



Identifying Weeds and Their Seeds

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Description of Weeds and Their Seeds Used in Crop Judging

The correct identification of weed plants or mounts and weed seeds is a very important part of a crop judging contest. This publication has been prepared to help you identify weed plants and their seeds. Use it along with actual plant mounts and seed samples.

Weed plants to be included in crop judging contests will be selected from the weeds described in this publication. However, some of the weed seeds will not be used in contests because they usually are not found in seed. Refer to the crop judging contest guidelines for specific details. Some weeds are known by more than one common name. For contests purposes, only the names listed in this publication will be accepted as correct.

Weeds and State Laws

Noxious weeds are covered in three North Dakota laws. The terms “prohibited noxious weeds” and “restricted noxious weeds” are from the North Dakota Seed Laws and Regulations and are the designations used in crop judging contests.

Certain weeds also are classed as “prohibited noxious weeds” or “restricted noxious weeds” in the North Dakota Seed Certification Standards. The North Dakota Noxious Weeds Law with Regulations use the term “noxious.”

Classification of Weeds in Crop Judging Contests

Laws classifying some weeds as prohibited noxious weeds or restricted noxious weeds change periodically. This guide does not designate the classification of weeds.

Refer to the crop judging contest guidelines for list of weeds categorized in one of the following groups:

Prohibited noxious weeds are persistent, difficult-to-control weeds that reproduce by seed or spread by roots or underground stems. Most are deep-rooted, perennial weeds that are extremely difficult to control or eradicate by ordinary good chemical and/or tillage practices. Under North Dakota Seed Laws and Regulations, crop seed containing these seeds cannot be sold.

Restricted noxious weeds include very objectionable weeds in fields, pastures, shelterbelts, lawns and gardens or weed seeds that are hard to clean out of crop seed. Under North Dakota Seed Laws and Regulations, crop seed containing more than specified amounts of these seeds must be labeled accordingly. These may be annual, biennial or perennial weeds that spread rapidly, but can be controlled by chemical, cultural or tillage methods.

Other weed seeds are those not included as prohibited or restricted noxious weeds. They are annuals, biennials or perennials and can be controlled by chemical, cultural or tillage methods.

Absinth wormwood (*Artemisia absinthium*)

Barnyardgrass (*Echinochloa crusgalli*)

Canada thistle (*Cirsium arvense*)

Common cocklebur (*Xanthium pensylvanicum*)

Common lambsquarters (*Chenopodium album*)

Common mallow (*Malva neglecta*)

Common milkweed (*Asclepias syriaca*)

Common ragweed (*Ambrosia artemisiifolia*)

Curly dock (*Rumex crispus*)

Dalmation toadflax (*Linaria dalmatica*)

Diffuse knapweed (*Centaurea diffusa*)

Dodder (*Cuscuta* spp. except *C. coryli*)

Eastern black nightshade (*Solanum ptycanthum*)

Erect knotweed (*Polygonum erectum*)

Field bindweed (*Convolvulus arvensis*)

Field pennycress (*Thlaspi arvense*)

Field sandbur (*Cenchrus pauciflorus*)

Flixweed (*Descurainia sophia*)

Foxtail barley (*Hordeum jubatum*)

Giant ragweed (*Ambrosia trifida*)

Green foxtail (*Setaria viddis*)

Gumweed (*Grindelia squarrosa*)

Hedge bindweed (*Convolvulus sepium*)

Hoary cress (*Cardaria draba*, *C. draba*
var. rep *C. pubescens*)

Kochia (*Kochia scoparia*)

Lanceleaf sage (*Salvia neglecta*)

Leafy spurge (*Euphorbia esula*)

Marshelder (*Iva xanthifolia*)

Musk thistle (*Carduus nutans*)

Nightflowering catchfly (*Silene noctiflora*)

Pennsylvania smartweed
(*Polygonum pennsylvanicum*)

Perennial sowthistle (*Sonchus arvensis*)

Prickly lettuce (*Lactuca serriola*)

Prostrate knotweed (*Polygonum aviculare*)

Prostrate pigweed (*Amaranthus graecizans*)

Purple loosestrife (*Lythrum salicaria*)

Quackgrass (*Agropyron repens*)

Redroot pigweed (*Amaranthus retroflexus*)

Russian knapweed (*Centaurea repens*)

Russian thistle (*Salsola kali* var. *tenuifolia*)

Saltcedar (*Tamarix* spp.)

Spotted knapweed (*Centaurea maculosa*)

Wild buckwheat (*Polygonum convolvulus*)

Wild mustard (*Brassica kaber*)

Wild oat (*Avena fatua*)

Wild proso millet (*Panicum miliaceum*)

Wild rose (*Rosa arkansana*)

Wild sunflower (*Helianthus annuus*)

Yellow foxtail (*Setaria lutescens*)

Yellow starthistle (*Centaurea solstitialis*)

Absinth wormwood →

A stout, fragrant perennial reproducing by seed. Stems in clumps up to 3 feet high; often woody at base; covered with soft, short gray hairs. Leaves alternate, 2 to 5 inches long, divided two or three times into leaflets covered with silky hairs. Flower heads yellowish, 1/8 inch in diameter, hanging from end of leafy branches.

Seeds – Very small seeds (achenes) about 1/16 inch long; flattened, narrow at the base and rounded at the tip; seed coat smooth or finely streaked and light gray-brown.



← Barnyardgrass

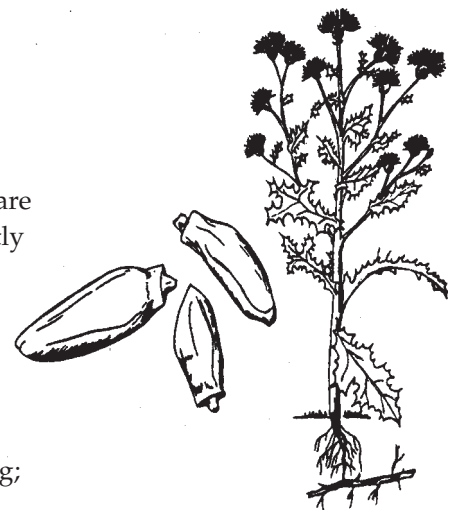
A coarse annual grass with shallow roots. Stems 1 to 4 feet high, thick, coarse, usually erect, smooth, branching at the base. Leaves smooth, 3/8 to 3/4 inch wide, light green. Heads 3 to 8 inches long with several compact side branches bearing flowers on one side; green or purplish.

Seeds – The seeds are shiny, yellow to brown, about 1/8 inch long, egg-shaped and flat on one side. They have a distinct awn at the tip; rounded side ridges; stiff, short hairs.

Canada thistle →

A deep-rooted perennial spreading by horizontal roots and seeds. Stems are 1 to 3 feet tall, widely branched near the top. Leaves are green with slightly gray and smooth undersides, and have curled edges and spiny margins. Flower heads are numerous, light purple and about 1/2 inch wide. Seeds bear a tuft of hairs like dandelion. Male (staminate) flowers are produced on some plants and female (pistillate) flowers on others. Patches of male plants cannot produce seeds.

Seeds – Dull brownish, smooth, oblong or slightly curved, about 1/8 inch long; ring and point on top, rounded and tapering to base.





← Common cocklebur

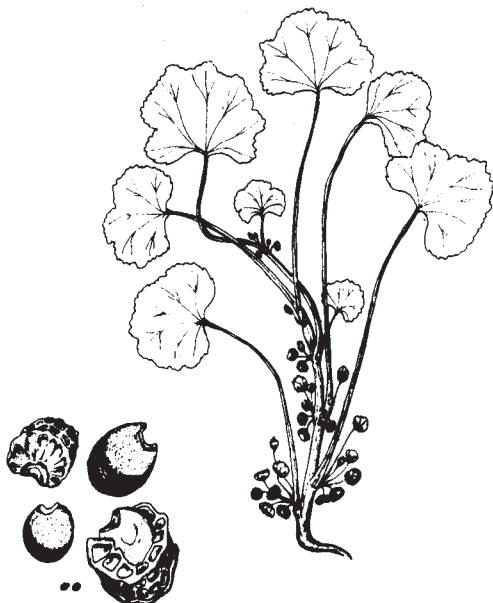
A rough, widely branched annual. Stems slightly zigzag, bushy, 1 to 4 feet tall, rough, often purple spotted. Leaves triangular shaped, very rough, 1 to 3 inches wide and 2 to 5 inches long with toothed or irregular margins. Male (staminate) flowers are borne in a terminal cluster and female (pistillate) flowers occur at leaf bases. Blooms in August.

Seeds – The seeds are contained in a spiny, oval bur about ½ inch long; dark brown and covered with sharp-hooked spines. Each bur contains two seeds.

Common lambsquarters →

A stout annual. Stems branching, 1 to 4 feet high, smooth, light green, often striped with red. Leaves alternate, 1 to 3 inches long; white, mealy coated on underside; often with toothed margins. Flowers are small, green, in irregular clusters at the ends of the branches and in axils of leaves; occurring all summer and fall.

Seeds – The hulled seed is black. The seed coat is brown and the seeds are about 1/32 inch in diameter, round and flattened. When the hull is present, the seed has a characteristic star shape.



← Common mallow

A very common yard and garden annual weed bearing long, spreading stalks or an erect central stalk. The geraniumlike leaves have five to seven broad, rounded lobes; often are wider than long, ranging from 1 to 4 inches long. Flowers arise at the leaf base and are pale blue or nearly white. The fruit (seed pod) usually is divided into 10 segments.

Seeds – Segments almost circular, flattened on two sides, light brown, slightly roughened, containing nearly round, flattened, reddish-brown seed about 1/16 inch long. Seeds are notched and are lighter in color near the notch. Outer surface is finely roughened and dull.

Common milkweed →

A stout perennial that reproduces by seeds and long, spreading, deep roots. Stem 2 to 4 feet high, with short, downy hairs and milky juice.

Leaves opposite, oblong, 4 to 8 inches long, prominently veined, smooth on top and hairy underneath. Flowers fragrant, pink to white in tassellike clusters; appearing in late June and early July. Seed pod large, grayish and spiny.

Seeds – Large, flat, brown, egg-shaped seeds more than ¼ inch long. The center of the seed is humped or rounded with a distinct flat flange all around it.



← Common ragweed

A pale green, bushy, widely branched annual, 1 to 3½ feet tall. The stems are stout, coarse and covered with short hairs. Leaves mostly alternate, deeply cut into narrow segments. Male (staminate) flower heads small; on spikes 1 to 6 inches long on ends of stems; producing much yellow pollen. Female (pistillate) flowers occur at leaf bases. Blooms in late July and August.

Seeds – Resembles giant ragweed seed in shape but is only one-quarter to one-half as large and more rounded with thin covering.



Curly dock →

Perennials with large taproots reproducing by seeds and roots in some species. The stems are smooth, erect, 1 to 4 feet high, single or in groups from the crown. The leaves are dark green, 6 to 12 inches long, with wavy or curled margins in some species. Flowers small, greenish in dense clusters on branches at tip of stem. Blooms in late summer and fall.

Seeds – Small, shiny, reddish-brown triangular-shaped seeds that resemble those of wild buckwheat. Seeds are about 1/16 inch long.





Used with permission, *Canadian Journal of Plant Science*, Volume 77:483-491, July 1977. Vujanovic, K. and Wein, R.

← Dalmatian toadflax

A perennial with an extensive root system up to 3 feet tall; reproducing by seed and underground root stalks. Leaves are dense, alternate, entire, heart-shaped that clasp a woody stem; upper leaves are broad-based. Flowers are bright yellow, borne in axils of upper leaves and are $\frac{3}{4}$ to $1\frac{1}{2}$ inches long with a long spur, yellow with an orange bearded throat with many flowers on a raceme.

Seeds/fruit – Fruits are eggshaped to nearly round capsules. Seeds are dark brown to black, sharply angular and slightly winged. Seed is formed in twocelled capsules.

Diffuse knapweed →

A shortlived perennial or biennial in North Dakota. Appearance is similar to spotted knapweed, but generally shorter and more highly branched. Rosettes have more finely divided leaves than those of spotted knapweed. Flower bracts have a rigid terminal spine about $\frac{1}{3}$ inch long with four to five pairs of shorter, lateral spines. The spiny bracts resemble a crab, are very sharp and can puncture skin if touched. Flowers from July to September and can be white or purple. Flower heads are broadly urnshaped, 0.6 to 0.8 inch tall, solitary or in clusters of two or three at the ends of the branches.

Seeds – brown to gray or black, tipped by plumes, which are a hairlike or featherlike structure that fall off at maturity.



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← Dodder

Several kinds of dodder grow in North Dakota. They are yellow, leafless vines that grow on other plants. Plants start from seeds each year, but in a few days, the seedlings attach themselves to a host plant by stems with sucking parts. They secure all their food and water from their host and never develop roots. Flowers are white and produced in clusters in late July. The dodders may be highly destructive and are most common in alfalfa fields.

Seeds – Small seed, less than $\frac{1}{16}$ inch, generally nearly round but varies in shape, with flattened, irregular and pointed seeds being found. Varies from brown to light tan with light brown or tan the most common. The seed coat often appears to be slightly roughened or speckled.

Eastern black nightshade →

An annual with a branching growth habit. Leaves alternate, approximately 1 to 3 inches long; ovate (egg-shaped), sometimes with wavy margins; pointed at the tip. Flowers are borne in clusters and are approximately ¼ inch in diameter. Each flower has five white, or rarely purple, petals and a yellow center. The fruit, a berry, is black or dark purple at maturity and about ⅜ inch in diameter.

Seeds – The seeds are flattened, about 1/16 inch in diameter, dull, pitted and yellow to dark brown.



← Erect knotweed

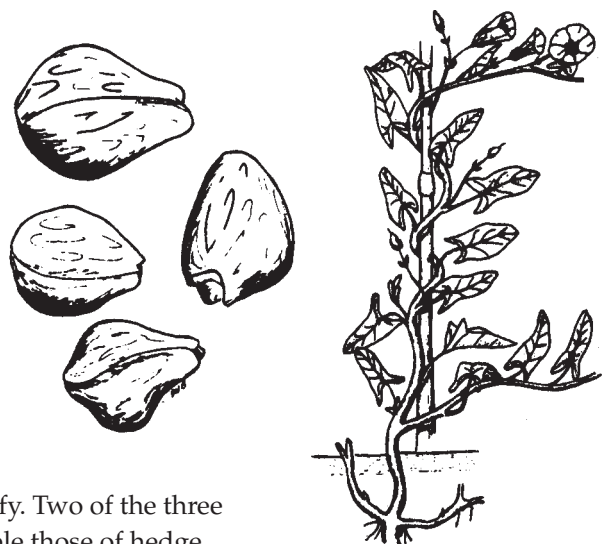
An annual resembling prostrate knotweed and often growing with it. The plant is erect or spreading, from 4 to 12 inches tall, and densely branched. The leaves are oblong, ½ to 1 inch long. The flowers are greenish white and appear in small clusters at the base of the leaves.

Seeds – The seed (achene) is three-angled, somewhat flattened, 3/16 inch long and nearly as wide, and pointed. It has a dull surface and is light brown.

Field bindweed →

A very troublesome perennial that spreads by horizontal root branches and seeds. It develops very deep roots. The stems are slender, up to 3 feet long, and twine over the ground or on other plants. Leaves vary in shape, but usually are narrow, slightly tapered, with narrow, spreading basal lobes. Flowers are funnel-shaped, either pink or white, about 1 inch wide, and appear from June through August. Two tiny, scalelike leaves on the flower stem (peduncle) about ½ to 2 inches below the flower are a reliable identification tool and are helpful in distinguishing field bindweed from hedge bindweed. Seed capsules are egg-shaped and contain two or four seeds. This weed frequently is called “creeping jenny.”

Seeds – Grayish brown; seed coat dull and rather rough or scurfy. Two of the three sides are flattened. Seeds are up to 1/8 inch long and resemble those of hedge bindweed in shape, but are smaller and have a rougher and less shiny coat.





← Field pennycress

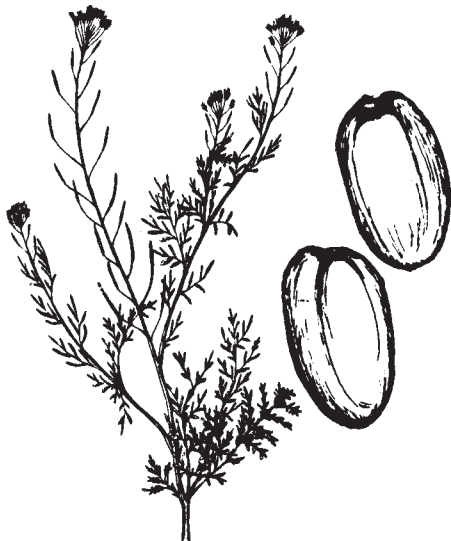
An annual or winter annual that begins growth early in the spring. Stems are erect, 4 to 24 inches high, with flowering branches, usually from upper half of the stem. Leaves oblong, rather thick and smooth, 1 to 2½ inches long, with margins usually toothed. Flowers white, 1/8 inch wide, numerous, in clusters on long stems; produced in April through May. Seed pods flat, circular, ½ inch in diameter. The plant has a distinct, onionlike odor and often is called Frenchweed.

Seeds – The seeds are dark brown or black with grayish cast, 1/16 inch long, oblong and flattened. Concentric ridges on the seed appear as a “thumbprint.”

Field sandbur →

An annual that grows 8 inches to 3 feet tall; occasionally erect, but usually spreading horizontally and forming dense mats. Stems are flattened and smooth. Leaf blades are flat, roughened, 2 to 6 inches long and ¼ inch wide with rounded margins. The heads are 1 to 3 inches long and bear clusters of 10 to 30 burs.

Seed – Seeds are enclosed in burs set with stiff, sharp, spreading spines. Burs usually contain two light brown oval to oblong seeds.



← Flixweed

An annual or biennial, widely branched. The stems are slightly hairy, 1 to 3½ feet tall. The leaves are grayish green, 2 to 4 inches long, very finely divided, almost fernlike, with fine hairs; strongly scented. The flowers are very small, pale yellow, occurring at the ends of the branches. The seed pods are very narrow, about 1 inch long, with many seeds. A very similar weed is tansy mustard (*Descurainia pinnata*).

Seeds – Small, reddish-brown seed about 1/32 inch long. Seeds have a flattened, oblong shape with a distinct groove. They are very similar to greenflower pepperweed seeds, but usually are smaller and have a rounder and less tapered tip.

Foxtail barley →

A perennial grass growing in thick tufts up to 8 inches thick. Stems range from 10 to 24 inches tall. The leaves are soft, 2 to 5 inches long and grayish green. The heads (spikes) are nodding, 3 to 5 inches long; each spikelet bears several long, barbed awns. The spikes and awns break into small bits when ripe. The plant sometimes is called wild barley in North Dakota.

Seeds – The seed (fertile floret) is oblong, being broadest at the middle or slightly below. It is pointed at the tip and is about ¼ inch long. A joint at the rachis consisting of three spikelets (two without seeds) also may be found in crop seed.



← Giant ragweed

An annual 3 to 10 feet tall with rough, coarse stems. The leaves are in pairs, slightly hairy, 2 to 10 inches long, usually with three to five fingerlike lobes and toothed margins. Male (staminate) flower heads are in long spikes, 4 to 10 inches long, at end of branches. Female (pistillate) flowers are at the leaf bases. They bloom in late July and August.

Seeds – The seeds are brown, about ¼ inch long, rather pointed toward the base with jagged points at tip end, which give the appearance of a king's crown. Seed are about twice as large as those of common ragweed and have a thick covering.

Green foxtail →

A common annual grass 1 to 3 feet tall. Stems erect; leaves hairless, dark green, arranged alternately on the stem. Heads 1 to 3 inches long, densely covered with green, stiff bristles. Blooms from June until freeze-up. One of the state's most serious and widespread grass weeds. It is commonly called pigeongrass.

Seeds – Seeds are about half the size of yellow foxtail, rather rounded in shape and tapered at both ends. Varies from green to gray. The seed coat is not wrinkled.





← Gumweed

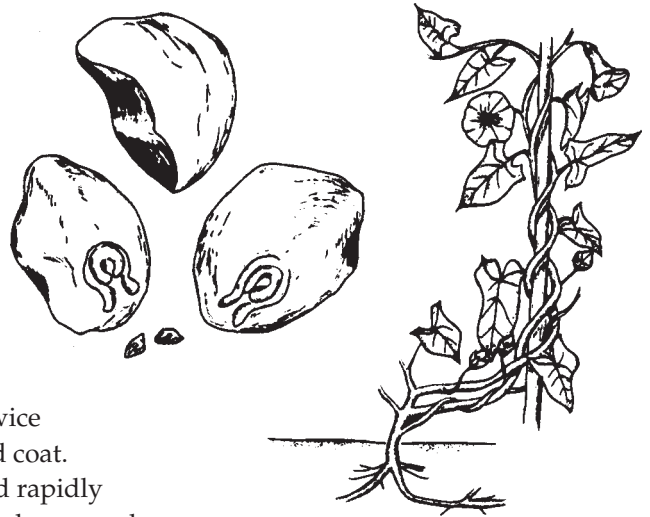
A biennial with an erect stem and usually many branches, which are smooth and somewhat reddish. It grows from 1 to 2 feet tall and has narrow, oblong and alternate leaves about 1 inch long. The leaves are thick, stiff and finely toothed. The yellow flower heads are borne on the ends of the branches and are very gummy, forming somewhat flat-topped clusters.

Seeds – The seeds (achenes) are elongated, about $\frac{1}{8}$ inch long, smooth and tan or straw-colored. They usually are somewhat curved and angled, but some seeds are straight while others are short, broad and about the same width throughout.

Hedge bindweed →

A perennial that reproduces by seeds and horizontal roots. A coarse, fast-growing vine spreading up to 10 feet and trailing or twining over nearby plants and objects. Leaves are smooth and large, vary in shape but usually are triangular with two angles at each basal point. Flowers white or pink, funnel-shaped, about 2 inches wide with two large bracts enclosing the base. Seed pods egg-shaped, $\frac{3}{8}$ inch in diameter, containing four seeds.

Seeds – Resemble field bindweed in shape but are nearly twice as large and black to dark brown with a rather shiny seed coat. These are annual, biennial or perennial weeds that spread rapidly and are very objectionable in fields, pastures, shelterbelts, lawns and gardens. They can be controlled by chemical, cultural or tillage methods.



← Hoary cress

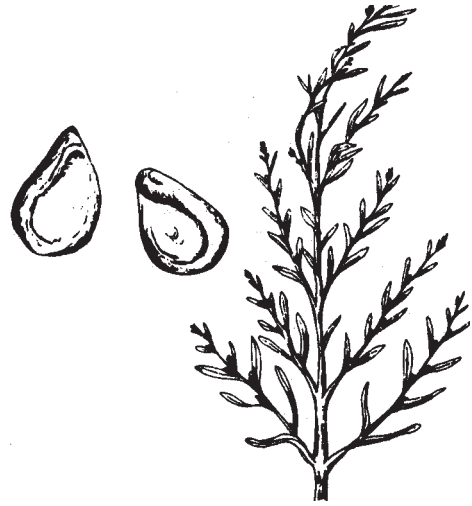
A perennial spreading by deep and long horizontal roots. Stems are hairy, 4 to 16 inches high and branch only at the top. Leaves usually are oblong with wavy or toothed margins and 1 to 4 inches long. They are grayish green and covered with fine hairs. The showy, snow-white flowers are borne in a large, flat-topped cluster in late May. Seed pods are heart-shaped in *Cardaria draba* and rounded in *C. pubescens*.

Seeds – Small reddish-brown seeds about $\frac{1}{16}$ inch long; oval to somewhat pointed in shape. The seed coat is slightly roughened with a small groove. Compared to greenflower pepperweed, seeds are three to four times larger, thicker, darker and usually less pointed.

Kochia →

An erect, bushy annual 2 to 7 feet high. The stems are smooth, green, branching profusely. The leaves alternate, small, pointed, 1 to 2 inches long, attached directly to the stem. Flowers small, greenish, produced in terminal panicles and in axils of upper leaves. Kochia is the first weed to germinate in the spring, but is late in maturing. Often turns bright red in the fall, hence its names of "burning bush" or "Mexican fire bush."

Seeds – The seed is about 1/8 inch long, oblong, one edge being curved while the other is almost straight. It is pointed at the tip, with the base being rounded toward a small, depressed scar. The surface is shiny and grooved lengthwise. The seed is yellowish brown.



← Lanceleaf sage

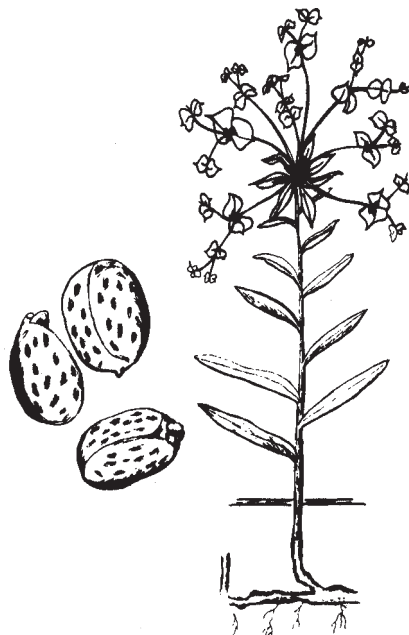
An annual reproducing from seed. The stem is four-sided and greatly branched. Leaves are opposite, lance-shaped with a blunt tip and narrow at the base, 1 to 2 inches long with a toothed margin. Flowers are bell-shaped, 1/3 to 1/2 inch long, white or light blue.

Seeds – Four seeds are enclosed in dry, chaffy, rust brown bracts. Seeds are ovate, smooth, dull, and about 1/8 inch in long. A longitudinal ridge is formed on the side where the two seed halves join. A conical remnant of the seed stalk usually remains attached to the hilum. Seeds are tan to light brown with dark brown zigzag lines or patterns.

Leafy spurge →

A very persistent deep-rooted perennial spreading by horizontal roots and seeds. The entire plant contains milky juice. Stems are smooth, erect, 1 to 2 feet tall; branch near the top. Leaves are long and narrow, from 1 to 3 inches long. Clusters of yellowish-green flowers appear on top of the plant, mostly in June. Seed is contained in three-celled capsules that explode when ripe.

Seeds – The seeds are light to dark grayish brown, usually with minute, dark brown flecks; oblong and tapered at one end. Seeds are about 1/16 inch long and have a definite crease on one side and a small yellowish to orange appendage at one end.





← Marshelder

A coarse, smooth-stemmed annual 3 to 8 feet tall. Stems moderately branched; grayish green. The leaves are large, velvety, broad and rounded, 2 to 6 inches long, with toothed margins and covered with small, short hairs. The flower heads are greenish yellow, 1/5 inch wide, on large, terminal branches; occurring in late August.

Seeds – Brown to black seeds, 1/16 inch long, flattened and spear-shaped, broad at the tip and tapering to a point at the base.

Musk thistle →

A biennial with spiny stems from 2 to 6 feet tall. Leaves are deeply lobed, 3 to 6 inches long and very prickly. The flower heads are solitary, nodding at the end of the branches. They are 1½ to 2½ inches in diameter, rose-purple and fragrant. Musk thistle usually is found in pastures, roadsides and waste places in the northeastern portion of the state.

Seeds – The seed is about ⅛ inch long, oblong, one edge being curved while the other is almost straight. It is pointed at the tip, with the base being rounded toward a small, depressed scar. The surface is shiny and grooved lengthwise. The seed is yellowish brown.



← Nightflowering catchfly

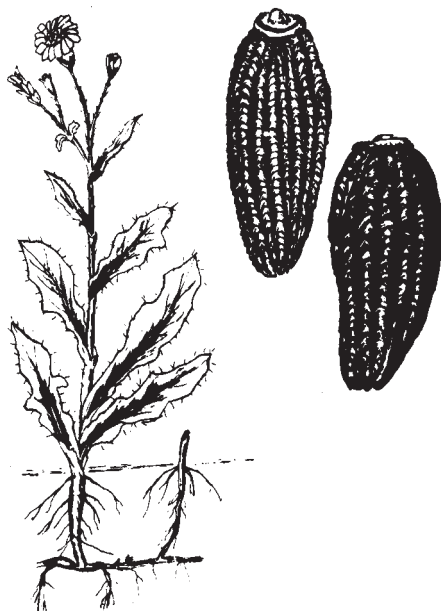
An annual 1 to 3 feet high with erect or widely branched stems densely covered with short, fine, sticky hairs. Oblong leaves are 2 to 5 inches long. The flowers are white, fading to pink, borne in widely branched clusters at the tips of the branches. The flowers have five deeply notched petals, opening at dusk and closing at sunrise. This plant sometimes grows as a winter annual.

Seeds – Kidney-shaped; light gray to grayish brown; surface roughened with rows of fine, closely placed tubercles. Seeds are about 1/16 inch long.

Pennsylvania smartweed →

Widely branched annuals 2 to 5 feet high. The stems are smooth, swollen at the nodes and branching. The leaves are smooth, pointed, alternate, 2 to 8 inches long, with a sheath at the base extending around the stem. The flowers are greenish white or bright pink, five-parted, arranged in spikes. Pale smartweed (*Polygonum lapathifolium*) is the common North Dakota species, usually with long, drooping flower spikes.

Seeds – The seeds are flat, nearly circular and light brown to black. Sometimes one or both sides are slightly hollow and sometimes one side can be slightly ridged. Seed size is similar to flax, but can vary from ½ to nearly 1/6 inch in length.



← Perennial sowthistle

A vigorous perennial that spreads by roots and seeds. Stems are smooth, erect, 3 to 7 feet high and contain a milky juice. Leaves are light green, 4 to 8 inches long; margins are irregularly toothed and spiny. Flowers are deep yellow, 1½ inches wide, and appear in July. Similar plants are annual sowthistle and prickly lettuce, but they are annuals that do not have creeping roots.

Seeds – Dark reddish brown, slender seeds about ⅓ inch long. Seeds are distinctly five- to seven-ribbed and cross wrinkled, slightly flattened, rounded and tapering to tip end. A tuft of hair is present at one end, but is broken off easily.

Prickly lettuce →

Prickly annual or winter annual with stout stems 3 to 6 feet high. The stems are stiff, leafy, hollow, prickly on lower part and contain milky juice. The leaves are 4 to 6 inches long, alternate, with wavy margins; edges directed upward and downward with spines on midrib underneath. The flower heads are bright yellow, ⅓ inch wide, in a large, branching top. Blooms in late July and early August.

Seeds – Oblong, flattened and tapering seeds 1/8 to 3/16 inch long. Seeds vary from gray to brown and often are mottled. The base end is distinctly pointed. The surface is distinctly ridged lengthwise. Bristles often are attached to the tip of the seed.





← Prostrate knotweed

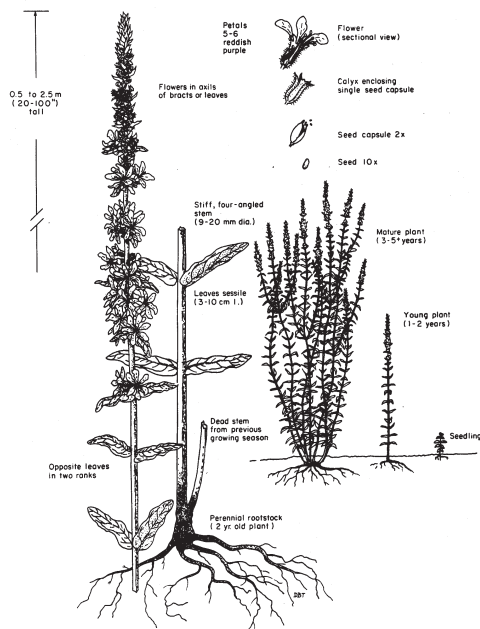
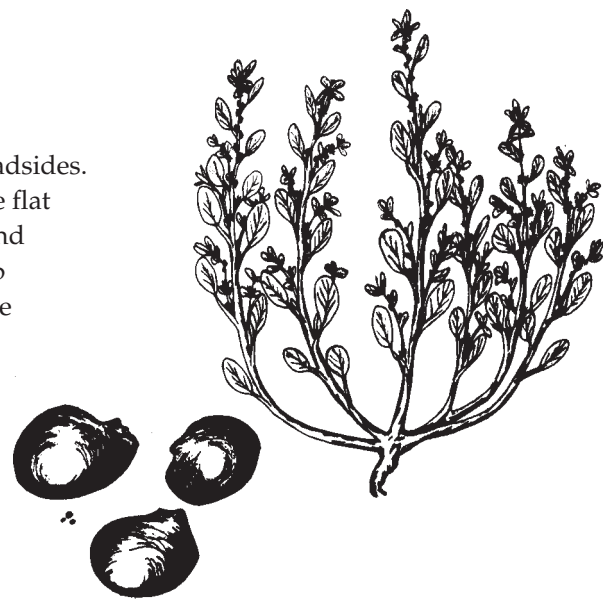
An annual, sometimes growing erect but usually prostrate in yards, along paths and similar places, with slender stems 4 to 24 inches long. The leaves are bluish green, narrowly elliptical in shape and from 2/5 to 1 1/5 inches long. Very small flowers, greenish white with pink margins; are borne at the leaf bases. This plant is quite variable in size and habit of growth.

Seeds – The seed (achene) is roughly triangular or flattened and pointed. It is about 1/12 inch long, dark reddish brown and three-angled. The surface is dull and roughened.

Prostrate pigweed →

A common annual weed, especially in gardens and along roadsides. Stems are red, from 6 inches to nearly 3 feet in length, and lie flat on the ground, spreading on all sides from the central root and forming thick mats. Leaves are quite narrow with a wider tip and are 1/2 to 1 1/2 inches long. Small greenish flowers are borne at the base of the leaves.

Seeds – The seeds are nearly circular in outline with a wide border along their edge. The edge of the seed is slightly notched at the seed scar. Surface is smooth, black and highly glossy. Seeds are quite similar to those of redroot pigweed but are larger, 1/8 inch long with wider border.



← Purple loosestrife

A perennial forb occurring only in moist or marshy sites. Thirty to 50 herbaceous stems arise from a clump of common rootstock that can spread a short distance. Stems are erect (1.5 to 8 or more feet tall); four to six angled; can be smooth or pubescent with few branches. Leaves are simple (1 to 4 inches long, 0.25 to 0.5 inch wide), entire, with fine hairs, and can be opposite or whorled. The most striking characteristic is rose to purple flowers arranged on a spike from a few inches to 3 feet long. Each flower has five to seven petals arising from a cylindrical green tube. The plant flowers from July to mid-September.

Seeds – The seed capsule is two-celled and contains many very small seeds (1 millimeter long or less). The capsules dehisce when mature. Plants 4 to 5 years old can produce 1,000 capsules per stem and 90 seeds per capsule, producing an estimated 1.7 million seeds. Seeds are flat and thin-walled.

Quackgrass →

A vigorous perennial grass that spreads by seeds and underground stems (rhizomes). Stems leafy, 18 to 30 inches high. Leaves thin, soft, dark green, flat, about ¼ to ½ inch wide. First leaves produced in the spring are covered with dense, fine gray hair at the base. Seed heads (spikes) are 2 to 4 inches long with three to seven florets in a spikelet. Rhizomes are whiter than brome grass or western wheatgrass.

Seeds – Straw-colored seeds about ¼ to ⅜ inch long, flat, broadest at center and tapering uniformly to both the tip and base ends. Tend to be slightly stained and more slender than western wheatgrass.



← Redroot pigweed

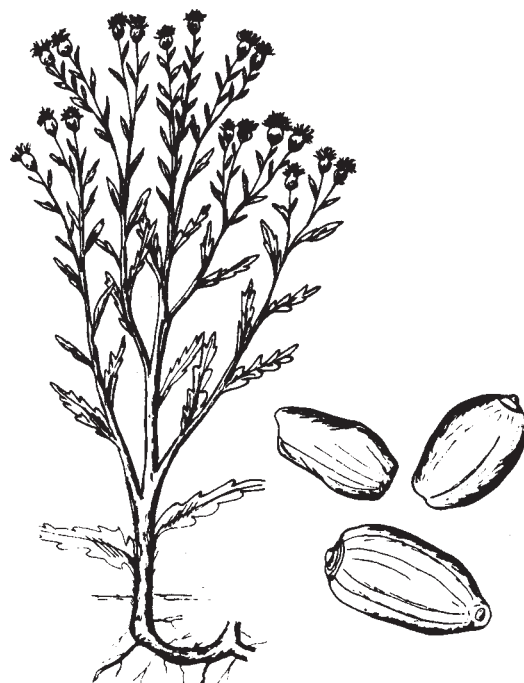
A rough annual 1 to 4 feet high, with a distinctly red taproot. The stems branch freely. The leaves are 1 to 3 inches long, dull green, rather rough, egg-shaped with long leaf stalks to 4 inches long in the upper leaf axils and at the ends of the branches; becoming prickly when dry. Blooms in July.

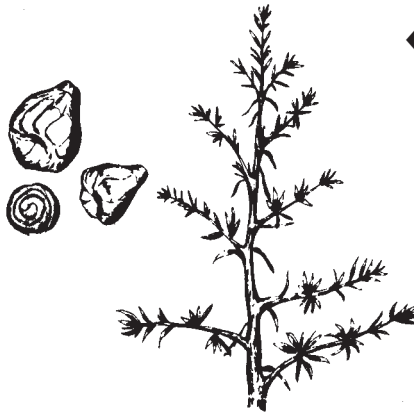
Seeds – Shiny, black seeds that are round, flattened and less than 1/16 inch in diameter. Seeds are smooth and more shiny than those of common lambsquarters.

Russian knapweed →

A perennial spreading from seeds and deep, dark brown or black, woody and scaly roots. Stems are 2 to 3 feet tall; woody; covered with soft, white hairs; bear many branches. Leaves are grayish green, 1 to 3 inches long; larger at base, smaller and narrower toward the top of the plant. The stems and leaves have a distinctive bitter taste, which is one definite way to identify the weed. Flower heads are lavender to white, thistlelike and about ½ inch in diameter.

Seeds – Medium-large, smooth seeds about one-half to two-thirds the size of flax seed and similar in shape. The seed is flattened, rounded at one end, but tapered to a point at the other end. Knapweed seed has a typical cream color. Seeds have a tuft of hairs like thistles.





← Russian thistle

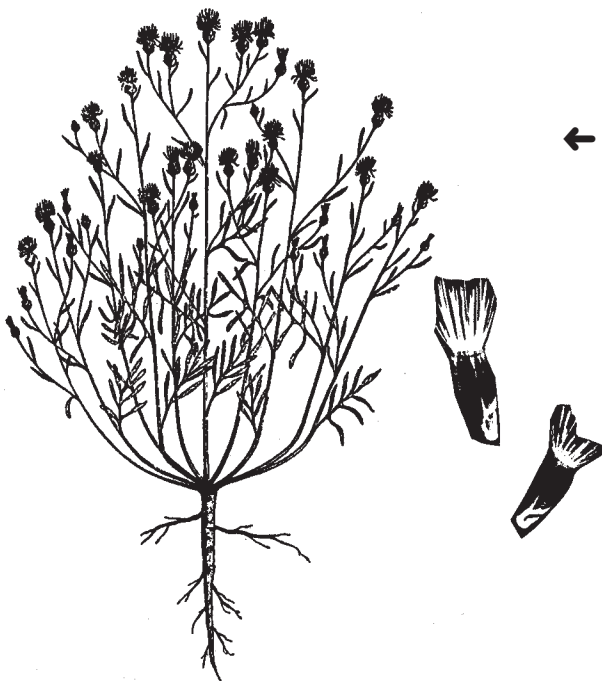
A bushy, spiny annual 1 to 3 feet tall. Stems are many branched, tough and often reddish, forming a ball-like tumbleweed at maturity, hence the common name tumbleweed. Young plants are soft and succulent. The leaves awl-shaped, long and soft when young; later the small upper ones are stiff and sharp-pointed. The flowers are small, numerous, green or pink in leaf axils. They bloom in July. Mature plants break off at the ground, roll in the wind and scatter the seed.

Seeds – Bell-shaped about 1/8 inch wide that may be surrounded by a flange (hull). Varies from brown to gray. The flat side of the seed is concave with a slight depression in the center and a coiled embryo.

Saltcedar

The common name for several introduced species of shrubs or small trees. Saltcedar, or tamarisk, is a shrubby bush or tree that can range from 5 to 20 feet tall. The bark is reddish brown, especially on younger branches. The leaves are small and flat and resemble evergreen shrubs such as arborvitae. Flowers are pink to white, with five petals, and appear from mid to late summer on slender racemes on the current year's branches and grouped together in terminal panicles.

Seeds – cylindrical, extremely tiny and similar in size and color to pepper. Each seed has a pappus, or hairs, attached to the seed coat, which allows it to float long distances in water or move in the wind.



← Spotted knapweed

A biennial or short-lived perennial with a stout taproot. Plants begin as a rosette, then will bolt and produce one or more stems from the rosette later in the season. Stems are hairy, branched, 1 to 3 feet tall. Basal leaves up to 6 inches long, narrow and finely divided. Leaves on stems are alternate, deeply divided into narrow segments, covered with short hairs, much reduced in size near the top of the plant. Flower heads are single at the end of branches. Bracts on the flower heads are black-tipped.

Seeds – Brownish, 1/8 inch long, notched on one side of the base, with a short tuft of bristles on the tip end. Surface is smooth, dull or with a slight sheen. Usually four olive green to black longitudinal lines along the sides of the seed.

Wild buckwheat →

An annual producing a long, slender, creeping stem that twines around everything it contacts. The stems are smooth, branching at the base. The leaves are alternate, heart-shaped with slender pointed tips and smooth edges. The flowers are tiny, greenish white, in clusters in leaf axils and stem tips. Blooms all summer.

Seeds – The seeds are a shiny, black (white if hulled), triangular and tapering to both ends, about 1/8 inch long. Seeds sometimes are covered with a dull brown hull.



← Wild mustard

A stout, widely branched annual 1 to 3 feet high. Leaves hairy, arranged alternately on the stem, 1 to 3 inches wide and 2 to 8 inches long, with irregular or toothed margins. They resemble leaves of radishes. Flowers yellow, appearing on long branches beginning in late May or early June. Seed pods are slender, 1 to 2 inches long; contain several seeds.

Seeds – Black or reddish before ripe; round, about 1/16 inch in diameter with a very minutely pebbled seed coat. Mature seeds are black.

Wild oat →

An annual grass reproducing by seeds. Closely resembles tame oats. Stems stout, smooth, 1 to 4 feet high. Leaves coarse, 3 to 8 inches long. Panicle (seed head) usually more open than tame oats. Plants mature before most crops.

Seeds – Similar to oats in shape and size; usually reddish brown or black, but may be white or yellow. Seeds may have an awn; the “sucker mouth” or “suction cup” at the base is an identifying characteristic. May be a tuft of stiff hairs around the base.





← Wild proso millet

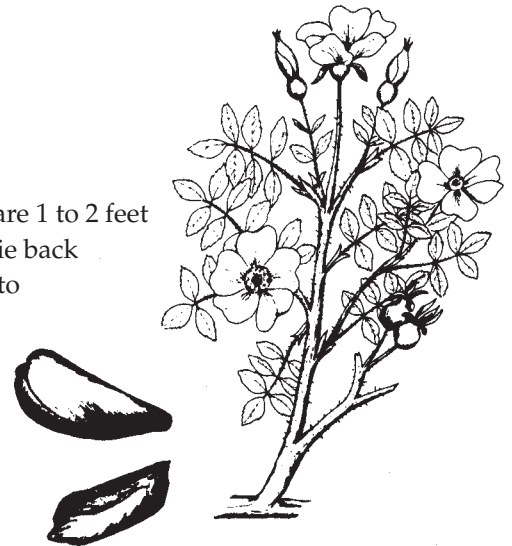
An annual grass 2 to 6 feet tall. Stems spreading or erect; leaves and leaf sheaths covered with dense, stiff hairs. Each culm is topped by a spreading panicle 6 to 12 inches wide.

Seeds – The seeds are about $\frac{1}{8}$ inch long, oval, brown to black, smooth and shiny.

Wild rose →

A bushy perennial that reproduces by seed and roots. The stems are 1 to 2 feet high and densely spiny, woody, with few branches that usually die back each year. The leaves are about 4 inches long, divided into seven to 11 leaflets, smooth on both sides with saw-toothed margins. The flowers are about 2 inches wide, light pink to dark red, occurring in clusters at the tip of the stems. The plant begins to bloom about June 15. Fruits (hips) are red and apple-shaped. This species is North Dakota's state flower.

Seeds – Light reddish-brown seeds $\frac{1}{8}$ to $\frac{3}{16}$ inch long, irregular in shape, usually broad in the center and tapering to both ends. Seeds have a very hard covering.



← Wild sunflower

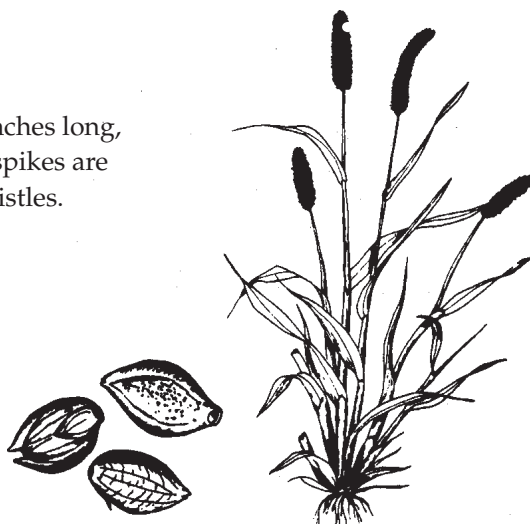
A very coarse, branching annual 2 to 10 feet tall. The stems are stout, rough, freely branching or unbranched. The leaves are alternate, 4 to 12 inches long, with rounded base and saw-toothed margins. The flower heads are yellow with brown or black centers, 1 to 5 inches in diameter. Blooms July to September.

Seeds – Light brown to gray seeds (achenes) flecked with dark spots; size about $\frac{3}{16}$ to $\frac{1}{16}$ inch. Seeds have a broad base, but taper to the top. An outer shell encloses the actual seed.

Yellow foxtail →

An annual grass 1 to 2 feet tall. The leaves alternate, 4 to 12 inches long, pale green, gradually tapered and twisted once around. The spikes are 1 to 3 inches long, compact with yellowish-green to brown bristles. They bloom from July until frost.

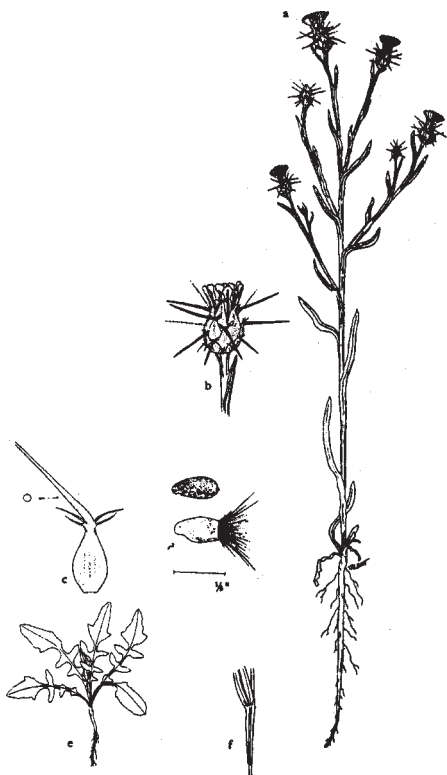
Seeds – Varies from yellowish gray to brown. Seeds are about 1/8 inch long, flat on one side, pointed toward both ends and plump with cross-wrinkles on the seed coat.



← Yellow starthistle

Plants in rosette stage have deeply lobed leaves that may resemble a dandelion. Plants are grayish green annual with a vigorous and quick-growing taproot. Stems are rigid, spreading and branched from the base. Lower leaves are deeply divided; upper leaves are smaller, narrow throughout and sharp-pointed. Plant height may reach more than 3 feet. Plants bolt in late May and June. Produces 1-inch-long heads surrounded by sharp spines up to 0.75 inch long at the end of each branch. Heads produce bright yellow, dandelion-type flowers. The head is about 1 inch long, solitary at the end of each branch.

Seeds – Brown, tan or gray, or mottled combinations of these. Seeds may or may not have white, feathery, parachutelike pappus that can carry seed in the wind.



Unless noted otherwise, illustrations by Dwight Breitbach

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