	1.4	7.4	<0.1	3.5	13.0
Common lambsquarters	13.0	2.6	20.0	0.8	5.9	<0.1	8.9	8.7
Flax	4.3	0.7	16.7	1.5	35.5	<0.1	6.7	5.8
Annual smartweed	7.2	1.7	24.0	0.6	8.2	<0.1	8.6	5.5
Common ragweed	7.2	1.9	26.0	0.4	5.4	<0.1	2.8	5.2
Prickly lettuce	2.9	1.4	50.0	0.5	17.2	<0.1	5.5	3.6
Field bindweed	5.8	1.0	17.5	0.2	3.5	<0.1	2.0	3.4
Common purslane	5.8	1.0	17.5	0.1	1.9	<0.1	1.0	3.2
Sunflower	4.3	0.9	20.0	0.1	2.5	<0.1	1.3	2.6
Perennial sowthistle	4.3	0.7	16.7	0.1	3.2	<0.1	2.3	2.5
Common mallow	2.9	1.0	35.0	0.2	6.5	<0.1	3.0	2.4
Flixweed/Tansy mustard	4.3	0.7	16.7	0.1	1.8	<0.1	1.0	2.4
Whitlowwart species	4.3	0.6	13.3	0.1	2.2	<0.1	1.7	2.2
Prairie wild rose	4.3	0.6	13.3	0.1	1.4	<0.1	1.0	2.2
Common cocklebur	2.9	0.9	30.0	0.1	4.8	<0.1	2.0	2.2
Dandelion	2.9	0.4	15.0	0.1	2.2	<0.1	1.5	1.5
Lanceleaf sage	2.9	0.3	10.0	0.1	2.2	<0.1	2.0	1.4
Foxtail barley	2.9	0.3	10.0	<0.1	1.6	<0.1	1.5	1.4
Barnyardgrass	1.4	0.3	20.0	0.1	5.4	<0.1	3.0	1.0
Cutleaf nightshade	1.4	0.3	20.0	0.1	4.3	<0.1	2.0	0.9
Horsetail	1.4	0.1	10.0	0.1	7.5	<0.1	7.0	0.9
Tall waterhemp	1.4	0.3	20.0	<0.1	3.2	<0.1	2.0	0.9
Greenflower pepperweed	1.4	0.3	20.0	<0.1	3.2	<0.1	2.0	0.9
Common chickweed	1.4	0.3	20.0	<0.1	2.2	<0.1	1.0	0.8
Horseweed	1.4	0.1	10.0	<0.1	3.2	<0.1	3.0	0.7
Swamp smartweed	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.7
Wild vetch	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.7
Nightflowering catchfly	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.7
Fairy candelabra	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.7
Shepherd's-purse	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.7
Weed free	36.2	10.7	29.6	-	-	-	-	-

Table 4. North Dakota weed infestations in current crop of soybean, dry bean, lentil, and field pea based on 197 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	46.0	17.6	38.4	11.9	25.9	0.9	21.9	60.8
Wild mustard	56.1	19.4	34.5	7.0	12.5	<0.1	4.2	54.5
Yellow foxtail	31.6	12.4	39.2	7.7	24.5	0.6	12.8	40.9
Canada thistle	41.7	9.7	23.3	3.3	7.9	<0.1	3.6	31.3
Volunteer cereal	31.6	11.6	36.8	3.4	10.6	<0.1	3.5	30.0
Common lambsquarters	26.7	6.3	23.6	4.4	16.4	0.1	6.3	25.5
Wild oat	23.0	7.0	30.2	2.8	12.4	<0.1	5.4	21.3
Pigweed species	20.9	6.5	31.3	2.3	10.9	<0.1	4.3	18.8
Wild buckwheat	23.5	7.0	29.8	1.6	6.8	<0.1	3.0	18.6
Quackgrass	20.3	5.0	24.5	1.6	7.7	<0.1	4.0	15.4
Common ragweed	18.7	5.3	28.6	1.3	7.2	<0.1	3.4	14.7
Common cocklebur	14.4	4.6	31.9	1.7	11.5	<0.1	3.8	13.3
Eastern black nightshade	15.5	4.7	30.0	1.3	8.4	<0.1	4.0	12.8
Common milkweed	16.0	2.8	17.3	0.8	4.8	<0.1	2.7	9.9
Kochia	12.3	2.7	22.2	1.1	9.0	<0.1	6.9	9.4
Wild-proso millet	6.4	2.0	31.7	1.1	16.4	<0.1	7.5	6.6
Field pennycress	5.3	1.6	30.0	0.3	6.4	<0.1	2.3	4.2
Field bindweed	3.7	0.9	22.9	0.1	3.7	<0.1	2.1	2.4
Sunflower	2.7	0.9	32.0	0.3	9.5	<0.1	5.4	2.3
Common purslane	3.2	0.7	21.7	0.2	6.6	<0.1	2.0	2.3
Perennial sowthistle	3.7	0.6	15.7	0.1	3.4	<0.1	2.4	2.1
Dandelion	3.2	0.7	23.3	0.1	2.9	<0.1	1.3	2.0
Russian thistle	3.7	0.5	12.9	0.1	2.3	<0.1	1.7	1.9
Flixweed/Tansy mustard	2.1	0.6	27.5	0.2	11.6	<0.1	6.8	1.9
Annual smartweed	2.1	0.6	27.5	0.1	6.2	<0.1	2.8	1.6
Biennial wormwood	2.7	0.5	20.0	0.1	2.2	<0.1	1.0	1.6
Common mallow	2.1	0.5	25.0	0.1	5.7	<0.1	2.0	1.5
Giant ragweed	1.6	0.5	33.3	0.1	9.3	<0.1	3.7	1.4
Barnyardgrass	1.6	0.5	33.3	0.1	8.3	<0.1	3.0	1.4
Prickly lettuce	2.1	0.3	12.5	0.1	2.7	<0.1	2.3	1.1
Corn	1.6	0.4	23.3	0.1	4.7	<0.1	2.7	1.1
Shepherd's-purse	1.1	0.4	40.0	0.1	8.6	<0.1	3.0	1.0
Fairy candelabra	0.5	0.4	70.0	0.2	34.4	<0.1	7.0	1.0
Nightflowering catchfly	1.6	0.3	20.0	<0.1	2.9	<0.1	1.7	1.0
Lanceleaf sage	1.1	0.3	25.0	0.1	7.0	<0.1	3.0	0.8
Canola	0.5	0.3	50.0	0.1	28.0	<0.1	20.0	0.8
Venice mallow	0.5	0.3	50.0	0.1	25.8	<0.1	12.0	0.8
Yellow woodsorrel	1.1	0.2	20.0	0.1	4.8	<0.1	2.5	0.7
Tall waterhemp	1.1	0.2	20.0	<0.1	4.3	<0.1	2.0	0.7
Alfalfa	0.5	0.3	50.0	0.1	9.7	<0.1	3.0	0.6
Yellow nutsedge	1.1	0.1	10.0	<0.1	3.8	<0.1	3.5	0.6
Prairie wild rose	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Swamp smartweed	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Whitlowwart species	0.5	0.2	40.0	<0.1	4.3	<0.1	1.0	0.4
Horseweed	0.5	0.2	30.0	<0.1	3.2	<0.1	1.0	0.4
Prostrate pigweed	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Buffalobur	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Marshelder	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Hairy nightshade	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Field sandbur	0.5	<0.1	<0.1	0.5	2.3	<0.1	14.0	<0.1
Weed free	47.6	13.4	28.2	-	-	-	-	-

Table 5. North Dakota weed infestations in current crop of corn based on 91 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	59.3	22.7	38.3	17.2	29.0	0.7	19.5	82.7
Common lambsquarters	42.9	17.8	41.5	12.4	28.9	0.1	13.3	61.0
Yellow foxtail	36.3	11.8	32.4	12.3	33.8	0.6	18.3	52.4
Wild buckwheat	45.1	16.8	37.3	5.7	12.6	0.1	5.7	45.1
Wild mustard	36.3	12.7	35.2	4.6	12.6	<0.1	4.7	35.5
Wild oat	26.4	10.3	39.2	6.7	25.5	0.1	14.7	34.8
Kochia	27.5	7.7	28.0	4.3	15.6	<0.1	13.8	26.8
Sunflower	23.1	8.7	37.6	4.3	18.6	0.1	6.7	26.4
Pigweed species	25.3	7.0	27.8	3.3	13.0	0.1	9.9	23.1
Canada thistle	31.9	6.0	19.0	2.1	6.5	<0.1	3.2	21.5
Common cocklebur	24.2	7.3	30.0	2.4	9.8	0.1	4.2	20.9
Soybean	19.8	7.3	36.7	1.3	6.6	<0.1	2.7	16.9
Volunteer cereal	13.2	5.7	43.3	2.0	15.0	<0.1	6.0	14.7
Field bindweed	17.6	4.5	25.6	0.8	4.4	<0.1	2.3	12.2
Wild-proso millet	8.8	3.8	43.8	2.3	25.7	<0.1	12.0	12.0
Quackgrass	16.5	2.5	15.3	1.1	6.7	<0.1	4.9	10.6
Eastern black nightshade	11.0	3.0	27.0	1.7	15.1	<0.1	5.2	10.5
Russian thistle	12.1	3.4	28.2	0.9	7.2	<0.1	3.0	9.5
Common milkweed	13.2	2.6	20.0	0.5	4.1	<0.1	2.3	8.3
Barnyardgrass	6.6	2.3	35.0	1.6	24.6	<0.1	19.0	8.3
Perennial sowthistle	9.9	1.6	16.7	0.4	3.9	<0.1	2.9	5.9
Prickly lettuce	9.9	1.8	17.8	0.2	2.3	<0.1	1.3	5.6
Common ragweed	6.6	1.5	23.3	0.2	3.6	<0.1	1.7	4.3
Leafy spurge	2.2	1.3	60.0	0.6	29.1	<0.1	8.0	3.5
Foxtail barley	4.4	0.8	17.5	0.4	8.3	<0.1	3.8	3.1
Common mallow	3.3	1.2	36.7	0.3	8.3	<0.1	3.3	2.9
Horseweed	3.3	0.8	23.3	0.1	3.2	<0.1	1.7	2.1
Greenflower pepperweed	2.2	0.5	25.0	0.1	3.2	<0.1	1.5	1.4
Field pennycress	2.2	0.3	15.0	0.1	2.7	<0.1	1.5	1.2
Common purslane	2.2	0.3	15.0	<0.1	1.6	<0.1	1.0	1.1
Erect knotweed	1.1	0.3	30.0	0.2	14.0	<0.1	5.0	1.1
Swamp smartweed	1.1	0.5	50.0	0.1	5.4	<0.1	1.0	1.1
Dandelion	2.2	0.2	10.0	<0.1	1.1	<0.1	1.0	1.0
Canola	1.1	0.3	30.0	<0.1	3.2	<0.1	1.0	0.8
Hedge bindweed	1.1	0.2	20.0	<0.1	4.3	<0.1	3.0	0.7
Shepherd's-purse	1.1	0.1	10.0	<0.1	3.2	<0.1	3.0	0.6
Annual smartweed	1.1	0.1	10.0	<0.1	2.2	<0.1	2.0	0.5
Flax	1.1	0.1	10.0	<0.1	2.2	<0.1	2.0	0.5
Alfalfa	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Sweetclover	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Prairie wild rose	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Prostrate spurge	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Hairy nightshade	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Yellow woodsorrel	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Tall waterhemp	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Biennial wormwood	1.1	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Weed free	35.2	12.5	35.6	-	-	-	-	-

Table 6. North Dakota weed infestations in current crop of flax based 24 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	83.3	26.7	32.0	32.1	38.5	4.5	38.8	129.4
Wild mustard	66.7	23.8	35.6	10.1	15.2	<0.1	5.5	69.6
Wild buckwheat	62.5	22.9	36.7	10.5	16.7	<0.1	4.8	68.1
Volunteer cereal	50.0	22.5	45.0	5.8	11.6	<0.1	4.4	52.7
Wild oat	45.8	15.8	34.5	9.0	19.7	0.1	5.6	52.1
Kochia	45.8	13.3	29.1	4.8	10.4	<0.1	4.0	39.7
Yellow foxtail	20.8	4.2	20.0	10.3	49.5	0.3	22.6	35.2
Field pennycress	37.5	7.1	18.9	3.4	9.0	0.1	8.8	27.4
Canada thistle	37.5	8.8	23.3	2.2	5.7	<0.1	2.6	26.3
Quackgrass	25.0	5.8	23.3	3.1	12.4	<0.1	7.0	21.4
Pigweed species	25.0	6.3	25.0	2.5	10.0	<0.1	4.3	20.4
Common lambsquarters	20.8	6.7	32.0	1.7	8.4	<0.1	4.0	17.7
Field bindweed	25.0	5.4	21.7	1.6	6.3	<0.1	2.7	17.4
Canola	12.5	5.4	43.3	1.2	9.3	<0.1	3.3	12.3
Russian thistle	12.5	4.2	33.3	1.3	10.8	<0.1	3.7	11.5
Shepherd's-purse	8.3	2.5	30.0	2.0	23.7	<0.1	8.5	9.9
Flixweed/Tansy mustard	16.7	2.5	15.0	0.3	1.9	<0.1	1.3	8.8
Downy brome	8.3	2.5	30.0	1.1	13.5	<0.1	4.5	7.9
Sunflower	12.5	1.7	13.3	0.2	1.4	<0.1	1.0	6.3
Perennial sowthistle	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Prickly lettuce	8.3	1.3	15.0	0.4	5.4	<0.1	4.5	5.1
Common ragweed	8.3	0.8	10.0	0.1	1.6	<0.1	1.5	3.9
Common cocklebur	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Dandelion	4.2	1.3	30.0	0.1	3.2	<0.1	1.0	3.0
Annual smartweed	4.2	0.8	20.0	0.2	4.3	<0.1	3.0	2.6
Common mallow	4.2	0.4	10.0	0.3	7.5	<0.1	7.0	2.5
Eastern black nightshade	4.2	0.8	20.0	0.1	3.2	<0.1	2.0	2.5
Marshelder	4.2	0.4	10.0	0.1	3.2	<0.1	3.0	2.1
Barnyardgrass	4.2	0.4	10.0	0.1	2.2	<0.1	2.0	2.0
Alfalfa	4.2	0.4	10.0	0.1	2.2	<0.1	2.0	2.0
Giant ragweed	4.2	0.4	10.0	<0.1	1.1	<0.1	1.0	1.9
Weed free	16.7	5.0	30.0	-	-	-	-	-

Table 7. North Dakota weed infestations in current crop of sunflower and safflower based on 157 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	65.2	29.2	44.8	21.4	32.8	0.7	23.6	100.8
Wild mustard	58.7	22.6	38.5	10.9	18.6	0.1	6.8	67.6
Canada thistle	49.3	14.4	29.3	5.5	11.2	<0.1	4.4	43.7
Volunteer cereal	42.0	17.5	41.6	4.4	10.5	<0.1	4.4	41.8
Wild buckwheat	42.0	12.6	30.0	3.2	7.6	<0.1	3.4	34.1
Wild oat	33.3	11.7	35.0	4.2	12.6	<0.1	5.3	32.6
Yellow foxtail	17.4	7.5	42.9	5.9	34.0	0.2	11.4	27.1
Pigweed species	25.4	8.2	32.3	3.7	14.4	<0.1	5.1	25.2
Kochia	24.6	7.8	31.8	3.9	15.8	0.1	7.5	21.5
Quackgrass	21.0	5.4	25.5	2.1	10.1	<0.1	5.2	17.3
Prickly lettuce	14.5	3.8	26.5	0.8	5.5	<0.1	2.9	10.5
Russian thistle	12.3	3.8	30.6	0.9	7.4	<0.1	3.2	10.0
Common ragweed	13.8	3.0	21.6	0.9	6.9	<0.1	4.8	9.8
Field pennycress	12.3	3.1	25.3	0.9	7.4	<0.1	3.5	9.4
Common milkweed	13.8	2.4	17.4	0.7	5.0	<0.1	3.2	8.6
Common cocklebur	9.4	3.5	36.9	0.8	8.5	<0.1	3.2	8.5
Canola	5.1	2.5	48.6	1.6	31.4	<0.1	10.3	7.9
Common lambsquarters	8.7	2.2	25.0	0.4	4.9	<0.1	2.3	6.1
Common mallow	8.0	1.4	17.3	0.8	9.8	<0.1	8.1	5.9
Field bindweed	7.2	1.7	24.0	0.3	4.6	<0.1	2.2	4.9
Annual smartweed	6.5	1.2	18.9	0.4	5.6	<0.1	3.8	4.3
Flixweed/Tansy mustard	5.8	1.6	27.5	0.2	3.9	<0.1	1.6	4.1
Common purslane	3.6	1.6	44.0	0.5	14.6	<0.1	4.4	4.0
Shepherd's-purse	2.2	1.1	50.0	0.8	38.0	<0.1	11.3	3.7
Eastern black nightshade	4.3	1.0	23.3	0.2	5.2	<0.1	2.8	3.0
Perennial sowthistle	4.3	0.7	15.0	0.2	5.0	<0.1	3.5	2.6
Lanceleaf sage	2.2	1.0	46.7	0.2	10.8	<0.1	4.3	2.3
Dandelion	3.6	0.6	16.0	0.1	2.2	<0.1	1.4	2.0
Buffalobur	2.9	0.6	20.0	0.1	3.2	<0.1	1.8	1.8
Giant ragweed	2.2	0.6	26.7	0.1	5.4	<0.1	2.0	1.6
Sunflower	1.4	0.5	35.0	0.2	11.8	<0.1	3.5	1.4
Common chickweed	1.4	0.1	10.0	0.2	14.0	<0.1	13.0	1.1
Corn	0.7	0.4	50.0	0.2	24.8	<0.1	9.0	1.0
Flax	0.7	0.5	70.0	0.1	10.8	<0.1	2.0	0.9
Barnyardgrass	1.4	0.3	20.0	<0.1	2.2	<0.1	1.0	0.8
Downy brome	0.7	0.2	30.0	0.1	19.4	<0.1	8.0	0.8
Safflower	0.7	0.3	40.0	<0.1	5.4	<0.1	2.0	0.6
Fairy candelabra	0.7	0.3	40.0	<0.1	4.3	<0.1	1.0	0.6
Cutleaf nightshade	0.7	0.2	30.0	<0.1	4.3	<0.1	2.0	0.5
Leafy spurge	0.7	0.1	20.0	0.1	7.5	<0.1	6.0	0.5
Horsetail	0.7	0.1	20.0	<0.1	3.2	<0.1	2.0	0.4
Soybean	0.7	0.1	20.0	<0.1	2.2	<0.1	1.0	0.4
Hairy nightshade	0.7	<0.1	<0.1	0.1	8.6	<0.1	21.0	0.4
Alfalfa	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Marshelder	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Prairie wild rose	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Hedge bindweed	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Weed free	45.7	13.4	29.4	-	-	-	-	-

Table 8. North Dakota weed infestations in current crop of sugarbeet based on 8 fields surveyed, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	62.5	32.5	52.0	21.7	34.7	<0.1	25.2	103.9
Wild oat	37.5	12.5	33.3	18.7	49.9	0.9	17.7	68.6
Green foxtail	62.5	13.8	22.0	11.2	17.9	0.1	5.4	60.6
Common lambsquarters	50.0	12.5	25.0	4.8	9.7	<0.1	4.8	40.5
Pigweed species	37.5	12.5	33.3	6.3	16.9	<0.1	8.3	39.8
Wild mustard	37.5	8.8	23.3	1.1	2.9	<0.1	1.3	23.8
Kochia	12.5	6.3	50.0	4.6	36.6	<0.1	12.0	21.1
Eastern black nightshade	25.0	7.5	30.0	2.2	8.6	<0.1	5.0	20.9
Canada thistle	25.0	5.0	20.0	2.3	9.1	<0.1	4.5	18.7
Common milkweed	25.0	3.8	15.0	0.9	3.8	<0.1	3.0	14.3
Quackgrass	12.5	2.5	20.0	2.6	20.5	<0.1	11.0	12.6
Volunteer cereal	12.5	1.3	10.0	1.6	12.9	<0.1	12.0	9.2
Common mallow	12.5	1.3	10.0	0.5	4.3	<0.1	4.0	3.7
Wild buckwheat	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Weed free	50.0	28.8	57.5	-	-	-	-	-

Table 9. North Dakota weed infestations averaged over all 1551 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	65.5	24.3	37.1	24.4	37.2	1.9	27.1	103.0
Wild mustard	48.7	17.3	35.5	7.1	14.5	0.1	5.9	50.0
Wild buckwheat	46.4	16.2	34.8	6.2	13.4	0.1	5.2	46.2
Wild oat	31.8	10.9	34.2	6.0	18.8	0.1	8.1	35.4
Canada thistle	38.8	10.1	26.0	3.2	8.2	<0.1	3.7	30.4
Kochia	29.8	9.5	31.8	4.6	15.6	0.1	10.8	30.2
Yellow foxtail	19.6	7.2	36.7	6.1	31.1	0.3	15.7	28.0
Pigweed species	26.3	8.7	33.2	4.0	15.1	<0.1	7.2	26.8
Common lambsquarters	24.9	7.2	28.8	3.3	13.3	<0.1	6.5	23.3
Volunteer cereal	14.7	5.6	38.3	1.8	12.5	<0.1	5.0	14.8
Sunflower	11.5	4.4	38.0	2.4	20.9	<0.1	7.7	13.8
Russian thistle	14.6	4.3	29.1	1.9	13.0	<0.1	6.0	13.5
Quackgrass	15.8	3.5	22.5	1.8	11.4	<0.1	6.2	13.0
Field pennycress	11.6	3.2	28.0	1.2	10.3	<0.1	6.3	9.9
Field bindweed	12.9	3.2	24.5	0.9	7.4	<0.1	3.4	9.7
Common ragweed	11.7	3.0	25.3	1.0	8.3	<0.1	4.9	9.1
Canola	4.8	1.9	38.4	1.3	27.6	<0.1	15.2	6.6
Eastern black nightshade	7.9	2.0	25.4	0.7	8.6	<0.1	4.0	6.2
Common cocklebur	7.3	2.1	29.1	0.6	8.3	<0.1	3.5	6.0
Soybean	6.4	2.0	32.2	0.4	5.7	<0.1	2.3	5.0
Perennial sowthistle	6.6	1.3	19.2	0.4	6.2	<0.1	3.3	4.4
Common milkweed	6.8	1.1	16.3	0.3	4.1	<0.1	2.6	4.0
Prickly lettuce	5.7	1.3	22.4	0.3	4.9	<0.1	2.6	3.9
Common mallow	4.5	1.1	24.3	0.4	8.4	<0.1	5.0	3.5
Flixweed/Tansy mustard	4.8	1.1	23.5	0.2	4.0	<0.1	2.0	3.2
Annual smartweed	3.8	0.8	20.0	0.4	9.7	<0.1	8.3	2.9
Dandelion	3.9	0.9	22.7	0.1	3.5	<0.1	1.7	2.5

Table 9 (continued).

Wild-proso millet	1.9	0.6	33.6	0.4	18.1	<0.1	8.4	2.1
Shepherd's-purse	1.9	0.5	27.9	0.3	15.5	<0.1	7.1	1.9
Barnyardgrass	1.9	0.6	31.4	0.3	13.0	<0.1	6.9	1.8
Common purslane	1.9	0.5	24.3	0.1	6.7	<0.1	2.4	1.4
Flax	1.0	0.4	43.6	0.3	26.1	<0.1	12.4	1.3
Fairy candelabra	1.5	0.4	25.9	0.1	7.6	<0.1	3.3	1.2
Prairie wild rose	1.7	0.3	16.8	0.1	3.2	<0.1	2.1	1.0
Downy brome	1.0	0.2	25.0	0.1	11.1	<0.1	5.5	0.8
Sweetclover	1.0	0.2	24.0	0.1	7.5	<0.1	3.7	0.8
Giant ragweed	0.9	0.2	27.7	0.1	6.9	<0.1	2.8	0.7
Horseweed	1.1	0.2	20.6	<0.1	3.1	<0.1	1.6	0.7
Lanceleaf sage	0.8	0.2	32.7	0.1	8.9	<0.1	3.5	0.7
Hedge bindweed	0.8	0.2	25.8	<0.1	4.6	<0.1	1.8	0.6
Biennial wormwood	0.8	0.2	25.8	<0.1	3.3	<0.1	1.5	0.6
Curly dock	0.9	0.1	15.4	<0.1	3.6	<0.1	2.7	0.5
Nightflowering catchfly	0.6	0.2	28.9	0.1	8.5	<0.1	2.8	0.5
Prostrate pigweed	0.7	0.2	26.0	<0.1	6.1	<0.1	3.0	0.5
Yellow woodsorrel	0.6	0.1	26.3	0.1	11.4	<0.1	4.9	0.5
Greenflower pepperweed	0.9	0.1	14.6	<0.1	2.0	<0.1	1.3	0.5
Foxtail barley	0.8	0.1	12.5	<0.1	4.2	<0.1	2.6	0.5
Whitlowwart species	0.7	0.1	21.0	<0.1	3.1	<0.1	1.7	0.4
Alfalfa	0.6	0.1	22.2	<0.1	4.1	<0.1	2.0	0.4
Common chickweed	0.6	0.1	14.4	<0.1	6.5	<0.1	7.6	0.4
Field sandbur	0.2	<0.1	6.7	0.1	61.7	<0.1	22.7	0.4
Leafy spurge	0.3	0.1	34.0	0.1	14.9	<0.1	5.4	0.4
Marshelder	0.7	0.1	13.0	<0.1	1.9	<0.1	1.5	0.4
Cutleaf nightshade	0.5	0.1	20.0	<0.1	4.5	<0.1	3.0	0.3
Corn	0.3	0.1	28.0	<0.1	8.2	<0.1	3.6	0.3
Venice mallow	0.4	0.1	16.7	<0.1	6.6	<0.1	6.0	0.3
Hairy nightshade	0.4	<0.1	6.7	<0.1	9.7	<0.1	7.7	0.3
Dry bean	0.4	0.1	16.7	<0.1	2.7	<0.1	1.7	0.2
Safflower	0.2	0.1	50.0	<0.1	11.1	<0.1	2.7	0.2
Tall waterhemp	0.3	0.1	18.0	<0.1	3.0	<0.1	1.6	0.2
Purslane speedwell	0.3	0.1	16.0	<0.1	3.7	<0.1	2.6	0.2
Buffalobur	0.3	0.1	18.0	<0.1	2.8	<0.1	1.6	0.2
Swamp smartweed	0.3	0.1	20.0	<0.1	2.2	<0.1	1.0	0.2
False chamomile	0.3	<0.1	15.0	<0.1	1.6	<0.1	1.0	0.1
Field pea	0.1	0.1	45.0	<0.1	9.7	<0.1	2.0	0.1
Erect knotweed	0.2	<0.1	16.7	<0.1	5.7	<0.1	2.7	0.1
Horsetail	0.2	<0.1	13.3	<0.1	3.9	<0.1	3.3	0.1
Wild vetch	0.2	<0.1	13.3	<0.1	1.4	<0.1	1.0	0.1
Lentil	0.1	<0.1	5.0	<0.1	7.0	<0.1	24.0	0.1
Yellow nutsedge	0.1	<0.1	10.0	<0.1	3.8	<0.1	3.5	0.1
Russian thistle	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Smallseed falseflax	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	<0.1
Prostrate spurge	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	<0.1
Weed free	36.1	11.4	31.7	-	-	-	-	-

Table 10. The 20 most abundant weeds in North Dakota based on weed index.

Spring 2000		Summer 2000		Average of 1978 and 1979	
Weed species	Weed Index	Weed species	Weed Index	Weed species	Weed Index
Green foxtail	103.0	Green foxtail	73.8	Green foxtail	236.0
Wild mustard	50.0	Wild oat	38.8	Wild oat	61.8
Wild buckwheat	46.2	Yellow foxtail	37.5	Wild buckwheat	53.3
Wild oat	35.4	Kochia	33.1	Redroot pigweed	42.4
Canada thistle	30.4	Wild buckwheat	28.6	Yellow foxtail	28.5
Kochia	30.2	Canada thistle	26.5	Common lambsquaters	24.7
Yellow foxtail	28.0	Pigweed species	19.6	Wild mustard	22.8
Pigweed species	26.8	Volunteer cereal	10.6	Russian thistle	19.3
Common lambsquarters	23.3	Common ragweed	10.4	Kochia	16.9
Volunteer cereal	14.8	Field bindweed	8.7	Field bindweed	11.5
Sunflower	13.8	Common lambsquarters	8.6	Canada thistle	10.7
Russian thistle	13.5	Quackgrass	8.6	Volunteer sunflower	8.0
Quackgrass	13.0	Russian thistle	7.7	Perennial sowthistle	7.5
Field pennycress	9.9	Wild mustard	7.1	Prostrate pigweed	5.8
Field bindweed	9.7	Eastern black nightshade	5.6	Nightflowering catchfly	5.4
Common ragweed	9.1	Perennial sowthistle	5.3	Quackgrass	3.9
Canola	6.6	Common milkweed	5.1	Prairie wild rose	3.6
Eastern black nightshade	6.2	Sunflower	4.5	Field pennycress	3.0
Common cocklebur	6.0	Common cocklebur	4.4	Ragweed	2.5
Soybean	5.0	Field pennycress	4.3	Common cocklebur	2.2

Table 11. The 20 most abundant weeds in HRS wheat, durum wheat, barley, tame oats.

Spring 2000		Summer 2000		Average of 1978 and 1979	
HRS wheat, durum wheat, barley, tame oat		HRS wheat, durum wheat, barley		Spring wheat, barley, oat	
Weed species	Weed Index	Weed species	Weed Index	Weed species	Weed Index
Green foxtail	114.0	Green foxtail	82.3	Green foxtail	250.2
Wild buckwheat	54.2	Wild oat	52.6	Wild oat	64.5
Wild mustard	48.8	Yellow foxtail	43.2	Common lambsquarters	62.1
Wild oat	36.4	Wild buckwheat	35.3	Wild buckwheat	57.8
Kochia	35.8	Kochia	35.3	Redroot pigweed	41.4
Pigweed species	29.8	Canada thistle	25.6	Yellow foxtail	27.7
Canada thistle	26.3	Pigweed species	18.7	Russian thistle	22.6
Yellow foxtail	23.1	Field bindweed	9.9	Wild mustard	20.5
Common lambsquarters	22.8	Quackgrass	9.0	Kochia	18.7
Sunflower	17.9	Common lambsquarters	7.9	Field bindweed	13.4
Russian thistle	16.9	Common ragweed	7.6	Canada thistle	11.4
Field bindweed	11.9	Russian thistle	6.8	Volunteer sunflower	9.4
Field pennycress	11.4	Common milkweed	6.7	Perennial sowthistle	9.2
Quackgrass	10.4	Perennial sowthistle	4.8	Nightflowering catchfly	6.2
Common ragweed	8.9	Sunflower	4.1	Prostrate pigweed	5.5
Canola	8.5	Wild mustard	4.0	Quackgrass	4.8
Soybean	6.1	Field pennycress	3.8	Prairie wild rose	3.9
Eastern black nightshade	5.4	Barnyardgrass	3.2	Common cocklebur	2.5
Perennial sowthistle	5.2	Common cocklebur	3.0	Common purslane	2.1
Volunteer cereal	4.2	Common mallow	2.6	Ragweed	1.8

Table 12. The 20 most abundant weeds in flax.

Spring 2000		Average of 1978 and 1979	
Weed species	Weed Index	Weed species	Weed Index
Green foxtail	129.4	Green foxtail	201.1
Wild mustard	69.6	Wild buckwheat	64.1
Wild buckwheat	68.1	Wild mustard	52.8
Volunteer cereal	52.7	Wild oat	44.2
Wild oat	52.1	Redroot pigweed	43.1
Kochia	39.7	Common lambsquarters	36.0
Yellow foxtail	35.2	Yellow foxtail	30.4
Field pennycress	27.4	Russian thistle	23.8
Canada thistle	26.3	Kochia	21.5
Quackgrass	21.4	Canada thistle	12.7
Pigweed species	20.4	Field bindweed	12.4
Common lambsquarters	17.7	Barnyardgrass	10.4
Field bindweed	17.4	Volunteer sunflower	9.7
Canola	12.3	Prostrate spurge	8.2
Russian thistle	11.5	Perennial sowthistle	7.9
Shepherd's-purse	9.9	Prostrate pigweed	7.7
Flixweed/Tansy mustard	8.8	Field pennycress	6.7
Downy brome	7.9	Quackgrass	6.6
Sunflower	6.3	Common cocklebur	5.6
Perennial sowthistle	5.7	Musk thistle	3.9

Table 13. The 20 most abundant weeds in sunflower.

Spring 2000		Summer 2000		1979	
Weed species	Weed Index	Weed species	Weed Index	Weed species	Weed Index
Green foxtail	100.8	Green foxtail	92.0	Green foxtail	149.6
Wild mustard	67.6	Yellow foxtail	39.1	Wild mustard	57.0
Canada thistle	43.7	Kochia	31.5	Yellow foxtail	46.1
Volunteer cereal	41.8	Canada thistle	31.5	Redroot pigweed	32.9
Wild buckwheat	34.1	Wild buckwheat	29.3	Wild buckwheat	30.5
Wild oat	32.6	Volunteer cereal	29.2	Wild oat	28.0
Yellow foxtail	27.1	Pigweed species	25.9	Common lambsquarters	27.1
Pigweed species	25.2	Wild oat	21.8	Canada thistle	15.4
Kochia	21.5	Common ragweed	18.4	Russian thistle	12.8
Quackgrass	17.3	Russian thistle	15.4	Kochia	11.8
Prickly lettuce	10.5	Eastern black nightshade	13.1	Field bindweed	9.3
Russian thistle	10.0	Field bindweed	11.6	Prostrate spurge	8.6
Common ragweed	9.8	Canola	11.3	Quackgrass	7.9
Field pennycress	9.4	Prickly lettuce	10.8	Prostrate pigweed	7.3
Common milkweed	8.6	Wild mustard	10.5	Ragweed	6.8
Common cocklebur	8.5	Flixweed/Tansy mustard	10.0	Field pennycress	6.6
Canola	7.9	Common lambsquarters	9.6	Perennial sowthistle	5.7
Common lambsquarters	6.1	Quackgrass	9.3	Prairie wild rose	4.8
Common mallow	5.9	Perennial sowthistle	7.6	Common purslane	4.6
Field bindweed	4.9	Field pennycress	6.6	Shepherd's-purse	3.8

Table 14. Adams county weed infestation based on 13 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	44.6	44.6	24.3	24.3	0.2	10.8	134.8
Kochia	61.5	23.8	38.8	15.5	25.2	0.1	8.6	80.5
Wild buckwheat	69.2	30.0	43.3	5.4	7.8	<0.1	2.8	65.6
Wild oat	61.5	21.5	35.0	4.3	7.0	<0.1	2.9	52.1
Russian thistle	38.5	16.2	42.0	8.8	22.8	<0.1	8.0	49.5
Field bindweed	46.2	13.8	30.0	3.1	6.8	<0.1	2.8	36.6
Prairie wild rose	38.5	11.5	30.0	2.1	5.4	<0.1	2.4	29.2
Common lambsquarters	38.5	10.8	28.0	2.3	6.0	<0.1	2.6	29.0
Pigweed species	30.8	11.5	37.5	2.1	6.7	<0.1	2.5	26.6
Dandelion	23.1	7.7	33.3	1.1	4.7	<0.1	1.7	17.9
Sunflower	7.7	<0.1	<0.1	4.4	57.1	0.2	40.0	12.8
Flixweed/Tansy mustard	15.4	4.6	30.0	0.7	4.8	<0.1	2.0	11.5
Field pennycress	7.7	3.1	40.0	2.2	28.0	<0.1	15.0	10.7
Volunteer cereal	7.7	4.6	60.0	1.0	12.9	<0.1	4.0	9.5
Downy brome	7.7	3.1	40.0	1.6	20.5	<0.1	15.0	9.3
Quackgrass	7.7	2.3	30.0	1.2	16.1	<0.1	7.0	7.8
Erect knotweed	7.7	2.3	30.0	1.1	14.0	<0.1	5.0	7.4
Common ragweed	7.7	3.1	40.0	0.4	5.4	<0.1	2.0	6.6
Common cocklebur	7.7	2.3	30.0	0.3	4.3	<0.1	2.0	5.6
Barnyardgrass	7.7	2.3	30.0	0.3	4.3	<0.1	2.0	5.6
Perennial sowthistle	7.7	2.3	30.0	0.2	3.2	<0.1	1.0	5.5
Wild mustard	7.7	1.5	20.0	0.2	2.2	<0.1	1.0	4.5
Alfalfa	7.7	0.8	10.0	0.1	1.1	<0.1	1.0	3.5
Weed free	23.1	4.6	20.0	-	-	-	-	-

Table 15. Barnes county weed infestations based on 66 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	78.8	33.3	42.3	29.1	36.9	1.6	24.3	127.4
Wild mustard	66.7	25.2	37.7	12.8	19.3	0.1	5.9	77.3
Canada thistle	59.1	14.8	25.1	3.3	5.6	<0.1	2.6	42.2
Pigweed species	34.8	11.2	32.2	6.2	17.8	<0.1	6.0	37.3
Wild buckwheat	39.4	12.0	30.4	3.9	10.0	0.1	4.2	34.3
Yellow foxtail	18.2	8.9	49.2	6.1	33.5	<0.1	9.3	29.2
Wild oat	27.3	6.2	22.8	3.8	13.8	<0.1	7.0	24.1
Kochia	33.3	7.4	22.3	1.9	5.8	<0.1	3.5	23.1
Common lambsquarters	24.2	6.8	28.1	2.8	11.6	<0.1	5.1	21.4
Sunflower	13.6	7.4	54.4	3.3	24.5	<0.1	6.1	19.8
Eastern black nightshade	16.7	3.0	18.2	1.7	10.2	<0.1	7.1	12.5
Common ragweed	18.2	3.9	21.7	0.8	4.7	<0.1	2.5	12.0
Common cocklebur	10.6	3.6	34.3	1.5	14.5	<0.1	4.7	10.7
Volunteer cereal	13.6	3.9	28.9	0.6	4.1	<0.1	8.1	9.8
Common milkweed	13.6	3.0	22.2	0.7	5.3	<0.1	2.7	9.3
Common purslane	7.6	3.3	44.0	1.1	14.6	<0.1	4.4	8.4
Annual smartweed	13.6	2.1	15.6	0.6	4.4	<0.1	2.8	8.1
Common mallow	7.6	2.3	30.0	0.7	9.5	<0.1	4.4	6.5
Prickly lettuce	9.1	2.3	25.0	0.3	3.8	<0.1	1.8	6.1
Russian thistle	9.1	2.1	23.3	0.4	4.1	<0.1	1.8	6.0
Giant ragweed	6.1	2.1	35.0	0.7	11.6	<0.1	4.5	5.8
Field pennycress	6.1	1.8	30.0	0.4	6.5	<0.1	1.8	4.8
Quackgrass	4.5	0.8	16.7	0.7	15.1	<0.1	9.3	3.9
Buffalobur	6.1	1.2	20.0	0.2	3.2	<0.1	1.8	3.7
Soybean	4.5	1.5	33.3	0.2	3.9	<0.1	1.3	3.4
Canola	3.0	1.4	45.0	0.3	10.8	<0.1	3.0	3.1
Perennial sowthistle	6.1	0.6	10.0	0.2	2.7	<0.1	2.5	3.0
Field bindweed	4.5	0.6	13.3	0.1	3.2	<0.1	2.3	2.5
Dandelion	4.5	0.6	13.3	0.1	1.4	<0.1	1.0	2.3
Venice mallow	1.5	0.8	50.0	0.4	25.8	<0.1	12.0	2.2
Corn	1.5	0.8	50.0	0.4	24.8	<0.1	9.0	2.1
Nightflowering catchfly	3.0	0.5	15.0	0.1	2.2	<0.1	1.5	1.6
Shepherd's-purse	1.5	0.3	20.0	0.3	17.2	<0.1	9.0	1.4
Hedge bindweed	1.5	0.5	30.0	<0.1	3.2	<0.1	1.0	1.1
Flixweed/Tansy mustard	1.5	0.3	20.0	0.1	6.5	<0.1	4.0	1.0
Curly dock	1.5	0.3	20.0	<0.1	2.2	<0.1	1.0	0.9
Marshelder	1.5	0.2	10.0	<0.1	3.2	<0.1	3.0	0.8
Prostrate pigweed	1.5	0.2	10.0	<0.1	1.1	<0.1	1.0	0.7
Weed free	39.4	12.3	31.2	-	-	-	-	-

Table 16. Benson county weed infestations based on 36 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	80.6	21.7	26.9	25.7	31.9	5.9	46.5	108.4
Wild oat	55.6	26.7	48.0	9.7	17.5	<0.1	5.4	67.9
Wild mustard	52.8	21.4	40.5	11.8	22.3	0.1	9.9	66.5
Wild buckwheat	58.3	16.1	27.6	12.9	22.1	0.3	7.3	65.6
Canada thistle	61.1	20.8	34.1	6.3	10.3	<0.1	3.9	55.9
Kochia	47.2	13.1	27.6	8.3	17.6	0.7	16.1	48.2
Canola	22.2	11.9	53.8	9.5	42.7	0.1	19.0	41.5
Pigweed species	30.6	9.2	30.0	8.6	28.2	0.1	14.4	39.4
Common lambsquarters	22.2	7.2	32.5	5.1	22.9	0.1	16.3	26.5
Common ragweed	30.6	9.2	30.0	2.1	6.8	<0.1	3.5	24.2
Yellow foxtail	11.1	6.4	57.5	5.4	48.2	0.1	15.8	22.6
Field pennycress	22.2	8.1	36.3	2.8	12.4	<0.1	18.3	21.9
Sunflower	13.9	6.4	46.0	3.6	25.6	<0.1	6.8	19.3
Volunteer cereal	22.2	7.8	35.0	1.8	7.9	<0.1	3.3	19.3
Prickly lettuce	25.0	5.6	22.2	1.5	6.1	<0.1	3.7	17.4
Russian thistle	16.7	3.9	23.3	2.0	11.8	<0.1	8.0	14.0
Quackgrass	11.1	4.7	42.5	1.8	16.4	<0.1	6.5	12.7
Flixweed/Tansy mustard	8.3	2.8	33.3	0.5	5.7	<0.1	2.3	6.7
Eastern black nightshade	8.3	2.2	26.7	0.5	6.1	<0.1	3.0	6.2
Common mallow	11.1	1.4	12.5	0.2	2.2	<0.1	1.5	5.7
Field bindweed	8.3	1.4	16.7	0.2	2.2	<0.1	1.3	4.6
Perennial sowthistle	5.6	0.8	15.0	0.1	2.7	<0.1	2.0	3.0
Common cocklebur	2.8	0.6	20.0	0.3	11.8	<0.1	10.0	2.2
Annual smartweed	2.8	0.6	20.0	0.1	5.4	<0.1	4.0	1.8
Prostrate pigweed	2.8	0.6	20.0	0.1	3.2	<0.1	2.0	1.7
Common milkweed	2.8	0.3	10.0	0.1	5.4	<0.1	5.0	1.6
Common purslane	2.8	0.3	10.0	0.1	2.2	<0.1	2.0	1.3
Venice mallow	2.8	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
Dandelion	2.8	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
Weed free	19.4	4.7	24.3	-	-	-	-	-

Table 17. Billings county weed infestations based on 10 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.7	<0.1	<0.1	38.9	58.3	2.9	23.7	112.9
Wild mustard	66.7	16.7	25.0	27.0	40.5	2.1	10.3	102.0
Wild buckwheat	77.8	30.0	38.6	14.5	18.6	0.3	4.9	89.7
Russian thistle	44.4	14.4	32.5	5.7	12.9	<0.1	5.8	42.7
Common lambsquarters	44.4	18.9	42.5	3.0	6.7	<0.1	1.8	40.7
Field bindweed	33.3	10.0	30.0	6.3	19.0	0.1	4.0	35.9
Volunteer cereal	11.1	8.9	80.0	8.1	73.2	<0.1	15.0	31.6
Pigweed species	22.2	11.1	50.0	2.3	10.2	<0.1	2.5	23.8
Wild oat	22.2	10.0	45.0	2.2	9.7	<0.1	3.0	22.4
Canada thistle	22.2	5.6	25.0	1.8	8.1	<0.1	4.0	17.1
Flixweed/Tansy mustard	22.2	5.6	25.0	0.7	3.2	<0.1	1.5	14.6
Kochia	22.2	4.4	20.0	0.8	3.8	<0.1	2.0	13.8
Common cocklebur	11.1	5.6	50.0	1.3	11.8	<0.1	4.0	12.3
Hedge bindweed	11.1	5.6	50.0	1.0	8.6	<0.1	2.0	11.5
Field pennycress	11.1	3.3	30.0	1.0	8.6	<0.1	4.0	9.3
Horseweed	11.1	3.3	30.0	0.4	3.2	<0.1	1.0	7.9
Sweetclover	11.1	3.3	30.0	0.4	3.2	<0.1	1.0	7.9

Table 18. Bottineau county weed infestations based on 43 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	74.4	18.8	25.3	32.6	43.8	3.0	33.6	119.8
Wild buckwheat	72.1	23.5	32.6	11.9	16.5	0.1	7.7	75.3
Wild oat	53.5	20.2	37.8	9.8	18.3	0.1	9.5	60.9
Pigweed species	41.9	14.4	34.4	9.2	21.9	<0.1	11.7	49.8
Yellow foxtail	23.3	9.8	42.0	10.3	44.5	1.1	35.5	41.6
Kochia	34.9	15.1	43.3	5.3	15.3	<0.1	6.7	39.2
Canola	18.6	9.8	52.5	4.7	25.2	<0.1	10.6	26.9
Field pennycress	18.6	4.7	25.0	3.0	16.3	<0.1	19.8	17.9
Canada thistle	25.6	4.2	16.4	1.0	3.9	<0.1	2.8	15.0
Wild mustard	18.6	3.3	17.5	1.9	10.0	<0.1	5.1	13.8
Volunteer cereal	11.6	3.7	32.0	1.0	8.2	<0.1	4.2	9.8
Russian thistle	9.3	3.5	37.5	1.4	14.8	<0.1	7.5	9.8
Common lambsquarters	16.3	2.8	17.1	0.6	3.5	<0.1	2.3	9.6
Common ragweed	11.6	2.1	18.0	0.7	6.0	<0.1	4.4	7.6
Quackgrass	9.3	2.1	22.5	0.7	7.8	<0.1	5.3	6.9
Fairy candelabra	7.0	2.6	36.7	0.6	8.6	<0.1	3.7	6.3
Marshelder	11.6	1.9	16.0	0.2	1.9	<0.1	1.2	6.3
Prickly lettuce	11.6	1.6	14.0	0.2	1.7	<0.1	1.2	6.0
Purslane speedwell	9.3	1.6	17.5	0.4	4.3	<0.1	3.0	5.7
Perennial sowthistle	9.3	1.2	12.5	0.4	4.3	<0.1	3.8	5.2
Barnyardgrass	7.0	1.9	26.7	0.3	4.3	<0.1	2.0	4.9
Field bindweed	7.0	1.4	20.0	0.2	2.2	<0.1	1.0	4.1
Flixweed/Tansy mustard	7.0	0.9	13.3	0.1	1.4	<0.1	1.0	3.5
Common purslane	4.7	0.9	20.0	0.3	5.9	<0.1	4.0	3.1
Whitlowwart species	4.7	1.2	25.0	0.1	2.7	<0.1	1.0	3.0
Flax	2.3	0.7	30.0	0.1	5.4	<0.1	3.0	1.8
Giant ragweed	2.3	0.5	20.0	0.1	3.2	<0.1	2.0	1.4
Common cocklebur	2.3	0.2	10.0	0.1	4.3	<0.1	4.0	1.2
Curly dock	2.3	0.2	10.0	0.1	3.2	<0.1	3.0	1.2
Annual smartweed	2.3	<0.1	<0.1	0.1	5.4	0.1	16.0	1.1
Dandelion	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Lanceleaf sage	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Swamp smartweed	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Sunflower	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Weed free	27.9	7.4	26.7	-	-	-	-	-

Table 19. Bowman county weed infestations based on 11 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.9	26.4	29.0	46.3	50.9	3.2	17.8	164.7
Volunteer cereal	45.5	29.1	64.0	9.6	21.1	<0.1	4.6	66.6
Field bindweed	45.5	17.3	38.0	6.1	13.3	<0.1	4.2	46.6
Russian thistle	54.5	16.4	30.0	3.9	7.2	<0.1	2.7	43.7
Wild buckwheat	36.4	16.4	45.0	3.4	9.4	<0.1	2.5	36.5
Kochia	36.4	10.0	27.5	1.8	4.8	<0.1	2.8	26.2
Wild oat	18.2	11.8	65.0	2.9	16.1	<0.1	3.5	24.7
Field pennycress	18.2	7.3	40.0	1.7	9.1	<0.1	2.5	17.2
Pigweed species	9.1	8.2	90.0	1.7	18.3	<0.1	5.0	15.1
Common lambsquarters	18.2	2.7	15.0	0.3	1.6	<0.1	1.0	9.5
Safflower	9.1	3.6	40.0	0.5	5.4	<0.1	2.0	7.8
Sunflower	9.1	1.8	20.0	0.3	3.2	<0.1	2.0	5.5
Flixweed/Tansy mustard	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Horseweed	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	27.3	5.5	20.0	-	-	-	-	-

Table 20. Burke county weed infestations based on 24 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	50.0	12.1	24.2	25.7	51.5	0.8	33.0	88.8
Wild oat	70.8	17.1	24.1	16.9	23.8	0.4	7.0	80.0
Quackgrass	41.7	9.6	23.0	8.7	21.0	<0.1	9.6	43.9
Kochia	16.7	5.0	30.0	3.2	19.1	<0.1	11.0	18.0
Wild mustard	25.0	5.0	20.0	1.4	5.7	<0.1	3.8	16.7
Yellow foxtail	20.8	3.8	18.0	1.2	5.8	<0.1	3.2	13.5
Pigweed species	16.7	3.8	22.5	1.3	8.1	<0.1	3.5	12.4
Wild buckwheat	16.7	3.8	22.5	1.0	6.2	<0.1	4.3	11.7
Canada thistle	12.5	2.5	20.0	1.5	11.8	<0.1	6.3	10.1
Field pennycress	4.2	3.8	90.0	1.2	28.0	<0.1	5.0	7.9
Flixweed/Tansy mustard	4.2	0.8	20.0	0.2	4.3	<0.1	2.0	2.6
Weed free	70.8	38.8	54.7	-	-	-	-	-

Table 21. Burleigh county weed infestations based on 15 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	106.7	47.3	44.4	36.7	34.4	3.4	24.8	168.5
Wild buckwheat	86.7	25.3	29.2	7.7	8.9	<0.1	4.1	72.1
Wild oat	60.0	26.7	44.4	6.7	11.1	<0.1	3.4	62.2
Common lambsquarters	46.7	18.0	38.6	4.4	9.5	<0.1	3.0	43.9
Sunflower	33.3	11.3	34.0	2.3	6.9	<0.1	2.6	27.8
Russian thistle	33.3	8.7	26.0	3.4	10.1	<0.1	4.2	27.6
Wild mustard	40.0	9.3	23.3	1.9	4.7	<0.1	2.8	27.0
Pigweed species	40.0	8.0	20.0	1.9	4.7	<0.1	3.3	25.7
Volunteer cereal	20.0	9.3	46.7	2.5	12.6	<0.1	4.0	21.9
Field bindweed	26.7	6.7	25.0	2.5	9.4	<0.1	4.5	21.4
Kochia	26.7	5.3	20.0	2.4	8.9	<0.1	6.3	19.7
Canada thistle	13.3	5.3	40.0	2.4	17.8	<0.1	6.5	15.3
Perennial sowthistle	20.0	4.0	20.0	1.8	9.0	<0.1	4.7	14.9
Quackgrass	13.3	5.3	40.0	1.7	12.4	<0.1	5.0	13.6
Field pennycress	20.0	3.3	16.7	0.4	1.8	<0.1	1.0	10.8
Downy brome	6.7	3.3	50.0	1.6	23.7	<0.1	6.0	9.2
Dandelion	13.3	2.0	15.0	0.3	2.2	<0.1	1.5	7.1
Fairy candleabra	13.3	2.0	15.0	0.3	2.2	<0.1	1.5	7.1
Soybean	6.7	1.3	20.0	0.2	3.2	<0.1	2.0	4.1
Prickly lettuce	6.7	1.3	20.0	0.2	3.2	<0.1	2.0	4.1
Flax	6.7	1.3	20.0	0.1	2.2	<0.1	1.0	3.9
Marshelder	6.7	0.7	10.0	0.2	3.2	<0.1	3.0	3.4
Common purslane	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Shepherd's-purse	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Horsetail	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Horseweed	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Foxtail barley	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Common ragweed	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Common cocklebur	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Weed free	20.0	4.7	23.3	-	-	-	-	-

Table 22. Cass county weed infestations based on 84 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	52.4	19.5	37.3	17.9	34.1	0.7	16.7	78.7
Wild mustard	58.3	19.3	33.1	6.2	10.7	<0.1	3.9	53.2
Wild buckwheat	45.2	12.0	26.6	4.1	9.1	<0.1	3.6	36.7
Wild oat	26.2	6.7	25.5	6.2	23.5	0.3	13.1	29.7
Soybean	35.7	9.0	25.3	1.6	4.5	<0.1	1.9	24.7
Common ragweed	28.6	8.6	30.0	2.5	8.8	<0.1	3.7	24.0
Canada thistle	29.8	7.1	24.0	2.4	8.1	<0.1	3.8	22.7
Kochia	21.4	6.5	30.6	3.6	16.7	0.3	16.6	22.1
Yellow foxtail	17.9	3.9	22.0	4.9	27.5	0.3	17.5	21.3
Common lambsquarters	28.6	5.1	17.9	2.4	8.4	<0.1	5.4	20.3
Common cocklebur	25.0	5.5	21.9	1.2	4.7	<0.1	2.1	16.6
Eastern black nightshade	16.7	6.0	35.7	1.9	11.1	<0.1	4.7	15.8
Pigweed species	13.1	4.5	34.5	1.9	14.5	<0.1	5.5	13.3
Sunflower	8.3	3.1	37.1	1.3	15.1	<0.1	7.0	8.8
Common milkweed	11.9	2.3	19.0	0.7	5.5	<0.1	3.1	7.8
Quackgrass	8.3	1.3	15.7	0.8	9.5	<0.1	6.1	5.9
Volunteer cereal	2.4	1.5	65.0	0.3	14.5	<0.1	3.0	3.1
Dry bean	3.6	0.7	20.0	0.1	3.9	<0.1	2.3	2.2
Venice mallow	3.6	0.5	13.3	0.1	2.5	<0.1	1.7	1.9
Russian thistle	1.2	0.7	60.0	0.1	10.8	<0.1	3.0	1.4
Annual smartweed	2.4	0.2	10.0	0.1	2.7	<0.1	2.5	1.2
Perennial sowthistle	2.4	0.2	10.0	<0.1	1.6	<0.1	1.5	1.1
Common mallow	2.4	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Tall waterhemp	1.2	0.4	30.0	0.1	7.5	<0.1	3.0	1.0
Field pennycress	1.2	0.4	30.0	<0.1	3.2	<0.1	1.0	0.8
Biennial wormwood	1.2	0.2	20.0	<0.1	2.2	<0.1	1.0	0.7
Prickly lettuce	1.2	0.1	10.0	<0.1	3.2	<0.1	3.0	0.6
Giant ragweed	1.2	0.1	10.0	<0.1	2.2	<0.1	2.0	0.6
Marshelder	1.2	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Barnyardgrass	1.2	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Weed free	41.7	12.5	30.0	-	-	-	-	-

Table 23. Cavalier county weed infestations based on 52 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild mustard	60.0	22.4	37.4	11.0	18.6	0.4	8.4	68.1
Wild oat	40.0	13.9	33.0	15.8	18.7	0.3	12.3	64.1
Green foxtail	39.1	18.0	28.0	11.3	28.1	0.6	25.4	57.4
Canada thistle	51.3	14.7	29.6	5.4	10.9	<0.1	4.5	44.4
Wild buckwheat	39.5	14.7	38.3	5.4	14.2	<0.1	4.5	40.5
Kochia	27.0	9.9	34.5	4.9	17.1	<0.1	7.7	30.3
Pigweed species	22.7	8.3	37.4	6.0	20.8	0.1	5.1	29.9
Yellow foxtail	18.2	5.9	28.6	6.1	31.1	0.4	10.8	26.2
Quackgrass	23.6	5.7	24.5	2.7	14.5	<0.1	6.4	19.9
Annual smartweed	20.7	5.2	12.5	1.8	4.4	<0.1	2.3	16.3
Common lambsquarters	15.7	3.7	22.7	2.0	11.2	<0.1	3.9	13.6
Common mallow	14.2	3.2	28.9	1.8	12.2	<0.1	8.9	12.1
Prickly lettuce	15.0	4.1	25.0	1.0	5.6	<0.1	2.4	11.4
Sunflower	6.8	3.5	45.0	2.0	28.0	<0.1	8.0	10.4
Canola	5.4	2.3	42.3	2.3	57.7	<0.1	31.6	9.5
Field pennycress	7.2	2.2	11.7	2.0	20.1	<0.1	8.0	9.3
Volunteer cereal	6.8	1.5	11.7	2.3	43.4	<0.1	33.0	9.1
Russian thistle	15.2	2.2	15.0	0.3	2.2	<0.1	1.5	8.0
Common ragweed	12.0	1.4	10.9	0.7	3.8	<0.1	3.4	7.0
Shepherd's-purse	4.7	2.8	28.8	0.7	7.7	<0.1	4.1	6.0
Common milkweed	8.8	1.3	14.2	0.3	3.0	<0.1	2.0	4.9
Common cocklebur	3.3	0.8	15.2	1.0	3.8	<0.1	1.0	4.2
Dandelion	4.1	1.5	14.7	0.3	2.7	<0.1	1.2	3.6
Perennial sowthistle	5.3	0.7	7.3	<0.1	0.8	<0.1	0.6	2.6
Foxtail barley	2.6	0.2	8.0	<0.1	0.9	<0.1	0.8	1.2
Soybean	0.5	0.3	12.0	<0.1	3.4	<0.1	0.8	0.6
Weed free	44.1	16.3	32.2	-	-	-	-	-

Table 24. Dickey county weed infestations based on 27 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild buckwheat	66.7	19.6	29.4	8.3	12.5	0.3	8.8	61.3
Sunflower	51.9	17.0	32.9	11.2	21.7	0.2	8.1	60.6
Wild oat	33.3	14.8	44.4	14.8	44.3	0.9	33.3	60.3
Yellow foxtail	29.6	9.3	31.3	12.4	42.0	<0.1	24.9	48.2
Green foxtail	22.2	10.4	46.7	10.8	48.8	<0.1	20.0	43.1
Common lambsquarters	33.3	9.6	28.9	6.5	19.4	0.2	12.2	35.8
Canada thistle	37.0	9.6	26.0	4.8	13.0	<0.1	5.7	33.2
Wild mustard	29.6	8.1	27.5	4.3	14.7	<0.1	7.5	28.2
Quackgrass	18.5	3.0	16.0	5.1	27.6	<0.1	12.8	21.0
Kochia	25.9	7.8	30.0	1.3	5.1	<0.1	20.9	19.5
Common cocklebur	18.5	4.8	26.0	2.3	12.3	<0.1	4.0	16.3
Pigweed species	18.5	4.4	24.0	1.6	8.4	<0.1	6.0	14.2
Common milkweed	18.5	3.3	18.0	0.8	4.5	<0.1	2.6	11.5
Prickly lettuce	18.5	2.2	12.0	0.4	2.4	<0.1	2.0	9.4
Common ragweed	11.1	3.3	30.0	0.8	7.2	<0.1	3.3	8.9
Common mallow	3.7	2.6	70.0	1.0	25.8	<0.1	6.0	6.1
Barnyardgrass	7.4	1.5	20.0	0.8	11.3	<0.1	7.0	5.9
Field bindweed	7.4	0.7	10.0	0.1	1.6	<0.1	1.5	3.5
Prairie wild rose	3.7	1.1	30.0	0.2	6.5	<0.1	3.0	2.9
Dandelion	3.7	0.4	10.0	0.2	4.3	<0.1	4.0	2.0
Perennial sowthistle	3.7	0.4	10.0	0.1	2.2	<0.1	2.0	1.8
Weed free	44.4	21.1	47.5	-	-	-	-	-

Table 25. Divide county weed infestations based on 23 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	69.6	24.3	35.0	31.0	44.6	1.1	31.5	119.9
Quackgrass	52.2	16.5	31.7	10.9	20.9	<0.1	12.9	59.4
Field pennycress	52.2	17.4	33.3	9.3	17.9	<0.1	10.6	56.5
Pigweed species	60.9	15.7	25.7	6.2	10.2	<0.1	5.1	50.5
Canada thistle	52.2	13.0	25.0	4.2	8.0	<0.1	4.1	40.2
Kochia	34.8	9.1	26.3	7.8	22.3	<0.1	16.4	38.9
Wild oat	30.4	9.6	31.4	4.7	15.4	<0.1	10.7	30.6
Flixweed/Tansy mustard	26.1	7.8	30.0	2.4	9.1	<0.1	4.8	22.1
Shepherd's-purse	21.7	7.0	32.0	3.1	14.2	<0.1	7.4	21.4
Yellow foxtail	8.7	5.7	65.0	5.4	62.4	<0.1	16.0	21.2
Fairy candleabra	17.4	3.9	22.5	1.5	8.3	<0.1	4.3	13.1
Common mallow	8.7	3.0	35.0	1.7	19.9	<0.1	9.0	10.0
Russian thistle	8.7	2.2	25.0	1.4	16.1	<0.1	10.5	8.3
Dandelion	8.7	2.2	25.0	0.6	6.5	<0.1	3.0	6.4
Wild buckwheat	8.7	1.7	20.0	0.4	4.8	<0.1	2.5	5.6
Prickly lettuce	4.3	2.2	50.0	0.6	14.0	<0.1	6.0	5.0
Hedge bindweed	8.7	1.3	15.0	0.2	2.7	<0.1	1.5	4.7
Barnyardgrass	8.7	0.9	10.0	0.4	4.3	<0.1	4.0	4.6
Wild mustard	8.7	1.3	15.0	0.2	2.2	<0.1	1.5	4.6
Volunteer cereal	8.7	0.9	10.0	0.3	3.8	<0.1	3.5	4.5
Field bindweed	8.7	0.9	10.0	0.1	1.1	<0.1	1.0	4.0
Common milkweed	4.3	0.4	10.0	0.2	5.4	<0.1	5.0	2.4
Common cocklebur	4.3	0.4	10.0	<0.1	1.1	<0.1	1.0	2.0
Weed free	26.1	5.7	21.7	-	-	-	-	-

Table 26. Dunn county weed infestations based on 11 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	81.8	10.9	13.3	44.5	54.4	3.9	27.0	142.1
Wild oat	63.6	30.9	48.6	6.9	10.9	<0.1	3.0	68.3
Volunteer cereal	54.5	31.8	58.3	6.8	12.4	<0.1	3.2	65.8
Wild buckwheat	36.4	8.2	22.5	14.4	39.6	0.5	7.0	53.9
Wild mustard	27.3	14.5	53.3	2.8	10.4	<0.1	2.7	30.3
Common lambsquarters	27.3	13.6	50.0	2.6	9.7	<0.1	3.0	28.9
Russian thistle	36.4	7.3	20.0	1.4	3.8	<0.1	2.3	22.6
Hedge bindweed	18.2	10.0	55.0	2.1	11.3	<0.1	3.0	20.9
Kochia	18.2	6.4	35.0	1.0	5.4	<0.1	2.0	14.7
Barnyardgrass	9.1	6.4	70.0	2.2	23.7	<0.1	7.0	14.4
Flixweed/Tansy mustard	18.2	4.5	25.0	0.6	3.2	<0.1	1.5	12.0
Pigweed species	9.1	2.7	30.0	0.4	4.3	<0.1	2.0	6.7
Field bindweed	9.1	0.9	10.0	0.5	5.4	<0.1	5.0	5.1
Prairie wild rose	9.1	0.9	10.0	0.4	4.3	<0.1	4.0	4.9
Common purslane	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	27.3	6.4	23.3	-	-	-	-	-

Table 27. Eddy county weed infestations based on 12 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild mustard	75.0	41.7	55.6	28.5	38.0	0.2	9.2	133.2
Green foxtail	58.3	32.5	55.7	27.2	46.6	0.9	14.1	115.4
Wild buckwheat	66.7	32.5	48.8	18.8	28.3	0.1	7.6	98.7
Wild oat	50.0	17.5	35.0	12.6	25.1	0.5	13.2	63.5
Canada thistle	66.7	19.2	28.8	7.8	11.7	0.1	4.0	59.6
Yellow foxtail	33.3	16.7	50.0	13.5	40.4	0.2	13.8	59.2
Common lambsquarters	33.3	15.8	47.5	5.8	17.5	<0.1	5.5	40.5
Common ragweed	8.3	6.7	80.0	5.9	71.0	<0.1	13.0	23.3
Sunflower	25.0	9.2	36.7	1.7	6.8	<0.1	2.3	21.5
Pigweed species	16.7	8.3	50.0	3.1	18.8	<0.1	5.0	21.2
Quackgrass	16.7	5.8	35.0	3.2	19.4	<0.1	8.0	18.9
Common milkweed	25.0	6.7	26.7	1.5	6.1	<0.1	3.0	18.6
Hairy nightshade	16.7	<0.1	<0.1	4.3	25.8	0.7	20.0	15.6
Field pennycress	16.7	4.2	25.0	1.1	6.5	<0.1	3.5	12.2
Field bindweed	8.3	5.8	70.0	1.4	17.2	<0.1	3.0	12.0
Prickly lettuce	8.3	4.2	50.0	0.8	9.7	<0.1	3.0	8.8
Leafy spurge	8.3	2.5	30.0	0.4	5.4	<0.1	3.0	6.3
Kochia	8.3	2.5	30.0	0.4	4.3	<0.1	2.0	6.1
Volunteer cereal	8.3	0.8	10.0	0.4	5.4	<0.1	5.0	4.7
Prairie wild rose	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Weed free	41.7	14.2	34.0	-	-	-	-	-

Table 28. Emmons county weed infestations based on 24 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Wild buckwheat	75.0	35.0	46.7	13.7	18.3	<0.1	10.2	92.0
Green foxtail	45.8	13.3	29.1	16.2	35.3	0.7	10.5	66.4
Wild oat	41.7	5.0	12.0	11.2	26.8	0.3	9.7	44.9
Sunflower	29.2	5.0	17.1	9.6	33.1	0.2	8.1	37.2
Field bindweed	29.2	8.3	28.6	2.5	8.5	<0.1	4.4	23.8
Wild mustard	20.8	4.6	22.0	1.9	9.0	<0.1	4.6	15.9
Yellow foxtail	16.7	2.5	15.0	3.3	19.6	0.6	12.3	15.7
Russian thistle	12.5	5.8	46.7	1.9	15.4	<0.1	3.7	14.5
Canada thistle	12.5	4.2	33.3	0.8	6.1	<0.1	2.3	10.1
Downy brome	4.2	2.5	60.0	1.8	44.1	<0.1	12.0	8.2
Common lambsquarters	12.5	2.5	20.0	0.4	2.9	<0.1	1.7	7.5
Kochia	8.3	1.3	15.0	0.3	3.2	<0.1	2.5	4.7
Fairy candleabra	4.2	0.8	20.0	0.7	16.1	<0.1	8.0	3.8
Quackgrass	4.2	0.4	10.0	0.4	10.8	<0.1	10.0	2.9
Common milkweed	4.2	0.8	20.0	0.3	6.5	<0.1	4.0	2.9
Whitlowwart species	4.2	0.4	10.0	0.1	2.2	<0.1	2.0	2.0
Common ragweed	4.2	0.4	10.0	<0.1	1.1	<0.1	1.0	1.9
Horseweed	4.2	0.4	10.0	<0.1	1.1	<0.1	1.0	1.9
Field pennycress	4.2	0.4	10.0	<0.1	1.1	<0.1	1.0	1.9
Weed free	62.5	22.9	36.7	-	-	-	-	-

Table 29. Foster county weed infestations based on 21 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Wild mustard	95.2	59.0	62.0	25.0	26.3	<0.1	7.2	149.2
Pigweed species	81.0	40.0	49.4	17.6	21.8	<0.1	7.1	108.1
Green foxtail	52.4	32.9	62.7	13.7	26.2	<0.1	6.6	82.4
Canada thistle	71.4	26.2	36.7	7.8	10.9	<0.1	4.4	68.2
Kochia	28.6	8.6	30.0	13.9	48.6	1.0	27.7	50.5
Wild oat	28.6	9.5	33.3	2.8	9.9	<0.1	4.5	25.6
Sunflower	14.3	4.3	30.0	6.5	45.2	0.9	32.0	24.1
Wild buckwheat	23.8	9.0	38.0	2.5	10.3	<0.1	4.4	22.7
Yellow foxtail	14.3	5.7	40.0	1.7	11.8	<0.1	3.0	14.4
Common cocklebur	14.3	4.3	30.0	1.0	7.2	<0.1	3.3	11.4
Common ragweed	14.3	3.3	23.3	0.8	5.7	<0.1	3.0	10.0
Common lambsquarters	9.5	3.3	35.0	1.3	13.5	<0.1	5.0	9.5
Giant ragweed	4.8	1.9	40.0	0.5	10.8	<0.1	4.0	4.7
Dandelion	4.8	0.5	10.0	0.1	1.1	<0.1	1.0	2.2
Weed free	23.8	4.3	18.0	-	-	-	-	-

Table 30. Golden Valley county weed infestations based on 10 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.0	15.0	16.7	43.2	48.0	6.8	23.2	145.7
Wild oat	50.0	19.0	38.0	17.8	35.5	0.2	6.8	77.1
Russian thistle	70.0	26.0	37.1	9.6	13.7	<0.1	5.3	71.7
Field bindweed	40.0	15.0	37.5	7.1	17.8	<0.1	7.0	44.9
Kochia	40.0	17.0	42.5	3.2	8.1	<0.1	2.3	37.9
Sunflower	20.0	11.0	55.0	2.7	13.5	<0.1	3.0	23.9
Wild mustard	10.0	9.0	90.0	2.8	28.0	<0.1	5.0	18.9
Field pea	10.0	8.0	80.0	1.8	18.3	<0.1	3.0	15.6
Safflower	10.0	7.0	70.0	2.2	21.5	<0.1	4.0	15.4
Wild buckwheat	10.0	<0.1	<0.1	4.1	40.9	0.1	7.0	12.9
Prickly lettuce	10.0	5.0	50.0	1.2	11.8	<0.1	3.0	11.1
Alfalfa	10.0	4.0	40.0	0.5	5.4	<0.1	2.0	8.6
Leafy spurge	10.0	2.0	20.0	0.8	7.5	<0.1	4.0	7.1
Common lambsquarters	10.0	2.0	20.0	0.3	3.2	<0.1	2.0	6.1
Flixweed/Tansy mustard	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Prairie wild rose	10.0	1.0	10.0	0.2	2.2	<0.1	2.0	4.8
Weed free	30.0	9.0	30.0	-	-	-	-	-

Table 31. Grand Forks county weed infestations based on 38 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	57.9	20.5	35.5	17.8	30.7	0.1	11.5	81.3
Wild mustard	81.6	27.6	33.9	8.9	10.9	0.1	3.8	75.6
Yellow foxtail	34.2	11.6	33.8	10.9	31.8	0.1	17.5	48.4
Wild buckwheat	39.5	11.3	28.7	2.5	6.2	<0.1	2.9	30.2
Wild oat	18.4	7.6	41.4	6.7	36.6	0.3	28.7	29.5
Eastern black nightshade	31.6	9.7	30.8	3.8	12.0	<0.1	4.5	29.1
Common lambsquarters	26.3	7.9	30.0	3.6	13.6	<0.1	6.8	25.0
Kochia	21.1	3.9	18.8	2.0	9.6	<0.1	5.6	15.7
Pigweed species	13.2	2.4	18.0	2.4	18.3	0.1	13.0	12.4
Canada thistle	15.8	3.2	20.0	0.6	3.6	<0.1	2.2	9.7
Quackgrass	5.3	1.6	30.0	1.7	32.3	<0.1	10.5	7.3
Perennial sowthistle	2.6	2.1	80.0	1.3	48.4	<0.1	16.0	6.0
Common mallow	5.3	0.8	15.0	0.4	7.5	<0.1	6.0	3.5
Soybean	5.3	1.1	20.0	0.2	3.2	<0.1	2.0	3.2
Common milkweed	5.3	0.8	15.0	0.2	3.8	<0.1	3.0	3.0
Field bindweed	5.3	0.5	10.0	0.1	2.7	<0.1	2.5	2.6
Common ragweed	5.3	0.5	10.0	0.1	2.2	<0.1	2.0	2.5
Common cocklebur	2.6	0.8	30.0	0.1	5.4	<0.1	2.0	2.0
Volunteer cereal	2.6	0.3	10.0	0.3	12.9	<0.1	12.0	1.9
Field pennycress	2.6	0.5	20.0	0.1	2.2	<0.1	1.0	1.5
Annual smartweed	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Weed free	71.1	25.5	35.9	-	-	-	-	-

Table 32. Grant county weed infestations based on 16 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	75.0	37.5	50.0	19.6	26.2	0.6	11.8	108.3
Volunteer cereal	43.8	23.1	52.9	7.9	18.1	<0.1	6.3	56.2
Sunflower	25.0	14.4	57.5	9.3	37.1	0.1	12.3	44.4
Pigweed species	56.3	16.9	30.0	3.2	5.6	<0.1	2.3	43.0
Russian thistle	43.8	13.8	31.4	4.6	10.5	<0.1	6.3	39.0
Wild oat	37.5	15.6	41.7	3.8	10.0	0.1	7.0	36.9
Field bindweed	43.8	15.6	35.7	2.7	6.2	<0.1	2.4	36.5
Kochia	31.3	8.1	26.0	6.5	20.7	0.1	7.4	33.6
Field pennycress	25.0	10.6	42.5	6.0	24.0	<0.1	10.0	32.9
Flixweed/Tansy mustard	31.3	11.9	38.0	1.9	6.0	<0.1	2.4	26.7
Common lambsquarters	31.3	8.1	26.0	1.2	3.9	<0.1	1.8	21.4
Wild buckwheat	18.8	5.6	30.0	1.1	6.1	<0.1	2.7	14.5
Prickly lettuce	18.8	4.4	23.3	0.7	3.9	<0.1	2.0	12.4
Canada thistle	12.5	2.5	20.0	0.7	5.4	<0.1	2.5	8.2
Sweetclover	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Wild mustard	6.3	3.8	60.0	0.6	9.7	<0.1	3.0	7.2
Downy brome	6.3	1.9	30.0	0.5	7.5	<0.1	4.0	5.1
Dandelion	6.3	1.9	30.0	0.2	3.2	<0.1	1.0	4.4
Quackgrass	6.3	1.3	20.0	0.2	3.2	<0.1	2.0	3.8
Common mallow	6.3	1.3	20.0	0.2	3.2	<0.1	2.0	3.8
Greenflower pepperweed	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Curly dock	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Common milkweed	6.3	0.6	10.0	0.3	4.3	<0.1	4.0	3.3
Weed free	12.5	1.3	10.0	-	-	-	-	-

Table 33. Griggs county weed infestations based on 19 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	78.9	21.1	26.7	33.5	42.4	1.8	18.6	125.5
Yellow foxtail	73.7	38.9	52.9	21.5	29.1	0.2	11.3	113.6
Wild buckwheat	68.4	25.8	37.7	5.8	8.4	<0.1	3.2	62.1
Wild mustard	63.2	22.6	35.8	7.9	12.5	0.1	4.3	62.1
Pigweed species	47.4	16.3	34.4	11.7	24.8	0.2	8.8	59.5
Canada thistle	78.9	22.1	28.0	4.4	5.5	<0.1	2.4	58.6
Volunteer cereal	42.1	20.0	47.5	5.1	12.1	<0.1	3.4	45.9
Kochia	36.8	14.7	40.0	6.4	17.4	<0.1	7.4	42.0
Wild oat	47.4	14.2	30.0	3.4	7.2	<0.1	2.8	37.9
Common lambsquarters	36.8	5.8	15.7	0.8	2.3	<0.1	1.4	20.1
Quackgrass	26.3	4.7	18.0	1.0	3.9	<0.1	2.6	15.9
Nightflowering catchfly	15.8	5.8	36.7	1.6	10.4	<0.1	4.0	14.9
Annual smartweed	10.5	2.6	25.0	1.1	10.8	<0.1	8.0	8.8
Common milkweed	15.8	2.6	16.7	0.3	1.8	<0.1	1.0	8.6
Flax	5.3	3.2	60.0	1.5	28.0	<0.1	12.0	8.3
Perennial sowthistle	10.5	2.6	25.0	0.7	7.0	<0.1	3.5	7.9
Prostrate pigweed	5.3	2.6	50.0	1.2	23.7	<0.1	10.0	7.3
Giant ragweed	10.5	2.6	25.0	0.3	2.7	<0.1	1.0	6.8

Table 33 (continued).

Sunflower	5.3	3.2	60.0	0.5	9.7	<0.1	2.0	6.1
Alfalfa	5.3	2.6	50.0	0.5	9.7	<0.1	3.0	5.6
Soybean	5.3	2.6	50.0	0.5	9.7	<0.1	4.0	5.6
Dandelion	5.3	2.6	50.0	0.3	6.5	<0.1	2.0	5.2
Canola	5.3	2.1	40.0	0.2	4.3	<0.1	1.0	4.4
Russian thistle	5.3	0.5	10.0	0.1	2.2	<0.1	2.0	2.5
Common ragweed	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Common cocklebur	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Prairie wild rose	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Marshelder	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Greenflower pepperweed	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Weed free	21.1	3.2	15.0	-	-	-	-	-

Table 34. Hettinger county weed infestations based on 32 surveyed fields, spring 2000.

		Field Uniformity		Weed Density		Weed Density Range		
Weed species	Weed Frequency	All	Infested	All	Infested	Low	High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	87.5	38.4	43.9	20.2	23.1	0.2	9.2	114.8
Wild oat	65.6	23.4	35.7	7.5	11.4	<0.1	4.2	62.7
Kochia	43.8	18.8	42.9	9.6	21.8	0.1	17.9	55.6
Russian thistle	34.4	15.0	43.6	4.2	12.2	<0.1	4.4	36.3
Wild buckwheat	43.8	13.8	31.4	3.1	7.2	<0.1	2.6	35.6
Volunteer cereal	28.1	12.5	44.4	4.0	14.2	<0.1	6.0	31.2
Pigweed species	31.3	10.9	35.0	2.6	8.4	<0.1	3.2	27.5
Field bindweed	31.3	7.5	24.0	1.5	4.7	<0.1	2.1	21.4
Prickly lettuce	28.1	8.1	28.9	1.0	3.7	<0.1	1.6	19.9
Field pennycress	25.0	6.6	26.3	1.4	5.8	<0.1	2.9	18.3
Common lambsquarters	21.9	7.5	34.3	1.3	6.0	<0.1	2.4	17.9
Canola	12.5	5.6	45.0	2.7	21.8	<0.1	6.8	16.1
Wild mustard	21.9	5.9	27.1	0.8	3.5	<0.1	1.6	15.0
Flixweed/Tansy mustard	18.8	5.0	26.7	0.8	4.3	<0.1	2.2	13.1
Dandelion	15.6	4.7	30.0	0.7	4.3	<0.1	1.8	11.5
Sunflower	9.4	3.8	40.0	1.7	18.7	<0.1	6.0	11.0
Curly dock	15.6	2.5	16.0	0.4	2.4	<0.1	1.6	8.6
Prairie wild rose	9.4	2.2	23.3	0.4	4.7	<0.1	2.7	6.3
Common ragweed	6.3	1.6	25.0	0.3	4.8	<0.1	2.5	4.4
Quackgrass	6.3	1.3	20.0	0.3	4.8	<0.1	3.5	4.0
Barnyardgrass	6.3	0.6	10.0	0.1	1.6	<0.1	1.5	2.9
Perennial sowthistle	3.1	0.9	30.0	0.1	4.3	<0.1	2.0	2.3
Canada thistle	3.1	0.6	20.0	0.1	3.2	<0.1	2.0	1.9
Common milkweed	3.1	0.6	20.0	0.1	2.2	<0.1	1.0	1.8
Common mallow	3.1	0.6	20.0	0.1	2.2	<0.1	1.0	1.8
Field sandbur	3.1	0.6	20.0	0.1	2.2	<0.1	1.0	1.8
Downy brome	3.1	0.3	10.0	0.1	3.2	<0.1	3.0	1.6
Yellow foxtail	3.1	0.3	10.0	0.1	2.2	<0.1	2.0	1.5
Wild-proso millet	3.1	0.3	10.0	0.1	2.2	<0.1	2.0	1.5
Annual smartweed	3.1	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Weed free	6.3	1.3	20.0	-	-	-	-	-

Table 35. Kidder county weed infestations based on 10 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	37.0	37.0	49.4	49.4	3.8	43.7	185.6
Wild buckwheat	80.0	42.0	52.5	39.1	48.8	1.5	18.3	159.8
Wild mustard	70.0	25.0	35.7	11.5	16.5	0.2	9.6	75.2
Common lambsquarters	80.0	20.0	25.0	11.9	14.9	0.1	4.9	74.5
Quackgrass	60.0	18.0	30.0	11.4	19.0	<0.1	9.7	64.6
Pigweed species	40.0	14.0	35.0	5.3	13.2	<0.1	6.0	39.6
Wild oat	40.0	11.0	27.5	3.6	8.9	<0.1	3.8	32.6
Field bindweed	40.0	10.0	25.0	1.1	2.7	<0.1	1.0	25.8
Shepherd's-purse	20.0	7.0	35.0	5.1	25.3	<0.1	9.5	25.5
Leafy spurge	10.0	9.0	90.0	5.3	52.7	0.1	13.0	24.6
Canada thistle	30.0	4.0	13.3	1.2	3.9	<0.1	3.3	16.8
Field pennycress	20.0	4.0	20.0	0.8	3.8	<0.1	2.0	12.4
Perennial sowthistle	10.0	3.0	30.0	2.3	22.6	<0.1	18.0	11.6
Sunflower	10.0	4.0	40.0	1.2	11.8	<0.1	6.0	10.1
Alfalfa	20.0	2.0	10.0	0.3	1.6	<0.1	1.5	9.4
Foxtail barley	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Common milkweed	10.0	1.0	10.0	0.5	5.4	<0.1	5.0	5.6
Prickly lettuce	10.0	1.0	10.0	0.3	3.2	<0.1	3.0	5.1
Yellow foxtail	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Sweetclover	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	10.0	2.0	20.0	-	-	-	-	-

Table 36. LaMoure county weed infestations based on 38 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	57.9	15.5	26.8	15.7	27.2	3.8	21.3	71.6
Wild mustard	52.6	18.7	35.5	10.0	18.9	0.1	11.9	59.5
Pigweed species	44.7	17.1	38.2	4.8	10.8	<0.1	3.5	43.3
Sunflower	34.2	13.7	40.0	6.8	19.9	0.1	6.0	41.0
Yellow foxtail	21.1	8.9	42.5	9.5	45.2	0.7	32.6	38.2
Canada thistle	50.0	13.7	27.4	2.7	5.4	<0.1	2.3	36.7
Wild oat	23.7	7.4	31.1	4.3	18.1	0.1	8.3	25.2
Common lambsquarters	21.1	7.6	36.3	3.0	14.3	<0.1	5.4	21.7
Kochia	13.2	5.0	38.0	4.3	32.7	0.1	10.4	19.4
Wild buckwheat	21.1	7.6	36.3	1.6	7.5	<0.1	3.1	18.4
Quackgrass	26.3	3.4	13.0	1.1	4.1	<0.1	3.3	14.7
Eastern black nightshade	18.4	3.9	21.4	0.8	4.6	<0.1	1.9	12.1
Soybean	13.2	3.4	26.0	0.5	3.9	<0.1	2.0	9.0
Common milkweed	13.2	2.4	18.0	0.4	2.8	<0.1	1.6	7.6
Flax	2.6	2.4	90.0	1.8	66.7	<0.1	33.0	7.3
Volunteer cereal	13.2	2.1	16.0	0.3	2.4	<0.1	1.6	7.2
Common ragweed	13.2	1.8	14.0	0.3	2.4	<0.1	1.2	7.0
Perennial sowthistle	10.5	1.6	15.0	0.2	2.2	<0.1	1.5	5.6
Field pennycress	7.9	1.6	20.0	0.3	3.2	<0.1	1.7	4.8
Field bindweed	7.9	1.3	16.7	0.2	2.5	<0.1	1.7	4.4
Prickly lettuce	7.9	1.1	13.3	0.1	1.4	<0.1	1.0	3.9
Russian thistle	5.3	0.5	10.0	0.2	3.8	<0.1	3.5	2.7
Common cocklebur	5.3	0.8	15.0	0.1	1.6	<0.1	1.0	2.7
Barnyardgrass	2.6	0.5	20.0	0.5	17.2	<0.1	11.0	2.5
Horseweed	2.6	0.5	20.0	0.1	3.2	<0.1	2.0	1.6
Curly dock	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Dandelion	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Prairie wild rose	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Weed free	52.6	17.1	32.5	-	-	-	-	-

Table 37. Logan county weed infestations based on 11 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.9	54.5	60.0	23.1	25.4	<0.1	21.3	138.7
Wild buckwheat	72.7	29.1	40.0	13.7	18.8	<0.1	9.8	85.3
Wild oat	45.5	17.3	38.0	20.8	45.9	0.6	19.4	81.1
Wild mustard	36.4	20.0	55.0	11.8	32.6	<0.1	11.5	59.7
Sunflower	36.4	19.1	52.5	4.9	13.5	<0.1	4.3	42.6
Field bindweed	45.5	10.0	22.0	2.5	5.6	<0.1	3.4	31.1
Common lambsquarters	27.3	9.1	33.3	5.0	18.3	<0.1	5.7	29.8
Kochia	18.2	4.5	25.0	8.1	44.7	<0.1	50.0	29.6
Pigweed species	27.3	8.2	30.0	1.4	5.0	<0.1	2.3	20.5
Quackgrass	36.4	3.6	10.0	1.5	4.0	<0.1	3.8	19.2
Canola	9.1	<0.1	<0.1	6.8	74.3	0.2	20.0	18.8
Russian thistle	27.3	2.7	10.0	0.3	1.1	<0.1	1.0	12.5
Canada thistle	18.2	3.6	20.0	0.8	4.3	<0.1	2.0	11.5
Volunteer cereal	18.2	3.6	20.0	0.7	3.8	<0.1	2.5	11.3
Field pennycress	18.2	1.8	10.0	0.2	1.1	<0.1	1.0	8.3
Fairy candleabra	9.1	3.6	40.0	0.4	4.3	<0.1	1.0	7.6
Perennial sowthistle	9.1	0.9	10.0	0.3	3.2	<0.1	3.0	4.6
Shepherd's-purse	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Common purslane	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Yellow foxtail	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	27.3	12.7	46.7	-	-	-	-	-

Table 38. McHenry county weed infestations based on 25 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	92.0	43.6	47.4	48.4	52.6	2.1	36.3	187.1
Wild buckwheat	56.0	18.8	33.6	7.9	14.1	0.1	5.8	56.0
Volunteer cereal	32.0	22.4	70.0	8.6	26.8	<0.1	8.6	53.1
Wild mustard	32.0	13.6	42.5	4.6	14.4	<0.1	5.1	35.0
Common lambsquarters	20.0	10.4	52.0	3.1	15.3	<0.1	17.6	24.2
Kochia	24.0	6.8	28.3	3.7	15.2	0.2	17.7	23.3
Field bindweed	28.0	9.6	36.7	2.3	8.8	<0.1	4.0	23.2
Canada thistle	28.0	5.2	18.6	1.9	6.9	<0.1	5.4	19.1
Sunflower	8.0	5.6	70.0	4.1	51.7	<0.1	24.5	17.9
Wild oat	16.0	5.6	35.0	2.4	14.8	<0.1	6.3	16.5
Perennial sowthistle	16.0	3.2	20.0	0.9	5.7	<0.1	3.3	10.6
Field pennycress	4.0	0.4	10.0	2.7	66.7	<0.1	62.0	8.0
Quackgrass	8.0	2.0	25.0	0.9	11.8	<0.1	6.0	6.9
Lanceleaf sage	4.0	2.4	60.0	0.9	22.6	<0.1	10.0	5.8
Foxtail barley	4.0	1.6	40.0	1.2	30.1	<0.1	12.0	5.7
Russian thistle	4.0	2.4	60.0	0.8	20.5	<0.1	10.0	5.6
Pigweed species	8.0	2.0	25.0	0.4	4.8	<0.1	2.0	5.6
Horsetail	8.0	1.2	15.0	0.4	5.4	<0.1	4.5	4.9
Dandelion	8.0	1.6	20.0	0.3	3.2	<0.1	2.0	4.9
Flixweed/Tansy mustard	8.0	0.8	10.0	0.3	3.8	<0.1	3.5	4.2
Common ragweed	8.0	1.2	15.0	0.1	1.6	<0.1	1.0	4.2
Horseweed	4.0	1.6	40.0	0.3	8.6	<0.1	3.0	3.7
Common chickweed	4.0	1.2	30.0	0.4	9.7	<0.1	6.0	3.4
Shepherd's-purse	4.0	0.4	10.0	0.5	12.9	<0.1	12.0	2.9
Greenflower pepperweed	4.0	1.2	30.0	0.2	4.3	<0.1	2.0	2.9
Leafy spurge	4.0	0.8	20.0	0.3	7.5	<0.1	6.0	2.8
Common milkweed	4.0	0.4	10.0	0.1	2.2	<0.1	2.0	1.9
Annual smartweed	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Weed free	32.0	8.4	26.3	-	-	-	-	-

Table 39. McIntosh county weed infestations based on 16 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Wild buckwheat	87.5	33.8	38.6	16.3	18.6	<0.1	6.5	100.9
Yellow foxtail	31.3	11.9	38.0	14.5	46.5	0.8	20.8	56.2
Green foxtail	31.3	12.5	40.0	13.5	43.1	0.4	15.6	54.3
Wild oat	37.5	15.0	40.0	8.9	23.9	<0.1	10.0	48.4
Canada thistle	50.0	15.0	30.0	5.1	10.2	<0.1	3.5	43.6
Wild mustard	37.5	13.8	36.7	5.7	15.1	<0.1	6.7	39.4
Field bindweed	31.3	8.8	28.0	2.7	8.6	<0.1	4.8	25.4
Sunflower	25.0	6.3	25.0	3.8	15.1	0.1	4.5	23.4
Kochia	25.0	8.8	35.0	2.3	9.1	<0.1	11.8	22.4
Common lambsquarters	25.0	6.3	25.0	1.1	4.6	<0.1	2.5	17.3
Prickly lettuce	25.0	5.6	22.5	1.1	4.3	<0.1	2.5	16.5
Common ragweed	18.8	6.3	33.3	1.5	8.3	<0.1	3.0	16.1
Quackgrass	18.8	2.5	13.3	1.6	8.6	<0.1	7.7	12.5
Pigweed species	12.5	4.4	35.0	1.5	11.8	<0.1	5.0	12.0
Dandelion	6.3	5.0	80.0	1.1	17.2	<0.1	5.0	9.6
Horseweed	12.5	2.5	20.0	0.5	3.8	<0.1	2.0	7.8
Common mallow	6.3	0.6	10.0	0.7	11.8	<0.1	11.0	4.4
Venice mallow	6.3	<0.1	<0.1	0.3	5.4	0.3	18.0	2.9
Russian thistle	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Weed free	50.0	13.8	27.5	-	-	-	-	-

Table 40. McKenzie county weed infestations based on 28 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	89.3	27.1	30.4	25.7	28.8	1.5	18.9	116.8
Russian thistle	39.3	7.9	20.0	13.8	35.0	0.6	16.0	53.1
Kochia	39.3	13.6	34.5	3.8	9.7	0.2	11.4	35.5
Wild mustard	32.1	12.1	37.8	3.5	11.0	0.2	6.8	31.1
Pigweed species	21.4	7.5	35.0	5.0	23.3	<0.1	16.5	26.3
Canada thistle	32.1	5.4	16.7	2.0	6.2	<0.1	4.2	20.7
Field pennycress	17.9	8.2	46.0	1.7	9.5	<0.1	3.2	18.1
Wild buckwheat	17.9	6.8	38.0	1.5	8.6	<0.1	2.8	16.3
Field bindweed	17.9	2.1	12.0	0.8	4.3	<0.1	3.8	9.9
Wild oat	7.1	3.6	50.0	1.0	14.0	<0.1	2.5	8.3
Common lambsquarters	10.7	2.9	26.7	0.5	4.3	<0.1	2.0	7.5
Sweetclover	7.1	3.6	50.0	0.5	7.5	<0.1	2.0	7.2
Flixweed/Tansy mustard	7.1	2.5	35.0	0.3	3.8	<0.1	1.0	5.5
Dandelion	7.1	2.1	30.0	0.3	4.3	<0.1	2.0	5.2
Volunteer cereal	3.6	1.8	50.0	0.3	9.7	<0.1	3.0	3.8
Whitlowwart species	7.1	1.1	15.0	0.1	1.6	<0.1	1.0	3.7
Prickly lettuce	3.6	0.7	20.0	0.1	2.2	<0.1	1.0	2.1
Downy brome	3.6	0.4	10.0	<0.1	1.1	<0.1	1.0	1.6
Weed free	42.9	21.4	50.0	-	-	-	-	-

Table 41. McLean county weed infestations based on 44 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	47.7	19.3	40.5	16.2	33.9	0.1	27.3	73.0
Wild mustard	54.5	20.0	36.7	10.8	19.9	<0.1	9.4	63.5
Quackgrass	38.6	10.2	26.5	7.4	19.2	0.5	13.6	40.5
Canada thistle	31.8	9.3	29.3	4.8	15.2	<0.1	5.7	31.2
Wild buckwheat	43.2	9.5	22.1	2.7	6.2	<0.1	3.3	30.2
Volunteer cereal	29.5	8.2	27.7	3.9	13.3	<0.1	5.0	27.2
Kochia	20.5	7.3	35.6	3.3	16.3	<0.1	10.0	21.9
Russian thistle	15.9	3.6	22.9	2.6	16.6	0.1	16.0	15.1
Field pennycress	22.7	4.3	19.0	1.2	5.5	<0.1	3.2	14.8
Field bindweed	15.9	2.3	14.3	2.1	13.1	<0.1	7.1	12.4
Common purslane	13.6	1.8	13.3	0.2	1.4	<0.1	1.0	6.8
Sunflower	4.5	0.5	10.0	1.2	26.4	<0.1	6.0	4.8
Shepherd's-purse	4.5	1.1	25.0	0.8	17.8	<0.1	13.5	4.5
Common milkweed	4.5	1.1	25.0	0.7	15.1	<0.1	9.5	4.2
Dandelion	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Wild oat	6.8	1.1	16.7	0.3	4.7	<0.1	2.3	4.2
Eastern black nightshade	4.5	0.9	20.0	0.6	12.4	<0.1	5.5	3.7
Common lambsquarters	6.8	0.7	10.0	0.3	4.3	<0.1	4.0	3.6
Foxtail barley	6.8	0.7	10.0	0.2	2.9	<0.1	2.7	3.4
Dry bean	4.5	0.7	15.0	0.1	1.6	<0.1	1.0	2.4
Common ragweed	2.3	0.7	30.0	0.3	15.1	<0.1	10.0	2.2
Common mallow	4.5	0.5	10.0	<0.1	1.1	<0.1	1.0	2.1
Barnyardgrass	2.3	0.5	20.0	0.1	5.4	<0.1	3.0	1.5
Prairie wild rose	2.3	0.2	10.0	<0.1	2.2	<0.1	2.0	1.1
Yellow foxtail	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.0
Horseweed	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.0
Common cocklebur	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.0
Perennial sowthistle	2.3	0.2	10.0	<0.1	1.1	<0.1	1.0	1.0
Weed free	59.1	17.0	28.8	-	-	-	-	-

Table 42. Mercer county weed infestations based on 11 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	81.8	23.6	28.9	27.9	34.1	2.5	21.7	116.0
Field bindweed	54.5	18.2	33.3	12.9	23.7	0.3	7.0	66.5
Wild buckwheat	54.5	20.9	38.3	10.6	19.4	<0.1	5.8	63.8
Russian thistle	36.4	14.5	40.0	10.7	29.3	<0.1	11.5	51.6
Common lambsquarters	54.5	11.8	21.7	3.1	5.7	<0.1	2.2	37.3
Wild mustard	36.4	15.5	42.5	2.9	8.1	<0.1	3.0	34.4
Common mallow	27.3	10.0	36.7	3.8	14.0	<0.1	6.0	28.0
Eastern black nightshade	45.5	6.4	14.0	1.0	2.2	<0.1	1.6	23.8
Kochia	27.3	8.2	30.0	2.3	8.3	<0.1	3.3	22.5
Field pennycress	36.4	4.5	12.5	0.6	1.6	<0.1	1.3	18.0
Alfalfa	9.1	2.7	30.0	0.9	9.7	<0.1	5.0	7.8
Pigweed species	9.1	2.7	30.0	0.3	3.2	<0.1	1.0	6.4
Barnyardgrass	9.1	0.9	10.0	0.8	8.6	<0.1	8.0	5.8
Sunflower	9.1	1.8	20.0	0.2	2.2	<0.1	1.0	5.3
Sweetclover	9.1	0.9	10.0	0.3	3.2	<0.1	3.0	4.6
Quackgrass	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	36.4	3.6	10.0	-	-	-	-	-

Table 43. Morton county weed infestations based on 20 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	80.0	27.5	34.4	47.2	59.0	2.2	18.4	164.3
Wild buckwheat	70.0	24.5	35.0	10.5	15.0	<0.1	4.9	72.3
Russian thistle	45.0	20.5	45.6	12.9	28.6	<0.1	7.4	65.5
Kochia	30.0	11.5	38.3	7.9	26.4	0.1	7.2	40.0
Sunflower	25.0	10.0	40.0	7.5	29.9	0.2	6.4	35.8
Wild mustard	30.0	2.0	6.7	10.2	33.9	1.4	15.0	35.7
Field bindweed	40.0	9.0	22.5	3.4	8.6	<0.1	6.5	30.4
Common lambsquarters	40.0	9.0	22.5	1.6	4.0	<0.1	1.6	26.1
Field pennycress	20.0	4.5	22.5	0.8	3.8	<0.1	2.0	12.9
Eastern black nightshade	15.0	2.0	13.3	0.7	4.7	<0.1	4.0	8.6
Common purslane	10.0	3.0	30.0	0.9	9.1	<0.1	3.0	8.5
Foxtail barley	15.0	1.5	10.0	0.3	2.2	<0.1	2.0	7.3
Canada thistle	10.0	2.0	20.0	0.7	7.0	<0.1	4.5	7.0
Wild oat	5.0	1.0	20.0	0.1	2.2	<0.1	1.0	2.9
Quackgrass	5.0	0.5	10.0	0.1	2.2	<0.1	2.0	2.4
Dandelion	5.0	0.5	10.0	0.1	1.1	<0.1	1.0	2.3
Weed free	20.0	4.5	22.5	-	-	-	-	-

Table 44. Mountrail county weed infestations based on 33 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	87.9	42.4	48.3	29.7	33.8	1.5	26.8	141.0
Wild buckwheat	75.8	25.8	34.0	8.1	10.7	<0.1	3.3	70.0
Kochia	54.5	15.5	28.3	9.9	18.1	0.3	11.9	56.6
Field pennycress	54.5	17.0	31.1	5.2	9.5	<0.1	4.8	47.3
Russian thistle	54.5	11.8	21.7	6.3	11.5	0.4	6.6	44.7
Canada thistle	51.5	15.5	30.0	4.2	8.2	<0.1	3.4	42.5
Pigweed species	33.3	13.0	39.1	7.5	22.6	<0.1	16.6	41.7
Common lambsquarters	36.4	11.8	32.5	6.2	17.1	<0.1	5.8	38.5
Wild mustard	39.4	11.2	28.5	2.0	5.0	<0.1	2.4	28.9
Flixweed/Tansy mustard	39.4	10.3	26.2	1.3	3.4	<0.1	1.5	26.6
Common ragweed	21.2	5.8	27.1	5.8	27.5	<0.1	28.9	26.5
Shepherd's-purse	24.2	6.1	25.0	3.6	14.9	<0.1	6.6	22.6
Wild oat	21.2	7.0	32.9	2.6	12.3	<0.1	4.9	20.1
Canola	9.1	4.8	53.3	3.8	41.3	<0.1	29.0	16.6
Field bindweed	24.2	4.8	20.0	1.1	4.4	<0.1	2.9	15.4
Quackgrass	21.2	3.6	17.1	0.9	4.3	<0.1	3.0	12.8
Sunflower	12.1	4.8	40.0	1.4	11.6	<0.1	3.3	12.2
Dandelion	15.2	3.9	26.0	0.6	4.1	<0.1	2.0	10.4
Greenflower pepperweed	18.2	2.4	13.3	0.4	2.0	<0.1	1.3	9.3
Fairy candleabra	9.1	3.0	33.3	1.2	13.6	<0.1	3.7	9.0
Cutleaf nightshade	12.1	2.7	22.5	0.8	6.2	<0.1	4.3	8.5
Volunteer cereal	6.1	3.6	60.0	1.0	16.1	<0.1	4.5	7.9
Prostrate pigweed	6.1	3.0	50.0	0.5	8.6	<0.1	2.5	6.3
Whitlowwart species	9.1	2.1	23.3	0.3	2.9	<0.1	1.3	5.8
Perennial sowthistle	9.1	1.5	16.7	0.4	3.9	<0.1	3.0	5.4
Common mallow	6.1	1.2	20.0	0.7	10.8	<0.1	7.0	4.8
Common cocklebur	3.0	1.8	60.0	0.6	19.4	<0.1	4.0	4.2
Sweetclover	6.1	1.5	25.0	0.2	3.8	<0.1	1.5	4.1
Horseweed	6.1	1.2	20.0	0.2	3.2	<0.1	2.0	4.1
Downy brome	3.0	0.3	10.0	0.4	12.9	<0.1	12.0	2.2
Eastern black nightshade	3.0	0.3	10.0	0.1	2.2	<0.1	2.0	1.5
Prickly lettuce	3.0	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Prairie wild rose	3.0	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Weed free	18.2	4.8	26.7	-	-	-	-	-

Table 45. Nelson county weed infestations based on 30 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	73.3	24.0	32.7	29.3	40.0	3.3	24.4	116.8
Wild mustard	76.7	26.3	34.3	9.0	11.7	<0.1	4.3	72.9
Canada thistle	66.7	16.0	24.0	7.5	11.3	0.1	4.8	55.8
Green foxtail	36.7	14.3	39.1	10.3	28.1	0.5	22.4	50.6
Wild buckwheat	36.7	18.3	50.0	6.0	16.3	0.1	4.6	44.5
Wild oat	33.3	14.3	43.0	7.1	21.3	<0.1	7.0	42.0
Volunteer cereal	20.0	10.7	53.3	4.1	20.5	0.1	4.7	26.9
Sunflower	10.0	5.3	53.3	4.2	42.0	<0.1	8.0	18.5
Quackgrass	30.0	4.0	13.3	1.9	6.3	<0.1	5.0	18.4
Kochia	16.7	5.7	34.0	2.4	14.6	<0.1	4.6	16.9
Russian thistle	13.3	5.3	40.0	2.6	19.4	<0.1	4.8	15.8
Pigweed species	16.7	5.0	30.0	1.4	8.6	<0.1	4.0	13.9
Common lambsquarters	20.0	3.3	16.7	0.4	2.0	<0.1	1.2	10.9
Shepherd's-purse	3.3	2.7	80.0	2.7	80.7	<0.1	18.0	10.1
Perennial sowthistle	6.7	2.3	35.0	1.1	16.1	<0.1	7.5	7.1
Canola	3.3	2.7	80.0	0.5	14.0	<0.1	3.0	4.9
Eastern black nightshade	6.7	1.0	15.0	0.5	7.0	<0.1	6.0	4.3
Common ragweed	6.7	1.3	20.0	0.3	3.8	0.1	11.0	4.1
Annual smartweed	3.3	1.7	50.0	0.5	15.1	<0.1	5.0	3.9
Soybean	3.3	1.7	50.0	0.2	6.5	<0.1	2.0	3.3
Dandelion	3.3	1.3	40.0	0.1	4.3	<0.1	1.0	2.8
Common mallow	3.3	0.7	20.0	0.2	5.4	<0.1	3.0	2.2
Tall waterhemp	3.3	0.7	20.0	0.1	3.2	<0.1	2.0	2.0
Prairie wild rose	3.3	0.3	10.0	0.2	6.5	<0.1	6.0	1.9
Field pennycress	3.3	0.7	20.0	0.1	2.2	<0.1	1.0	1.9
Common milkweed	3.3	0.3	10.0	0.1	2.2	<0.1	2.0	1.6
Prickly lettuce	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Weed free	20.0	8.0	40.0	-	-	-	-	-

Table 46. Oliver county weed infestations based on 10 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	55.6	20.0	36.0	18.5	33.4	0.4	15.0	81.8
Barnyardgrass	22.2	7.8	35.0	1.4	6.5	<0.1	2.0	18.5
Russian thistle	22.2	3.3	15.0	0.6	2.7	<0.1	2.0	12.1
Sunflower	11.1	4.4	40.0	1.1	9.7	<0.1	6.0	10.7
Wild mustard	22.2	2.2	10.0	0.2	1.1	<0.1	1.0	10.2
Pigweed species	11.1	<0.1	<0.1	2.4	21.5	0.2	20.0	9.3
Common lambsquarters	11.1	3.3	30.0	1.0	8.6	<0.1	4.0	9.3
Common ragweed	11.1	1.1	10.0	0.4	3.2	<0.1	3.0	5.7
Wild buckwheat	11.1	1.1	10.0	0.4	3.2	<0.1	3.0	5.7
Dandelion	11.1	1.1	10.0	0.2	2.2	<0.1	2.0	5.4
Canada thistle	11.1	1.1	10.0	0.1	1.1	<0.1	1.0	5.1
Weed free	66.7	37.8	56.7	-	-	-	-	-

Table 47. Pierce county weed infestations based on 21 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.5	37.1	41.1	44.9	49.6	8.7	47.3	172.1
Wild buckwheat	71.4	30.0	42.0	20.3	28.4	0.2	8.2	101.2
Wild oat	66.7	20.0	30.0	13.4	20.1	0.2	7.2	73.4
Wild mustard	71.4	21.0	29.3	9.1	12.7	<0.1	9.4	65.9
Kochia	47.6	19.0	40.0	9.9	20.9	<0.1	8.9	58.1
Canola	33.3	7.1	21.4	11.8	35.5	1.2	32.6	45.9
Pigweed species	33.3	13.8	41.4	8.8	26.3	0.3	19.1	45.4
Canada thistle	42.9	10.5	24.4	2.3	5.3	<0.1	3.1	30.0
Common lambsquarters	28.6	9.5	33.3	4.6	16.1	<0.1	13.8	29.8
Yellow foxtail	23.8	9.5	40.0	4.4	18.3	0.2	10.0	27.6
Quackgrass	23.8	7.1	30.0	5.2	21.7	<0.1	8.2	27.2
Russian thistle	33.3	8.1	24.3	2.5	7.5	<0.1	5.1	25.1
Volunteer cereal	19.0	8.6	45.0	2.6	13.7	<0.1	5.0	21.0
Sunflower	14.3	3.3	23.3	5.5	38.8	0.3	18.3	21.0
Prickly lettuce	14.3	3.3	23.3	1.5	10.8	<0.1	5.7	11.7
Flax	4.8	3.8	80.0	1.9	40.9	<0.1	10.0	9.9
Field pennycress	14.3	2.9	20.0	0.7	4.7	<0.1	2.3	9.2
Field bindweed	14.3	2.4	16.7	0.4	2.9	<0.1	1.7	8.1
Common purslane	4.8	2.4	50.0	1.1	22.6	<0.1	6.0	6.5
Barnyardgrass	4.8	1.0	20.0	0.2	4.3	<0.1	3.0	3.0
Common mallow	4.8	0.5	10.0	0.2	4.3	<0.1	4.0	2.5
Perennial sowthistle	4.8	0.5	10.0	0.1	2.2	<0.1	2.0	2.3
Foxtail barley	4.8	0.5	10.0	0.1	1.1	<0.1	1.0	2.2
Hedge bindweed	4.8	0.5	10.0	0.1	1.1	<0.1	1.0	2.2
Weed free	14.3	2.4	16.7	-	-	-	-	-

Table 48. Pembina county weed infestations based on 54 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	Plants/m^2		Plants/m^2		
Yellow foxtail	43.6	15.2	36.2	35.1	36.9	1.3	17.8	111.6
Wild mustard	72.7	25.2	34.9	7.8	10.6	<0.1	3.7	67.6
Green foxtail	32.0	11.6	24.9	9.5	30.7	0.2	11.6	44.4
Common mallow	4.6	1.2	15.8	0.3	4.2	<0.1	1.0	39.6
Canada thistle	39.6	9.9	24.3	4.3	9.4	<0.1	4.1	33.1
Wild oat	25.5	9.9	38.8	5.7	23.9	0.1	13.8	31.7
Wild buckwheat	30.6	11.9	39.0	3.2	10.1	<0.1	3.3	29.6
Eastern black nightshade	19.2	5.4	22.9	2.2	9.5	<0.1	5.3	16.9
Kochia	18.2	4.1	24.0	2.1	11.8	<0.1	5.2	15.1
Quackgrass	19.6	3.3	20.7	1.8	15.6	<0.1	6.9	14.0
Russian thistle	11.7	4.7	20.2	2.3	8.7	<0.1	4.2	14.0
Common lambsquarters	18.9	4.2	20.2	1.4	5.7	<0.1	3.0	13.8
Volunteer cereal	11.0	4.5	29.4	2.3	19.6	<0.1	8.5	13.5
Pigweed species	11.3	3.1	32.3	1.3	11.0	<0.1	6.2	9.9
Annual smartweed	3.0	1.0	20.0	5.3	3.0	<0.1	3.0	9.0
Dandelion	3.2	1.2	30.7	1.0	4.1	<0.1	1.0	7.0
Perennial sowthistle	4.7	2.2	35.6	1.2	22.3	<0.1	11.8	6.6

Table 48 (continued).

Canola	3.0	1.4	11.5	1.0	5.6	<0.1	9.8	4.7
Common ragweed	6.0	0.9	15.0	0.2	3.0	<0.1	6.5	3.4
Soybean	2.7	1.4	18.6	0.2	5.3	<0.1	1.6	2.8
Common milkweed	4.7	0.7	11.4	0.	2.8	<0.1	3.7	2.7
Prickly lettuce	3.6	0.7	18.4	0.2	3.8	<0.1	2.2	2.4
Common cocklebur	2.1	0.6	24.0	<0.1	6.8	<0.1	1.6	1.4
Field pennycress	2.4	0.4	16.7	<0.1	1.5	<0.1	1.0	1.3
Biennial wormwood	1.6	0.1	12.1	<0.1	1.3	<0.1	1.2	0.8
Weed free	51.6	19.1	37.8	-	-	-	-	-

Table 49. Ramsey county weed infestations based on 31 surveyed fields, spring 2000.

						Weed		
	Weed	Field Uniformity		Weed Density		Density Range		Weed
Weed species	Frequency	All	Infested	All	Infested	Low	High	Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild mustard	54.8	21.9	40.0	15.7	28.6	1.1	9.8	76.8
Canada thistle	45.2	15.8	35.0	4.4	9.8	<0.1	3.6	41.2
Wild oat	19.4	5.8	30.0	7.3	37.9	0.4	23.7	29.4
Kochia	22.6	10.0	44.3	4.4	19.7	0.1	5.3	27.9
Pigweed species	19.4	3.9	20.0	5.7	29.4	0.3	5.5	23.6
Green foxtail	19.4	6.8	35.0	3.9	20.3	0.1	38.5	22.4
Common lambsquarters	19.4	3.5	18.3	3.1	16.1	0.1	3.2	17.3
Quackgrass	12.9	3.5	27.5	3.5	27.2	<0.1	10.8	16.0
Yellow foxtail	12.9	1.9	15.0	3.0	23.4	0.4	9.5	13.3
Wild buckwheat	9.7	3.9	40.0	2.0	20.8	<0.1	5.0	11.8
Canola	3.2	2.9	90.0	3.1	95.8	<0.1	62.0	11.2
Field pennycress	6.5	3.2	50.0	2.0	31.2	<0.1	11.0	10.1
Common mallow	9.7	2.6	26.7	1.6	16.1	<0.1	13.3	9.5
Volunteer cereal	3.2	0.3	10.0	2.0	61.4	<0.1	57.0	6.0
Sunflower	3.2	2.9	90.0	0.9	26.9	<0.1	9.0	6.0
Russian thistle	9.7	1.6	16.7	0.2	2.5	<0.1	1.7	5.4
Common milkweed	9.7	1.3	13.3	0.2	2.2	<0.1	1.7	5.0
Flax	3.2	2.9	90.0	0.4	11.8	<0.1	34.0	4.9
Perennial sowthistle	9.7	1.3	13.3	0.1	1.4	<0.1	1.0	4.8
Giant ragweed	3.2	1.3	40.0	0.4	12.9	<0.1	5.0	3.3
Field bindweed	3.2	1.0	30.0	0.4	11.8	<0.1	5.0	2.9
Common cocklebur	3.2	1.3	40.0	0.2	6.5	<0.1	2.0	2.9
Common purslane	3.2	1.3	40.0	0.1	4.3	<0.1	1.0	2.7
Prickly lettuce	3.2	0.6	20.0	0.1	3.2	<0.1	2.0	2.0
Hairy nightshade	3.2	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Common ragweed	3.2	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Foxtail barley	3.2	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Weed free	51.6	22.3	43.1	-	-	-	-	-

Table 50. Ransom county weed infestations based on 15 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	100.0	30.0	30.0	26.1	26.1	2.6	19.5	124.3
Common lambsquarters	53.3	22.0	41.3	19.1	35.8	0.1	20.5	84.3
Barnyardgrass	40.0	17.3	43.3	9.3	23.3	<0.1	16.5	52.4
Canada thistle	60.0	14.7	24.4	3.7	6.2	<0.1	2.8	43.4
Wild oat	26.7	6.7	25.0	11.6	43.6	0.3	19.0	42.7
Wild-proso millet	20.0	12.0	60.0	10.0	49.9	<0.1	26.7	41.9
Pigweed species	40.0	14.0	35.0	5.1	12.7	<0.1	16.8	39.2
Wild mustard	40.0	10.7	26.7	2.4	6.1	<0.1	3.3	29.7
Sunflower	26.7	8.7	32.5	1.3	4.8	<0.1	2.0	20.6
Wild buckwheat	26.7	8.0	30.0	1.4	5.1	<0.1	2.5	20.1
Kochia	26.7	5.3	20.0	2.1	7.8	<0.1	6.3	19.1
Eastern black nightshade	13.3	4.7	35.0	3.5	26.4	<0.1	17.0	17.3
Common milkweed	26.7	4.0	15.0	0.6	2.4	<0.1	1.8	14.4
Canola	13.3	1.3	10.0	1.9	14.5	0.1	26.0	10.3
Quackgrass	13.3	2.7	20.0	1.0	7.5	<0.1	6.0	9.5
Field bindweed	13.3	3.3	25.0	0.4	3.2	<0.1	1.5	8.8
Common ragweed	13.3	2.7	20.0	0.6	4.8	<0.1	3.5	8.6
Green foxtail	13.3	2.7	20.0	0.4	2.7	<0.1	1.5	7.9
Biennial wormwood	13.3	2.7	20.0	0.3	2.2	<0.1	1.0	7.8
Perennial sowthistle	13.3	2.0	15.0	0.4	2.7	<0.1	1.5	7.3
Yellow woodsorrel	13.3	1.3	10.0	0.1	1.1	<0.1	1.0	6.1
Volunteer cereal	6.7	2.0	30.0	0.4	5.4	<0.1	3.0	5.1
Hedge bindweed	6.7	1.3	20.0	0.1	2.2	<0.1	1.0	3.9
Common cocklebur	6.7	0.7	10.0	0.3	4.3	<0.1	4.0	3.6
Flax	6.7	0.7	10.0	0.1	2.2	<0.1	2.0	3.2
Dandelion	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Common mallow	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Nightflowering catchfly	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Prostrate spurge	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Weed free	13.3	2.7	20.0	-	-	-	-	-

Table 51. Renville county weed infestations based on 34 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	82.4	24.7	30.0	32.9	39.9	4.5	45.3	128.8
Wild buckwheat	67.6	29.7	43.9	7.6	11.3	<0.1	4.1	70.1
Pigweed species	41.2	16.8	40.7	7.7	18.8	<0.1	15.1	48.5
Canada thistle	64.7	15.0	23.2	4.6	7.1	<0.1	4.1	47.4
Wild oat	44.1	7.9	18.0	4.3	9.7	0.1	4.2	32.6
Kochia	44.1	11.2	25.3	2.5	5.6	<0.1	3.2	31.6
Field pennycress	32.4	10.6	32.7	3.7	11.4	<0.1	5.8	30.0
Volunteer cereal	38.2	10.3	26.9	2.7	7.0	<0.1	3.4	29.3
Common ragweed	32.4	7.4	22.7	4.1	12.5	<0.1	8.5	27.6
Wild mustard	35.3	6.8	19.2	2.3	6.5	0.1	5.3	23.8
Yellow foxtail	14.7	5.6	38.0	5.6	38.3	0.1	13.0	23.6
Sunflower	26.5	6.8	25.6	1.4	5.3	<0.1	2.1	18.8
Quackgrass	17.6	4.4	25.0	1.6	8.8	<0.1	5.5	13.9
Canola	17.6	4.7	26.7	0.7	4.1	<0.1	1.5	12.3
Annual smartweed	14.7	3.5	24.0	1.3	8.6	<0.1	5.2	11.4
Common lambsquarters	14.7	3.5	24.0	0.9	6.2	<0.1	2.4	10.6
Perennial sowthistle	14.7	2.6	18.0	1.0	7.1	<0.1	5.0	10.0
Biennial wormwood	11.8	4.4	37.5	0.6	5.4	<0.1	2.3	9.8
Field bindweed	14.7	2.9	20.0	0.4	3.0	<0.1	1.6	8.9
Russian thistle	5.9	2.4	40.0	0.9	14.5	<0.1	4.5	6.3
Common mallow	8.8	1.5	16.7	0.6	6.8	<0.1	5.7	5.8
Prickly lettuce	5.9	2.1	35.0	0.4	7.5	<0.1	3.0	5.1
Curly dock	5.9	1.2	20.0	0.7	11.8	<0.1	9.5	4.8
Flax	5.9	0.6	10.0	0.1	2.2	<0.1	2.0	2.8
Flixweed/Tansy mustard	2.9	0.6	20.0	0.1	2.2	<0.1	1.0	1.7
Nightflowering catchfly	2.9	0.6	20.0	0.1	2.2	<0.1	1.0	1.7
Lentil	2.9	<0.1	<0.1	0.3	9.7	0.1	44.0	1.6
Sweetclover	2.9	0.3	10.0	0.1	2.2	<0.1	2.0	1.4
Common purslane	2.9	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
False chamomile	2.9	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
Common cocklebur	2.9	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
Lanceleaf sage	2.9	0.3	10.0	<0.1	1.1	<0.1	1.0	1.3
Weed free	23.5	6.5	27.5	-	-	-	-	-

Table 52. Richland county weed infestations based on 61 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Common lambsquarters	65.6	23.0	35.0	16.9	25.8	0.2	9.5	84.3
Green foxtail	47.5	17.2	36.2	11.6	24.3	0.5	14.8	60.0
Yellow foxtail	34.4	11.8	34.3	10.0	29.2	0.2	14.0	46.7
Common cocklebur	45.9	16.7	36.4	4.2	9.1	<0.1	4.7	41.8
Soybean	39.3	16.1	40.8	2.9	7.4	<0.1	2.7	35.9
Eastern black nightshade	39.3	12.0	30.4	3.9	9.9	<0.1	3.3	34.1
Wild-proso millet	27.9	10.3	37.1	5.6	20.1	<0.1	8.5	32.7
Wild buckwheat	32.8	9.8	30.0	2.2	6.8	<0.1	2.4	26.0
Common ragweed	24.6	9.2	37.3	2.6	10.4	<0.1	4.1	23.3
Canada thistle	36.1	6.7	18.6	1.1	3.2	<0.1	1.9	21.4
Wild mustard	32.8	6.4	19.5	1.2	3.6	<0.1	2.3	20.1
Pigweed species	18.0	5.4	30.0	1.5	8.3	<0.1	4.6	14.9
Volunteer cereal	13.1	4.6	35.0	2.2	16.6	<0.1	4.5	14.0
Kochia	13.1	4.1	31.3	1.3	9.6	<0.1	5.3	11.4
Field sandbur	3.3	<0.1	<0.1	3.0	91.5	0.1	33.5	8.1
Quackgrass	9.8	3.0	30.0	0.6	6.5	<0.1	2.2	7.7
Perennial sowthistle	11.5	2.3	20.0	0.4	3.8	<0.1	2.3	7.1
Sunflower	8.2	2.8	34.0	0.6	7.3	<0.1	2.6	6.9
Common milkweed	13.1	1.8	13.8	0.2	1.9	<0.1	1.3	6.8
Lanceleaf sage	4.9	2.6	53.3	0.9	18.3	<0.1	5.7	6.4
Russian thistle	6.6	1.8	27.5	0.5	7.3	<0.1	2.8	5.1
Wild oat	4.9	0.8	16.7	0.6	11.5	<0.1	3.3	3.8
Horseweed	4.9	1.6	33.3	0.2	3.9	<0.1	1.3	3.7
Field bindweed	6.6	0.8	12.5	0.1	1.6	<0.1	1.3	3.3
Sweetclover	3.3	1.3	40.0	0.2	5.9	<0.1	2.5	2.9
Corn	4.9	0.7	13.3	0.1	1.8	<0.1	1.3	2.5
Swamp smartweed	3.3	1.0	30.0	0.1	3.2	<0.1	1.0	2.3
Biennial wormwood	3.3	0.7	20.0	0.1	2.2	<0.1	1.0	1.9
Yellow nutsedge	3.3	0.3	10.0	0.1	3.8	<0.1	3.5	1.7
Tall waterhemp	3.3	0.5	15.0	0.1	1.6	<0.1	1.0	1.7
Dandelion	3.3	0.3	10.0	0.1	1.6	<0.1	1.5	1.5
Hairy nightshade	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Barnyardgrass	1.6	0.7	40.0	0.1	6.5	<0.1	3.0	1.4
Prostrate pigweed	1.6	0.5	30.0	0.1	3.2	<0.1	1.0	1.2
Yellow woodsorrel	1.6	0.3	20.0	<0.1	2.2	<0.1	1.0	1.0
Common purslane	1.6	0.3	20.0	<0.1	2.2	<0.1	1.0	1.0
Purslane speedwell	1.6	0.2	10.0	<0.1	1.1	<0.1	1.0	0.8
Prairie wild rose	1.6	0.2	10.0	<0.1	1.1	<0.1	1.0	0.8
Weed free	41.0	11.3	27.6	-	-	-	-	-

Table 53. Rolette county weed infestations based on 14 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	42.9	42.9	32.6	32.6	2.6	22.9	152.3
Wild oat	85.7	41.4	48.3	30.1	35.1	0.5	9.5	140.1
Wild buckwheat	100.0	27.1	27.1	16.3	16.3	0.4	6.4	98.5
Wild mustard	85.7	33.6	39.2	12.1	14.1	<0.1	5.3	90.3
Annual smartweed	57.1	12.9	22.5	12.1	21.1	3.8	32.0	60.1
Pigweed species	57.1	17.9	31.3	8.1	14.1	0.1	3.8	55.7
Kochia	28.6	16.4	57.5	6.4	22.3	<0.1	10.3	40.8
Common lambsquarters	28.6	12.1	42.5	7.2	25.0	<0.1	11.3	38.4
Quackgrass	42.9	10.7	25.0	4.5	10.4	<0.1	4.7	35.4
Sunflower	21.4	10.7	50.0	4.1	19.0	<0.1	7.0	27.4
Field pennycress	42.9	7.1	16.7	2.5	5.7	<0.1	3.5	27.2
Canada thistle	35.7	7.1	20.0	1.4	3.9	<0.1	2.2	22.3
Volunteer cereal	35.7	7.1	20.0	1.2	3.4	<0.1	1.8	21.9
Canola	21.4	6.4	30.0	2.0	9.3	0.1	13.3	18.2
Nightflowering catchfly	14.3	6.4	45.0	2.7	18.8	<0.1	4.0	17.5
Common chickweed	28.6	3.6	12.5	1.2	4.3	0.3	8.5	16.0
Common mallow	14.3	6.4	45.0	1.5	10.8	<0.1	5.0	14.8
Common ragweed	21.4	2.1	10.0	0.9	4.3	<0.1	4.0	11.4
Prickly lettuce	14.3	2.1	15.0	0.4	2.7	<0.1	2.0	7.8
Dandelion	7.1	2.1	30.0	0.6	8.6	<0.1	4.0	6.0
Prostrate pigweed	7.1	0.7	10.0	0.3	4.3	<0.1	4.0	3.8
Giant ragweed	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Field bindweed	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	7.1	0.7	10.0	-	-	-	-	-

Table 54. Sargent county weed infestations based on 29 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	69.0	31.0	45.0	19.6	28.4	0.2	10.8	99.7
Yellow foxtail	65.5	23.1	35.3	18.2	27.8	0.4	11.4	87.4
Canada thistle	65.5	17.6	26.8	5.9	9.0	<0.1	3.4	53.1
Common lambsquarters	37.9	14.8	39.1	10.8	28.4	<0.1	9.9	52.6
Soybean	34.5	14.8	43.0	3.0	8.8	<0.1	2.9	33.4
Wild buckwheat	44.8	11.7	26.2	2.4	5.5	<0.1	2.6	32.4
Eastern black nightshade	41.4	9.3	22.5	3.6	8.7	<0.1	3.3	31.5
Wild mustard	37.9	9.7	25.5	3.6	9.4	<0.1	3.6	30.6
Kochia	20.7	5.9	28.3	5.2	24.9	<0.1	15.0	24.8
Common ragweed	24.1	8.3	34.3	2.7	11.2	<0.1	4.4	22.6
Quackgrass	24.1	5.9	24.3	1.4	5.7	<0.1	2.4	17.1
Common milkweed	31.0	4.1	13.3	0.6	1.8	<0.1	1.3	15.8
Pigweed species	20.7	4.8	23.3	1.4	7.0	<0.1	2.7	15.1
Yellow woodsorrel	10.3	4.1	40.0	2.8	26.9	<0.1	11.0	14.1
Common cocklebur	17.2	5.5	32.0	1.0	5.6	<0.1	2.2	13.5
Wild-proso millet	24.1	4.1	17.1	0.5	2.0	<0.1	1.1	13.3
Common purslane	13.8	3.8	27.5	1.3	9.4	<0.1	2.5	11.4
Field bindweed	17.2	2.4	14.0	0.4	2.4	<0.1	1.8	9.1
Volunteer cereal	13.8	2.8	20.0	0.4	3.0	<0.1	1.5	8.3
Perennial sowthistle	13.8	1.7	12.5	0.7	5.1	<0.1	4.5	8.0
Wild oat	10.3	2.8	26.7	0.6	5.4	<0.1	2.7	7.5
Sunflower	3.4	2.8	80.0	1.0	30.1	<0.1	12.0	6.3
Common mallow	3.4	2.1	60.0	0.5	15.1	<0.1	5.0	4.4
Corn	3.4	1.7	50.0	0.4	10.8	<0.1	5.0	3.7
Sweetclover	6.9	1.0	15.0	0.1	1.6	<0.1	1.0	3.6
Giant ragweed	3.4	1.4	40.0	0.2	6.5	<0.1	2.0	3.0
Dandelion	3.4	1.4	40.0	0.1	4.3	<0.1	1.0	2.9
Biennial wormwood	3.4	0.7	20.0	0.1	2.2	<0.1	1.0	2.0
Hairy nightshade	3.4	0.3	10.0	0.1	3.2	<0.1	3.0	1.8
Swamp smartweed	3.4	0.3	10.0	<0.1	1.1	<0.1	1.0	1.6
Weed free	44.8	10.0	22.3	-	-	-	-	-

Table 55. Sheridan county weed infestations based on 17 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	88.2	34.7	39.3	55.3	62.7	6.5	48.6	193.2
Wild mustard	88.2	30.6	34.7	11.7	13.2	<0.1	5.9	87.2
Wild oat	58.8	14.1	24.0	14.8	25.1	0.4	6.9	68.2
Russian thistle	70.6	21.8	30.8	9.6	13.6	<0.1	8.8	67.8
Wild buckwheat	58.8	16.5	28.0	8.3	14.1	0.1	4.0	55.4
Kochia	41.2	19.4	47.1	6.4	15.5	<0.1	9.6	48.1
Volunteer cereal	35.3	17.1	48.3	4.5	12.7	<0.1	3.7	39.3
Canada thistle	52.9	12.4	23.3	3.7	6.9	<0.1	2.9	38.6
Common lambsquarters	41.2	7.6	18.6	2.5	6.2	<0.1	4.1	27.3
Pigweed species	35.3	7.1	20.0	3.5	10.0	<0.1	5.2	27.1
Canola	17.6	4.7	26.7	5.8	33.0	0.1	22.0	24.2
Field bindweed	17.6	3.5	20.0	0.9	5.4	<0.1	3.0	11.6
Quackgrass	17.6	1.8	10.0	0.5	2.9	<0.1	2.7	8.8
Perennial sowthistle	11.8	2.9	25.0	0.6	4.8	<0.1	2.0	8.2
Common cocklebur	11.8	2.9	25.0	0.4	3.8	<0.1	1.5	7.9
Common ragweed	11.8	1.8	15.0	0.5	4.3	<0.1	3.0	6.9
Common chickweed	5.9	0.6	10.0	0.1	1.1	<0.1	1.0	2.7
Sunflower	5.9	0.6	10.0	0.1	1.1	<0.1	1.0	2.7
Common milkweed	5.9	0.6	10.0	0.1	1.1	<0.1	1.0	2.7
Weed free	5.9	5.3	90.0	-	-	-	-	-

Table 56. Sioux county weed infestations based on 10 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	22.0	22.0	57.8	57.8	4.8	53.4	190.2
Wild buckwheat	90.0	34.0	37.8	25.0	27.7	0.1	14.4	122.3
Wild oat	80.0	32.0	40.0	6.9	8.6	<0.1	3.0	74.7
Field bindweed	70.0	16.0	22.9	2.9	4.2	<0.1	2.0	46.1
Russian thistle	30.0	11.0	36.7	4.0	13.3	<0.1	3.7	30.3
Wild mustard	40.0	7.0	17.5	0.8	1.9	<0.1	1.0	22.1
Pigweed species	30.0	9.0	30.0	1.3	4.3	<0.1	1.7	22.0
Prickly lettuce	40.0	6.0	15.0	0.9	2.2	<0.1	1.5	21.3
Volunteer cereal	30.0	7.0	23.3	1.4	4.7	<0.1	2.7	20.3
Yellow woodsorrel	10.0	4.0	40.0	0.5	5.4	<0.1	2.0	8.6
Common cocklebur	10.0	3.0	30.0	0.4	4.3	<0.1	2.0	7.3
Common lambsquarters	10.0	2.0	20.0	0.3	3.2	<0.1	2.0	6.1
Soybean	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Dandelion	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Buffalobur	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Flixweed/Tansy mustard	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Kochia	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Fairy candleabra	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Russian thistle	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Horseweed	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Greenflower pepperweed	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Downy brome	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Field pennycress	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	10.0	2.0	20.0	-	-	-	-	-

Table 57. Slope county weed infestations based on 11 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	90.9	31.8	35.0	48.0	52.9	0.9	14.2	174.2
Wild oat	45.5	20.0	44.0	16.4	36.2	0.5	10.2	73.5
Russian thistle	54.5	18.2	33.3	8.3	15.2	<0.1	6.7	55.8
Field bindweed	45.5	15.5	34.0	8.7	19.2	0.2	5.8	50.9
Barnyardgrass	27.3	15.5	56.7	8.3	30.5	<0.1	6.7	44.0
Volunteer cereal	27.3	13.6	50.0	3.3	12.2	0.5	9.0	30.5
Kochia	45.5	5.5	12.0	1.5	3.2	0.2	13.0	24.0
Wild buckwheat	27.3	10.0	36.7	1.9	6.8	<0.1	3.0	23.4
Wild mustard	18.2	8.2	45.0	1.5	8.1	<0.1	3.0	17.7
Pigweed species	18.2	5.5	30.0	1.3	7.0	<0.1	3.0	14.5
Canola	9.1	5.5	60.0	0.7	7.5	<0.1	2.0	10.1
Safflower	9.1	3.6	40.0	0.6	6.5	<0.1	2.0	8.0
Hedge bindweed	9.1	1.8	20.0	0.4	4.3	<0.1	2.0	5.8
Canada thistle	9.1	1.8	20.0	0.3	3.2	<0.1	2.0	5.5
Field pennycress	9.1	1.8	20.0	0.3	3.2	<0.1	2.0	5.5
Weed free	45.5	11.8	26.0	-	-	-	-	-

Table 58. Stark county weed infestations based on 14 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	57.1	25.0	43.8	16.6	29.1	0.5	10.1	82.8
Wild oat	57.1	27.1	47.5	14.7	25.7	<0.1	20.9	80.5
Kochia	42.9	19.3	45.0	11.1	25.8	<0.1	8.5	59.4
Russian thistle	35.7	14.3	40.0	2.5	7.1	<0.1	2.6	32.1
Pigweed species	35.7	11.4	32.0	2.6	7.3	<0.1	3.0	29.4
Field pennycress	28.6	9.3	32.5	4.5	15.9	<0.1	6.8	29.4
Wild buckwheat	28.6	12.1	42.5	1.5	5.4	<0.1	1.5	25.3
Common lambsquarters	28.6	9.3	32.5	1.8	6.5	<0.1	2.5	23.1
Volunteer cereal	21.4	10.0	46.7	2.2	10.4	<0.1	2.7	22.3
Common ragweed	21.4	6.4	30.0	0.8	3.9	<0.1	1.7	15.5
Wild mustard	14.3	5.0	35.0	2.2	15.1	<0.1	5.5	14.8
Downy brome	14.3	3.6	25.0	2.1	14.5	<0.1	8.0	13.2
Flixweed/Tansy mustard	21.4	4.3	20.0	0.6	2.9	<0.1	1.3	12.9
Prairie wild rose	21.4	2.9	13.3	0.4	1.8	<0.1	1.3	10.9
Canola	7.1	3.6	50.0	1.7	23.7	<0.1	11.0	9.9
Sunflower	7.1	4.3	60.0	0.8	10.8	<0.1	3.0	8.5
Erect knotweed	14.3	1.4	10.0	0.2	1.6	<0.1	1.5	6.7
Quackgrass	7.1	2.1	30.0	0.7	9.7	<0.1	5.0	6.1
Alfalfa	7.1	2.1	30.0	0.4	5.4	<0.1	2.0	5.4
Perennial sowthistle	7.1	2.1	30.0	0.3	4.3	<0.1	2.0	5.2
Common mallow	7.1	1.4	20.0	0.5	7.5	<0.1	5.0	5.1
Dandelion	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Annual smartweed	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Field pea	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Canada thistle	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Curly dock	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	42.9	7.9	18.3	-	-	-	-	-

Table 59. Steele county weed infestations based on 25 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	88.0	31.6	35.9	28.1	31.9	1.0	32.3	126.4
Wild mustard	68.0	20.8	30.6	11.6	17.0	0.1	5.6	70.5
Yellow foxtail	52.0	20.8	40.0	12.1	23.4	0.3	15.2	66.5
Wild buckwheat	40.0	18.4	46.0	3.7	9.4	<0.1	3.2	40.5
Canada thistle	40.0	11.6	29.0	5.0	12.4	<0.1	5.6	36.5
Pigweed species	44.0	8.4	19.1	5.4	12.3	<0.1	9.3	35.7
Kochia	20.0	8.0	40.0	6.4	32.1	<0.1	55.6	29.6
Common lambsquarters	36.0	10.8	30.0	2.9	8.0	<0.1	4.1	29.5
Wild oat	32.0	6.8	21.3	4.8	14.9	<0.1	8.5	28.6
Volunteer cereal	12.0	4.8	40.0	1.0	8.6	<0.1	2.3	11.2
Eastern black nightshade	16.0	3.6	22.5	0.8	4.8	<0.1	2.8	10.7
Common milkweed	8.0	0.8	10.0	0.2	2.7	<0.1	2.5	4.0
Common ragweed	8.0	0.8	10.0	0.2	2.2	<0.1	2.0	3.9
Quackgrass	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Soybean	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Weed free	44.0	10.4	23.6	-	-	-	-	-

Table 60. Stutsman county weed infestations based on 50 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.0	24.4	27.1	34.8	38.7	6.3	34.8	135.6
Wild mustard	84.0	33.6	40.0	10.1	12.0	<0.1	5.5	85.2
Wild buckwheat	72.0	29.0	40.3	9.1	12.6	0.2	4.4	74.1
Pigweed species	70.0	24.0	34.3	9.9	14.2	<0.1	5.5	70.5
Common lambsquarters	58.0	14.6	25.2	7.9	13.6	0.1	6.1	52.4
Yellow foxtail	32.0	14.0	43.8	7.5	23.4	<0.1	7.9	42.1
Canada thistle	58.0	11.6	20.0	2.0	3.5	<0.1	1.9	35.7
Kochia	40.0	13.2	33.0	3.6	9.0	<0.1	3.6	35.0
Sunflower	22.0	7.0	31.8	4.4	20.0	0.1	10.0	24.6
Perennial sowthistle	30.0	5.8	19.3	2.6	8.6	<0.1	2.7	21.8
Wild oat	28.0	8.6	30.7	1.3	4.7	<0.1	1.9	21.0
Volunteer cereal	20.0	5.8	29.0	0.9	4.6	<0.1	2.2	14.6
Quackgrass	24.0	4.2	17.5	0.6	2.4	<0.1	1.3	13.6
Common ragweed	22.0	4.2	19.1	0.8	3.7	<0.1	2.4	13.4
Eastern black nightshade	20.0	4.0	20.0	0.5	2.6	<0.1	1.3	11.9
Flax	6.0	2.4	40.0	2.4	39.8	0.1	6.7	10.0
Field bindweed	10.0	2.8	28.0	1.1	10.8	<0.1	5.2	8.6
Common mallow	12.0	2.6	21.7	0.3	2.3	<0.1	1.0	7.3
Annual smartweed	12.0	2.0	16.7	0.4	3.0	<0.1	1.7	6.9
Russian thistle	8.0	2.6	32.5	0.5	6.2	<0.1	2.0	6.4
Common cocklebur	8.0	2.2	27.5	0.3	4.3	<0.1	2.0	5.7
Lanceleaf sage	6.0	1.8	30.0	0.2	3.6	<0.1	1.3	4.3
Canola	6.0	0.8	13.3	0.6	9.3	<0.1	11.3	4.1
Common milkweed	6.0	0.6	10.0	0.1	1.4	<0.1	1.3	2.8
Field pennycress	6.0	0.6	10.0	0.1	1.1	<0.1	1.0	2.8
Dandelion	4.0	0.6	15.0	0.1	1.6	<0.1	1.0	2.1
Cutleaf nightshade	2.0	0.6	30.0	0.1	4.3	<0.1	2.0	1.5
Prickly lettuce	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Common purslane	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Marshelder	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Flixweed/Tansy mustard	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Prairie wild rose	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Yellow woodsorrel	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Soybean	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Downy brome	2.0	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Weed free	14.0	3.0	21.4	-	-	-	-	-

Table 61. Towner county weed infestations based on 29 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	96.6	47.2	48.9	29.7	30.7	1.5	30.8	148.6
Wild buckwheat	93.1	34.1	36.7	12.9	13.8	0.2	6.1	95.2
Wild oat	75.9	27.9	36.8	17.9	23.6	0.3	7.5	95.1
Wild mustard	65.5	23.4	35.8	11.8	18.1	0.1	12.3	72.9
Pigweed species	44.8	19.0	42.3	12.0	26.8	<0.1	8.2	62.0
Canada thistle	72.4	17.9	24.8	7.1	9.7	<0.1	4.4	58.5
Kochia	41.4	16.6	40.0	8.4	20.3	<0.1	12.3	49.9
Annual smartweed	41.4	10.3	25.0	3.6	8.8	<0.1	4.5	32.6
Prickly lettuce	37.9	10.7	28.2	2.7	7.2	<0.1	2.8	29.7
Quackgrass	34.5	9.3	27.0	2.8	8.1	<0.1	3.1	27.3
Common mallow	27.6	4.8	17.5	3.3	11.8	<0.1	10.1	21.6
Common lambsquarters	17.2	6.2	36.0	2.8	16.1	<0.1	7.4	18.4
Field pennycress	13.8	3.4	25.0	3.9	28.0	<0.1	12.0	17.1
Volunteer cereal	13.8	6.6	47.5	2.3	17.0	<0.1	5.8	16.6
Sunflower	10.3	4.1	40.0	3.0	29.1	<0.1	7.0	14.6
Canola	10.3	3.8	36.7	2.5	24.0	<0.1	7.3	13.0
Common ragweed	20.7	2.4	11.7	1.3	6.5	<0.1	5.8	12.4
Flax	6.9	3.1	45.0	2.9	42.5	<0.1	27.0	12.2
Russian thistle	20.7	2.8	13.3	0.4	1.8	<0.1	1.3	10.5
Shepherd's-purse	6.9	4.1	60.0	1.1	16.1	<0.1	6.0	9.0
Dandelion	10.3	3.8	36.7	0.7	6.8	<0.1	3.0	8.9
Common chickweed	10.3	1.4	13.3	1.0	10.0	<0.1	9.0	7.3
Field bindweed	3.4	1.4	40.0	0.7	20.5	<0.1	12.0	4.2
Prostrate pigweed	6.9	1.0	15.0	0.3	3.8	<0.1	3.0	3.9
Horseweed	3.4	0.3	10.0	0.1	3.2	<0.1	3.0	1.8
Common cocklebur	3.4	0.3	10.0	<0.1	1.1	<0.1	1.0	1.6
Hedge bindweed	3.4	0.3	10.0	<0.1	1.1	<0.1	1.0	1.6
Weed free	17.2	2.8	16.0	-	-	-	-	-

Table 62. Traill county weed infestations based on 53 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	50.9	16.4	32.2	14.4	28.3	1.7	15.2	67.0
Wild mustard	67.9	26.8	39.4	7.3	10.8	<0.1	3.1	66.5
Green foxtail	35.8	17.0	47.4	8.1	22.5	0.2	13.9	47.8
Pigweed species	34.0	12.3	36.1	4.7	13.8	<0.1	5.3	34.5
Canada thistle	34.0	8.1	23.9	4.1	12.1	<0.1	5.4	29.1
Kochia	26.4	5.8	22.1	5.9	22.4	0.2	10.7	28.4
Common lambsquarters	20.8	8.7	41.8	4.0	19.3	<0.1	8.2	24.9
Common cocklebur	18.9	7.4	39.0	3.7	19.7	0.1	6.1	22.3
Volunteer cereal	24.5	8.3	33.8	2.0	8.1	<0.1	3.4	21.1
Wild buckwheat	17.0	8.1	47.8	2.7	16.1	<0.1	6.6	20.2
Soybean	20.8	5.7	27.3	1.1	5.2	<0.1	2.4	15.1
Wild oat	15.1	5.3	35.0	1.9	12.9	<0.1	4.3	14.9
Common milkweed	22.6	3.4	15.0	1.3	5.7	<0.1	3.7	13.9
Common ragweed	17.0	4.5	26.7	1.5	8.9	<0.1	3.8	13.7
Quackgrass	7.5	2.3	30.0	1.1	15.1	<0.1	6.0	7.4
Sunflower	1.9	<0.1	<0.1	1.8	98.0	0.1	19.0	4.9
Eastern black nightshade	3.8	0.9	25.0	0.3	8.6	<0.1	5.5	3.0
Russian thistle	5.7	0.6	10.0	0.1	2.2	<0.1	2.0	2.7
Prickly lettuce	3.8	0.4	10.0	0.3	7.5	<0.1	7.0	2.3
Shepherd's-purse	1.9	0.2	10.0	0.1	3.2	<0.1	3.0	1.0
Tall waterhemp	1.9	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Perennial sowthistle	1.9	0.2	10.0	<0.1	1.1	<0.1	1.0	0.9
Weed free	43.4	12.1	27.8	-	-	-	-	-

Table 63. Walsh county weed infestations based on 77 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Wild mustard	59.7	21.8	36.5	5.5	9.1	<0.1	3.0	54.5
Yellow foxtail	23.4	9.9	42.2	9.1	38.8	0.4	11.6	38.8
Canada thistle	36.4	10.5	28.9	4.8	13.3	0.1	5.4	33.9
Wild oat	24.7	7.9	32.1	3.4	13.8	<0.1	5.8	24.1
Quackgrass	23.4	4.4	18.9	1.9	8.3	<0.1	5.3	16.7
Wild buckwheat	15.6	6.0	38.3	1.2	7.9	<0.1	2.4	14.0
Kochia	16.9	3.2	19.2	1.9	11.3	0.1	5.5	13.3
Volunteer cereal	10.4	2.6	25.0	2.6	25.4	0.1	8.9	12.2
Common lambsquarters	10.4	1.4	13.8	0.2	1.5	<0.1	1.0	5.3
Common mallow	5.2	2.2	42.5	0.4	8.6	<0.1	3.3	5.0
Common milkweed	7.8	1.2	15.0	0.3	3.8	<0.1	2.3	4.5
Canola	2.6	<0.1	<0.1	1.4	53.3	<0.1	25.5	4.1
Pigweed species	3.9	1.9	50.0	0.2	6.1	<0.1	1.7	3.8
Prickly lettuce	3.9	1.0	26.7	0.3	6.5	<0.1	3.3	2.9
False chamomile	3.9	0.6	16.7	0.1	1.8	<0.1	1.0	2.1
Green foxtail	1.3	<0.1	<0.1	0.4	33.4	<0.1	7.0	1.4
Flixweed/Tansy mustard	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Biennial wormwood	1.3	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Weed free	63.6	23.9	37.6	-	-	-	-	-

Table 64. Ward county weed infestations based on 62 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	95.2	38.4	40.3	41.1	43.1	4.1	45.5	165.9
Wild buckwheat	64.5	24.4	37.8	11.3	17.5	0.1	6.2	72.2
Canada thistle	62.9	20.3	32.3	6.1	9.7	<0.1	4.6	55.6
Wild mustard	45.2	18.9	41.8	7.4	16.3	<0.1	6.6	51.1
Kochia	40.3	11.1	27.6	6.6	16.3	0.1	16.6	39.9
Field pennycress	35.5	11.1	31.4	3.3	9.2	<0.1	4.0	30.6
Volunteer cereal	19.4	7.9	40.8	3.2	16.5	<0.1	7.8	21.8
Sunflower	19.4	7.6	39.2	3.0	15.7	<0.1	11.1	21.1
Field bindweed	27.4	6.5	23.5	1.2	4.4	<0.1	2.3	18.4
Quackgrass	24.2	5.8	24.0	1.8	7.5	<0.1	3.7	18.1
Canola	11.3	6.3	55.7	2.9	25.4	<0.1	8.6	16.7
Russian thistle	16.1	5.3	33.0	1.7	10.8	<0.1	4.4	14.7
Pigweed species	12.9	5.5	42.5	1.5	11.3	<0.1	9.1	13.2
Wild oat	9.7	2.4	25.0	1.5	15.6	<0.1	7.7	9.2
Perennial sowthistle	11.3	2.7	24.3	0.8	6.9	<0.1	3.0	8.3
Common ragweed	11.3	2.4	21.4	0.4	3.8	<0.1	2.3	7.2
Common mallow	8.1	2.1	26.0	0.6	7.5	<0.1	3.6	6.2
Annual smartweed	4.8	0.8	16.7	1.4	28.0	0.1	7.0	5.6
Fairy candleabra	6.5	1.6	25.0	0.5	7.0	<0.1	3.0	4.8
Flixweed/Tansy mustard	9.7	1.1	11.7	0.2	1.6	<0.1	1.3	4.7
Common lambsquarters	8.1	1.1	14.0	0.3	3.4	<0.1	8.8	4.5
Sweetclover	1.6	<0.1	<0.1	1.0	61.4	0.1	32.0	2.8
Common milkweed	3.2	0.8	25.0	0.3	10.8	<0.1	5.0	2.7
Whitlowwart species	3.2	0.8	25.0	0.2	5.9	<0.1	3.5	2.3
Downy brome	3.2	0.8	25.0	0.2	4.8	<0.1	2.5	2.2
Dandelion	3.2	0.8	25.0	0.1	3.8	<0.1	2.0	2.2
Shepherd's-purse	3.2	0.5	15.0	0.1	3.8	<0.1	2.5	1.8
Lanceleaf sage	3.2	0.5	15.0	0.1	3.8	<0.1	3.0	1.8
Greenflower pepperweed	3.2	0.5	15.0	0.1	2.2	<0.1	1.5	1.7
Cutleaf nightshade	3.2	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Prickly lettuce	1.6	0.3	20.0	0.2	12.9	<0.1	8.0	1.3
Biennial wormwood	1.6	0.5	30.0	0.1	4.3	<0.1	2.0	1.2
Weed free	32.3	7.1	22.0	-	-	-	-	-

Table 65. Wells county weed infestations based on 42 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	88.1	27.6	31.4	30.9	35.1	2.9	36.3	129.2
Wild mustard	73.8	29.8	40.3	15.6	21.2	<0.1	8.4	90.8
Wild oat	52.4	21.2	40.5	9.2	17.6	<0.1	6.2	60.2
Kochia	57.1	19.8	34.6	8.0	14.0	1.1	11.1	57.5
Wild buckwheat	57.1	16.0	27.9	3.4	5.9	<0.1	2.8	42.9
Canada thistle	45.2	9.8	21.6	2.8	6.2	<0.1	3.3	31.4
Sunflower	11.9	6.7	56.0	4.2	35.3	<0.1	10.0	20.4
Yellow foxtail	7.1	4.0	56.7	4.2	58.5	<0.1	13.3	16.2
Common lambsquarters	23.8	5.2	22.0	1.1	4.6	<0.1	12.6	15.7
Perennial sowthistle	21.4	4.3	20.0	1.4	6.7	<0.1	4.7	14.8
Volunteer cereal	11.9	4.5	38.0	1.1	8.8	<0.1	3.6	10.9
Canola	7.1	1.2	16.7	2.9	40.2	0.2	14.3	10.3
Russian thistle	11.9	1.7	14.0	0.3	2.6	<0.1	2.0	6.4
Field bindweed	7.1	2.6	36.7	0.4	6.1	<0.1	2.3	6.0
Common cocklebur	9.5	1.4	15.0	0.3	3.0	<0.1	2.3	5.3
Common ragweed	4.8	1.9	40.0	0.7	15.6	<0.1	7.5	5.2
Common mallow	7.1	1.4	20.0	0.5	6.8	<0.1	3.7	4.9
Pigweed species	9.5	1.2	12.5	0.2	2.2	<0.1	1.8	4.8
Quackgrass	7.1	0.7	10.0	0.2	2.9	<0.1	2.7	3.6
Dry bean	2.4	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Common milkweed	2.4	0.2	10.0	<0.1	1.1	<0.1	1.0	1.1
Weed free	35.7	12.1	34.0	-	-	-	-	-

Table 66. Williams county weed infestations based on 39 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	76.9	33.3	43.3	32.9	42.7	1.9	23.9	135.7
Kochia	41.0	12.8	31.3	3.9	9.6	<0.1	7.4	35.7
Pigweed species	28.2	6.4	22.7	4.1	14.5	0.1	6.4	25.3
Russian thistle	20.5	5.1	25.0	2.8	13.9	<0.1	5.0	18.6
Yellow foxtail	12.8	5.9	46.0	2.6	20.7	0.1	12.8	16.4
Wild buckwheat	17.9	6.9	38.6	1.3	7.4	<0.1	2.3	16.0
Canada thistle	15.4	2.8	18.3	0.6	4.1	<0.1	1.5	9.4
Quackgrass	7.7	1.8	23.3	2.2	28.0	<0.1	8.0	9.4
Field bindweed	10.3	2.8	27.5	0.6	5.7	<0.1	3.0	7.6
Wild oat	7.7	2.3	30.0	1.0	12.6	<0.1	4.3	7.1
Flixweed/Tansy mustard	10.3	1.8	17.5	0.4	4.0	<0.1	2.0	6.2
Wild mustard	10.3	1.8	17.5	0.2	1.9	<0.1	1.0	5.7
Fairy candleabra	5.1	1.5	30.0	0.3	5.4	<0.1	2.5	3.9
Field pennycress	7.7	0.8	10.0	0.1	1.8	<0.1	1.7	3.7
Dandelion	7.7	0.8	10.0	0.1	1.1	<0.1	1.0	3.5
Annual smartweed	2.6	0.5	20.0	0.4	15.1	<0.1	13.0	2.3
Perennial sowthistle	2.6	0.5	20.0	0.1	5.4	<0.1	3.0	1.7
Common lambsquarters	2.6	0.5	20.0	0.1	2.2	<0.1	1.0	1.5
Downy brome	2.6	0.5	20.0	0.1	2.2	<0.1	1.0	1.5
Hedge bindweed	2.6	0.3	10.0	0.1	2.2	<0.1	2.0	1.2
Prairie wild rose	2.6	0.3	10.0	0.1	2.2	<0.1	2.0	1.2
Volunteer cereal	2.6	0.3	10.0	0.1	2.2	<0.1	2.0	1.2
Greenflower pepperweed	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Curly dock	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Prostrate pigweed	2.6	0.3	10.0	<0.1	1.1	<0.1	1.0	1.2
Weed free	43.6	15.4	35.3	-	-	-	-	-

Table 67. North Dakota weed infestations in previous crop of HRS wheat, durum wheat, barley, and tame oat based on 731 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	68.1	24.7	36.3	26.1	38.3	2.3	29.0	108.4
Wild mustard	49.5	17.6	35.5	6.6	13.4	0.1	5.3	49.6
Wild buckwheat	45.0	15.6	34.7	6.1	13.5	0.1	5.2	44.8
Wild oat	34.3	12.6	36.7	6.8	19.9	0.1	7.9	40.0
Canada thistle	36.5	9.4	25.7	3.1	8.4	<0.1	3.7	28.7
Kochia	28.2	9.1	32.3	4.1	14.6	0.1	9.4	28.1
Volunteer cereal	26.5	10.1	38.2	3.4	12.6	<0.1	5.0	26.8
Pigweed species	24.1	8.4	34.9	3.7	15.2	<0.1	6.3	25.0
Yellow foxtail	16.8	6.8	40.2	5.2	31.2	0.3	15.3	24.6
Common lambsquarters	21.2	5.6	26.2	1.8	8.5	<0.1	3.8	16.8
Quackgrass	18.3	4.2	22.9	2.0	11.1	<0.1	6.1	15.0
Russian thistle	15.9	4.4	28.0	1.8	11.5	<0.1	4.8	14.0
Field bindweed	14.1	3.6	25.5	1.2	8.5	<0.1	4.0	11.1
Field pennycress	13.3	3.6	27.2	1.3	9.8	<0.1	5.7	11.1
Common ragweed	9.6	2.1	21.4	0.8	7.9	<0.1	5.7	7.0
Common milkweed	6.7	1.2	17.8	0.3	4.7	<0.1	2.7	4.2
Common cocklebur	5.1	1.5	29.5	0.4	7.9	<0.1	2.9	4.1
Eastern black nightshade	5.7	1.3	23.1	0.3	5.5	<0.1	2.9	4.0
Prickly lettuce	5.6	1.4	24.1	0.3	4.5	<0.1	2.3	3.8
Sunflower	5.9	1.2	21.2	0.2	4.2	<0.1	2.3	3.8
Perennial sowthistle	5.6	1.0	18.3	0.4	6.7	<0.1	3.8	3.8
Flixweed/Tansy mustard	5.7	1.3	22.6	0.2	4.0	<0.1	2.1	3.7
Annual smartweed	4.7	1.0	21.5	0.3	7.1	<0.1	5.1	3.3
Common mallow	3.8	0.9	24.3	0.3	8.1	<0.1	4.9	2.9
Dandelion	4.1	0.9	22.0	0.1	3.2	<0.1	1.6	2.6
Common purslane	2.9	0.8	27.1	0.2	7.2	<0.1	2.4	2.2
Barnyardgrass	2.1	0.7	32.7	0.2	11.9	<0.1	4.2	1.9
Shepherd's-purse	2.1	0.5	23.3	0.2	10.8	<0.1	4.4	1.7
Fairy candelabra	1.9	0.6	29.3	0.2	8.5	<0.1	3.3	1.6
Downy brome	1.5	0.4	25.5	0.2	13.1	<0.1	6.5	1.3
Prairie wild rose	1.9	0.3	15.7	0.1	2.8	<0.1	1.9	1.1
Canola	1.1	0.4	32.5	0.1	9.4	<0.1	5.5	1.0
Sweetclover	1.0	0.3	30.0	0.1	12.9	<0.1	5.9	0.9
Giant ragweed	1.0	0.2	24.3	0.1	6.3	<0.1	2.7	0.7
Lanceleaf sage	1.0	0.2	25.7	0.1	5.5	<0.1	2.7	0.7
Horseweed	1.2	0.2	16.7	<0.1	2.2	<0.1	1.3	0.7
Hedge bindweed	0.7	0.2	36.0	<0.1	6.9	<0.1	2.2	0.6
Prostrate pigweed	0.7	0.2	30.0	0.1	8.2	<0.1	3.4	0.6
Wild-proso millet	0.8	0.2	25.0	<0.1	3.9	<0.1	1.7	0.6
Curly dock	1.0	0.2	17.1	<0.1	2.9	<0.1	1.9	0.5
Cutleaf nightshade	0.8	0.2	21.7	<0.1	5.0	<0.1	3.3	0.5
Greenflower pepperweed	1.1	0.1	12.5	<0.1	1.5	<0.1	1.1	0.5
Whitlowwart species	0.8	0.2	21.7	<0.1	2.9	<0.1	1.5	0.5
Common chickweed	0.7	0.1	14.0	<0.1	6.7	<0.1	5.8	0.4
Foxtail barley	0.8	0.1	10.0	<0.1	2.0	<0.1	1.8	0.4
Alfalfa	0.5	0.1	20.0	<0.1	4.3	<0.1	2.3	0.3
Buffalobur	0.5	0.1	20.0	<0.1	3.2	<0.1	1.8	0.3

Table 67 (continued).

Biennial wormwood	0.5	0.1	20.0	<0.1	2.4	<0.1	1.3	0.3
Hairy nightshade	0.4	<0.1	3.3	0.1	17.6	<0.1	13.7	0.3
Yellow woodsorrel	0.4	0.1	26.7	<0.1	5.0	<0.1	2.3	0.3
Erect knotweed	0.4	0.1	16.7	<0.1	5.7	<0.1	2.7	0.3
Venice mallow	0.3	0.1	25.0	<0.1	15.6	<0.1	15.0	0.3
Marshelder	0.5	0.1	10.0	<0.1	1.6	<0.1	1.5	0.3
Tall waterhemp	0.4	0.1	20.0	<0.1	3.9	<0.1	2.0	0.3
Horsetail	0.4	0.1	13.3	<0.1	3.9	<0.1	3.3	0.2
Nightflowering catchfly	0.4	0.1	13.3	<0.1	1.8	<0.1	1.3	0.2
Swamp smartweed	0.4	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Soybean	0.3	0.1	25.0	<0.1	2.7	<0.1	1.0	0.2
Leafy spurge	0.3	<0.1	15.0	<0.1	4.3	<0.1	3.5	0.2
False chamomile	0.3	0.1	20.0	<0.1	2.2	<0.1	1.0	0.2
Purslane speedwell	0.3	<0.1	15.0	<0.1	3.2	<0.1	2.0	0.2
Safflower	0.1	0.1	40.0	<0.1	5.4	<0.1	2.0	0.1
Wild vetch	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Flax	0.1	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Weed free	38.0	12.5	32.9	-	-	-	-	-

Table 68. North Dakota weed infestations in previous crop of canola and tame mustard based on 135 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	68.1	22.2	32.6	23.8	35.0	2.3	33.0	100.6
Canola	42.2	16.5	39.1	13.1	31.1	0.4	17.3	61.2
Kochia	39.3	15.3	38.9	6.9	17.5	<0.1	8.1	44.3
Wild mustard	41.5	15.8	38.0	6.1	14.6	<0.1	6.0	43.7
Wild oat	38.5	11.3	29.4	6.4	16.7	0.1	6.7	39.2
Wild buckwheat	39.3	13.8	35.1	5.2	13.2	0.1	4.7	39.0
Canada thistle	43.7	10.7	24.6	3.5	7.9	<0.1	3.8	33.4
Pigweed species	28.1	7.7	27.4	3.6	12.8	0.1	9.1	25.5
Russian thistle	22.2	6.9	31.0	3.5	15.9	0.1	7.6	22.5
Yellow foxtail	14.1	5.1	36.3	4.3	30.7	0.5	15.4	19.9
Quackgrass	23.0	4.9	21.3	2.8	12.0	<0.1	6.5	19.0
Field pennycress	14.1	4.9	34.7	2.5	17.8	<0.1	9.3	15.4
Common lambsquarters	18.5	4.4	23.6	1.6	8.6	<0.1	5.2	14.3
Field bindweed	14.1	3.4	24.2	1.0	7.4	<0.1	2.5	10.5
Common mallow	13.3	3.0	22.8	1.0	7.8	<0.1	4.8	9.9
Perennial sowthistle	11.1	2.4	22.0	0.7	6.0	<0.1	3.1	7.7
Common ragweed	10.4	2.1	20.7	0.8	7.6	<0.1	5.8	7.4
Prickly lettuce	8.9	2.6	29.2	0.6	7.3	<0.1	3.3	7.1
Annual smartweed	5.2	1.0	18.6	1.1	22.0	0.4	32.7	5.4
Flixweed/Tansy mustard	6.7	1.7	25.6	0.3	4.8	<0.1	2.1	4.7
Shepherd's-purse	4.4	1.3	28.3	0.5	12.0	<0.1	6.3	4.0
Volunteer cereal	3.7	1.2	32.0	0.5	14.0	<0.1	9.6	3.6
Sunflower	3.7	0.9	24.0	0.5	14.0	<0.1	4.0	3.3
Common cocklebur	4.4	0.7	15.0	0.1	2.9	<0.1	2.0	2.4
Dandelion	3.7	0.9	24.0	0.1	3.7	<0.1	1.6	2.4
Barnyardgrass	3.0	0.7	22.5	0.2	6.7	<0.1	3.8	2.1
Eastern black nightshade	3.0	0.7	22.5	0.1	4.0	<0.1	1.8	1.9
Fairy candelabra	2.2	0.6	26.7	0.2	11.1	<0.1	5.3	1.9
Common milkweed	3.0	0.3	10.0	0.1	3.5	<0.1	3.3	1.5
Nightflowering catchfly	0.7	0.6	80.0	0.3	36.6	<0.1	7.0	1.5
Prostrate pigweed	2.2	0.4	16.7	0.1	4.7	<0.1	3.7	1.4
Giant ragweed	1.5	0.4	30.0	0.1	8.1	<0.1	3.5	1.2
Curly dock	1.5	0.2	15.0	0.1	9.1	<0.1	8.0	1.0
Common purslane	0.7	0.4	50.0	0.2	22.6	<0.1	6.0	1.0
Hedge bindweed	1.5	0.4	25.0	0.1	3.8	<0.1	1.5	1.0
Marshelder	1.5	0.4	25.0	<0.1	3.2	<0.1	1.5	1.0
Common chickweed	1.5	0.1	10.0	0.1	6.5	<0.1	15.5	0.9
Downy brome	0.7	0.3	40.0	0.1	8.6	<0.1	4.0	0.7
Purslane speedwell	0.7	0.2	30.0	0.1	8.6	<0.1	6.0	0.6
Biennial wormwood	0.7	0.2	30.0	<0.1	5.4	<0.1	3.0	0.6
Lanceleaf sage	0.7	0.1	20.0	<0.1	4.3	<0.1	3.0	0.5
Field sandbur	0.7	0.1	20.0	<0.1	2.2	<0.1	1.0	0.4
Sweetclover	0.7	0.1	10.0	<0.1	3.2	<0.1	3.0	0.4
Yellow woodsorrel	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
False chamomile	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Weed free	25.2	6.9	27.4	-	-	-	-	-

Table 69. North Dakota weed infestations in previous crop of soybean, dry bean, lentil and field pea based on 197 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	59.4	21.6	36.3	19.1	32.2	1.4	20.1	85.9
Wild mustard	53.3	16.9	31.6	5.9	11.0	<0.1	4.1	48.3
Yellow foxtail	31.0	9.6	31.0	10.2	33.0	0.4	16.8	43.8
Wild buckwheat	46.7	15.8	33.8	4.5	9.6	<0.1	3.7	41.8
Common lambsquarters	35.0	11.5	32.8	5.9	16.8	<0.1	8.1	36.9
Soybean	44.2	14.5	32.9	2.6	5.9	<0.1	2.3	35.3
Kochia	27.4	7.1	25.9	4.2	15.2	0.1	14.4	26.0
Canada thistle	36.0	8.2	22.7	2.3	6.4	<0.1	3.2	25.6
Pigweed species	24.4	7.6	31.0	3.2	13.3	<0.1	7.1	23.2
Wild oat	21.3	5.8	27.4	3.3	15.7	0.1	10.5	20.7
Eastern black nightshade	19.8	5.6	28.5	2.2	11.3	<0.1	4.5	17.5
Common ragweed	20.8	5.8	27.8	1.8	8.6	<0.1	3.6	16.9
Common cocklebur	15.2	4.5	29.3	1.2	7.7	<0.1	3.1	12.3
Wild-proso millet	5.1	1.6	31.0	0.7	14.1	<0.1	6.8	4.9
Common milkweed	9.6	1.2	12.6	0.2	1.9	<0.1	1.5	4.9
Perennial sowthistle	5.6	1.4	25.5	0.5	9.0	<0.1	3.8	4.5
Field bindweed	7.1	1.1	15.7	0.2	2.3	<0.1	1.6	3.9
Sunflower	4.6	1.1	23.3	0.2	5.1	<0.1	2.1	3.1
Russian thistle	3.6	1.1	30.0	0.3	7.7	<0.1	2.7	2.9
Quackgrass	4.6	0.7	14.4	0.2	5.4	<0.1	3.9	2.8
Field pennycress	2.5	0.7	26.0	0.2	7.3	<0.1	3.4	1.9
Prickly lettuce	3.0	0.5	16.7	0.1	3.4	<0.1	2.0	1.8
Dry bean	3.0	0.5	16.7	0.1	2.7	<0.1	1.7	1.7
Yellow woodsorrel	1.0	0.5	50.0	0.4	36.6	<0.1	14.5	1.7
Sweetclover	2.5	0.6	24.0	0.1	3.4	<0.1	1.8	1.7
Common mallow	2.5	0.5	20.0	0.1	4.7	<0.1	3.0	1.6
Lanceleaf sage	1.0	0.6	60.0	0.2	21.0	<0.1	6.0	1.4
Annual smartweed	2.0	0.2	10.0	<0.1	2.2	<0.1	2.0	1.0
Biennial wormwood	1.0	0.4	35.0	<0.1	4.8	<0.1	2.0	0.8
Venice mallow	1.5	0.2	13.3	<0.1	2.5	<0.1	1.7	0.8
Field pea	0.5	0.4	80.0	0.1	18.3	<0.1	3.0	0.8
Volunteer cereal	1.0	0.2	20.0	<0.1	3.8	<0.1	2.5	0.6
Lentil	1.0	0.1	5.0	0.1	7.0	<0.1	24.0	0.6
Tall waterhemp	1.0	0.2	15.0	<0.1	1.6	<0.1	1.0	0.5
Shepherd's-purse	1.0	0.1	10.0	<0.1	2.2	<0.1	2.0	0.5
Dandelion	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Prostrate pigweed	0.5	0.2	30.0	<0.1	3.2	<0.1	1.0	0.4
Hedge bindweed	0.5	0.1	20.0	<0.1	2.2	<0.1	1.0	0.3
Canola	0.5	0.1	20.0	<0.1	2.2	<0.1	1.0	0.3
Hairy nightshade	0.5	0.1	10.0	<0.1	3.2	<0.1	3.0	0.3
Giant ragweed	0.5	0.1	10.0	<0.1	2.2	<0.1	2.0	0.2
Marshelder	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Barnyardgrass	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Fairy candelabra	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Curly dock	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
False chamomile	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Purslane speedwell	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Buffalobur	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Flixweed/Tansy mustard	0.5	0.1	10.0	<0.1	1.1	<0.1	1.0	0.2
Weed free	46.7	14.9	31.8	-	-	-	-	-

Table 70. North Dakota weed infestations in previous crop of corn based on 74 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	44.6	16.5	37.0	13.8	31.0	0.9	18.2	63.6
Common lambsquarters	37.8	12.4	32.9	10.5	27.7	0.2	11.8	49.5
Wild buckwheat	37.8	13.5	35.7	6.5	17.1	<0.1	7.9	41.3
Yellow foxtail	31.1	10.0	32.2	8.7	27.9	1.1	20.2	40.6
Wild mustard	28.4	9.3	32.9	5.4	19.1	0.1	6.1	31.4
Common cocklebur	31.1	10.7	34.3	3.3	10.7	<0.1	5.1	28.8
Canada thistle	36.5	9.5	25.9	2.3	6.3	<0.1	3.1	27.0
Wild oat	23.0	6.4	27.6	5.4	23.5	0.4	10.6	26.6
Kochia	23.0	7.6	32.9	4.2	18.3	<0.1	13.3	25.0
Wild-proso millet	13.5	5.8	43.0	4.0	29.5	<0.1	12.6	19.6
Eastern black nightshade	21.6	6.8	31.3	2.2	10.0	<0.1	4.5	19.0
Quackgrass	18.9	5.4	28.6	3.0	15.8	<0.1	8.4	18.7
Pigweed species	21.6	4.9	22.5	2.2	10.0	<0.1	4.9	17.1
Common ragweed	14.9	6.1	40.9	1.3	8.6	<0.1	3.2	14.0
Field bindweed	13.5	3.0	22.0	1.0	7.6	<0.1	3.9	9.9
Common milkweed	14.9	2.8	19.1	0.7	4.9	<0.1	2.6	9.5
Barnyardgrass	6.8	1.9	28.0	0.8	11.4	<0.1	6.4	5.9
Russian thistle	8.1	1.8	21.7	0.5	6.3	<0.1	3.3	5.6
Corn	6.8	1.9	28.0	0.6	8.2	<0.1	3.6	5.4
Sunflower	6.8	1.2	18.0	0.4	6.5	<0.1	7.2	4.5
Perennial sowthistle	5.4	1.2	22.5	0.2	3.5	<0.1	1.8	3.5
Horseweed	4.1	1.1	26.7	0.2	3.9	<0.1	1.7	2.8
Dandelion	5.4	0.5	10.0	0.1	2.2	<0.1	2.0	2.6
Biennial wormwood	4.1	0.8	20.0	0.1	2.2	<0.1	1.0	2.4
Prickly lettuce	4.1	0.5	13.3	0.2	3.9	<0.1	3.3	2.3
Canola	1.4	0.9	70.0	0.2	17.2	<0.1	4.0	1.9
Field pennycress	2.7	0.7	25.0	0.1	2.7	<0.1	1.0	1.7
Volunteer cereal	2.7	0.5	20.0	0.1	3.2	<0.1	2.0	1.6
Common mallow	2.7	0.3	10.0	0.2	6.5	<0.1	6.0	1.6
Giant ragweed	1.4	0.7	50.0	0.2	12.9	<0.1	4.0	1.5
Swamp smartweed	1.4	0.7	50.0	0.1	5.4	<0.1	1.0	1.3
Prairie wild rose	1.4	0.4	30.0	<0.1	3.2	<0.1	1.0	1.0
Flixweed/Tansy mustard	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Yellow woodsorrel	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Nightflowering catchfly	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Yellow nutsedge	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Common purslane	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Weed free	36.5	11.1	30.4	-	-	-	-	-

Table 71. North Dakota weed infestations in previous crop flax based on 14 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	64.3	36.4	56.7	23.3	36.2	0.7	27.0	131.0
Wild buckwheat	64.3	27.1	42.2	13.8	21.5	0.1	5.8	112.2
Pigweed species	50.0	14.3	28.6	14.8	29.5	0.2	9.3	80.9
Yellow foxtail	28.6	17.1	60.0	16.1	56.2	0.2	23.5	65.4
Canada thistle	64.3	22.1	34.4	7.1	11.0	<0.1	4.4	64.2
Kochia	50.0	20.0	40.0	9.7	19.4	0.2	23.4	60.1
Wild mustard	57.1	17.9	31.3	7.1	12.4	<0.1	4.0	59.3
Wild oat	57.1	12.1	21.3	8.8	15.5	0.5	7.5	53.4
Common lambsquarters	28.6	13.6	47.5	7.1	24.8	<0.1	5.8	51.8
Quackgrass	28.6	6.4	22.5	4.8	16.7	<0.1	5.8	39.6
Russian thistle	28.6	9.3	32.5	3.5	12.4	<0.1	5.0	27.1
Common ragweed	21.4	6.4	30.0	2.0	9.3	<0.1	4.0	27.1
Prickly lettuce	21.4	5.7	26.7	2.1	9.7	<0.1	4.3	18.2
Wild-proso millet	7.1	2.9	40.0	3.2	45.2	<0.1	28.0	14.0
Nightflowering catchfly	7.1	5.0	70.0	1.8	25.8	<0.1	9.0	12.8
Volunteer cereal	7.1	3.6	50.0	1.8	25.8	<0.1	10.0	11.7
Common mallow	7.1	3.6	50.0	0.8	10.8	<0.1	6.0	10.3
Field bindweed	7.1	2.1	30.0	0.8	11.8	<0.1	5.0	7.7
Common milkweed	7.1	0.7	10.0	0.2	3.2	<0.1	3.0	6.5
Annual smartweed	7.1	0.7	10.0	0.2	2.2	<0.1	2.0	3.6
Greenflower pepperweed	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.5
Weed free	28.6	3.6	12.5	-	-	-	-	-

Table 72. North Dakota weed infestations in previous crop of sunflower and safflower based on 143 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	69.9	32.4	46.4	24.7	35.3	1.0	22.4	113.4
Sunflower	71.3	34.2	47.9	21.9	30.7	0.4	10.7	109.0
Wild mustard	55.9	22.5	40.3	10.8	19.4	0.2	9.7	66.4
Wild buckwheat	57.3	21.3	37.2	9.3	16.3	0.1	6.4	62.3
Wild oat	35.0	13.1	37.4	6.7	19.2	<0.1	9.9	40.4
Pigweed species	35.7	13.6	38.0	6.1	17.1	<0.1	10.0	39.7
Canada thistle	51.0	13.4	26.3	3.7	7.2	<0.1	3.5	39.0
Kochia	34.3	8.3	24.1	6.7	19.6	0.7	18.2	35.3
Common lambsquarters	30.8	10.1	32.7	5.7	18.5	<0.1	11.4	33.6
Yellow foxtail	16.1	5.5	33.9	4.8	30.0	0.1	14.3	22.1
Russian thistle	19.6	6.0	30.7	2.5	12.9	<0.1	5.4	18.4
Common ragweed	11.2	3.1	27.5	1.2	11.2	<0.1	6.3	9.7
Field bindweed	11.9	3.0	25.3	0.7	5.9	<0.1	2.8	8.6
Perennial sowthistle	11.9	1.9	15.9	0.6	4.7	<0.1	2.8	7.2
Field pennycress	9.1	2.0	22.3	0.4	4.5	<0.1	2.4	6.0
Volunteer cereal	2.8	2.1	75.0	0.5	17.0	<0.1	3.3	4.1
Dandelion	4.9	1.6	32.9	0.3	5.2	<0.1	1.9	3.8
Eastern black nightshade	4.9	0.9	18.6	0.5	9.5	<0.1	5.6	3.6
Quackgrass	7.0	0.8	11.0	0.2	2.8	<0.1	2.5	3.6
Prickly lettuce	6.3	0.9	14.4	0.2	2.8	<0.1	2.1	3.4
Barnyardgrass	2.1	1.0	50.0	0.7	33.0	<0.1	27.0	3.4
Annual smartweed	4.2	1.0	23.3	0.3	8.1	<0.1	3.7	3.2
Common cocklebur	4.2	0.6	13.3	0.4	10.4	<0.1	5.8	3.0
Shepherd's-purse	1.4	0.7	50.0	0.7	48.4	<0.1	20.0	2.7
Canola	2.1	0.8	36.7	0.4	20.8	<0.1	8.0	2.5
Prairie wild rose	3.5	0.8	22.0	0.2	5.6	<0.1	3.4	2.4
Common milkweed	3.5	0.7	20.0	0.2	4.5	<0.1	2.8	2.2
Common mallow	2.8	0.6	20.0	0.2	7.5	<0.1	5.0	2.0
Safflower	1.4	0.8	55.0	0.2	14.0	<0.1	3.0	1.7
Flixweed/Tansy mustard	2.1	0.4	20.0	0.1	2.9	<0.1	1.7	1.3
Giant ragweed	1.4	0.5	35.0	0.1	7.0	<0.1	2.5	1.2
Biennial wormwood	1.4	0.5	35.0	0.1	4.3	<0.1	1.5	1.1
Common purslane	2.1	0.2	10.0	0.1	2.5	<0.1	2.3	1.0
Leafy spurge	1.4	0.3	25.0	0.1	6.5	<0.1	3.5	1.0
Foxtail barley	2.1	0.2	10.0	<0.1	2.2	<0.1	2.0	1.0
Nightflowering catchfly	1.4	0.2	15.0	<0.1	1.6	<0.1	1.0	0.7
Marshelder	1.4	0.1	10.0	<0.1	2.2	<0.1	2.0	0.7
Fairy candelabra	1.4	0.1	10.0	<0.1	2.2	<0.1	2.0	0.7
Soybean	1.4	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Alfalfa	0.7	0.3	40.0	<0.1	5.4	<0.1	2.0	0.6
Horseweed	0.7	0.3	40.0	<0.1	5.4	<0.1	2.0	0.6
Hedge bindweed	0.7	0.1	20.0	<0.1	4.3	<0.1	2.0	0.4
Whitlowwart species	0.7	0.1	10.0	<0.1	2.2	<0.1	2.0	0.3
Venice mallow	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Curly dock	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Sweetclover	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Prostrate spurge	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Hairy nightshade	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Field pea	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Weed free	18.2	4.5	25.0	-	-	-	-	-

Table 73. North Dakota weed infestations in previous crop of sugarbeet based on 16 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	43.8	16.9	38.6	17.1	39.1	<0.1	14.0	71.3
Wild mustard	81.3	19.4	23.8	5.4	6.6	<0.1	3.1	59.0
Kochia	37.5	10.0	26.7	4.8	12.9	<0.1	5.5	33.8
Wild buckwheat	37.5	9.4	25.0	2.0	5.4	<0.1	2.2	26.6
Yellow foxtail	31.3	5.6	18.0	2.5	8.0	<0.1	6.2	21.8
Canada thistle	31.3	6.9	22.0	1.7	5.4	<0.1	3.4	21.2
Common lambsquarters	18.8	7.5	40.0	2.6	14.0	<0.1	4.7	19.9
Pigweed species	18.8	6.9	36.7	2.1	11.1	<0.1	4.7	18.0
Eastern black nightshade	25.0	5.0	20.0	0.8	3.2	<0.1	1.8	15.2
Quackgrass	6.3	3.1	50.0	3.7	59.2	<0.1	16.0	13.8
Common ragweed	18.8	5.0	26.7	0.6	3.2	<0.1	1.3	12.7
Common milkweed	18.8	1.9	10.0	0.3	1.4	<0.1	1.3	8.8
Common mallow	6.3	3.8	60.0	1.0	16.1	<0.1	5.0	8.2
Lanceleaf sage	6.3	2.5	40.0	0.8	12.9	<0.1	5.0	6.5
Field bindweed	12.5	1.3	10.0	0.2	1.6	<0.1	1.5	5.9
Wild oat	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Prickly lettuce	6.3	0.6	10.0	0.2	3.2	<0.1	3.0	3.2
Common cocklebur	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Hairy nightshade	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Volunteer cereal	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Prairie wild rose	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Weed free	75.0	26.3	35.0	-	-	-	-	-

Table 74. North Dakota weed infestations in unknown previous crop based on 133 surveyed fields, spring 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.9	22.3	33.3	29.8	44.6	1.9	28.1	114.1
Wild mustard	42.1	15.8	37.5	9.3	22.2	0.2	8.7	51.6
Wild buckwheat	51.9	17.1	33.0	6.4	12.3	0.2	4.8	49.3
Canada thistle	36.1	11.2	31.0	4.5	12.4	<0.1	4.8	33.6
Pigweed species	31.6	10.3	32.6	5.1	16.2	<0.1	7.1	32.8
Wild oat	29.3	9.6	32.8	4.6	15.7	0.1	6.0	30.1
Kochia	28.6	10.4	36.3	3.7	12.9	<0.1	4.7	28.5
Yellow foxtail	18.8	7.3	38.8	5.9	31.3	0.1	12.9	27.3
Field pennycress	23.3	6.8	29.0	2.5	10.9	<0.1	8.7	20.5
Common lambsquarters	23.3	5.6	23.9	2.8	12.0	<0.1	6.5	19.9
Russian thistle	15.0	4.8	32.0	3.3	21.8	0.1	13.6	17.5
Quackgrass	17.3	4.2	24.3	2.3	13.5	<0.1	7.1	15.4
Field bindweed	13.5	3.9	28.9	1.0	7.2	<0.1	3.4	10.7
Flixweed/Tansy mustard	9.8	2.7	27.7	0.4	4.2	<0.1	1.8	6.9
Common ragweed	7.5	2.0	27.0	0.6	8.1	<0.1	4.7	6.0
Common mallow	4.5	1.4	30.0	0.6	14.4	<0.1	7.7	4.4
Prickly lettuce	6.0	1.2	20.0	0.4	5.9	<0.1	3.1	4.0
Perennial sowthistle	6.0	0.9	15.0	0.3	4.3	<0.1	3.0	3.5
Dandelion	5.3	1.1	21.4	0.2	3.8	<0.1	2.1	3.4
Common milkweed	4.5	0.8	16.7	0.3	7.0	<0.1	4.8	3.0
Annual smartweed	2.3	0.4	16.7	0.6	26.6	<0.1	7.0	2.5
Common cocklebur	2.3	1.1	46.7	0.3	11.1	<0.1	3.3	2.4
Shepherd's-purse	1.5	0.7	45.0	0.4	25.8	<0.1	17.0	2.1
Volunteer cereal	2.3	0.8	33.3	0.2	6.8	<0.1	2.7	1.9
Leafy spurge	0.8	0.7	90.0	0.4	52.7	<0.1	13.0	1.9
Greenflower pepperweed	3.0	0.6	20.0	0.1	3.2	<0.1	1.8	1.8
Foxtail barley	2.3	0.5	20.0	0.2	10.8	<0.1	4.7	1.8
Eastern black nightshade	1.5	0.2	10.0	0.4	28.5	<0.1	15.5	1.7
Whitlowwart species	2.3	0.5	23.3	0.1	3.9	<0.1	2.0	1.5
Horseweed	2.3	0.5	20.0	0.1	4.3	<0.1	2.3	1.4
Sunflower	1.5	0.6	40.0	0.1	7.0	<0.1	2.5	1.3
Prairie wild rose	2.3	0.3	13.3	0.1	2.5	<0.1	2.0	1.2
Hedge bindweed	2.3	0.3	13.3	<0.1	2.2	<0.1	1.7	1.2
Fairy candelabra	1.5	0.4	25.0	0.1	4.8	<0.1	2.5	1.0
Common chickweed	1.5	0.3	20.0	0.1	5.9	<0.1	4.0	1.0
Curly dock	1.5	0.2	15.0	<0.1	2.7	<0.1	2.0	0.8
Wild vetch	1.5	0.2	15.0	<0.1	1.6	<0.1	1.0	0.8
Common purslane	1.5	0.2	10.0	<0.1	1.6	<0.1	1.5	0.7
Alfalfa	1.5	0.2	10.0	<0.1	1.1	<0.1	1.0	0.7
Prostrate pigweed	0.8	0.2	30.0	<0.1	3.2	<0.1	1.0	0.5
Soybean	0.8	0.2	30.0	<0.1	3.2	<0.1	1.0	0.5
Yellow nutsedge	0.8	0.1	10.0	<0.1	6.5	<0.1	6.0	0.4
Downy brome	0.8	0.2	20.0	<0.1	2.2	<0.1	1.0	0.4
Flax	0.8	0.1	10.0	<0.1	3.2	<0.1	3.0	0.4
Purslane speedwell	0.8	0.1	10.0	<0.1	2.2	<0.1	2.0	0.4
Wild-proso millet	0.8	0.1	10.0	<0.1	2.2	<0.1	2.0	0.4
Marshelder	0.8	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Sweetclover	0.8	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Smallseed false	0.8	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Yellow woodsorrel	0.8	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Cutleaf nightshade	0.8	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Weed free	36.8	12.1	32.9	-	-	-	-	-

Table 75. Number and type of crop sites surveyed in each county, summer 2000.

COUNTY	HRS wheat	Sunflower	Soybean	Durum	Barley	Canola	Dry bean	TOTAL
Adams	4	4	-	-	-	-	-	8
Barnes	10	-	15	-	-	-	-	25
Benson	10	6	-	-	-	-	-	16
Billings	4	-	-	-	-	-	-	4
Bottineau	13	7	-	-	-	2	-	22
Bowman	3	3	-	-	-	-	-	6
Burliegh	4	4	-	-	-	-	-	8
Cass	26	-	13	-	-	-	-	39
Cavalier	15	4	-	5	4	7	-	35
Dickey	7	-	7	-	-	-	-	14
Divide	8	-	-	-	-	2	-	10
Dunn	5	3	-	-	-	-	-	8
Eddy	3	3	-	-	-	-	-	6
Emmons	6	6	-	-	-	2	-	14
Foster	5	6	-	-	-	-	-	11
Golden Valley	3	3	-	-	-	-	-	6
Grant	5	5	-	-	-	-	-	10
Griggs	5	-	5	-	-	-	2	12
Hettinger	8	6	-	-	-	2	-	16
Kidder	3	3	-	-	-	-	-	6
LaMoure	9	-	11	-	-	-	-	20
Logan	3	-	3	-	-	-	-	6
McHenry	7	6	-	-	-	-	-	13
McIntosh	4	-	4	-	-	-	-	8
McKenzie	2	5	-	7	-	-	-	14
McLean	7	7	-	-	-	3	-	17
Mercer	3	3	-	-	-	-	3	9
Morton	6	6	-	-	-	-	-	12
Nelson	6	-	-	1	-	-	-	7
Oliver	3	3	-	-	-	-	-	6
Pembina	12	3	6	-	1	3	-	25
Pierce	7	7	-	-	-	-	-	14
Ramsey	14	-	2	-	-	-	-	16
Ransom	7	-	4	-	-	-	-	11
Renville	4	1	-	-	-	-	-	5
Richland	21	-	11	-	-	-	-	32
Rolette	5	3	-	-	-	-	-	8
Sargent	10	-	5	-	-	-	-	15
Sheridan	5	5	-	-	-	-	-	10
Sioux	2	3	-	-	-	-	-	5
Slope	3	3	-	-	-	-	-	6
Stark	6	6	-	-	-	-	-	12
Steel	-	-	2	-	-	-	-	2
Stutsman	15	15	-	-	-	-	-	30
Towner	9	1	4	-	-	2	-	16
Traill	3	-	4	-	-	-	-	7
Walsh	9	-	7	-	-	-	-	16
Ward	7	7	-	-	-	-	-	14
Wells	10	11	-	-	-	-	-	21
Williams	10	-	-	-	-	-	-	10
TOTAL	356	158	103	13	5	23	5	663

Table 76. North Dakota weed infestations in current crop of HRS wheat, durum and barley based on 374 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	57.1	21.4	37.4	18.0	31.5	0.9	12.8	82.3
Wild oat	53.5	19.9	37.1	6.4	12.0	0.1	4.1	52.6
Yellow foxtail	31.5	12.2	38.7	8.8	27.9	0.5	14.0	43.2
Wild buckwheat	38.0	12.6	33.0	4.3	11.3	<0.1	4.2	35.3
Kochia	41.3	13.4	32.4	3.5	8.4	<0.1	3.4	35.3
Canada thistle	31.5	9.1	28.8	2.6	8.2	<0.1	3.4	25.6
Pigweed species	22.6	6.5	28.8	2.0	8.9	<0.1	3.5	18.7
Field bindweed	12.0	3.3	27.5	1.1	9.3	<0.1	3.5	9.9
Quackgrass	12.2	2.7	22.0	1.0	7.9	<0.1	3.9	9.0
Common lambsquarters	11.4	2.7	24.0	0.6	5.0	<0.1	2.2	7.9
Common ragweed	9.0	2.7	30.6	0.8	8.9	<0.1	3.6	7.6
Russian thistle	9.2	2.3	25.0	0.6	6.6	<0.1	2.7	6.8
Common milkweed	11.1	2.0	18.0	0.4	3.9	<0.1	2.3	6.7
Perennial sowthistle	6.8	1.8	27.2	0.3	4.7	<0.1	1.9	4.8
Sunflower	6.8	1.3	19.6	0.2	3.4	<0.1	1.8	4.1
Wild mustard	5.7	1.3	22.4	0.4	6.2	<0.1	2.6	4.0
Field pennycress	4.3	1.4	31.9	0.4	9.7	<0.1	3.7	3.8
Barnyardgrass	4.9	1.2	23.9	0.2	3.6	<0.1	1.7	3.2
Common cocklebur	4.3	1.1	25.0	0.2	4.1	<0.1	1.9	3.0
Common mallow	4.1	0.7	17.3	0.2	5.4	<0.1	3.7	2.6
Prickly lettuce	4.1	0.9	22.0	0.1	3.7	<0.1	2.0	2.6
Eastern black nightshade	3.8	0.9	23.6	0.1	3.9	<0.1	1.8	2.5
Volunteer cereal	2.7	0.8	30.0	0.3	9.5	<0.1	3.0	2.3
Common purslane	2.2	0.7	33.8	0.2	7.3	<0.1	2.8	1.8
Hairy nightshade	2.2	0.6	26.3	0.2	8.2	<0.1	2.4	1.7
Soybean	3.0	0.5	17.3	0.1	2.6	<0.1	1.5	1.7
Prairie wild rose	3.0	0.4	12.7	<0.1	1.5	<0.1	1.1	1.5
Biennial wormwood	2.2	0.5	21.3	0.1	5.2	<0.1	3.1	1.5
Flixweed/Tansy mustard	1.9	0.6	30.0	0.1	5.1	<0.1	2.4	1.4
Horseweed	1.4	0.3	20.0	0.3	18.5	<0.1	5.2	1.3
Shepherd's-purse	1.4	0.3	24.0	0.2	14.2	<0.1	3.8	1.2
Wild-proso millet	1.9	0.3	17.1	0.1	3.1	<0.1	1.9	1.1
Canola	1.1	0.4	35.0	0.1	9.7	<0.1	2.0	1.0
Annual smartweed	1.4	0.3	24.0	0.1	5.8	<0.1	1.8	1.0
Yellow woodsorrel	1.4	0.3	24.0	0.1	3.9	<0.1	1.6	0.9
Buffalobur	0.5	0.3	50.0	0.2	34.4	<0.1	15.0	0.9
Hedge bindweed	1.1	0.3	30.0	0.1	5.7	<0.1	2.0	0.8
Prostrate pigweed	1.1	0.3	27.5	0.1	5.7	<0.1	13.8	0.8
Sweetclover	1.4	0.2	18.0	<0.1	2.6	<0.1	1.6	0.8
Dandelion	1.4	0.2	16.0	<0.1	2.6	<0.1	1.8	0.8
Field sandbur	0.5	0.3	55.0	0.1	21.0	<0.1	7.5	0.7
Marshelder	1.4	0.2	12.0	<0.1	1.9	<0.1	1.6	0.7
Curly dock	1.4	0.1	10.0	<0.1	1.3	<0.1	1.2	0.6
False chamomile	0.5	0.3	50.0	0.1	10.2	<0.1	3.0	0.6
Flax	0.8	0.2	23.3	<0.1	4.3	<0.1	2.3	0.5
Dry bean	0.8	0.2	20.0	<0.1	3.2	<0.1	2.0	0.5
Nightflowering catchfly	0.5	0.1	20.0	<0.1	3.8	<0.1	2.5	0.3

Table 76 (continued).

Downy brome	0.5	0.1	15.0	<0.1	3.2	<0.1	2.5	0.3
Giant foxtail	0.5	0.1	15.0	<0.1	2.2	<0.1	1.5	0.3
Venice mallow	0.5	0.1	15.0	<0.1	2.2	<0.1	1.5	0.3
Alfalfa	0.5	0.1	15.0	<0.1	1.6	<0.1	1.0	0.3
Lanceleaf sage	0.5	0.1	15.0	<0.1	1.6	<0.1	1.0	0.3
Smooth brome	0.5	0.1	10.0	<0.1	1.6	<0.1	1.5	0.3
Yellow nutsedge	0.3	0.1	30.0	<0.1	6.5	<0.1	3.0	0.2
Safflower	0.3	0.1	30.0	<0.1	3.2	<0.1	1.0	0.2
Leafy spurge	0.3	0.1	20.0	<0.1	5.4	<0.1	3.0	0.2
Erect knotweed	0.3	0.1	20.0	<0.1	2.2	<0.1	1.0	0.2
Foxtail barley	0.3	<0.1	10.0	<0.1	2.2	<0.1	2.0	0.1
Corn	0.3	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Tall waterhemp	0.3	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Western wheatgrass	0.3	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Witchgrass	0.3	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Weed free	47.6	14.4	30.3	-	-	-	-	

Table 77. North Dakota weed infestations in current crop of canola based on 23 surveyed fields, summer 2000.

						Weed		
	Weed	Field Uniformity		Weed Density		Density Range		Weed
Weed species	Frequency	All	Infested	All	Infested	Low	High	Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild oat	52.6	29.5	56.0	6.3	11.9	<0.1	3.5	61.7
Kochia	52.6	22.6	43.0	4.8	9.0	<0.1	3.1	53.8
Canada thistle	42.1	18.4	43.8	3.7	8.9	<0.1	2.8	41.2
Wild mustard	36.8	18.4	50.0	2.5	6.8	<0.1	1.6	36.5
Giant ragweed	21.1	10.0	47.5	1.6	7.5	<0.1	1.8	20.7
Perennial sowthistle	26.3	8.9	34.0	1.1	4.3	<0.1	1.6	20.4
Green foxtail	10.5	4.7	45.0	3.0	28.5	<0.1	10.0	15.3
Volunteer cereal	15.8	5.8	36.7	1.3	8.3	<0.1	3.3	14.1
Flixweed/Tansy mustard	15.8	5.3	33.3	0.7	4.3	<0.1	1.3	12.1
Common lambsquarters	15.8	5.3	33.3	0.7	4.3	<0.1	1.3	12.1
Quackgrass	10.5	3.7	35.0	0.5	4.8	<0.1	1.5	8.4
Common ragweed	10.5	2.6	25.0	0.7	6.5	<0.1	2.0	7.7
Sunflower	10.5	1.6	15.0	0.2	2.2	<0.1	1.5	5.6
False chamomile	5.3	2.1	40.0	0.3	6.5	<0.1	2.0	4.7
Wild buckwheat	5.3	2.1	40.0	0.3	5.4	<0.1	2.0	4.5
Pigweed species	5.3	2.1	40.0	0.3	5.4	<0.1	2.0	4.5
Barnyardgrass	5.3	1.6	30.0	0.2	4.3	<0.1	2.0	3.9
Common mallow	5.3	1.6	30.0	0.2	4.3	<0.1	2.0	3.9
Dandelion	5.3	1.1	20.0	0.2	4.3	<0.1	3.0	3.3
Musk thistle	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Common cocklebur	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Field pennycress	5.3	0.5	10.0	0.1	1.1	<0.1	1.0	2.4
Weed free	84.2	20.5	24.4	-	-	-	-	-

Table 78. North Dakota weed infestations in current crop of soybean and dry bean based on 108 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	35.4	11.1	31.4	3.2	9.1	<0.1	3.1	30.4
Yellow foxtail	27.3	9.4	34.4	2.9	10.8	<0.1	3.7	25.3
Canada thistle	31.3	8.5	27.1	1.4	4.6	<0.1	2.0	22.3
Kochia	25.3	9.1	36.0	1.8	7.0	<0.1	2.4	21.6
Pigweed species	16.2	5.3	32.5	1.0	6.2	<0.1	2.3	13.0
Volunteer cereal	14.1	4.1	29.3	0.9	6.6	<0.1	2.1	11.0
Common ragweed	17.2	3.3	19.4	0.5	3.0	<0.1	1.8	10.3
Wild oat	11.1	3.7	33.6	0.6	5.6	<0.1	2.3	8.9
Common lambsquarters	13.1	3.1	23.8	0.5	3.6	<0.1	1.6	8.6
Wild buckwheat	13.1	2.8	21.5	0.5	4.1	<0.1	1.8	8.5
Common cocklebur	10.1	3.1	31.0	0.5	5.3	<0.1	2.0	7.7
Eastern black nightshade	9.1	3.1	34.4	0.5	5.7	<0.1	1.8	7.4
Biennial wormwood	11.1	2.2	20.0	0.4	3.6	<0.1	2.1	6.9
Quackgrass	10.1	2.1	21.0	0.5	5.4	<0.1	2.7	6.8
Wild mustard	9.1	2.3	25.6	0.3	3.0	<0.1	1.2	6.0
Sunflower	8.1	2.2	27.5	0.4	5.1	<0.1	2.1	5.9
Common milkweed	8.1	1.7	21.3	0.3	3.4	<0.1	1.6	5.0
Field pennycress	3.0	1.1	36.7	0.4	12.9	<0.1	7.3	3.0
Common mallow	5.1	0.8	16.0	0.1	2.8	<0.1	1.8	2.8
Barnyardgrass	4.0	0.9	22.5	0.1	3.0	<0.1	1.5	2.5
Field bindweed	4.0	0.7	17.5	0.2	4.3	<0.1	2.8	2.5
Marshelder	2.0	1.0	50.0	0.1	5.9	<0.1	1.5	2.0
Wild-proso millet	3.0	0.7	23.3	0.1	3.2	<0.1	1.7	1.9
Horseweed	2.0	0.8	40.0	0.2	8.6	<0.1	3.5	1.9
Sweetclover	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.9
Flixweed/Tansy mustard	3.0	0.6	20.0	0.1	2.2	<0.1	1.0	1.8
Venice mallow	1.0	0.6	60.0	0.3	31.2	<0.1	9.0	1.7
Curly dock	3.0	0.5	16.7	0.1	2.2	<0.1	1.3	1.7
Prostrate pigweed	3.0	0.5	16.7	0.1	2.2	<0.1	1.3	1.7
Russian thistle	2.0	0.5	25.0	0.1	3.2	<0.1	1.5	1.3
Prickly lettuce	2.0	0.2	10.0	<0.1	1.6	<0.1	1.5	1.0
Yellow nutsedge	1.0	0.2	20.0	<0.1	4.3	<0.1	3.0	0.6
Hedge bindweed	1.0	0.2	20.0	<0.1	2.2	<0.1	1.0	0.6
Prairie wild rose	1.0	0.2	20.0	<0.1	2.2	<0.1	1.0	0.6
Field sandbur	1.0	0.1	10.0	<0.1	2.2	<0.1	2.0	0.5
Swamp smartweed	1.0	0.1	10.0	<0.1	2.2	<0.1	2.0	0.5
Annual smartweed	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Erect knotweed	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Perennial sowthistle	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Stinkgrass	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Corn	1.0	0.1	10.0	<0.1	1.1	<0.1	1.0	0.5
Weed free	85.9	30.6	35.6	-	-	-	-	-

Table 79. North Dakota weed infestations in current crop of sunflower based on 158 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	72.5	32.4	44.6	15.2	21.0	0.4	7.8	92.0
Yellow foxtail	32.0	13.1	41.0	6.6	20.5	0.1	6.4	39.1
Kochia	43.1	12.0	27.7	2.2	5.1	<0.1	2.5	31.5
Canada thistle	42.5	10.6	24.9	2.9	6.8	<0.1	3.2	31.5
Wild buckwheat	35.9	11.4	31.6	2.6	7.1	<0.1	2.4	29.3
Volunteer cereal	30.1	11.5	38.3	3.3	10.9	<0.1	3.7	29.2
Pigweed species	35.3	9.3	26.5	2.0	5.8	<0.1	2.3	25.9
Wild oat	26.8	7.6	28.3	2.3	8.5	<0.1	3.4	21.8
Common ragweed	24.8	5.5	22.1	2.0	8.0	<0.1	4.1	18.4
Russian thistle	23.5	5.7	24.2	0.8	3.3	<0.1	1.4	15.4
Eastern black nightshade	16.3	5.2	32.0	1.0	6.3	<0.1	2.4	13.1
Field bindweed	17.6	3.6	20.4	0.9	5.1	<0.1	2.1	11.6
Canola	8.5	2.4	27.7	2.6	30.8	<0.1	8.5	11.3
Prickly lettuce	15.0	3.7	24.8	0.9	5.8	<0.1	2.5	10.8
Wild mustard	13.7	4.1	30.0	0.8	5.8	<0.1	2.1	10.5
Flixweed/Tansy mustard	10.5	3.4	32.5	1.3	12.8	<0.1	3.5	10.0
Common lambsquarters	15.0	3.6	23.9	0.4	2.9	<0.1	1.3	9.6
Quackgrass	11.8	2.7	22.8	1.1	9.7	<0.1	5.2	9.3
Perennial sowthistle	12.4	2.4	19.5	0.4	3.6	<0.1	1.9	7.6
Field pennycress	9.2	2.3	25.0	0.5	6.0	<0.1	3.5	6.6
Common cocklebur	10.5	2.2	20.6	0.3	2.8	<0.1	1.6	6.3
Marshelder	10.5	2.0	18.8	0.2	2.4	<0.1	1.3	6.0
Common purslane	7.8	2.2	28.3	0.5	5.8	<0.1	2.7	5.9
Common mallow	7.8	1.9	24.2	0.3	4.4	<0.1	2.2	5.3
Horseweed	6.5	2.0	30.0	0.4	5.8	<0.1	2.2	5.0
Sunflower	7.8	1.7	21.7	0.2	2.9	<0.1	1.4	4.8
Curly dock	3.9	0.8	21.7	0.1	2.7	<0.1	1.3	2.4
Sweetclover	2.0	0.2	10.0	0.5	27.6	0.1	11.7	2.1
Prostrate pigweed	3.3	0.5	16.0	0.1	2.6	<0.1	1.4	1.8
Common milkweed	3.3	0.4	12.0	0.1	3.0	<0.1	2.4	1.7
Dandelion	2.6	0.5	20.0	0.1	4.0	<0.1	2.3	1.6
Yellow woodsorrel	3.3	0.4	12.0	<0.1	1.5	<0.1	1.2	1.6
Leafy spurge	2.6	0.4	15.0	0.1	4.6	<0.1	2.8	1.5
Giant ragweed	2.6	0.5	20.0	0.1	2.4	<0.1	1.3	1.5
Shepherd's-purse	2.0	0.6	30.0	0.1	5.7	<0.1	2.0	1.5
Prairie wild rose	2.6	0.5	17.5	0.1	2.2	<0.1	1.3	1.5
Cutleaf nightshade	2.0	0.5	23.3	0.1	6.5	<0.1	3.0	1.4
Nightflowering catchfly	2.0	0.5	23.3	0.1	4.3	<0.1	2.3	1.3
Lanceleaf sage	1.3	0.5	35.0	0.1	9.7	<0.1	3.5	1.2
Hairy nightshade	1.3	0.4	30.0	0.1	6.5	<0.1	3.0	1.0
Flax	0.7	0.5	80.0	0.1	18.3	<0.1	4.0	1.0
Field sandbur	1.3	0.3	25.0	<0.1	3.2	<0.1	1.5	0.9
Soybean	1.3	0.1	10.0	<0.1	1.6	<0.1	1.5	0.6
Biennial wormwood	1.3	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Barnyardgrass	1.3	0.1	10.0	<0.1	1.1	<0.1	1.0	0.6
Safflower	0.7	0.3	40.0	<0.1	5.4	<0.1	2.0	0.6
Chickpea	0.7	0.2	30.0	<0.1	3.2	<0.1	1.0	0.5
Pineapple-weed	0.7	0.1	10.0	<0.1	5.4	<0.1	5.0	0.4
Smooth brome	0.7	0.1	10.0	<0.1	5.4	<0.1	5.0	0.4
Dry bean	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Horsetail	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Annual smartweed	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Hedge bindweed	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Flixweed/Tansy mustard	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Alfalfa	0.7	0.1	10.0	<0.1	1.1	<0.1	1.0	0.3
Weed free	42.5	11.3	26.6	-	-	-	-	-

Table 80. North Dakota weed infestations averaged over all 663 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	55.5	21.8	39.2	14.4	25.9	0.6	10.2	73.8
Wild oat	40.6	14.8	36.4	4.5	11.1	0.1	3.8	38.8
Yellow foxtail	29.5	11.4	38.7	7.0	23.6	0.3	10.6	37.5
Kochia	39.8	12.9	32.4	3.0	7.5	<0.1	3.1	33.1
Wild buckwheat	32.3	10.4	32.2	3.2	9.8	<0.1	3.6	28.6
Canada thistle	33.8	9.5	28.0	2.5	7.3	<0.1	3.1	26.5
Pigweed species	24.6	7.1	28.8	1.8	7.5	<0.1	2.9	19.6
Volunteer cereal	11.5	4.1	35.9	1.1	9.7	<0.1	3.3	10.6
Common ragweed	13.8	3.4	24.8	1.0	7.4	<0.1	3.4	10.4
Field bindweed	11.5	2.8	24.4	0.9	7.5	<0.1	2.9	8.7
Common lambsquarters	12.8	3.1	24.6	0.5	4.2	<0.1	1.8	8.6
Quackgrass	11.5	2.6	22.4	0.9	7.9	<0.1	4.0	8.6
Russian thistle	11.1	2.7	24.6	0.5	4.9	<0.1	2.0	7.7
Wild mustard	9.5	2.7	28.4	0.5	5.4	<0.1	2.0	7.1
Eastern black nightshade	7.4	2.2	30.0	0.4	5.5	<0.1	2.1	5.6
Perennial sowthistle	7.8	1.9	24.5	0.3	4.1	<0.1	1.9	5.3
Common milkweed	8.5	1.5	17.8	0.3	3.7	<0.1	2.2	5.1
Sunflower	7.2	1.5	21.3	0.3	3.5	<0.1	1.8	4.5
Common cocklebur	6.6	1.6	24.4	0.3	3.8	<0.1	1.8	4.4
Field pennycress	5.2	1.5	28.8	0.4	8.2	<0.1	3.9	4.3
Prickly lettuce	6.2	1.4	23.0	0.3	4.8	<0.1	2.3	4.2
Flixweed/Tansy mustard	4.5	1.4	30.7	0.4	9.0	<0.1	2.8	3.8
Common mallow	5.1	1.0	20.0	0.2	4.6	<0.1	2.8	3.3
Canola	2.6	0.8	29.4	0.7	25.8	<0.1	6.9	3.2
Barnyardgrass	3.8	0.9	22.8	0.1	3.3	<0.1	1.6	2.5
Common purslane	3.1	0.9	30.5	0.2	6.4	<0.1	2.7	2.4
Horseweed	2.8	0.8	27.2	0.3	9.4	<0.1	3.2	2.3
Marshelder	3.5	0.7	20.0	0.1	2.6	<0.1	1.3	2.1
Biennial wormwood	3.2	0.6	19.5	0.1	4.0	<0.1	2.4	2.0
Giant ragweed	2.2	0.6	30.0	0.1	4.2	<0.1	1.4	1.6
Prairie wild rose	2.5	0.4	14.4	<0.1	1.7	<0.1	1.1	1.3
Sweetclover	1.8	0.2	13.3	0.2	8.3	<0.1	3.9	1.2
Hairy nightshade	1.5	0.4	27.0	0.1	7.9	<0.1	2.5	1.2
Curly dock	2.2	0.4	16.4	<0.1	2.1	<0.1	1.3	1.2
Prostrate pigweed	1.8	0.4	20.0	0.1	3.5	<0.1	5.5	1.1
Soybean	2.0	0.3	16.2	<0.1	2.5	<0.1	1.5	1.1
Shepherd's-purse	1.2	0.3	26.3	0.1	11.0	<0.1	3.1	1.1
Wild-proso millet	1.5	0.3	19.0	<0.1	3.1	<0.1	1.8	0.9
Dandelion	1.5	0.3	18.0	0.1	3.3	<0.1	2.1	0.9
Yellow woodsorrel	1.5	0.3	18.0	<0.1	2.7	<0.1	1.4	0.9
Field sandbur	0.8	0.3	34.0	0.1	10.1	<0.1	4.0	0.7
Annual smartweed	1.1	0.2	20.0	<0.1	4.5	<0.1	1.6	0.7
Hedge bindweed	0.9	0.2	25.0	<0.1	4.3	<0.1	1.7	0.6
Flax	0.6	0.2	37.5	<0.1	7.8	<0.1	2.8	0.5
Buffalobur	0.3	0.2	50.0	0.1	34.4	<0.1	15.0	0.5
Nightflowering catchfly	0.8	0.2	22.0	<0.1	4.1	<0.1	2.4	0.5
False chamomile	0.5	0.2	46.7	<0.1	9.0	<0.1	2.7	0.5
Leafy spurge	0.8	0.1	16.0	<0.1	4.7	<0.1	2.8	0.5

Table 80 (continued).

Lanceleaf sage	0.6	0.2	25.0	<0.1	5.7	<0.1	2.3	0.4
Venice mallow	0.5	0.1	30.0	0.1	11.8	<0.1	4.0	0.4
Dry bean	0.6	0.1	17.5	<0.1	2.7	<0.1	1.8	0.4
Cutleaf nightshade	0.5	0.1	23.3	<0.1	6.5	<0.1	3.0	0.3
Safflower	0.3	0.1	35.0	<0.1	4.3	<0.1	1.5	0.2
Smooth brome	0.5	<0.1	10.0	<0.1	2.9	<0.1	2.7	0.2
Alfalfa	0.5	0.1	13.3	<0.1	1.4	<0.1	1.0	0.2
Yellow nutsedge	0.3	0.1	25.0	<0.1	5.4	<0.1	3.0	0.2
Downy brome	0.3	<0.1	15.0	<0.1	3.2	<0.1	2.5	0.2
Giant foxtail	0.3	<0.1	15.0	<0.1	2.2	<0.1	1.5	0.2
Erect knotweed	0.3	<0.1	15.0	<0.1	1.6	<0.1	1.0	0.2
Corn	0.3	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Chickpea	0.2	<0.1	30.0	<0.1	3.2	<0.1	1.0	0.1
Pineapple-weed	0.2	<0.1	10.0	<0.1	5.4	<0.1	5.0	0.1
Foxtail barley	0.2	<0.1	10.0	<0.1	2.2	<0.1	2.0	0.1
Swamp smartweed	0.2	<0.1	10.0	<0.1	2.2	<0.1	2.0	0.1
Horsetail	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Musk thistle	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Stinkgrass	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Tall waterhemp	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Western wheatgrass	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Flixweed/Tansy mustard	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Witchgrass	0.2	<0.1	10.0	<0.1	1.1	<0.1	1.0	0.1
Weed free	53.7	16.4	30.6	-	-	-	-	-

Table 81. Adams county weed infestations based on 8 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	87.5	55.0	62.9	10.2	11.7	<0.1	2.9	108.0
Wild oat	75.0	35.0	46.7	7.4	9.9	<0.1	3.3	77.3
Kochia	62.5	26.3	42.0	5.7	9.0	<0.1	3.4	60.3
Russian thistle	62.5	22.5	36.0	3.2	5.2	<0.1	2.0	50.9
Wild buckwheat	50.0	20.0	40.0	3.9	7.8	<0.1	2.5	45.8
Sunflower	50.0	11.3	22.5	1.6	3.2	<0.1	1.8	31.7
Field bindweed	37.5	10.0	26.7	2.6	6.8	<0.1	4.0	28.5
Common cocklebur	37.5	7.5	20.0	1.7	4.7	<0.1	3.3	24.1
Prairie wild rose	37.5	6.3	16.7	0.8	2.2	<0.1	1.3	20.6
Sweetclover	25.0	5.0	20.0	0.7	2.7	<0.1	1.5	14.9
Pigweed species	25.0	5.0	20.0	0.5	2.2	<0.1	1.0	14.6
Volunteer cereal	12.5	7.5	60.0	1.1	8.6	<0.1	2.0	14.2
Common ragweed	25.0	3.8	15.0	0.7	2.7	<0.1	2.0	13.7
Perennial sowthistle	12.5	5.0	40.0	0.9	7.5	<0.1	2.0	11.4
Downy brome	12.5	2.5	20.0	0.7	5.4	<0.1	4.0	8.2
Quackgrass	12.5	1.3	10.0	0.5	4.3	<0.1	4.0	6.7
Common milkweed	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Weed free	12.5	1.3	10.0	-	-	-	-	-

Table 82. Barnes county weed infestations based on 25 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	32.0	14.0	43.8	8.7	27.0	<0.1	7.6	44.9
Green foxtail	40.0	15.6	39.0	4.2	10.4	<0.1	4.2	38.7
Kochia	44.0	15.6	35.5	3.5	7.9	<0.1	2.9	38.4
Canada thistle	40.0	7.2	18.0	1.3	3.3	<0.1	1.9	23.6
Sunflower	24.0	5.6	23.3	1.0	4.3	<0.1	2.0	16.0
Wild buckwheat	24.0	4.8	20.0	1.1	4.7	<0.1	2.5	15.4
Common milkweed	28.0	4.0	14.3	0.5	1.7	<0.1	1.1	14.4
Common ragweed	20.0	4.8	24.0	0.8	3.9	<0.1	2.0	13.3
Wild oat	16.0	4.0	25.0	1.0	6.2	<0.1	3.3	11.6
Pigweed species	16.0	4.0	25.0	0.7	4.6	<0.1	2.3	11.0
Common cocklebur	12.0	4.4	36.7	0.6	5.4	<0.1	2.0	9.9
Volunteer cereal	12.0	2.4	20.0	0.3	2.9	<0.1	1.7	7.2
Venice mallow	4.0	2.4	60.0	1.2	31.2	<0.1	9.0	6.6
Hairy nightshade	8.0	2.0	25.0	0.3	4.3	<0.1	2.0	5.5
Biennial wormwood	8.0	2.0	25.0	0.3	3.8	<0.1	1.5	5.4
Field bindweed	8.0	1.2	15.0	0.2	2.2	<0.1	1.5	4.3
Common lambsquarters	8.0	1.2	15.0	0.1	1.6	<0.1	1.0	4.2
Yellow nutsedge	4.0	1.2	30.0	0.3	6.5	<0.1	3.0	3.1
Marshelder	4.0	1.2	30.0	0.2	4.3	<0.1	2.0	2.9
Barnyardgrass	4.0	0.8	20.0	0.1	3.2	<0.1	2.0	2.4
Flixweed/Tansy mustard	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Prickly lettuce	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Annual smartweed	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Common mallow	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Quackgrass	4.0	0.4	10.0	<0.1	1.1	<0.1	1.0	1.8
Weed free	100.0	38.0	38.0	-	-	-	-	-

Table 83. Benson county weed infestations based on 16 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	87.5	41.3	47.1	40.8	46.6	0.8	26.6	165.5
Yellow foxtail	81.3	33.1	40.8	35.5	43.7	2.3	20.0	143.1
Canada thistle	75.0	23.1	30.8	9.4	12.5	<0.1	6.3	69.9
Pigweed species	68.8	20.6	30.0	4.6	6.8	<0.1	3.0	54.4
Wild buckwheat	56.3	20.6	36.7	5.4	9.6	<0.1	2.9	51.9
Common ragweed	37.5	15.6	41.7	4.6	12.4	<0.1	3.0	39.0
Kochia	43.8	7.5	17.1	4.5	10.3	0.1	3.4	32.6
Canola	18.8	4.4	23.3	8.3	44.5	0.1	12.3	30.1
Volunteer cereal	18.8	8.1	43.3	4.0	21.2	<0.1	9.3	23.6
Flixweed/Tansy mustard	25.0	8.8	35.0	1.6	6.5	<0.1	3.0	20.9
Prickly lettuce	31.3	6.9	22.0	1.3	4.3	<0.1	2.2	20.4
Wild oat	31.3	5.0	16.0	1.3	4.1	0.8	8.0	18.4
Field pennycress	18.8	5.0	26.7	1.7	9.3	<0.1	5.3	15.3
Quackgrass	18.8	3.8	20.0	0.9	4.7	<0.1	2.7	12.0
Eastern black nightshade	18.8	2.5	13.3	0.7	3.9	<0.1	3.3	10.5
Russian thistle	18.8	2.5	13.3	0.5	2.5	<0.1	2.0	9.8
Common milkweed	12.5	1.3	10.0	0.7	5.4	<0.1	5.0	7.0
Common mallow	12.5	1.9	15.0	0.4	3.2	<0.1	2.5	7.0
Dandelion	6.3	1.9	30.0	0.5	7.5	<0.1	4.0	5.1
Marshelder	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Wild mustard	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Common lambsquarters	6.3	0.6	10.0	0.1	2.2	<0.1	2.0	3.0
Cutleaf nightshade	6.3	0.6	10.0	0.1	2.2	<0.1	2.0	3.0
Prairie wild rose	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Flax	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Dry bean	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Weed free	18.8	2.5	13.3	-	-	-	-	-

Table 84. Billings county weed infestations based on 4 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild buckwheat	75.0	35.0	46.7	5.1	6.8	<0.1	2.3	71.9
Green foxtail	75.0	10.0	13.3	14.3	19.0	0.5	4.3	68.3
Wild oat	75.0	17.5	23.3	2.2	2.9	<0.1	1.3	47.5
Yellow foxtail	25.0	20.0	80.0	4.6	18.3	<0.1	4.0	39.0
Russian thistle	50.0	15.0	30.0	2.4	4.8	<0.1	2.0	37.3
Kochia	50.0	12.5	25.0	1.3	2.7	<0.1	1.0	32.3
Field pennycress	25.0	10.0	40.0	1.6	6.5	<0.1	3.0	22.1
Canola	25.0	7.5	30.0	0.8	3.2	<0.1	1.0	17.7
Field bindweed	25.0	5.0	20.0	0.5	2.2	<0.1	1.0	14.6
Weed free	33.6	11.8	35.2	-	-	-	-	-

Table 85. Bottineau county weed infestations based on 20 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	55.0	31.0	56.4	10.5	19.1	0.2	3.8	73.8
Yellow foxtail	55.0	19.0	34.5	12.9	23.4	0.4	7.1	67.3
Canada thistle	60.0	12.5	20.8	3.4	5.7	<0.1	2.7	40.4
Wild oat	60.0	14.0	23.3	2.5	4.2	<0.1	2.4	39.9
Wild buckwheat	50.0	14.0	28.0	2.4	4.8	<0.1	2.3	36.3
Kochia	50.0	8.0	16.0	1.2	2.4	<0.1	1.6	27.4
Common ragweed	25.0	3.5	14.0	6.5	25.8	0.3	16.8	26.9
Pigweed species	30.0	7.0	23.3	1.1	3.8	<0.1	1.7	19.6
Prickly lettuce	25.0	6.0	24.0	1.0	4.1	<0.1	1.8	16.7
Flixweed/Tansy mustard	10.0	5.0	50.0	1.0	9.7	<0.1	3.5	10.6
Perennial sowthistle	20.0	2.0	10.0	0.3	1.3	<0.1	1.3	9.3
Sunflower	15.0	3.0	20.0	0.4	2.5	<0.1	1.3	8.9
Common purslane	10.0	2.5	25.0	0.7	7.0	<0.1	4.0	7.5
Quackgrass	5.0	1.5	30.0	1.0	19.4	<0.1	10.0	5.4
Biennial wormwood	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Eastern black nightshade	5.0	1.5	30.0	0.2	4.3	<0.1	2.0	3.7
Common mallow	5.0	1.5	30.0	0.2	4.3	<0.1	2.0	3.7
Weed free	45.0	9.0	20.0	-	-	-	-	-

Table 86. Bowman county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.7	18.3	27.5	10.9	16.4	0.3	4.0	66.1
Wild buckwheat	50.0	11.7	23.3	1.4	2.9	<0.1	1.3	31.7
Russian thistle	50.0	8.3	16.7	0.9	1.8	<0.1	1.0	27.1
Volunteer cereal	16.7	11.7	70.0	2.9	17.2	<0.1	4.0	23.9
Kochia	33.3	8.3	25.0	0.9	2.7	<0.1	1.0	21.5
Field bindweed	33.3	5.0	15.0	0.5	1.6	<0.1	1.0	17.4
Safflower	16.7	6.7	40.0	0.9	5.4	<0.1	2.0	14.3
Wild oat	16.7	5.0	30.0	0.7	4.3	<0.1	2.0	12.2
Field pennycress	16.7	3.3	20.0	0.5	3.2	<0.1	2.0	10.1
Sunflower	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Prickly lettuce	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Pigweed species	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	50.0	18.3	36.7	-	-	-	-	-

Table 87. Burleigh county weed infestations based on 8 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	32.5	32.5	43.9	43.9	4.4	25.5	168.2
Wild oat	62.5	17.5	28.0	3.6	5.8	<0.1	2.6	46.8
Wild buckwheat	50.0	10.0	20.0	1.9	3.8	<0.1	1.8	31.1
Russian thistle	50.0	6.3	12.5	0.7	1.3	<0.1	1.0	24.5
Canada thistle	25.0	7.5	30.0	2.6	10.2	<0.1	5.5	21.8
Yellow foxtail	25.0	2.5	10.0	0.4	1.6	<0.1	1.5	11.8
Pigweed species	25.0	2.5	10.0	0.3	1.1	<0.1	1.0	11.5
Wild mustard	25.0	2.5	10.0	0.3	1.1	<0.1	1.0	11.5
Prostrate pigweed	12.5	5.0	40.0	0.9	7.5	<0.1	2.0	11.4
Volunteer cereal	12.5	3.8	30.0	0.8	6.5	<0.1	3.0	9.8
Soybean	12.5	2.5	20.0	0.7	5.4	<0.1	4.0	8.2
Field bindweed	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Yellow woodsorrel	12.5	1.3	10.0	0.3	2.2	<0.1	2.0	6.0
Perennial sowthistle	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Horsetail	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Prickly lettuce	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Common lambsquarters	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Weed free	25.0	3.8	15.0	-	-	-	-	-

Table 88. Cass county weed infestations based on 39 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	35.8	14.2	41.5	7.0	20.1	<0.1	6.4	42.5
Kochia	29.4	11.9	39.5	3.8	13.0	<0.1	4.7	30.6
Green foxtail	34.1	11.0	30.6	2.6	7.0	<0.1	3.0	28.4
Common cocklebur	27.4	10.2	37.1	1.8	6.1	<0.1	2.4	23.5
Common ragweed	26.5	7.2	27.5	1.1	4.2	<0.1	2.0	18.6
Canada thistle	16.1	7.5	21.0	1.7	4.6	<0.1	2.4	16.8
Pigweed species	18.5	5.9	33.8	1.4	8.3	<0.1	2.9	15.3
Common lambsquarters	19.7	5.1	26.6	0.9	4.6	<0.1	2.0	13.8
Common milkweed	23.5	3.7	16.2	0.6	2.5	<0.1	1.6	12.9
Wild buckwheat	18.3	3.1	15.0	0.7	3.3	<0.1	2.2	10.8
Wild oat	15.8	3.3	20.5	0.7	4.5	<0.1	2.7	10.2
Russian thistle	8.7	3.0	25.0	0.4	3.3	<0.1	1.5	6.8
Barnyardgrass	9.8	2.0	20.0	0.3	2.8	<0.1	1.6	6.0
Biennial wormwood	7.2	1.8	25.0	0.5	6.8	<0.1	4.0	5.4
Eastern black nightshade	8.1	1.8	14.6	0.3	2.0	<0.1	0.8	5.2
Venice mallow	5.2	1.7	20.0	0.7	6.7	<0.1	2.3	5.1
Volunteer cereal	7.8	1.6	13.0	0.2	1.9	<0.1	1.1	4.7
Hairy nightshade	5.6	1.2	17.5	0.2	2.7	<0.1	1.5	3.5
Marshelder	5.2	1.1	22.5	0.2	3.6	<0.1	2.0	3.3
Quackgrass	5.2	0.5	10.0	0.1	2.2	<0.1	2.0	2.5
Wild mustard	4.1	0.4	6.5	<0.1	0.7	<0.1	<0.1	1.9
Annual smartweed	3.6	0.4	10.0	<0.1	1.7	<0.1	1.5	1.7
Weed free	91.8	33.1	36.1	-	-	-	-	-

Table 89. Cavalier county weed infestations based on 35 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild oat	74.1	35.9	48.5	11.9	16.0	0.2	3.4	88.3
Kochia	55.6	23.5	42.3	4.0	7.2	<0.1	2.2	51.4
Canada thistle	42.6	15.9	37.4	2.3	5.3	<0.1	1.7	35.4
Wild mustard	29.6	13.5	45.6	1.9	6.5	<0.1	1.9	27.9
Wild buckwheat	24.1	11.3	46.9	1.9	7.7	<0.1	2.5	23.6
Perennial sowthistle	22.2	6.7	30.0	0.8	3.8	<0.1	1.5	16.0
Giant ragweed	16.7	5.4	32.2	0.8	4.7	<0.1	1.4	12.7
Volunteer cereal	14.8	4.4	30.0	1.3	8.5	<0.1	2.8	12.3
Flixweed/Tansy mustard	14.8	4.6	31.3	0.6	4.3	<0.1	1.5	11.1
Barnyardgrass	13.0	4.3	32.9	0.7	5.1	<0.1	2.0	10.1
Quackgrass	13.0	3.9	30.0	0.6	4.5	<0.1	1.7	9.6
Common lambsquarters	7.4	2.8	37.5	0.4	4.8	<0.1	1.5	6.1
Common mallow	3.7	1.1	30.0	0.2	4.3	<0.1	2.0	2.7
Sunflower	3.7	0.6	15.0	0.1	2.2	<0.1	1.5	2.0
False chamomile	1.9	0.7	40.0	0.1	6.5	<0.1	2.0	1.6
Pigweed species	1.9	0.7	40.0	0.1	5.4	<0.1	2.0	1.6
Annual smartweed	1.9	0.6	30.0	0.1	4.3	<0.1	2.0	1.4
Curly dock	1.9	0.6	30.0	0.1	4.3	<0.1	2.0	1.4
Nightflowering catchfly	1.9	0.4	20.0	<0.1	2.2	<0.1	1.0	1.1
Musk thistle	1.9	0.2	10.0	<0.1	1.1	<0.1	1.0	0.8
Weed free	72.2	18.5	25.6	-	-	-	-	-

Table 90. Dickey county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	57.1	37.1	65.0	13.9	24.4	<0.1	7.6	88.7
Green foxtail	28.6	10.0	35.0	6.4	22.3	1.2	11.5	34.4
Kochia	28.6	15.7	55.0	3.5	12.4	<0.1	3.3	33.5
Pigweed species	21.4	7.9	36.7	2.3	10.8	<0.1	4.3	20.4
Common ragweed	14.3	6.4	45.0	2.5	17.8	<0.1	4.5	17.1
Canada thistle	14.3	7.1	50.0	1.2	8.6	<0.1	2.5	14.8
Sunflower	14.3	5.0	35.0	1.1	7.5	<0.1	3.0	12.3
Wild buckwheat	7.1	4.3	60.0	1.2	17.2	<0.1	4.0	9.5
Volunteer cereal	7.1	4.3	60.0	1.1	15.1	<0.1	4.0	9.2
Horseweed	7.1	3.6	50.0	0.8	10.8	<0.1	4.0	7.7
Wild oat	7.1	2.9	40.0	0.8	11.8	<0.1	4.0	7.2
Field bindweed	7.1	2.1	30.0	1.0	14.0	<0.1	6.0	6.9
Eastern black nightshade	7.1	2.9	40.0	0.6	8.6	<0.1	3.0	6.7
Common milkweed	7.1	1.4	20.0	0.5	7.5	<0.1	5.0	5.1
Common cocklebur	7.1	1.4	20.0	0.2	3.2	<0.1	2.0	4.3
Common mallow	7.1	0.7	10.0	0.2	2.2	<0.1	2.0	3.5
Weed free	92.9	17.1	18.5	-	-	-	-	-

Table 91. Divide county weed infestations based on 10 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	80.0	32.0	40.0	26.8	33.5	0.2	9.5	121.2
Canada thistle	50.0	19.0	38.0	7.5	15.1	<0.1	4.8	53.2
Kochia	30.0	9.0	30.0	5.5	18.3	<0.1	7.0	31.8
Field pennycress	40.0	10.0	25.0	3.4	8.6	<0.1	3.8	31.4
Common ragweed	40.0	10.0	25.0	2.6	6.5	<0.1	2.0	29.4
Wild oat	20.0	6.0	30.0	3.0	15.1	<0.1	10.0	19.7
Dandelion	30.0	5.0	16.7	1.0	3.2	<0.1	2.3	17.3
Pigweed species	20.0	5.0	25.0	1.0	4.8	<0.1	2.5	13.9
Prickly lettuce	10.0	2.0	20.0	0.4	4.3	<0.1	3.0	6.3
Wild buckwheat	10.0	2.0	20.0	0.3	3.2	<0.1	2.0	6.1
Field bindweed	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Wild mustard	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Perennial sowthistle	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Common cocklebur	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Common lambsquarters	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Annual smartweed	10.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.3
Weed free	80.0	35.0	43.8	-	-	-	-	-

Table 92. Dunn county weed infestations based on 8 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	87.5	35.0	40.0	14.1	16.1	0.4	3.6	97.1
Wild oat	62.5	20.0	32.0	2.8	4.5	<0.1	2.0	47.4
Hedge bindweed	37.5	10.0	26.7	2.0	5.4	<0.1	2.0	27.2
Russian thistle	37.5	7.5	20.0	0.8	2.2	<0.1	1.0	21.9
Wild buckwheat	37.5	5.0	13.3	0.8	2.2	<0.1	1.3	19.4
Pigweed species	25.0	7.5	30.0	1.1	4.3	<0.1	1.5	18.3
Common lambsquarters	25.0	6.3	25.0	0.7	2.7	<0.1	1.0	16.2
Horseweed	12.5	5.0	40.0	0.7	5.4	<0.1	2.0	10.7
Canola	12.5	2.5	20.0	0.7	5.4	<0.1	4.0	8.2
Volunteer cereal	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Field pennycress	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Common cocklebur	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Kochia	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Leafy spurge	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Prickly lettuce	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Field bindweed	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Weed free	25.0	10.0	40.0	-	-	-	-	-

Table 93. Eddy county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	50.0	23.3	46.7	25.8	51.7	0.8	8.7	100.3
Yellow foxtail	50.0	33.3	66.7	19.7	39.5	<0.1	7.0	96.0
Hairy nightshade	50.0	23.3	46.7	9.7	19.4	<0.1	4.3	62.6
Common purslane	50.0	25.0	50.0	5.6	11.1	<0.1	3.7	54.6
Canada thistle	50.0	20.0	40.0	5.7	11.5	<0.1	5.0	50.1
Wild buckwheat	33.3	15.0	45.0	4.5	13.5	<0.1	4.5	36.6
Wild oat	33.3	15.0	45.0	3.9	11.8	<0.1	4.5	35.3
Annual smartweed	16.7	11.7	70.0	3.8	22.6	<0.1	5.0	26.0
Pigweed species	16.7	10.0	60.0	3.8	22.6	<0.1	5.0	24.3
Common cocklebur	16.7	10.0	60.0	2.3	14.0	<0.1	4.0	21.0
Sunflower	16.7	8.3	50.0	2.7	16.1	<0.1	5.0	20.2
Common lambsquarters	16.7	8.3	50.0	2.7	16.1	<0.1	6.0	20.2
Field pennycress	16.7	8.3	50.0	1.6	9.7	<0.1	3.0	17.7
Common milkweed	16.7	6.7	40.0	2.0	11.8	<0.1	5.0	16.8
Common ragweed	16.7	8.3	50.0	1.3	7.5	<0.1	2.0	16.8
Horseweed	16.7	6.7	40.0	1.8	10.8	<0.1	4.0	16.4
Prickly lettuce	16.7	5.0	30.0	0.9	5.4	<0.1	2.0	12.6
Leafy spurge	16.7	3.3	20.0	0.9	5.4	<0.1	3.0	11.0
Common mallow	16.7	3.3	20.0	0.4	2.2	<0.1	1.0	9.7
Weed free	83.3	16.7	20.0	-	-	-	-	-

Table 94. Emmons county weed infestations based on 12 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	83.3	46.7	56.0	29.9	35.8	<0.1	11.5	144.1
Wild buckwheat	58.3	29.2	50.0	17.6	30.1	<0.1	11.0	89.6
Wild oat	33.3	15.8	47.5	9.2	27.7	<0.1	9.0	48.5
Field bindweed	16.7	10.8	65.0	7.0	42.0	<0.1	10.0	32.7
Kochia	33.3	13.3	40.0	2.9	8.6	<0.1	3.3	31.1
Green foxtail	16.7	<0.1	<0.1	8.3	49.5	1.0	40.0	24.8
Canada thistle	25.0	9.2	36.7	1.8	7.2	<0.1	2.3	21.7
Horseweed	16.7	9.2	55.0	2.2	13.5	<0.1	4.0	20.0
Quackgrass	8.3	5.0	60.0	1.9	22.6	<0.1	7.0	12.2
Russian thistle	16.7	3.3	20.0	1.2	7.0	<0.1	5.0	11.6
Sunflower	16.7	3.3	20.0	0.5	3.2	<0.1	1.5	10.1
Wild mustard	8.3	1.7	20.0	2.1	24.8	<0.1	13.0	9.3
Volunteer cereal	8.3	4.2	50.0	1.0	11.8	<0.1	5.0	9.2
Pigweed species	8.3	1.7	20.0	1.0	11.8	<0.1	7.0	6.7
Common ragweed	8.3	2.5	30.0	0.5	6.5	<0.1	3.0	6.5
Common lambsquarters	8.3	2.5	30.0	0.4	4.3	<0.1	2.0	6.1
Eastern black nightshade	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Soybean	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Weed free	66.7	15.8	23.8	-	-	-	-	-

Table 95. Foster county weed infestations based on 11 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	90.9	37.3	41.0	22.0	24.2	0.4	6.0	119.0
Kochia	45.5	10.9	24.0	1.2	2.6	<0.1	1.0	28.8
Yellow foxtail	27.3	4.5	16.7	6.1	22.2	1.5	23.0	27.8
Wild buckwheat	45.5	8.2	18.0	1.0	2.2	<0.1	1.2	25.6
Pigweed species	36.4	9.1	25.0	1.1	3.0	<0.1	1.3	23.7
Wild oat	27.3	8.2	30.0	1.2	4.3	<0.1	2.0	20.0
Marshelder	27.3	6.4	23.3	0.8	2.9	<0.1	1.3	17.3
Canada thistle	27.3	5.5	20.0	0.6	2.2	<0.1	1.0	15.9
Biennial wormwood	18.2	6.4	35.0	1.4	7.5	<0.1	2.5	15.6
Eastern black nightshade	18.2	6.4	35.0	1.2	6.5	<0.1	2.5	15.2
Common mallow	18.2	5.5	30.0	1.1	5.9	<0.1	3.0	14.0
Wild mustard	18.2	5.5	30.0	1.0	5.4	<0.1	2.5	13.8
Quackgrass	27.3	3.6	13.3	0.4	1.4	<0.1	1.0	13.6
Perennial sowthistle	18.2	5.5	30.0	0.7	3.8	<0.1	1.5	13.1
Common cocklebur	18.2	4.5	25.0	0.5	2.7	<0.1	1.0	11.7
Common milkweed	18.2	3.6	20.0	0.4	2.2	<0.1	1.0	10.6
Sweetclover	18.2	2.7	15.0	0.3	1.6	<0.1	1.0	9.5
Hairy nightshade	18.2	1.8	10.0	0.2	1.1	<0.1	1.0	8.3
Annual smartweed	18.2	1.8	10.0	0.2	1.1	<0.1	1.0	8.3
Curly dock	9.1	2.7	30.0	0.4	4.3	<0.1	2.0	6.7
Dandelion	9.1	1.8	20.0	0.5	5.4	<0.1	3.0	6.0
Sunflower	9.1	1.8	20.0	0.2	2.2	<0.1	1.0	5.3
Prostrate pigweed	9.1	0.9	10.0	0.2	2.2	<0.1	2.0	4.4
Common lambsquarters	9.1	0.9	10.0	0.2	2.2	<0.1	2.0	4.4
Nightflowering catchfly	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Yellow woodsorrel	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Common ragweed	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Volunteer cereal	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	18.2	6.4	35.0	-	-	-	-	-

Table 96. Golden Valley county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.7	3.3	5.0	21.9	32.8	0.7	6.0	76.6
Kochia	83.3	20.0	24.0	2.3	2.8	<0.1	1.2	53.2
Pigweed species	50.0	21.7	43.3	5.7	11.5	<0.1	3.0	51.7
Wild oat	33.3	20.0	60.0	6.6	19.9	<0.1	5.5	46.6
Russian thistle	50.0	13.3	26.7	1.6	3.2	<0.1	1.3	33.8
Field bindweed	50.0	10.0	20.0	1.1	2.2	<0.1	1.0	29.2
Field pennycress	33.3	8.3	25.0	1.1	3.2	<0.1	1.5	22.0
Chickpea	16.7	5.0	30.0	0.5	3.2	<0.1	1.0	11.8
Wild buckwheat	16.7	5.0	30.0	0.5	3.2	<0.1	1.0	11.8
Common lambsquarters	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Canola	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Prickly lettuce	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Volunteer cereal	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	33.3	11.7	35.0	-	-	-	-	-

Table 97. Grant county weed infestations based on 10 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	70.0	38.0	54.3	6.9	9.8	<0.1	2.4	77.4
Wild oat	60.0	32.0	53.3	6.5	10.8	<0.1	2.8	67.1
Kochia	50.0	22.0	44.0	3.3	6.7	<0.1	1.8	46.5
Russian thistle	30.0	14.0	46.7	2.0	6.8	<0.1	2.0	28.8
Field bindweed	50.0	9.0	18.0	1.1	2.2	<0.1	1.2	28.2
Volunteer cereal	20.0	12.0	60.0	2.0	10.2	<0.1	3.0	23.4
Pigweed species	30.0	10.0	33.3	1.4	4.7	<0.1	1.7	23.3
Field sandbur	20.0	5.0	25.0	0.6	3.2	<0.1	1.5	13.2
Common lambsquarters	20.0	4.0	20.0	0.5	2.7	<0.1	1.5	11.9
Field pennycress	10.0	6.0	60.0	0.8	7.5	<0.1	2.0	11.1
Curly dock	20.0	3.0	15.0	0.3	1.6	<0.1	1.0	10.4
Common milkweed	20.0	2.0	10.0	0.3	1.6	<0.1	1.5	9.4
Canada thistle	10.0	3.0	30.0	0.5	5.4	<0.1	2.0	7.6
Erect knotweed	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Common ragweed	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Common cocklebur	10.0	1.0	10.0	0.2	2.2	<0.1	2.0	4.8
Sunflower	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Prairie wild rose	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	30.0	12.0	40.0	-	-	-	-	-

Table 98. Griggs county weed infestations based on 12 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	80.0	33.0	41.3	11.7	14.7	<0.1	4.1	87.0
Yellow foxtail	60.0	24.0	40.0	11.8	19.7	0.1	7.5	71.6
Volunteer cereal	50.0	15.0	30.0	1.8	3.7	<0.1	1.4	35.9
Wild oat	30.0	11.0	36.7	4.7	15.8	<0.1	5.0	32.1
Kochia	40.0	13.0	32.5	1.9	4.8	<0.1	2.3	30.9
Biennial wormwood	40.0	7.0	17.5	1.8	4.6	<0.1	3.5	24.6
Quackgrass	30.0	5.0	16.7	1.3	4.3	<0.1	3.3	18.0
Marshelder	10.0	7.0	70.0	0.8	7.5	<0.1	1.0	12.1
Pigweed species	20.0	4.0	20.0	0.4	2.2	<0.1	1.0	11.7
Soybean	10.0	6.0	60.0	1.0	9.7	<0.1	2.0	11.6
Eastern black nightshade	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Wild buckwheat	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Common lambsquarters	10.0	3.0	30.0	0.3	3.2	<0.1	1.0	7.1
Perennial sowthistle	10.0	2.0	20.0	0.3	3.2	<0.1	2.0	6.1
Canada thistle	10.0	1.0	10.0	0.2	2.2	<0.1	2.0	4.8
Common cocklebur	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Yellow woodsorrel	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Sweetclover	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Common mallow	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Erect knotweed	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Prostrate pigweed	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	70.0	23.0	32.9	-	-	-	-	-

Table 99. Hettinger county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	78.6	36.4	46.4	7.5	9.6	<0.1	3.5	80.2
Wild oat	78.6	24.3	30.9	5.5	6.9	<0.1	2.8	63.2
Kochia	64.3	20.7	32.2	2.9	4.5	<0.1	1.8	49.0
Wild buckwheat	64.3	19.3	30.0	2.7	4.2	<0.1	1.6	47.0
Sunflower	35.7	10.7	30.0	1.4	3.9	<0.1	1.6	25.8
Curly dock	35.7	6.4	18.0	0.8	2.4	<0.1	1.4	20.3
Field bindweed	28.6	5.0	17.5	0.7	2.4	<0.1	1.5	16.1
Russian thistle	21.4	5.7	26.7	0.8	3.6	<0.1	1.7	14.7
Common lambsquarters	21.4	5.0	23.3	0.7	3.2	<0.1	1.7	13.8
Pigweed species	14.3	2.9	20.0	0.4	2.7	<0.1	1.5	8.5
Volunteer cereal	7.1	2.9	40.0	0.6	8.6	<0.1	4.0	6.7
Flixweed/Tansy mustard	7.1	2.1	30.0	0.2	3.2	<0.1	1.0	5.1
Prickly lettuce	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Prairie wild rose	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Field pennycress	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	7.1	0.7	10.0	-	-	-	-	-

Table 100. Kidder county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	45.0	45.0	19.7	19.7	1.5	11.8	124.4
Wild buckwheat	66.7	36.7	55.0	19.0	28.5	0.2	11.5	103.3
Field bindweed	66.7	18.3	27.5	3.0	4.6	<0.1	2.5	47.7
Canada thistle	83.3	13.3	16.0	2.0	2.4	<0.1	1.6	45.7
Quackgrass	16.7	10.0	60.0	10.0	60.3	<0.1	17.0	39.0
Wild mustard	16.7	13.3	80.0	6.1	36.6	<0.1	10.0	33.1
Prairie wild rose	50.0	10.0	20.0	1.3	2.5	<0.1	1.3	29.6
Wild oat	33.3	8.3	25.0	2.2	6.5	<0.1	4.5	24.5
Yellow foxtail	33.3	5.0	15.0	1.3	3.8	<0.1	3.0	19.0
Common lambsquarters	33.3	5.0	15.0	0.7	2.2	<0.1	1.5	17.8
Perennial sowthistle	16.7	5.0	30.0	1.4	8.6	<0.1	5.0	13.9
Common cocklebur	16.7	3.3	20.0	0.4	2.2	<0.1	1.0	9.7
Leafy spurge	16.7	1.7	10.0	0.7	4.3	<0.1	4.0	8.9
Prostrate pigweed	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Dandelion	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Pigweed species	16.7	1.7	10.0	0.2	1.1	0.0	1.0	7.6

Table 101. LaMoure county weed infestations based on 20 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	65.0	21.5	33.1	16.0	24.7	0.3	7.9	80.6
Canada thistle	60.0	24.0	40.0	8.6	14.4	<0.1	4.3	64.1
Green foxtail	55.0	14.0	25.5	11.6	21.1	0.8	8.1	59.5
Wild oat	30.0	14.5	48.3	7.8	25.8	<0.1	7.3	42.6
Wild buckwheat	35.0	11.5	32.9	4.1	11.8	<0.1	3.4	32.8
Eastern black nightshade	30.0	13.0	43.3	2.7	9.0	<0.1	3.0	29.3
Kochia	20.0	10.0	50.0	5.2	26.1	<0.1	6.8	28.8
Pigweed species	30.0	11.0	36.7	3.1	10.2	<0.1	3.7	28.2
Volunteer cereal	15.0	5.0	33.3	3.3	22.2	<0.1	6.0	17.8
Quackgrass	20.0	4.5	22.5	1.3	6.5	<0.1	2.8	14.2
Horseweed	10.0	1.5	15.0	3.9	38.8	0.1	9.5	13.9
Common lambsquarters	10.0	4.0	40.0	1.0	10.2	<0.1	3.0	9.7
Field bindweed	5.0	3.5	70.0	1.8	36.6	<0.1	8.0	9.4
Common ragweed	10.0	2.0	20.0	0.4	3.8	<0.1	2.0	6.2
Sunflower	5.0	2.0	40.0	0.4	8.6	<0.1	4.0	4.7
Perennial sowthistle	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Common milkweed	5.0	1.5	30.0	0.6	11.8	<0.1	5.0	4.5
Hairy nightshade	5.0	2.0	40.0	0.3	5.4	<0.1	2.0	4.3
Common cocklebur	5.0	1.5	30.0	0.2	4.3	<0.1	2.0	3.7
Field pennycress	5.0	1.0	20.0	0.2	3.2	<0.1	2.0	3.0
Flax	5.0	0.5	10.0	0.1	2.2	<0.1	2.0	2.4
Curly dock	5.0	0.5	10.0	0.1	1.1	<0.1	1.0	2.3
Prairie wild rose	5.0	0.5	10.0	0.1	1.1	<0.1	1.0	2.3
Wild mustard	5.0	0.5	10.0	0.1	1.1	<0.1	1.0	2.3
Weed free	55.0	20.0	36.4	-	-	-	-	-

Table 102. Logan county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	83.3	31.7	38.0	29.8	35.7	0.2	12.2	128.9
Wild buckwheat	66.7	15.0	22.5	2.2	3.2	<0.1	1.5	42.2
Russian thistle	66.7	8.3	12.5	0.9	1.3	<0.1	1.0	32.6
Prostrate pigweed	16.7	11.7	70.0	2.7	16.1	<0.1	50.0	23.5
Wild oat	16.7	5.0	30.0	1.1	6.5	<0.1	3.0	13.1
Yellow woodsorrel	16.7	3.3	20.0	0.5	3.2	<0.1	2.0	10.1
Hedge bindweed	16.7	3.3	20.0	0.4	2.2	<0.1	1.0	9.7
Hairy nightshade	16.7	1.7	10.0	0.5	3.2	<0.1	3.0	8.5
Kochia	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Pigweed species	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Yellow foxtail	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	66.7	25.0	37.5	-	-	-	-	-

Table 103. McHenry county weed infestations based on 13 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	30.0	30.0	42.6	42.6	5.2	27.5	162.8
Wild buckwheat	53.8	18.5	34.3	4.5	8.3	<0.1	3.6	46.8
Wild oat	38.5	13.1	34.0	5.4	14.0	<0.1	5.0	38.5
Quackgrass	23.1	4.6	20.0	3.7	16.1	<0.1	9.7	21.0
Field bindweed	23.1	6.9	30.0	2.3	10.0	<0.1	4.7	20.0
Kochia	23.1	6.9	30.0	2.1	9.0	<0.1	3.7	19.4
Canada thistle	15.4	4.6	30.0	1.8	11.8	<0.1	6.0	14.0
Giant ragweed	23.1	4.6	20.0	0.6	2.5	<0.1	1.3	13.7
Common ragweed	15.4	4.6	30.0	0.8	5.4	<0.1	2.5	11.7
Pigweed species	7.7	3.1	40.0	0.7	8.6	<0.1	3.0	7.2
Leafy spurge	7.7	2.3	30.0	0.9	11.8	<0.1	5.0	7.0
Sunflower	7.7	1.5	20.0	0.2	3.2	<0.1	2.0	4.7
Common milkweed	7.7	0.8	10.0	0.2	3.2	<0.1	3.0	3.9
Russian thistle	7.7	0.8	10.0	0.1	1.1	<0.1	1.0	3.5
Weed free	30.8	7.7	25.0	-	-	-	-	-

Table 104. McIntosh county weed infestations based on 8 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	75.0	36.3	48.3	16.6	22.1	0.9	13.8	99.9
Wild buckwheat	62.5	22.5	36.0	20.2	32.3	0.8	10.6	90.4
Wild oat	62.5	23.8	38.0	7.9	12.7	<0.1	5.4	63.1
Kochia	50.0	21.3	42.5	5.1	10.2	<0.1	3.8	49.8
Field bindweed	37.5	12.5	33.3	5.7	15.1	<0.1	4.3	38.2
Canada thistle	12.5	7.5	60.0	4.8	38.8	<0.1	12.0	23.0
Field pennycress	12.5	8.8	70.0	2.3	18.3	<0.1	5.0	18.3
Wild mustard	25.0	5.0	20.0	2.0	8.1	<0.1	4.5	18.0
Volunteer cereal	12.5	5.0	40.0	1.3	10.8	<0.1	4.0	12.3
Pigweed species	12.5	5.0	40.0	0.9	7.5	<0.1	3.0	11.4
Green foxtail	12.5	2.5	20.0	0.4	3.2	<0.1	2.0	7.6
Giant foxtail	12.5	2.5	20.0	0.4	3.2	<0.1	2.0	7.6
Prickly lettuce	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Smooth brome	12.5	1.3	10.0	0.3	2.2	<0.1	2.0	6.0
Weed free	75.0	17.5	23.3	-	-	-	-	-

Table 105. McKenzie county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	71.4	26.4	37.0	19.5	27.3	0.6	10.4	95.8
Wild oat	57.1	20.0	35.0	23.9	41.8	0.4	11.8	94.8
Kochia	64.3	21.4	33.3	6.5	10.2	0.4	11.1	58.1
Canada thistle	35.7	5.0	14.0	3.1	8.6	<0.1	7.0	24.1
Buffalobur	14.3	7.1	50.0	4.9	34.4	<0.1	15.0	23.4
Russian thistle	35.7	7.1	20.0	1.1	3.0	<0.1	1.6	21.6
Wild buckwheat	35.7	6.4	18.0	1.2	3.4	<0.1	2.0	21.2
Wild mustard	21.4	5.7	26.7	0.8	3.9	<0.1	1.7	14.8
Pigweed species	28.6	2.9	10.0	0.3	1.1	<0.1	1.0	13.1
Field pennycress	14.3	5.0	35.0	1.4	9.7	<0.1	5.0	13.0
Common ragweed	14.3	<0.1	<0.1	3.2	22.6	0.1	5.0	12.3
Perennial sowthistle	7.1	3.6	50.0	1.2	17.2	<0.1	7.0	8.8
Field bindweed	7.1	0.7	10.0	0.6	8.6	<0.1	8.0	4.5
Pineapple-weed	7.1	0.7	10.0	0.4	5.4	<0.1	5.0	4.0
Quackgrass	7.1	0.7	10.0	0.2	3.2	<0.1	3.0	3.6
Dandelion	7.1	0.7	10.0	0.2	2.2	<0.1	2.0	3.5
Downy brome	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Prickly lettuce	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	42.9	16.4	38.3	-	-	-	-	-

Table 106. McLean county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	85.7	43.6	50.8	28.8	33.6	0.6	13.5	139.4
Wild oat	71.4	21.4	30.0	5.5	7.6	<0.1	4.1	58.0
Canada thistle	42.9	14.3	33.3	9.9	23.1	<0.1	10.8	51.7
Field bindweed	35.7	12.9	36.0	3.8	10.8	<0.1	4.4	33.7
Russian thistle	28.6	9.3	32.5	5.8	20.5	<0.1	5.5	32.4
Kochia	21.4	7.9	36.7	3.2	15.1	<0.1	4.0	22.5
Common purslane	21.4	10.0	46.7	2.0	9.3	<0.1	3.0	21.8
Volunteer cereal	21.4	5.7	26.7	1.2	5.7	<0.1	2.3	15.7
Pigweed species	21.4	6.4	30.0	0.9	4.3	<0.1	1.7	15.7
Common ragweed	14.3	4.3	30.0	0.8	5.4	<0.1	2.0	10.8
Horseweed	14.3	1.4	10.0	0.2	1.6	<0.1	1.5	6.7
Shepherd's-purse	14.3	1.4	10.0	0.2	1.1	<0.1	1.0	6.5
Dry bean	7.1	2.9	40.0	0.5	7.5	<0.1	4.0	6.5
Sweetclover	7.1	1.4	20.0	0.2	3.2	<0.1	2.0	4.3
Sunflower	7.1	0.7	10.0	0.4	5.4	<0.1	5.0	4.0
Common milkweed	7.1	0.7	10.0	0.3	4.3	<0.1	4.0	3.8
Common mallow	7.1	0.7	10.0	0.2	2.2	<0.1	2.0	3.5
Common lambsquarters	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Prickly lettuce	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	42.9	10.0	23.3	-	-	-	-	-

Table 107. Mercer county weed infestations based on 9 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	83.3	48.3	58.0	15.8	18.9	<0.1	6.0	112.9
Volunteer cereal	50.0	25.0	50.0	9.7	19.4	<0.1	5.0	64.3
Wild buckwheat	66.7	15.0	22.5	5.4	8.1	<0.1	4.0	49.8
Kochia	50.0	20.0	40.0	5.4	10.8	<0.1	2.7	49.2
Field bindweed	50.0	8.3	16.7	1.6	3.2	<0.1	1.7	28.8
Russian thistle	33.3	10.0	30.0	2.9	8.6	<0.1	5.0	27.8
Common purslane	16.7	11.7	70.0	2.3	14.0	<0.1	4.0	22.7
Canada thistle	16.7	1.7	10.0	0.4	2.2	<0.1	2.0	8.1
Common lambsquarters	16.7	1.7	10.0	0.4	2.2	<0.1	2.0	8.1
Alfalfa	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	33.3	5.0	15.0	-	-	-	-	-

Table 108. Morton county weed infestations based on 12 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	30.0	30.0	40.1	40.1	0.8	10.3	156.9
Field bindweed	50.0	22.5	45.0	10.9	21.7	0.1	4.7	64.5
Common lambsquarters	41.7	13.3	32.0	4.1	9.9	<0.1	4.2	36.9
Russian thistle	25.0	14.2	56.7	3.9	15.4	<0.1	4.7	31.5
Pigweed species	41.7	10.8	26.0	1.7	4.1	<0.1	2.0	28.7
Volunteer cereal	16.7	10.8	65.0	3.0	17.8	<0.1	6.0	23.3
Wild oat	16.7	5.8	35.0	3.4	20.5	<0.1	6.0	19.3
Wild buckwheat	25.0	5.8	23.3	1.0	3.9	<0.1	2.0	16.5
Common purslane	16.7	6.7	40.0	1.4	8.6	<0.1	2.5	15.6
Lanceleaf sage	8.3	5.0	60.0	1.5	18.3	<0.1	6.0	11.3
Kochia	8.3	2.5	30.0	0.6	7.5	<0.1	3.0	6.7
Common cocklebur	8.3	1.7	20.0	0.3	3.2	<0.1	2.0	5.1
Canada thistle	8.3	1.7	20.0	0.2	2.2	<0.1	1.0	4.9
Sweetclover	8.3	0.8	10.0	0.2	2.2	<0.1	2.0	4.0
Foxtail barley	8.3	0.8	10.0	0.2	2.2	<0.1	2.0	4.0
Giant foxtail	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Weed free	41.7	7.5	18.0	-	-	-	-	-

Table 109. Nelson county weed infestations based on 7 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	85.7	35.7	41.7	24.1	28.2	6.7	17.2	120.6
Wild oat	42.9	18.6	43.3	6.0	14.0	<0.1	4.0	46.9
Canada thistle	42.9	12.9	30.0	4.2	9.7	<0.1	3.0	36.8
Kochia	42.9	11.4	26.7	4.0	9.3	<0.1	3.3	35.0
Canola	14.3	11.4	80.0	4.6	32.3	<0.1	5.0	27.0
Wild mustard	28.6	7.1	25.0	2.0	7.0	<0.1	2.5	21.3
False chamomile	14.3	7.1	50.0	2.0	14.0	<0.1	4.0	16.6
Pigweed species	14.3	4.3	30.0	0.5	3.2	<0.1	1.0	10.1
Common cocklebur	14.3	2.9	20.0	0.8	5.4	<0.1	3.0	9.4
Common ragweed	14.3	2.9	20.0	0.3	2.2	<0.1	1.0	8.3
Dandelion	14.3	1.4	10.0	0.3	2.2	<0.1	2.0	6.9
Russian thistle	14.3	1.4	10.0	0.2	1.1	<0.1	1.0	6.5
Common milkweed	14.3	1.4	10.0	0.2	1.1	<0.1	1.0	6.5
Common lambsquarters	14.3	1.4	10.0	0.2	1.1	<0.1	1.0	6.5
Weed free	79.2	23.6	29.9	-	-	-	-	-

Table 110. Oliver county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	83.3	31.7	38.0	34.1	40.9	1.3	8.4	139.0
Volunteer cereal	50.0	28.3	56.7	11.1	22.2	<0.1	4.3	71.0
Pigweed species	66.7	13.3	20.0	3.0	4.6	<0.1	2.3	42.7
Wild buckwheat	50.0	13.3	26.7	3.0	6.1	<0.1	2.7	37.1
Wild oat	33.3	13.3	40.0	4.3	12.9	<0.1	4.0	34.5
Canada thistle	50.0	8.3	16.7	2.7	5.4	<0.1	4.0	31.3
Kochia	16.7	6.7	40.0	2.3	14.0	<0.1	6.0	17.7
Common ragweed	16.7	6.7	40.0	1.8	10.8	<0.1	3.0	16.4
Field bindweed	16.7	3.3	20.0	1.6	9.7	<0.1	6.0	12.7
Horseweed	16.7	5.0	30.0	0.5	3.2	<0.1	1.0	11.8
Common mallow	16.7	3.3	20.0	0.5	3.2	<0.1	2.0	10.1
Dandelion	16.7	3.3	20.0	0.4	2.2	<0.1	1.0	9.7
Russian thistle	16.7	1.7	10.0	0.4	2.2	<0.1	2.0	8.1
Common lambsquarters	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Common purslane	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	35.7	6.6	17.8	-	-	-	-	-

Table 111. Pembina county weed infestations based on 22 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild oat	57.5	24.3	42.2	3.9	6.7	<0.1	2.2	52.5
Kochia	55.0	23.0	41.8	4.7	8.5	<0.1	2.9	52.3
Green foxtail	25.0	11.8	47.0	2.8	11.3	<0.1	3.7	26.7
Common milkweed	32.5	8.3	25.4	1.6	5.1	<0.1	2.4	22.9
Canada thistle	25.0	9.3	37.0	1.9	7.4	<0.1	2.5	21.9
Pigweed species	25.0	9.8	39.0	1.5	6.1	<0.1	2.1	21.7
Common lambsquarters	27.5	8.5	30.9	1.2	4.4	<0.1	1.6	20.5
Wild mustard	20.0	5.0	25.0	0.6	3.0	<0.1	1.3	13.0
Perennial sowthistle	12.5	4.3	34.0	0.7	5.8	<0.1	2.0	10.1
Volunteer cereal	10.0	5.0	50.0	0.7	6.7	<0.1	1.8	9.9
Barnyardgrass	10.0	3.0	30.0	0.5	5.1	<0.1	2.3	7.5
Quackgrass	10.0	2.3	22.5	0.4	3.8	<0.1	1.5	6.5
Wild buckwheat	2.5	2.3	90.0	0.5	18.3	<0.1	3.0	4.2
Giant ragweed	5.0	1.8	35.0	0.2	4.3	<0.1	1.5	3.9
Sunflower	5.0	1.5	30.0	0.3	5.9	<0.1	2.5	3.9
Common mallow	2.5	1.0	40.0	0.2	6.5	<0.1	2.0	2.2
Horseweed	2.5	0.3	10.0	0.1	2.2	<0.1	2.0	1.2
Curly dock	2.5	0.3	10.0	<0.1	1.1	<0.1	1.0	1.1
Weed free	75.0	20.0	26.7	-	-	-	-	-

Table 112. Pierce county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	100.0	32.1	32.1	61.7	61.7	5.1	38.6	209.5
Green foxtail	64.3	34.3	53.3	17.1	26.6	0.6	9.1	95.5
Wild buckwheat	78.6	35.0	44.5	10.1	12.9	<0.1	4.2	84.9
Pigweed species	78.6	25.0	31.8	8.6	11.0	<0.1	3.8	71.3
Quackgrass	57.1	17.1	30.0	10.5	18.3	<0.1	8.0	60.6
Flixweed/Tansy mustard	50.0	14.3	28.6	10.4	20.8	0.2	5.0	55.2
Canola	35.7	13.6	38.0	11.5	32.1	<0.1	9.6	52.2
Canada thistle	42.9	16.4	38.3	5.7	13.3	<0.1	5.3	44.0
Kochia	57.1	13.6	23.8	4.4	7.7	<0.1	3.4	42.8
Volunteer cereal	28.6	12.9	45.0	6.4	22.3	<0.1	6.5	37.3
Eastern black nightshade	21.4	13.6	63.3	3.5	16.1	<0.1	3.7	28.8
Prickly lettuce	42.9	10.0	23.3	1.5	3.4	<0.1	1.5	27.7
Wild oat	35.7	8.6	24.0	2.8	7.8	<0.1	4.0	26.9
Common ragweed	28.6	8.6	30.0	3.2	11.3	<0.1	7.3	25.6
Russian thistle	21.4	10.7	50.0	1.7	7.9	<0.1	2.0	21.8
Field bindweed	21.4	2.1	10.0	0.8	3.6	<0.1	3.3	11.1
Common lambsquarters	14.3	2.9	20.0	0.5	3.8	<0.1	2.0	8.9
Perennial sowthistle	7.1	3.6	50.0	1.2	17.2	<0.1	6.0	8.8
Common purslane	14.3	2.9	20.0	0.4	2.7	<0.1	1.5	8.5
Cutleaf nightshade	7.1	2.9	40.0	1.1	15.1	<0.1	6.0	7.7
Common mallow	14.3	2.1	15.0	0.3	2.2	<0.1	1.5	7.6
Shepherd's-purse	7.1	2.9	40.0	0.5	6.5	<0.1	2.0	6.3
Marshelder	7.1	1.4	20.0	0.3	4.3	<0.1	2.0	4.5
Common cocklebur	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Field pennycress	7.1	0.7	10.0	0.2	3.2	<0.1	3.0	3.6
Sunflower	7.1	0.7	10.0	0.2	2.2	<0.1	2.0	3.5
Prostrate pigweed	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Wild mustard	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	16.8	5.7	17.8	-	-	-	-	-

Table 113. Ramsey county weed infestations based on 16 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Kochia	43.8	16.9	38.6	2.4	5.5	<0.1	1.9	37.1
Canada thistle	43.8	15.6	35.7	2.2	4.9	<0.1	1.4	35.2
Wild mustard	25.0	4.4	17.5	2.1	8.3	0.1	2.0	17.6
Common lambsquarters	12.5	1.9	15.0	1.1	8.6	0.1	1.5	8.6
Pigweed species	6.3	2.5	40.0	0.3	4.3	<0.1	1.0	5.2
Wild oat	6.3	1.9	30.0	0.2	3.2	<0.1	1.0	4.4
Green foxtail	6.3	1.3	20.0	0.3	5.4	<0.1	3.0	4.1
Perennial sowthistle	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Common mallow	6.3	1.3	20.0	0.1	2.2	<0.1	1.0	3.6
Weed free	75.0	26.9	35.8	-	-	-	-	-

Table 114. Ransom county weed infestations based on 11 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	90.9	40.9	45.0	9.8	10.8	0.1	3.0	94.0
Wild oat	36.4	11.8	32.5	3.2	8.9	<0.1	3.5	31.5
Kochia	45.5	12.7	28.0	1.4	3.0	<0.1	1.0	31.1
Canada thistle	36.4	9.1	25.0	1.3	3.5	<0.1	1.3	24.2
Quackgrass	27.3	5.5	20.0	0.6	2.2	<0.1	1.0	15.9
Common milkweed	27.3	4.5	16.7	0.5	1.8	<0.1	1.0	14.8
Biennial wormwood	18.2	3.6	20.0	0.4	2.2	<0.1	1.0	10.6
Green foxtail	9.1	4.5	50.0	0.7	7.5	<0.1	2.0	9.2
Hedge bindweed	9.1	3.6	40.0	0.6	6.5	<0.1	2.0	8.0
Common lambsquarters	9.1	2.7	30.0	0.4	4.3	<0.1	2.0	6.7
Eastern black nightshade	9.1	2.7	30.0	0.3	3.2	<0.1	1.0	6.4
Wild mustard	9.1	1.8	20.0	0.3	3.2	<0.1	2.0	5.5
Volunteer cereal	9.1	1.8	20.0	0.3	3.2	<0.1	2.0	5.5
Perennial sowthistle	9.1	1.8	20.0	0.2	2.2	<0.1	1.0	5.3
Common cocklebur	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Pigweed species	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Common ragweed	9.1	0.9	10.0	0.1	1.1	<0.1	1.0	4.2
Weed free	63.6	20.9	32.9	-	-	-	-	-

Table 115. Renville county weed infestations based on 5 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	80.0	50.0	62.5	24.5	30.7	0.2	6.3	133.9
Wild oat	40.0	6.0	15.0	15.7	39.3	0.6	8.0	56.0
Canada thistle	20.0	4.0	20.0	0.6	3.2	<0.1	2.0	12.2
Wild mustard	20.0	4.0	20.0	0.6	3.2	<0.1	2.0	12.2
Sunflower	20.0	4.0	20.0	0.4	2.2	<0.1	1.0	11.7
Smooth brome	20.0	2.0	10.0	1.1	5.4	<0.1	5.0	11.2
Quackgrass	20.0	2.0	10.0	0.9	4.3	<0.1	4.0	10.7
Kochia	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Wild buckwheat	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Weed free	60.0	10.0	16.7	-	-	-	-	-

Table 116. Richland county weed infestations based on 32 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Yellow foxtail	46.9	14.4	30.7	7.5	16.0	0.2	5.6	47.5
Common lambsquarters	43.8	9.4	21.4	1.6	3.8	<0.1	2.0	27.8
Pigweed species	31.3	9.4	30.0	1.8	5.8	<0.1	2.4	24.0
Common ragweed	34.4	8.1	23.6	1.3	3.8	<0.1	1.9	22.6
Green foxtail	28.1	6.3	22.2	1.0	3.5	<0.1	1.8	17.9
Common cocklebur	31.3	4.7	15.0	0.5	1.7	<0.1	1.1	16.4
Common milkweed	28.1	4.1	14.4	0.7	2.5	<0.1	1.8	15.1
Wild-proso millet	25.0	3.8	15.0	0.7	2.7	<0.1	1.8	13.7
Kochia	15.6	4.4	28.0	1.2	7.5	<0.1	3.6	12.3
Barnyardgrass	15.6	3.1	20.0	0.4	2.4	<0.1	1.2	9.2
Wild oat	15.6	2.5	16.0	0.4	2.8	<0.1	2.0	8.7
Eastern black nightshade	12.5	2.8	22.5	0.4	3.0	<0.1	1.3	7.8
Soybean	15.6	1.9	12.0	0.3	1.7	<0.1	1.4	7.7
Field sandbur	6.3	2.8	45.0	0.9	14.5	<0.1	5.0	7.0
Canada thistle	12.5	1.6	12.5	0.3	2.4	<0.1	1.8	6.4
Wild buckwheat	12.5	1.3	10.0	0.2	1.9	<0.1	1.8	6.0
Sunflower	9.4	1.9	20.0	0.2	2.5	<0.1	1.3	5.5
Biennial wormwood	6.3	1.6	25.0	0.6	9.7	<0.1	6.5	5.1
Sweetclover	9.4	0.9	10.0	0.1	1.1	<0.1	1.0	4.3
Horseweed	6.3	1.3	20.0	0.2	3.2	<0.1	2.0	3.8
Marshelder	6.3	0.9	15.0	0.2	2.7	<0.1	2.0	3.4
Venice mallow	6.3	0.9	15.0	0.1	2.2	<0.1	1.5	3.3
Quackgrass	6.3	0.6	10.0	0.2	3.2	<0.1	3.0	3.2
Wild mustard	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Yellow nutsedge	3.1	0.6	20.0	0.1	4.3	<0.1	3.0	2.0
Prostrate pigweed	3.1	0.6	20.0	0.1	2.2	<0.1	1.0	1.8
Common purslane	3.1	0.3	10.0	0.1	3.2	<0.1	3.0	1.6
Annual smartweed	3.1	0.3	10.0	0.1	2.2	<0.1	2.0	1.5
Stinkgrass	3.1	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Russian thistle	3.1	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Hairy nightshade	3.1	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Corn	3.1	0.3	10.0	<0.1	1.1	<0.1	1.0	1.4
Weed free	81.3	35.3	43.5	-	-	-	-	-

Table 117. Rolette county weed infestations based on 8 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild buckwheat	87.5	35.0	40.0	25.7	29.4	0.5	6.4	124.1
Green foxtail	75.0	35.0	46.7	24.0	31.9	1.1	19.5	115.9
Pigweed species	87.5	25.0	28.6	17.1	19.5	0.1	7.0	94.0
Prickly lettuce	50.0	31.3	62.5	10.4	20.7	<0.1	7.5	72.1
Wild oat	50.0	11.3	22.5	10.0	19.9	0.3	5.3	51.1
Kochia	62.5	15.0	24.0	2.7	4.3	<0.1	2.2	42.1
Canada thistle	50.0	13.8	27.5	4.3	8.6	<0.1	4.8	40.5
Horseweed	50.0	13.8	27.5	2.8	5.7	<0.1	2.3	37.0
Shepherd's-purse	37.5	7.5	20.0	6.7	17.9	0.3	4.3	35.7
Field pennycress	37.5	8.8	23.3	4.4	11.8	<0.1	6.0	31.6
Canola	12.5	<0.1	<0.1	10.9	87.2	0.3	16.0	29.6
Flixweed/Tansy mustard	37.5	7.5	20.0	1.2	3.2	<0.1	2.0	22.8
Quackgrass	25.0	6.3	25.0	2.4	9.7	<0.1	5.0	20.2
Common mallow	37.5	5.0	13.3	0.8	2.2	<0.1	1.7	19.4
Common ragweed	37.5	3.8	10.0	0.5	1.4	<0.1	1.3	17.5
Yellow foxtail	12.5	5.0	40.0	2.0	16.1	<0.1	5.0	13.9
Nightflowering catchfly	12.5	3.8	30.0	0.9	7.5	<0.1	4.0	10.1
Volunteer cereal	12.5	1.3	10.0	1.1	8.6	<0.1	8.0	7.9
Field bindweed	12.5	2.5	20.0	0.3	2.2	<0.1	1.0	7.3
Wild mustard	12.5	1.3	10.0	0.3	2.2	<0.1	2.0	6.0
Tall waterhemp	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Sunflower	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Russian thistle	12.5	1.3	10.0	0.1	1.1	<0.1	1.0	5.7
Weed free	12.5	1.3	10.0	-	-	-	-	-

Table 118. Sargent county weed infestations based on 15 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.7	24.0	36.0	4.1	6.1	<0.1	2.5	55.8
Yellow foxtail	53.3	25.3	47.5	4.6	8.6	<0.1	2.4	53.8
Kochia	33.3	8.0	24.0	0.9	2.8	<0.1	1.2	21.3
Wild oat	20.0	5.3	26.7	1.0	5.0	<0.1	2.3	14.3
Barnyardgrass	20.0	3.3	16.7	0.4	2.2	<0.1	1.3	11.0
Wild-proso millet	13.3	4.7	35.0	0.6	4.8	<0.1	2.0	10.6
Common ragweed	20.0	2.7	13.3	0.3	1.4	<0.1	1.0	10.0
Soybean	20.0	2.7	13.3	0.3	1.4	<0.1	1.0	10.0
Eastern black nightshade	20.0	2.7	13.3	0.3	1.4	<0.1	1.0	10.0
Canada thistle	20.0	2.7	13.3	0.3	1.4	<0.1	1.0	10.0
Quackgrass	13.3	3.3	25.0	0.4	3.2	<0.1	1.5	8.8
Common lambsquarters	13.3	2.7	20.0	0.4	2.7	<0.1	1.5	7.9
Biennial wormwood	13.3	2.7	20.0	0.3	2.2	<0.1	1.0	7.8
Common milkweed	13.3	2.0	15.0	0.3	2.2	<0.1	1.5	7.1
Sweetclover	6.7	1.3	20.0	0.1	2.2	<0.1	1.0	3.9
Sunflower	6.7	1.3	20.0	0.1	2.2	<0.1	1.0	3.9
Prairie wild rose	6.7	1.3	20.0	0.1	2.2	<0.1	1.0	3.9
Annual smartweed	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Yellow woodsorrel	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Wild buckwheat	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Curly dock	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Corn	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Weed free	80.0	26.0	32.5	-	-	-	-	-

Table 119. Sheridan county weed infestations based on 10 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	100.0	31.0	31.0	21.2	21.2	0.3	7.1	113.8
Kochia	80.0	15.0	18.8	5.6	7.0	0.1	2.4	54.7
Wild oat	50.0	24.0	48.0	3.8	7.5	<0.1	2.0	49.5
Yellow foxtail	40.0	12.0	30.0	2.6	6.5	1.0	10.5	31.4
Marshelder	40.0	8.0	20.0	1.0	2.4	<0.1	1.3	23.6
Wild buckwheat	30.0	8.0	26.7	1.2	3.9	<0.1	2.0	20.8
Russian thistle	40.0	4.0	10.0	0.4	1.1	<0.1	1.0	18.3
Field bindweed	30.0	5.0	16.7	0.6	2.2	<0.1	1.3	16.5
Canada thistle	30.0	4.0	13.3	0.4	1.4	<0.1	1.0	15.0
Eastern black nightshade	30.0	3.0	10.0	0.3	1.1	<0.1	1.0	13.8
Common ragweed	20.0	3.0	15.0	0.3	1.6	<0.1	1.0	10.4
Volunteer cereal	20.0	3.0	15.0	0.3	1.6	<0.1	1.0	10.4
Wild mustard	10.0	3.0	30.0	0.3	3.2	<0.1	1.0	7.1
Prairie wild rose	10.0	2.0	20.0	0.2	2.2	<0.1	1.0	5.8
Common cocklebur	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Common lambsquarters	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Perennial sowthistle	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	40.0	13.0	32.5	-	-	-	-	-

Table 120. Sioux county weed infestations based on 5 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	-- Plants/m^2 --		-- Plants/m^2 --		
Green foxtail	100.0	12.0	12.0	27.1	27.1	2.4	20.6	108.6
Wild buckwheat	60.0	10.0	16.7	10.5	17.6	0.4	4.0	54.6
Yellow foxtail	40.0	14.0	35.0	10.5	26.4	<0.1	14.0	51.9
Field bindweed	60.0	10.0	16.7	1.5	2.5	<0.1	1.7	33.5
Wild oat	40.0	14.0	35.0	2.2	5.4	<0.1	2.0	32.4
Volunteer cereal	40.0	10.0	25.0	2.8	7.0	<0.1	4.5	29.9
Yellow woodsorrel	20.0	12.0	60.0	2.2	10.8	<0.1	2.0	23.7
Pigweed species	40.0	4.0	10.0	0.4	1.1	<0.1	1.0	18.3
Kochia	40.0	4.0	10.0	0.4	1.1	<0.1	1.0	18.3
Prostrate pigweed	20.0	4.0	20.0	0.4	2.2	<0.1	1.0	11.7
Soybean	20.0	2.0	10.0	0.4	2.2	<0.1	2.0	9.7
Quackgrass	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Barnyardgrass	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Hedge bindweed	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Leafy spurge	20.0	2.0	10.0	0.2	1.1	<0.1	1.0	9.2
Weed free	40.0	16.0	40.0	-	-	-	-	-

Table 121. Slope county weed infestations based on 6 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	66.7	30.0	45.0	8.6	12.9	0.2	3.3	72.3
Wild oat	83.3	30.0	36.0	4.8	5.8	<0.1	2.0	69.1
Kochia	66.7	21.7	32.5	2.3	3.5	<0.1	1.0	49.3
Wild buckwheat	33.3	20.0	60.0	3.2	9.7	<0.1	2.5	38.6
Volunteer cereal	33.3	13.3	40.0	2.7	8.1	<0.1	3.0	30.7
Pigweed species	50.0	10.0	20.0	1.4	2.9	<0.1	1.3	30.0
Field pennycress	33.3	6.7	20.0	0.7	2.2	<0.1	1.0	19.5
Safflower	16.7	5.0	30.0	0.5	3.2	<0.1	1.0	11.8
Russian thistle	16.7	1.7	10.0	0.4	2.2	<0.1	2.0	8.1
Common milkweed	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Prickly lettuce	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Weed free	50.0	11.7	23.3	-	-	-	-	-

Table 122. Stark county weed infestations based on 12 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Wild oat	91.7	39.2	42.7	8.3	9.0	0.1	2.5	89.0
Green foxtail	91.7	36.7	40.0	5.7	6.2	<0.1	2.4	80.4
Kochia	50.0	16.7	33.3	3.2	6.5	<0.1	2.0	40.9
Russian thistle	25.0	8.3	33.3	1.0	3.9	<0.1	1.3	19.0
Wild buckwheat	25.0	5.8	23.3	0.9	3.6	<0.1	2.0	16.3
Common ragweed	25.0	5.8	23.3	0.8	3.2	<0.1	1.7	16.1
Field bindweed	16.7	3.3	20.0	0.4	2.2	<0.1	1.0	9.7
Pigweed species	8.3	4.2	50.0	0.5	6.5	<0.1	2.0	8.2
Common cocklebur	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Sunflower	16.7	1.7	10.0	0.2	1.1	<0.1	1.0	7.6
Nightflowering catchfly	8.3	2.5	30.0	0.4	4.3	<0.1	2.0	6.1
Field pennycress	8.3	2.5	30.0	0.3	3.2	<0.1	1.0	5.9
Alfalfa	8.3	1.7	20.0	0.2	2.2	<0.1	1.0	4.9
Canada thistle	8.3	0.8	10.0	0.3	3.2	<0.1	3.0	4.2
Quackgrass	8.3	0.8	10.0	0.2	2.2	<0.1	2.0	4.0
Prairie wild rose	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Smooth brome	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Common lambsquarters	8.3	0.8	10.0	0.1	1.1	<0.1	1.0	3.8
Weed free	33.3	9.2	27.5	-	-	-	-	-

Table 123. Steele county weed infestations based on 2 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	20.0	20.0	4.8	4.8	<0.1	2.5	64.6
Biennial wormwood	100.0	20.0	20.0	4.3	4.3	<0.1	2.5	63.4
Eastern black nightshade	50.0	20.0	40.0	2.2	4.3	<0.1	1.0	41.7
Canada thistle	50.0	10.0	20.0	1.1	2.2	<0.1	1.0	29.2
Common ragweed	50.0	10.0	20.0	1.1	2.2	<0.1	1.0	29.2
Quackgrass	50.0	5.0	10.0	0.5	1.1	<0.1	1.0	22.9
Wild mustard	50.0	5.0	10.0	0.5	1.1	<0.1	1.0	22.9
Weed free	100.0	20.0	20.0	-	-	-	-	-

Table 124. Stutsman county weed infestations based on 30 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	93.3	35.3	37.9	30.7	32.9	2.3	13.7	138.0
Yellow foxtail	70.0	22.7	32.4	10.2	14.6	<0.1	6.9	69.8
Wild buckwheat	60.0	19.0	31.7	4.1	6.8	<0.1	2.3	48.5
Pigweed species	50.0	14.3	28.7	5.8	11.6	<0.1	3.5	44.5
Canada thistle	66.7	13.7	20.5	1.9	2.9	<0.1	1.5	40.3
Wild oat	50.0	17.0	34.0	2.8	5.6	<0.1	2.3	40.2
Eastern black nightshade	43.3	15.3	35.4	2.7	6.1	<0.1	2.3	36.0
Kochia	43.3	14.0	32.3	2.7	6.2	<0.1	2.5	34.7
Common lambsquarters	36.7	10.3	28.2	1.2	3.3	<0.1	1.2	25.4
Quackgrass	33.3	7.7	23.0	1.5	4.4	<0.1	2.3	22.2
Perennial sowthistle	30.0	7.0	23.3	1.3	4.3	<0.1	2.1	20.0
Wild mustard	20.0	5.0	25.0	0.7	3.6	<0.1	1.3	13.3
Field bindweed	20.0	3.0	15.0	0.6	2.9	<0.1	2.0	11.0
Common cocklebur	10.0	5.0	50.0	0.7	6.8	<0.1	2.0	9.9
Canola	13.3	3.3	25.0	0.5	4.0	<0.1	1.5	9.0
Flax	6.7	4.3	65.0	0.9	14.0	<0.1	4.0	8.7
Common mallow	10.0	3.7	36.7	0.6	6.5	<0.1	2.0	8.5
Common purslane	16.7	2.0	12.0	0.4	2.4	<0.1	2.0	8.5
Sweetclover	3.3	<0.1	<0.1	2.7	79.7	0.4	33.0	7.3
Yellow woodsorrel	13.3	2.0	15.0	0.3	1.9	<0.1	1.3	7.0
Marshelder	13.3	2.0	15.0	0.2	1.6	<0.1	1.0	6.9
Volunteer cereal	10.0	2.7	26.7	0.3	2.9	<0.1	1.0	6.7
Sunflower	13.3	1.7	12.5	0.2	1.3	<0.1	1.0	6.5
Lanceleaf sage	10.0	1.3	13.3	0.1	1.4	<0.1	1.0	5.0
Common ragweed	6.7	1.0	15.0	0.1	1.6	<0.1	1.0	3.5
Barnyardgrass	6.7	0.7	10.0	0.1	1.1	<0.1	1.0	3.1
Dandelion	3.3	1.0	30.0	0.1	3.2	<0.1	1.0	2.4
Cutleaf nightshade	3.3	0.7	20.0	0.1	2.2	<0.1	1.0	1.9
Common milkweed	3.3	0.3	10.0	0.1	2.2	<0.1	2.0	1.6
Prairie wild rose	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Western wheatgrass	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Soybean	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Flixweed/Tansy mustard	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Horseweed	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Prostrate pigweed	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Alfalfa	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Russian thistle	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Curly dock	3.3	0.3	10.0	<0.1	1.1	<0.1	1.0	1.5
Weed free	13.3	2.0	15.0	-	-	-	-	-

Table 125. Towner county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	71.4	32.9	46.0	25.2	35.3	0.5	12.7	115.5
Wild buckwheat	92.9	30.7	33.1	12.0	12.9	<0.1	6.2	89.7
Common ragweed	78.6	26.4	33.6	8.5	10.9	<0.1	4.9	72.5
Yellow foxtail	50.0	25.0	50.0	12.7	25.4	<0.1	10.0	71.3
Pigweed species	64.3	27.9	43.3	9.1	14.1	<0.1	6.3	70.5
Canada thistle	85.7	25.0	29.2	6.8	7.9	<0.1	3.2	69.4
Wild oat	57.1	18.6	32.5	4.4	7.7	<0.1	8.3	47.8
Field pennycress	35.7	13.6	38.0	6.0	16.8	<0.1	7.8	39.5
Common mallow	57.1	8.6	15.0	4.5	7.9	<0.1	5.8	38.2
Prickly lettuce	57.1	9.3	16.3	1.6	2.8	<0.1	2.0	32.1
Kochia	28.6	3.6	12.5	4.3	15.1	0.1	5.5	23.1
Flixweed/Tansy mustard	21.4	7.1	33.3	1.5	7.2	<0.1	2.0	17.9
Quackgrass	28.6	2.9	10.0	2.1	7.3	<0.1	6.8	17.2
Shepherd's-purse	14.3	6.4	45.0	1.8	12.9	<0.1	4.0	15.5
Field sandbur	7.1	2.1	30.0	1.1	15.1	<0.1	7.0	7.0
Field bindweed	7.1	1.4	20.0	0.5	6.5	<0.1	4.0	4.9
Nightflowering catchfly	7.1	1.4	20.0	0.4	5.4	<0.1	4.0	4.7
Prostrate pigweed	7.1	1.4	20.0	0.2	3.2	<0.1	2.0	4.3
Weed free	28.6	8.6	30.0	-	-	-	-	-

Table 126. Traill county weed infestations based on 7 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Kochia	28.6	15.7	55.0	6.8	23.7	<0.1	7.5	41.0
Yellow foxtail	28.6	14.3	50.0	4.9	17.2	<0.1	6.0	35.3
Canada thistle	42.9	10.0	23.3	2.6	6.1	<0.1	3.0	30.4
Common cocklebur	28.6	14.3	50.0	2.0	7.0	<0.1	2.0	28.5
Common lambsquarters	14.3	7.1	50.0	1.5	10.8	<0.1	4.0	15.5
Russian thistle	14.3	5.7	40.0	0.8	5.4	<0.1	2.0	12.3
Common milkweed	14.3	2.9	20.0	0.5	3.2	<0.1	2.0	8.7
Pigweed species	14.3	1.4	10.0	0.2	1.1	<0.1	1.0	6.5
Weed free	85.7	22.9	26.7	-	-	-	-	-

Table 127. Walsh county weed infestations based on 16 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity		Weed Density		Weed Density Range		Weed Index
		All	Infested	All	Infested	Low	High	
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Canada thistle	43.8	13.1	30.0	2.4	5.4	<0.1	2.3	33.2
Kochia	37.5	6.9	18.3	1.1	2.9	<0.1	1.5	21.9
Quackgrass	25.0	6.3	25.0	2.2	8.9	<0.1	5.0	19.8
Yellow foxtail	18.8	8.8	46.7	1.5	7.9	<0.1	2.7	18.5
Common lambsquarters	12.5	3.1	25.0	0.4	3.2	<0.1	1.5	8.2
False chamomile	6.3	3.1	50.0	0.4	6.5	<0.1	2.0	6.2
Wild oat	6.3	1.9	30.0	0.5	8.6	<0.1	4.0	5.2
Wild mustard	6.3	1.9	30.0	0.2	3.2	<0.1	1.0	4.4
Common milkweed	6.3	0.6	10.0	0.1	2.2	<0.1	2.0	3.0
Field pennycress	6.3	0.6	10.0	0.1	1.1	<0.1	1.0	2.9
Weed free	100.0	33.8	33.8	-	-	-	-	-

Table 128. Ward county weed infestations based on 14 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	49.3	49.3	47.7	47.7	2.3	21.1	194.0
Wild buckwheat	57.1	17.1	30.0	5.3	9.3	<0.1	4.4	48.6
Kochia	35.7	10.7	30.0	2.5	7.1	<0.1	10.4	28.5
Canada thistle	28.6	10.0	35.0	3.8	13.5	<0.1	5.3	28.5
Common ragweed	28.6	7.9	27.5	1.2	4.0	<0.1	1.8	20.1
Common milkweed	21.4	5.0	23.3	1.8	8.3	<0.1	5.0	16.3
Quackgrass	14.3	4.3	30.0	2.0	14.0	<0.1	6.0	13.7
Wild oat	14.3	2.9	20.0	1.1	7.5	<0.1	4.5	10.1
Pigweed species	14.3	2.9	20.0	0.8	5.4	<0.1	3.5	9.4
Perennial sowthistle	7.1	2.1	30.0	0.5	6.5	<0.1	3.0	5.6
Common mallow	7.1	2.1	30.0	0.4	5.4	<0.1	2.0	5.4
Field bindweed	7.1	1.4	20.0	0.3	4.3	<0.1	3.0	4.5
Field pennycress	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Prairie wild rose	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Russian thistle	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Sunflower	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	50.0	11.4	22.9	-	-	-	-	-

Table 129. Wells county weed infestations based on 21 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	100.0	49.3	49.3	47.7	47.7	2.3	21.1	194.0
Wild buckwheat	57.1	17.1	30.0	5.3	9.3	<0.1	4.4	48.6
Kochia	35.7	10.7	30.0	2.5	7.1	<0.1	10.4	28.5
Canada thistle	28.6	10.0	35.0	3.8	13.5	<0.1	5.3	28.5
Common ragweed	28.6	7.9	27.5	1.2	4.0	<0.1	1.8	20.1
Common milkweed	21.4	5.0	23.3	1.8	8.3	<0.1	5.0	16.3
Quackgrass	14.3	4.3	30.0	2.0	14.0	<0.1	6.0	13.7
Wild oat	14.3	2.9	20.0	1.1	7.5	<0.1	4.5	10.1
Pigweed species	14.3	2.9	20.0	0.8	5.4	<0.1	3.5	9.4
Perennial sowthistle	7.1	2.1	30.0	0.5	6.5	<0.1	3.0	5.6
Common mallow	7.1	2.1	30.0	0.4	5.4	<0.1	2.0	5.4
Field bindweed	7.1	1.4	20.0	0.3	4.3	<0.1	3.0	4.5
Field pennycress	7.1	1.4	20.0	0.2	2.2	<0.1	1.0	4.2
Prairie wild rose	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Russian thistle	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Sunflower	7.1	0.7	10.0	0.1	1.1	<0.1	1.0	3.3
Weed free	50.0	11.4	22.9	-	-	-	-	-

Table 130. Williams county weed infestations based on 10 surveyed fields, summer 2000.

Weed species	Weed Frequency	Field Uniformity All	Field Uniformity Infested	Weed Density All	Weed Density Infested	Weed Density Range Low	Weed Density Range High	Weed Index
	(%)	(%)	(%)	- - Plants/m^2 - -		- - Plants/m^2 - -		
Green foxtail	70.0	18.0	25.7	31.8	45.4	0.7	8.6	115.4
Wild oat	40.0	7.0	17.5	2.2	5.4	<0.1	3.0	25.4
Pigweed species	20.0	6.0	30.0	2.7	13.5	<0.1	5.5	18.9
Wild buckwheat	20.0	4.0	20.0	0.8	3.8	<0.1	2.0	12.4
Russian thistle	20.0	3.0	15.0	0.8	3.8	<0.1	2.5	11.4
Kochia	10.0	6.0	60.0	0.9	8.6	<0.1	2.0	11.3
Field pennycress	10.0	2.0	20.0	0.5	5.4	<0.1	3.0	6.6
Prairie wild rose	10.0	1.0	10.0	0.1	1.1	<0.1	1.0	4.6
Weed free	70.0	33.0	47.1	-	-	-	-	-

Table 131. HRS wheat and barley losses in North Dakota from various weeds in 1978 and 1979 based on individual weed competition data (from Dexter et al. 1981).

	HRS wheat					Barley				
	Weed Infestations					Weed Infestations				
	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]
1978	%	pl/m^2	1000	%	1000 bu	%	pl/m^2	1000	%	1000 bu
Green foxtail	94	43.3	9,212	3.0	8,475	98	43.3	2,450	2.3	2,653
Yellow foxtail	17	18.5	1,666	1.5	756	2	18.0	50	1.1	26
Wild oat	67	9.5	6,566	8.0	17,014	63	11.3	1,575	7.1	5,537
Wild buckwheat	54	5.2	5,292	1.5	2,402	53	8.6	1,325	1.5	928
Wild mustard	12	2.8	1,176	2.0	715	13	3.2	325	1.7	259
Field bindweed	9	7.6	882	18.0	5,770	9	6.6	225	8.9	999
Canada thistle	11	3.5	1,078	17.0	6,580	15	4.6	375	15.0	3,044
Total				14.3	41,712				11.7	13,446
1979										
Green foxtail	95	74.6	9,405	5.0	13,018	99	93.5	1,717	4.7	3,895
Yellow foxtail	27	21.1	2,673	1.5	1,070	25	34.3	425	1.7	338
Wild oat	67	7.6	6,633	7.0	13,130	67	8.0	1,139	5.1	2,816
Wild buckwheat	66	4.2	6,534	1.0	1,735	86	5.0	1,462	0.8	542
Wild mustard	39	3.4	3,861	2.4	2,497	32	2.1	544	1.1	278
Field bindweed	19	5.0	1,881	9.0	4,893	10	2.8	170	3.8	309
Canada thistle	17	2.3	1,683	15.0	7,811	32	3.4	544	12.7	3,640
Total				17.0	44,154				15.1	11,818

[a] Acres infested was obtained by multiplying weed frequency by crop acres which was 9.8 million (m) for HRS wheat and 2.5 m for barley in 1978 and 9.9 m for HRS wheat and 1.7 m for barley.

[b] Percent yield loss caused by weed competition was based on weed density and competition data from the literature as follows: green and yellow foxtail (assumed similar), wild oat, wild mustard, and wild buckwheat (Nalewaja 1972), field bindweed (Gigax 1978), and Canada thistle (Hodgson 1968). Total % yield loss is based on all acres.

[c] Grain loss based on average North Dakota production of 29.8 bu/A for HRS wheat and 46 bu/A for barley in 1978 and 26.3 bu/A for HRS wheat and 46 bu/A for barley in 1979. Losses from weed competition in barley were only available for wild oat where loss in barley was about 25% less than in HRS wheat for wild oat plants (Bell and Nalewaja 1968). The losses in barley from all weeds were assumed at 25% less than in HRS wheat.

Table 132. Crop losses in North Dakota from various weeds in summer 2000 based on individual weed competition data.

	HRS wheat, durum, and barley					Canola				
	Weed Infestations					Weed Infestations				
	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]
	%	pl/m^2	1000	%	1000 bu	%	pl/m^2	1000	%	1000 lb
Green foxtail	57	31.5	6,327	2.5	4,551	11	28.5	138	-	-
Wild oat	54	12.0	5,994	10.0	20,852	53	11.9	663	9.6	83,952
Yellow foxtail	32	27.9	3,552	2.5	3,091	-	-	-	-	-
Wild buckwheat	38	11.3	4,218	4.0	5,870	5	5.4	63	-	-
Kochia	41	8.4	4,551	5.0	7,916	53	9.0	663	-	-
Canada thistle	32	8.2	3,552	27.0	35,502	42	8.9	525	14.1	97,713
Pigweed species	23	8.9	2,553	-	-	5	5.4	63	-	-
Field bindweed	12	9.3	1,332	25.0	12,327	-	-	-	-	-
Quackgrass	12	7.9	1,332	-	-	11	4.8	138	1.6	2,904
Common lambsquarters	11	5.0	1,221	-	-	16	4.3	200	-	-
Common ragweed	9	8.9	999	21.0	7,298	11	6.5	138	-	-
Russian thistle	9	6.6	999	-	-	-	-	-	-	-
Common milkweed	11	3.9	1,221	22.0	9,335	-	-	-	-	-
Perennial sowthistle	7	4.7	777	11.0	2,973	26	4.3	325	3.3	14,157
Sunflower	7	3.4	777	10.0	2,703	11	2.2	138	-	-
Wild mustard	6	6.2	666	5.0	1,158	37	6.8	463	16.0	97,680
Field pennycress	4	9.7	444	-	-	5	1.1	63	-	-
Barnyardgrass	5	3.6	555	-	-	5	4.3	63	-	-
Common cocklebur	4	4.1	444	12.0	1,854	5	1.1	63	-	-
Volunteer cereal	-	-	-	-	-	16	8.3	200	11.3	29,832
Flixweed/Tansy mustard	2	0.6	220	-	-	16	4.3	200	10.0	26,400
Total				28.1	115,430				21.4	352,638

[a] Acres infested was obtained by multiplying weed frequency by crop acres which was 6.4 million for HRS wheat, 2.9 m for durum wheat, 1.8 m for barley, and 1.25 m for canola in 2000 (NDAS 2002).

[b] Percent yield loss caused by weed competition was based on weed density and competition data from the literature:
HRS wheat, durum wheat and barley: green and yellow foxtail (assumed similar), wild oat, wild mustard, and wild buckwheat (Nalewaja 1972), kochia (Dahl 1984), Canada thistle and perennial sowthistle (perennial sowthistle assumed 50% less than Canada thistle) (Donald 1990, Hodgson 1968), field bindweed (Gigax 1978), common milkweed (Yenish et al. 1997), and common sunflower, common ragweed, common cocklebur (assumed similar) (Gillespie 1982).
Canola: wild oat, Canada thistle, quackgrass, perennial sowthistle, and volunteer cereal (Canola Grower Manual).
Total % yield loss is based on all acres.

[c] Grain loss based on average North Dakota production of 36.5 bu/A for HRS wheat, 27 bu/A for durum wheat, 55 bu/A for barley, and 1,320 lbs/A for canola in 2000 (NDAS 2002). Losses from weed competition in barley were only available for wild oat where loss in barley was about 25% less than in HRS wheat for wild oat plants (Bell and Nalewaja 1968). The losses in barley from all weeds were assumed at 25% less than in HRS wheat.

Table 132 (continued).

	Soybean and dry bean					Sunflower				
	Weed Infestations					Weed Infestations				
	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]	Weed Freq	Weed Density	Acres[a]	Yield Loss[b]	Grain Loss[c]
	%	pl/m^2	1000	%	1000 bu	%	pl/m^2	1000	%	1000 lb
Green foxtail	35	9.1	831	5	1,330	73	21.0	927	13	165,599
Wild oat	11	5.6	261	20	1,672	27	8.5	343	20	94,229
Yellow foxtail	27	10.8	641	6	1,231	32	20.5	406	13	72,591
Wild buckwheat	13	4.1	308	-	-	36	7.1	457	-	-
Kochia	25	7.0	594	-	-	43	5.1	546	22	165,075
Canada thistle	31	4.6	736	-	-	43	6.8	547	-	-
Pigweed species	16	6.2	380	40	4,864	35	5.8	445	-	-
Field bindweed	4	4.3	95	-	-	18	5.1	229	-	-
Quackgrass	10	5.4	238	0	0	12	9.7	152	-	-
Common lambsquarters	13	3.6	309	28	2,766	15	2.9	191	-	-
Common ragweed	17	3.0	404	26	3,359	25	8.0	318	-	-
Russian thistle	2	3.2	48	-	-	24	3.3	305	-	-
Common milkweed	8	3.4	190	-	-	3	3.0	38	-	-
Biennial wormwood	11	3.6	261	20	1,672	-	-	-	-	-
Sunflower	8	5.1	190	69	4,195	-	-	-	-	-
Wild mustard	9	3.0	214	30	2,052	14	5.8	178	13	31,759
Field pennycress	3	12.9	71	-	-	9	6.0	114	-	-
Flixweed/Tansy mustard	4	2.2	95	-	-	11	1.1	140	-	-
Canola	0.5	2.2	19	22	84	8	30.8	102	31	43,276
Common cocklebur	10	5.3	238	68	5,168	11	2.8	140	-	-
Volunteer cereal	14	6.6	333	22	2,341	16	10.9	203	25	69,799
Eastern black nightshade	9	5.7	214	14	958	16	6.3	203	-	-
Barnyardgrass	4	3.0	95	-	-	1	1.1	13	-	-
Common mallow	5	2.8	119	-	-	8	4.4	10	-	-
Total				41.7	31,692				36.8	642,328

[a] Acres infested was obtained by multiplying weed frequency by crop acres which was 1.85 million for soybean, 0.525 m for dry beans, and 1.27 m for sunflower in 2000 (NDAS 2002).

[b] Percent yield loss caused by weed competition was based on weed density and competition data from the literature:
Soybean and dry beans (assume equal yield reduction even though dry beans are less competitive than soybean and would result in a greater % yield loss): green and yellow foxtail (assume similar), wild oat, volunteer cereal (assume similar), pigweed, common ragweed (assume similar), wild mustard, volunteer canola (assume similar), common cocklebur (Stoller et al. 1987), common lambsquarters (Crook and Renner 1990), biennial wormwood (Nelson 1992), sunflower (Auwater 1978), nightshade (Blackshaw 1991), quackgrass (Young et al. 1982).
Sunflower: green and yellow foxtail (assume similar), wild oat, volunteer cereals (assume similar), wild mustard, volunteer canola (assume similar), kochia (Blamey et al. 1997). Total % yield loss is based on all acres.

[c] Grain loss based on average North Dakota production of 43 bu/A for soybean, 1,450 lbs/A for dry beans, and 1,374 lbs/A for sunflower in 2000 (NDAS 2002).

Common and Scientific Names of weeds which occurred in the 2000 survey.
Source: WSSA Composite Weeds List

Common Name	Scientific Name
Alfalfa	*Medicago sativa* L.
Barley, foxtail	*Hordeum jubatum* L.
Barnyardgrass	*Echinochloa crus-galli* (L.) Beauv
Bindweed, field	*Convolvulus arvensis* L.
Bindweed, hedge	*Calystegia sepium* L.
Brome, downy	*Bromus tectorum* L.
Brome, smooth	*Bromus inermis* Leyss.
Buckwheat, wild	*Polygonum convolvulus L.*
Buffalobur	*Solanum rostratum Dun.*
Canola	Brassica napus L.
Catchfly, nightflowering	*Silene noctiflora* L.
Cereal, volunteer	
Barley	*Hordeum vulgare* L.
Durum wheat	*Triticum aestivum* Desf.
Oat, tame	*Avena sativa* L.
HRS wheat	*Triticum aestivum* L.
Chamomile, false	*Matricaria maritima* L.
Chickweed, common	*Stellaria media* (L.) Cyrillo
Cocklebur, common	*Xanthium pensylvanicum* Wallr.
Corn	*Zea mays* L.
Dandelion	*Taraxacum officinale* Weber
Dock, curly	*Rumex crispus* L.
Dry bean	*Phaseolus vulgaris L.*
Candelabra, fairy	*Androsace occidenalis* Pursh.
Falseflax, smallseed	*Camelina microcarpa* Andrz. DC.
Field pea	*Pisum sativum* L.
Flax	*Linum usitatissimum* L.
Flixweed	*Descurainia sophia* (L.) Webb.
Foxtail, giant	*Setaria faberi* Herrm.
Foxtail, green	*Setaria viridis* (L.) Beauv.
Foxtail, yellow	*Setaria lutescens* (Weigel) Hubb.
Horsetail	*Equisetum arvense* L.
Horseweed	*Conyza canadenis* (L.) Cronq.
Knotweed, erect	*Polygonum erectum* L.
Kochia	*Kochia scoparia* (L.) Schrod.
Lambsquarters, common	*Chenopodium album* L.
Lentil	*Lens culinaris* Medik.
Lettuce, prickly	*Lactuca serriola* L.
Mallow, common	*Malva neglecta* Wallr.
Mallow, venice	*Hibicus trionum* L.
Marshelder	*Iva xanthifolia* Nutt.
Milkweed, common	*Asclepias syriaca* L.
Millet, wild-proso	*Panicum miliaceum* L.
Mustard, tansy	*Descurainia pinnata*
Mustard, wild	*Brassica kaber* (DC) LC Wheeler
Nightshade, cutleaf	*Solanum triflorum* Nutt.
Nightshade, eastern black	*Solanum ptycanthum* Dun.
Nightshade, hairy	*Solanum sarrachoides* Sendtner.
Nutsedge, yellow	*Cyperus esculentus* L.
Oat, wild	*Avena fatua* L.
Pennycress, field	*Thlaspi arvense* L.
Pepperweed, greenflower	*Lepidium densiflorum* Schrad.
Pigweed, species	
Amaranth, powell	*Amaranthus blitoides* S. Wats.
Pigweed, prostrate	*Amaranthus powellii* S. Wats.
Pigweed, redroot	*Amaranthus retroflexus* L.
Pigweed, tumble	*Amaranthus albus* L.
Purslane, common	*Portulaca oleracea* L.
Quackgrass	*Elytrigia repens* (L.) Neyski.
Ragweed, common	*Ambrosia artemisiifolia* L.
Ragweed, giant	*Ambrosia trifidia* L.
Rose, prairie wild	*Rosa arkansana* Porter
Safflower	*Carthamus tinctorius* L.
Sage, lanceleaf	*Salvia reflexa* Hornem.
Sandbur, field	*Cenchrus incertus* M.A. Curtis.
Shepherd's-purse	*Capella bursa-pastoris* (L.) Medic.
Smartweed, annual	
Ladysthumb	*Polygonum persicaria* L.
Smartweed,Pennsylvania	*Polygonum pensylvanicum* L.
Sowthistle, perennial	*Sonchus arvensis L.*
Soybean	*Glycine max* (L.) Merr.
Speedwell, purslane	*Veronica peregrina* L.
Spurge, leafy	*Euphoria esula* L.
Sunflower, common	*Helianthus annuus* L.
Sweetclover species	
Sweetclover, white	*Melilotus alba* Medicus
Sweetclover, yellow	*Melilotus officinalis* (L.) Lam.
Thistle, Canada	*Cirsium arvense* (L.) Scop.
Thistle, Russian	*Salsola kali L.*
Vetch, wild	*Vicia americana* Muhl.
Waterhemp, tall	*Amaranthus tuberculatus (Moq.)*
Wheatgrass, western	*Agropyron smithii* Rydb.
Whitlowwart species	
Whitlowwart, white	*Draba mircantha* Nutt.
Whitlowwart, yellow	*Draba nemorosa* L.
Witchgrass	*Panicum capillare L.*
Woodsorrel, yellow	*Oxalis stricta L.*
Wormwood, biennial	*Artemisia biennis L.*

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