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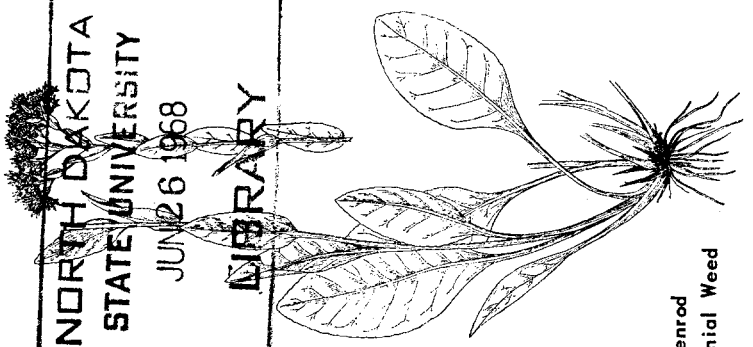

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INTRODUCTION AND SPREAD OF WEEDS IN NORTH DAKOTA

Weeds are a major farm problem. The most troublesome weeds are those which have arrived by various means from other countries.

Not all foreign weeds arriving in a new territory become serious pests. Actually, only a few do. However, the importance of these few is great. Many weeds are introduced which are not adapted to North Dakota conditions and do not become well established. Some native plants reach new areas, or changes produced by man make conditions favorable for their increased development.

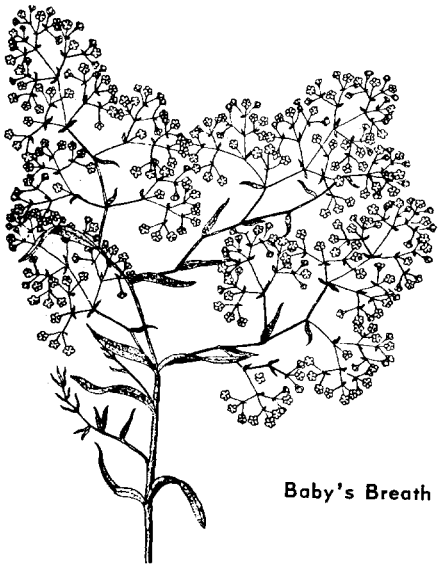
Weed bulletins frequently attempt to trace the history of a particular plant. For a few kinds history is fairly complete, but for many others, records are insufficient.

Wind has been a main factor in distribution because thistle and similar seeds can be blown long distances. In earlier years, weed seeds were carried long distances in crop seeds, hay or packing materials. Seeds may be carried by livestock or wild animals. In recent years, increased transportation facilities have increased chances for distribution. Movement by truck has penetrated everywhere. Road building has caused local spread by pieces of roots of such weeds as field bindweed and leafy spurge.

Many common weeds such as wild oats, pigweed, foxtail (pigeongrass) and mustards were introduced very early. The following list includes a few new ones and the status of some others of interest or importance is discussed.

INTRODUCED WEEDS

ABSINTHE or ABSINTH WORMWOOD (Artemisia absinthium) was presumably brought in by Russian immigrants. It is distributed widely and is abundant in some places, chiefly on roadsides or in pastures where it is objectionable as replacing useful plants. It is a woody perennial.



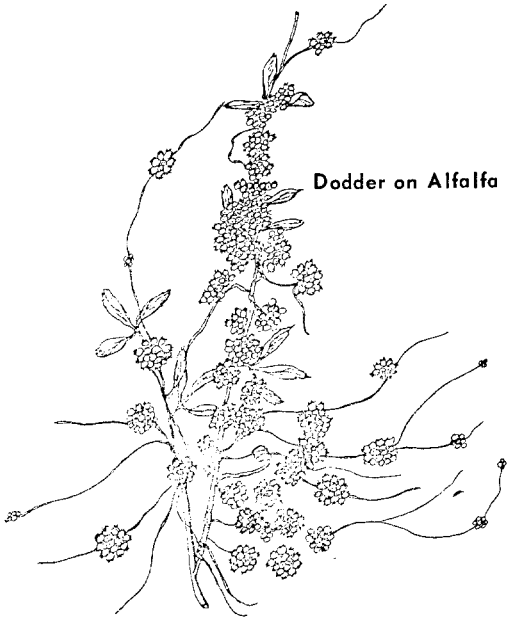
Baby's Breath

BABY'S BREATH (Gypsophila paniculata) is a tap-rooted perennial that has escaped from plantings as an ornamental. Since 1919 it has been collected at several places. South of Hamar, Eddy County, it grew in profusion in a sandy area, closely resembling Russian thistle or kochia (burning bush).

BELLFLOWER, CREEPING (Campanula rapunculoides) is a persistent perennial that spreads by underground stems and develops many thick, radish-like roots. It has been planted as an ornamental and has spread into lawns extensively in the past 15 years.

CRABGRASS, SMOOTH (Digitaria ischaemum) **and LARGE CRABGRASS** (D. sanguinalis). Smooth Crabgrass continues to be troublesome in lawns in late summer. Large Crabgrass, which is very troublesome farther south, was found only a few times before 1950. It seems to be becoming more prevalent but mainly as a weed of waste ground in towns.

DARNEL (Lolium temulentum) has not been recorded for many years. **PERSIAN DARNEL** (L. persicum), which became widely distributed about 1920-30, has not become common for the most part.



Dodder on Alfalfa

DODDER (Cuscuta spp.) continues to appear only occasionally, but nearly every year some ornamental plants are attacked by a native dodder.

FALSEFLAX (Camelina spp.) formerly was frequent in flax fields but has not been reported recently. Smallseed Falseflax (C. microcarpa) is found on roadsides as a winter annual. It has increased in recent years.

FALSE RAGWEED or WOOLYLEAF BURSAGE (Franseria tomentosa) is a perennial native to the plains that spreads by roots. A specimen was found on a railroad grade in LaMoure County in 1961. In 1963 it appeared in the NDSU horticultural plots at Fargo, possibly introduced in soil on transplants. It resembles common ragweed but has spines on the fruits.

FIELD BINDWEED (Convolvulus arvensis) is one of North Dakota's worst weeds because it makes a dense ground cover, spreads rapidly by roots and is very resistant to control methods. Usually it does not produce seed freely, but its original introduction was by seed. Fifty years ago field bindweed was rare in North Dakota but it has become widespread. On roadsides it is often spread by grading machinery.

Yellow Nutsedge

NUTGRASS or YELLOW NUTSEDGE (Cyperus esculentus) is a grass-like plant that develops small tubers. It is a serious pest in warmer climates. A field infestation in Richland County was observed in 1957.

HOARY CRESS or PERENNIAL PEPPERGRASS (Cardaria draba) and **RUSSIAN KNAPWEED** (Centaurea repens) are persistent perennials that came in early importations of alfalfa seed. These weeds are still local in occurrence, though in a few places, hoary cress has covered several acres by roots spread by tillage.

Russian Thistle

RUSSIAN THISTLE (Salsola kali) was one of the early introductions. In recent years a less spiny kind (S. collina) has become common. Apparently, it is better able to compete with other weeds under heavier rainfall, though it is mostly a roadside weed.

MUSK THISTLE (Carduus nutans) was found in Walsh County as early as 1903. It has spread into adjoining counties. It is a biennial and chiefly a roadside weed and a showy plant.

PERENNIAL SOWTHISTLE (Sonchus arvensis) spreads by blowing of seeds and by pieces of roots. The typical form, as usually described, has yellowish hairs on the upper part of the stem and flower heads. This has been found a few times but has not become common. Beginning about 1916, a form without these hairs became widely distributed and is the one usually seen.

LEAFY SPURGE (Euphorbia esula) is more common than field bindweed and, like it, is scattered along roadsides by grading machinery. It differs from all the other weeds mentioned here in that the pods burst when ripe, throwing the seeds for several feet. In pastures the seeds may be carried on the feet of animals or by surface drainage water.

YELLOW FIELDCRESS or CREEPING YELLOWCRESS (Rorippa sylvestris) was found for a second time in a yard in Fargo in 1962. It evidently had been there for some time. **AUSTRIAN FIELDCRESS** (Rorippa austriaca) still is quite local. Both of these plants are persistent, spreading perennials. The very similar **MARSHCRESS or MARSH YELLOW CRESS** (Rorippa islandica) that grows in low places, is native and does not spread by roots. All three have very small, yellow flowers and very short (1/4 inch) pods.

Austrian Fieldcress

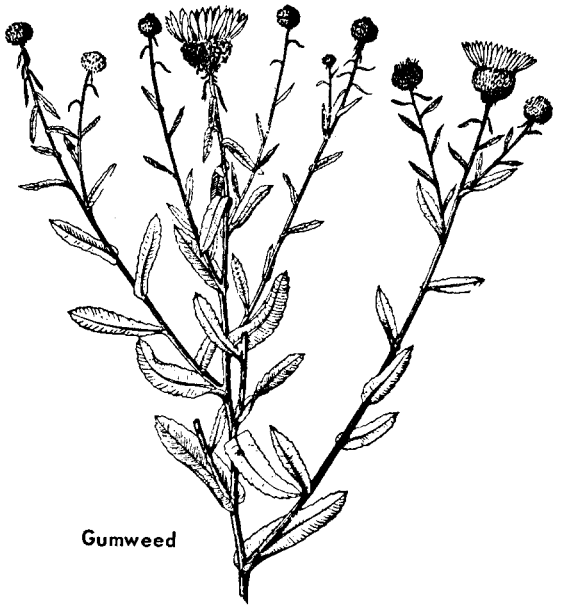
YELLOW STARTHISTLE (Centaurea solstitialis) is an annual that appeared in Grand Forks County in 1963, supposedly through alfalfa discard in seed mixture. It may not become established but this is uncertain. It grows about 2 feet high and has small, bright yellow flower heads with several stout spines.

PLUMELESS THISTLE (Carduus acanthoides) is a tall, slender, very spiny biennial which has become frequent, especially in pastures near woods. **BULL THISTLE** (Cirsium vulgare) is stouter, but has not increased very much.

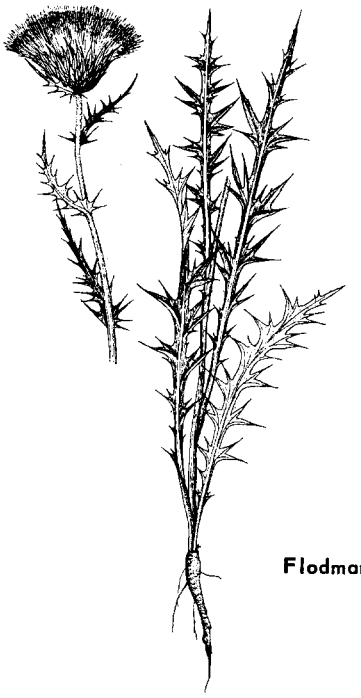
NATIVE WEEDS

The following native plants are distinctly weedy and increase under favorable conditions. Usually they are not so difficult to control.

TALL WHITE ASTER or WHITE FIELD ASTER (Aster simplex) is a common weed in low ground, usually where the soil is too wet for cropping. **WHITE PRAIRIE ASTER or HEATH ASTER** (A. ericoides), **GUMWEED** (Grindelia squarrosa) a biennial, **FRINGED SAGEBRUSH or LITTLE SAGE** (Artemisia frigida) and **RIGID or STIFF GOLDENROD** (Solidago rigida) become more abundant on pastures grazed too heavily.



Gumweed

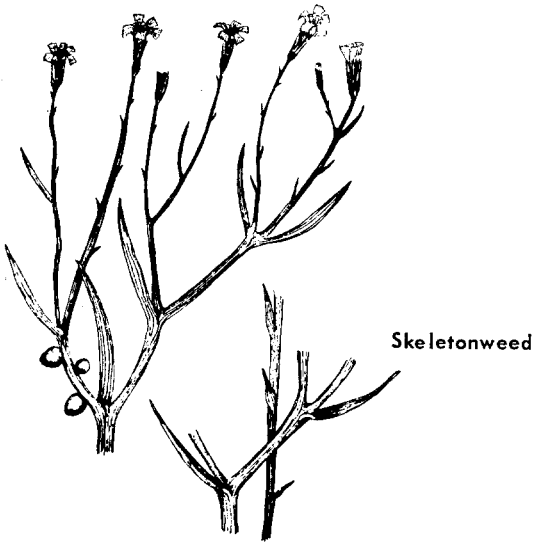


Flodman Thistle

DOGBANE or PRAIRIE DOGBANE (Apocynum sibericum) causes frequent complaints. It spreads by roots and is common in low ground, sometimes in fields. It has a milky sap, small, white flowers and very slender pods.

HORSETAIL or FIELD HORSETAIL (Equisetum arvense) is often encountered but usually in wet ground that needs drainage.

BLUE LETTUCE (Lactuca pulchella) is one of the more common perennials that spread by roots and increase in little-tilled fields.



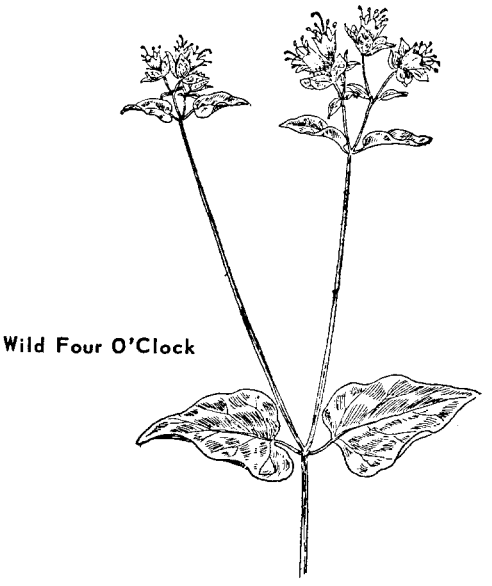
Skeletonweed

SKELETONWEED (Lygodesmia juncea) is usually found on light soils where intensive tilling is undesirable.

SWAMP or LONG-ROOTED SMARTWEED (Polygonum coccineum) is common in potholes and in low, sandy soils.

FLODMAN or PRAIRIE THISTLE (Cirsium flodmanii) sometimes increases in little-tilled fields.

WESTERN WHEATGRASS (Agropyron smithii) often is more vigorous after the sod is broken. It is often confused with quackgrass but is not very difficult to destroy.



Wild Four O'Clock

WILD FOUR-O'CLOCK (Allionia nyctaginea) has a thick root and is common in some fields.

HEDGE BINDWEED (Convolvulus sepium) is a native plant, often common; it has shallow rootstocks and the whole plant is coarser than the field bindweed.

Cooperative Extension Service, North Dakota State University of Agriculture and Applied Science, and U.S. Department of Agriculture cooperating. A.H. Schulz, Director, Fargo, North Dakota. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.