Table 134. Wheat and barley losses in North Dakota from various weeds in 1978 and 1979 based upon individual weed competition data.

	Wheat					Barley				
	Weed Infestations					Weed Infestations				
Year and Weed	Weed Freq (%)	Weed Density (Pl/M²)	Acres (1000)	Yield Loss (%)	Grain Loss (1000 Bu)	Weed Freq (%)	Weed Density (Pl/M²)	Acres (1000)	Yield Loss (%)	Grain Loss (1000 Bu)
1978										
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 oats	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 oats	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 wheat and 2.5 M for barley in 1978 and 9.9 M for wheat and 1.7 M for barley in 1979.

[b] Per cent yield loss caused by weed competition was for the weed density in occurrence fields based upon competition data from the literature as follows: green and yellow foxtail (assumed similar), wild oats, wild mustard, and wild buckwheat (6), field bindweed (3) and Canada thistle (4). Total % loss ( ) is based on all acres.

[c] Grain loss based upon average North Dakota production of 29.8 bu/A for wheat and 46.0 bu/A for barley in 1978 and 26.3 bu/A for wheat and 46.0 bu/A for barley in 1979. Losses from weed competition in barley were only available for wild oats where loss in barley was about 25% less than in wheat for wild oats plant (1). Thus, losses in barley from all weeds were assumed at 25% less than in wheat.

Appendix

Scientific and common names of weeds which occurred in the 1978 and 1979 survey. Source: Stevens, O. A. 1950. Handbook of North Dakota Plants. ND Inst. for Regional Studies. 324 p.

Common Name	Scientific Name
Alfalfa, volunteer	*Medicago sativa* L.
Barley, volunteer	*Hordeum vulgare* L.
Barley, wild	*Hordeum jubatum* L.
Barnyardgrass	*Echinochloa crus-galli* (L.) Beauv.
Bindweed, field	*Convolvulus arvensis* L.
Bindweed, hedge	*Convolvulus sepium* L.
Brome, downy	*Bromus tectorum* L.
Bromegrass	*Bromus inermis* Leyss.
Buckwheat, wild	*Polygonum convolvulus* L.
Buffalobur	*Solanum rostratum* Dunal.
Catchfly, nightflowering	*Silene noctiflora* L.
Chamomile, false	*Matricaria maritama* L. var. agrestis (Knaf) Wilmott
Chickweed, common	*Stellaria media* (L.) Cyrillo
Cinquefoil, silver	*Potentilla argentea* L.
Clover	*Melilotus* sp. or *Trifolium* sp. L.
Cocklebur, common	*Xanthium pensylvanicum* Wallr.
Corn, volunteer	*Zea mays* L.
Crabgrass, large	*Digitaria sanguinalis* (L.) Koel.
Dandelion, common	*Taraxacum officinale* Weber
Dock	*Rumex* sp.
Fieldcress, Australian	*Rorippa austriaca* (Crantz) Bess.
Flax, volunteer	*Linum usitatissimum* L.
Flixweed	*Descurainia sophia* (L.) Webb.
Four-o'clock, wild	*Mirabilis nyctaginia* (Michx.) Mac M.
Foxtail, green	*Setaria viridis* (L.) Beauv.
Foxtail, Garrison creeping	*Alopecurus arundinaceus* Poir.
Foxtail, yellow	*Setaria lutescens* (Weigel) Hubb.
Fumitory	*Fumaria officinalis* L.
Geranium, wild	*Geranium maculatum* L. (Pursh) Dunal.
Gumweed	*Grindelia squarrosa*
Horsetail, field	*Equisetum arvense* L.
Horseweed	*Conyza canadensis* (L.) Cronq.
Knotweeds	*Polygonum* sp.
Kochia	*Kochia scoparia* (L.) Schrod.
Lambsquarters, common	*Chenopodium album* L.
Lettuce, prickly	*Lactuca serriola* L.
Licorice, wild	*Glycyrrhiza lepidota* (Nutt.) Pursh
Mallow, dwarf	*Malva rotundifolia* L.
Mallow, roundleaf	*Malva neglecta* Wallr.
Marshelder	*Iva xanthifolia* Nutt.
Medic, black	*Medicago lupulina* L.
Milkweed, common	*Asclepias syriaca* L.
Millet, volunteer	*Setaria italica* (L.) Beauv.
Mint, wild	*Mentha arvensis* L.
Mustard, ball	*Neslia paniculata* (L.) Desv.
Mustard, white	*Brassica hirta* Moench.
Mustard, wild	*Brassica kaber* var. (pinnatifida)
Needle and thread	*Stipa comata* Trin. & Rupr.
Oats, tame, volunteer	*Avena sativa* L.
Oats, wild	*Avena fatua* L.
Pennycress, field	*Thlaspi arvense* L.
Pepperweed, greenflower	*Lepidium densiflorum* Schrad.
Pigweed, prostrate	*Amaranthus blitoides* S. Wats.
Pigweed, redroot	*Amaranthus retroflexus* L.
Povertyweed	*Iva axillaris* Pursh.
Purslane, common	*Portulaca oleracea* L.
Quackgrass	*Agropyron repens* (L.) Beauv.
Ragweed	*Ambrosia* sp.
Rose, wild	*Rosa arkansana* Porter
Rye, volunteer	*Secale cereale* L.
Sage, green	*Artemisia glauca* Pall.
Salsify, western	*Tragopon dubius* Scop.
Sandbur	*Cenchrus incertus* M.A. Curtis
Scurf pea	*Psoralea lanceolata* Pursh.
Shepherdspurse	*Capella bursa-pastoris* (L.) Medic.
Skeletonweed	*Lygodesmia juncea* (Pursh) D. Don
Smartweed	*Polygonum* sp.
Snowberry, western	*Symphoricarpos occidentalis* Hook.
Sowthistle, perennial	*Sonchus arvensis* L.
Soybean, volunteer	*Glycine max* (L.) Merr.
Spurge, leafy	*Euphorbia esula* L.
Spurge, prostrate	*Euphorbia supina* Raf.
Sunflower, volunteer	*Helianthus annuus* L.
Thistle, Canada	*Cirsium arvense* (L.) Scop.
Thistle, Flodman	*Cirsium flodmanii* (Rydb.) Arthur
Thistle, musk	*Carduus nutans* L.
Thistle, Russian	*Salsola kali* L. var. (tenuifolia) Tausch
Timothy	*Phleum pratense* L.
Vetch, wild	*Vicia americana* Muhl.
Waterpod	*Ellisia nyctelea* L.
Wheat, volunteer	*Triticum* sp.
Witchgrass	*Panicum capillare* L.
Woodsorrel, yellow	*Oxalis stricta* L.