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AGRICULTURAL EXPERIMENT STATION

MINNESOTA WEEDS

SERIES III

DESCRIPTIONS AND IDENTIFICATIONS

BY

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MINNESOTA WEEDS, SERIES III

By W. L. Oswald and Andrew Boss

INTRODUCTION

The Seed Laboratory of the Division of Plant Pathology and Botany has prepared four seed cases, each containing the seeds of twenty-four different weeds.[1] This bulletin describes the weeds of seed case Series III (see Figure 1).

Bulletins 129 and 139, describing the weeds whose seeds appear in seed cases I and II, may be obtained by applying to the Office of Publications, University Farm, St. Paul, Minn. A general discussion of weeds appears in Bulletin 129. In these bulletins the authors have not adhered to a strictly botanical terminology but have used largely the language of the farm and seed trade in order to avoid confusion and to make the bulletin practical for farm use. This is especially true in regard to the term "seed" which is frequently used for structures which are, in the strict botanical sense, fruits.

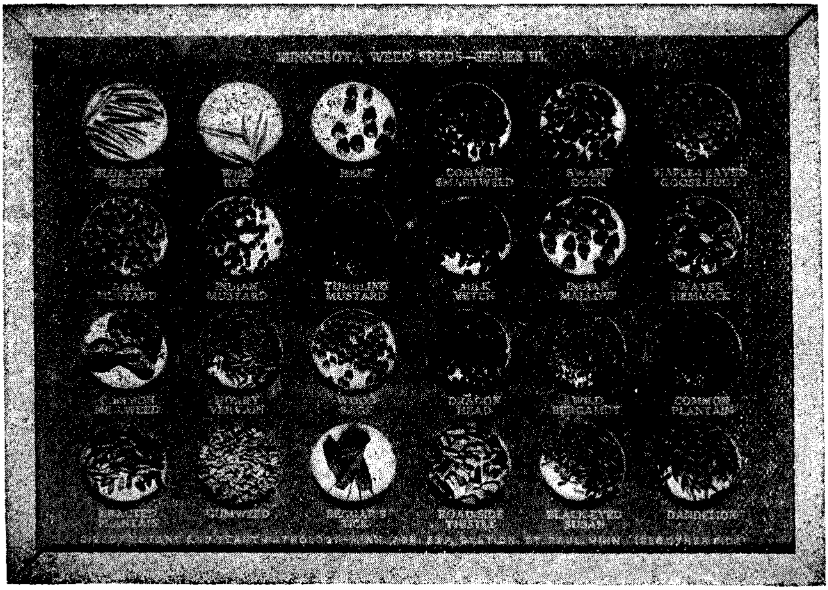

Fig. 1. Minnesota Weed Seed Case Series III

[1] The seed cases may be obtained from the Seed Laboratory, University Farm, St. Paul, Minn., at cost. Four cases, each containing twenty-four kinds of weed seeds, are now available.

Fig. 2. Blue Joint Grass

INDIVIDUAL WEEDS

Blue Joint Grass (*Agropyron smithii* Rydb.)

Other common names.—Western wheat grass, western couch grass, Colorado bluestem.

Description.—Western wheat grass is a perennial which is very closely related to quack grass, but is not, however, considered a very serious weed pest. It is becoming quite common throughout the state. This grass grows quite abundantly in the western states, especially on alkali soil, and is considered a fairly good forage grass. The leaves are rough and very rigid and have a bluish green color by means of which patches of western wheat grass can usually be readily distinguished from other grasses. It spreads by both seeds and underground stems. The straw-colored seeds, which mature in July and August, are very similar to those of quack grass and can be distinguished only when the seeds are carefully examined under a powerful lens. The seeds of western wheat grass are often found in the commercial brome grass, alfalfa, timothy, and red clover seed.

Eradication.—Western wheat grass is not hard to eradicate and is usually considered a desirable forage plant rather than a weed. It yields readily to cultivation, and cropping the land to grain or cultivated crops will subdue it in nearly all types of soil. Seed formation should, of course, be prevented to avoid reseeding where not wanted.

Nodding Wild Rye (*Elymus canadensis* L.)

Other common names.—Wild rye, lyme grass, bunch grass (British Columbia), rye grass.

Description.—Nodding wild rye is a perennial grass common throughout the state, and grows equally well in sandy, black, or clay soil. It is usually from two to three feet high and has stout nodding spikes from four to six inches long with long, wavy awns. These awns are sometimes injurious to grazing animals, penetrating the ears, eyes, and nostrils. The root system is fibrous and there are no long underground stems. The plant spreads chiefly by its seeds which, however, are seldom found in any commercial seed except that of brome grass, in which it is often found.

Fig. 3. Nodding Wild Rye

Eradication.—Stray plants of nodding wild rye may be pulled and destroyed before seeds set. If a field is badly infested, which is not often, the plants should be cut for hay when first headed out and the land plowed and cropped for a year or two.

Hemp (*Cannabis sativa* L.)

Other common names.—Carl hemp, fimble, callow-grass.

Description.—Hemp is a weed in barnyards, waste places, along roads and river banks, and also in cultivated fields. It is an annual plant from three to ten feet high and is very rough and hairy and strongly scented. The stout upright stem has a tough inner bark containing strong fibers for which the plant is often cultivated. It blossoms from July to September, the seeds ripening from August to November. It is propagated only by seed. The grayish oval seed are fed to caged birds. Hemp seeds are seldom found in commercial seed except oats and then only when the oats are from a hemp-growing district.

Eradication.—Wild hemp is not difficult to eradicate if the plants are prevented from seeding. Cutting the crop often enough to stop the formation of seed is the first step. Plowing waste places and seeding to more desirable crops, thus occupying the land, is the second step. Plowing land that has grown wild hemp and planting a cultivated crop, hoeing where necessary to remove stray plants, is usually most effective.

Common Smartweed (*Polygonum hydropiper* L.)

Other common names.—Water pepper, biting knotweed.

Description.—Smartweed is an annual plant growing in moist or wet locations and is commonly found in barnyards, gardens, and waste places. It flowers from June to September and its time of seeding is from July to November. The leaves are quite narrow and are very acrid and peppery. It grows from ten inches to two feet tall and is light green to reddish in color. This plant spreads only by seeds and is not considered a bad weed pest in this state. The seeds of the common smartweed are dull brownish black in color, more or less three-sided and quite pointed at the apex, and are often found in commercial seed of red clover, alfalfa, millet, timothy, and flax.

Fig. 4. Hemp

Fig. 5. Common Smartweed

Fig. 6. Swamp Dock

Eradication.—Smartweed is not a troublesome weed in well-cultivated fields where the soil is in good condition. It yields readily to cultivation. Mow frequently to prevent seeding. Drain the land if low and wet. Keep the land occupied by other crops.

Swamp Dock (*Rumex verticillatus* L.)

Description.—Swamp dock, like curled dock, is a perennial but is not so widely distributed over the state as curled dock. It always grows in wet, swampy places, flowering from May to July and seeding from August to November. The leaves are narrowly oblong and of a pale greenish color. The lower leaves are often heart-shaped at the base. The plant has a stout grooved stem, and grows from two to five feet high. The reddish brown triangular seeds are very seldom found in commercial seed, appearing occasionally however, in the seed of red clover.

Eradication.—Remove stray plants of swamp dock by spudding or spading out. Drain and subdue the low land or swamps. Plow and crop the land and swamp dock will disappear.

Maple-Leaved Goosefoot (*Chenopodium hybridum* L.)

Description.—Maple-leaved goosefoot is an annual plant, flowering from July to September and seeding from August to November. It grows from two to five feet tall and is found most commonly in woods, thickets, and shady places, altho it is sometimes found along roadsides and in waste places. The thin leaves are small, triangular in shape, and resemble those of the common maple. The seeds resemble those of lamb's quarters, described in Series I,[2] but are larger and more uniform in shape. The seeds are often found in alfalfa, red clover, and timothy, and to some extent in alsike and millet.

[2] Oswald, W. L. and Boss, Andrew. Minnesota weeds series I. Minn. Agr. Exp. Sta. Bull. 129. 1913.

Fig. 7. Maple-Leaved Goosefoot

Eradication.—Cut or pull goosefoot before the seeds form. Keep the land fully occupied with more useful plants. It is not troublesome in well-cultivated fields.

Ball Mustard (*Neslia paniculata* (L) Desv.)

Other common names.—Yellow weed, neslia.

Description.—Ball mustard is generally an annual, altho it sometimes lives for two years. It flowers from June to September, and seeds from July to October. It grows from one to two feet tall and is generally found in grain fields and waste places. Only recently has it been found commonly distributed in this state. The flowers, about one eighth of an inch in diameter, are yellow and the leaves are lance-shaped, somewhat narrowed at the base. The stem leaves are arrow-shaped and clasping. There is generally but one seed in a pod. The seed pods, which cling very closely to the seed, are greenish brown in color and the surface is roughened by a network of veins. Ball mustard propagates only by seeds. The seeds are found most commonly in cereals, altho sometimes in clover and alfalfa seed.

Eradication.—Clean all seed grain thoroly. Disk the stubble in fields badly infested by ball mustard as soon as the crops are removed, to cover seeds and induce germination. Disk again later in the fall and plow. Sow to an early crop such as barley or sixty-day oats. If the mustard still appears in large quantities, cut before seeds form and cure with the barley or oats for hay. If only scattering plants appear, pull by hand, carry from field, and burn. As with other annuals, prevention from seeding will eventually bring eradication. A well-planned crop rotation which provides for one or two years in grass will help keep ball mustard in control.

Indian Mustard (*Brassica juncea* (L) Cosson)

Description.—Indian mustard is an annual or biennial plant and is propagated only by seed. It flowers from May to July and seeds from June to August, growing quite commonly in grain fields and along roadsides. It is very similar to the common mustard, which is widely distributed throughout this state. The pods of the Indian mustard are arranged more symmetrically than those of the common mustard. The plant grows from one to four feet tall and has rather stout but few branches. The bright yellow flowers are about half an

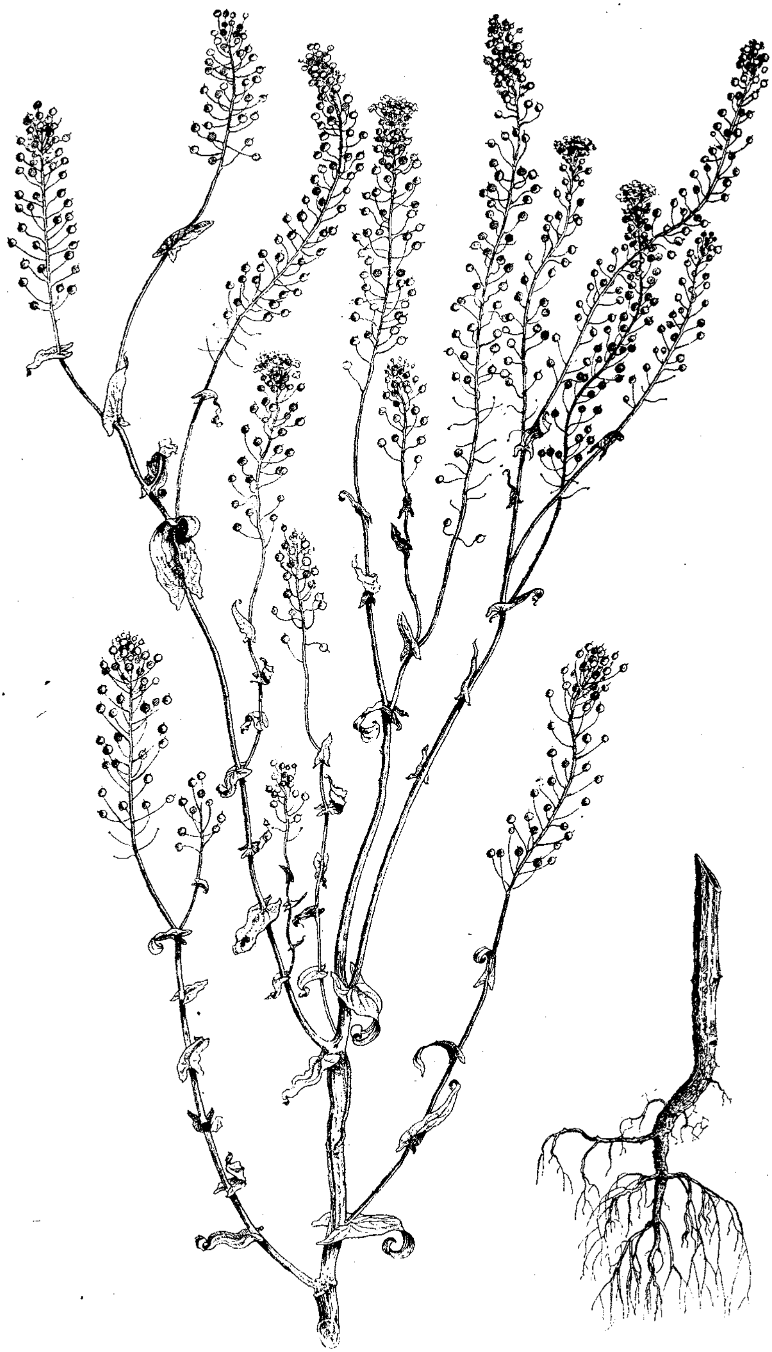

Fig. 8. Ball Mustard

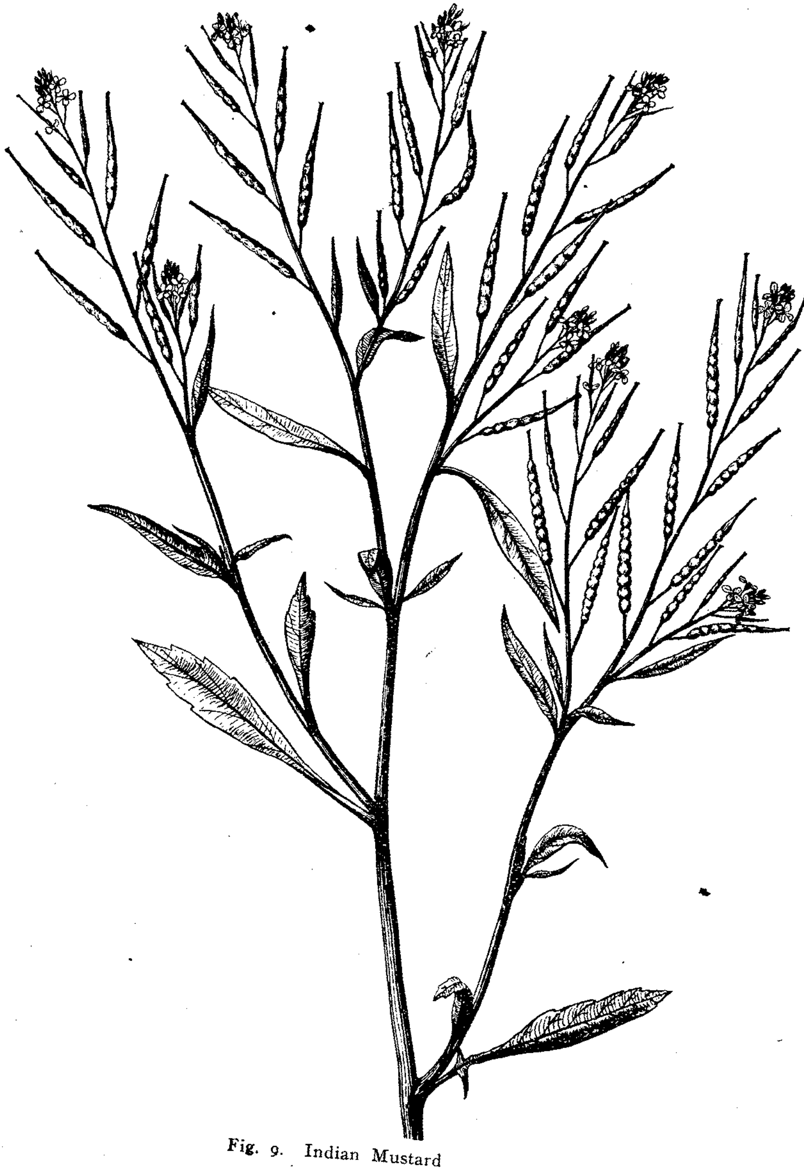

Fig. 9. Indian Mustard

Fig. 10. Tumbling Mustard

inch broad and generally clustered at the top of the plant. The seeds are more or less spherical in shape and are dark reddish brown. The surface of the seed is marked by a network of veins which give it a honeycombed appearance. This, however, is not easily seen except with a magnifying glass. Indian mustard seed is found most commonly in the commercial seed of timothy, millet, red clover, alfalfa, flax, and cereals.

Eradication.—The same methods of eradication as are advised for ball mustard will be effective for Indian mustard.

Tumbling Mustard (*Sisymbrium altissimum* L.)

Other common names.—Tall sisymbrium, tumble mustard, white mustard.

Description.—Tumbling mustard is an annual or winter annual plant which blossoms from June to July and seeds from July until frost. It is most commonly found in grain fields, waste places, and along roadsides, and in some of the western states it is considered a very serious weed pest. It is a fairly bad pest in this state, but not nearly so troublesome as some of the perennial weeds. The plant grows from two to four feet high and is much branched and bushy. As soon as the seeds are ripe, the plant breaks away readily from its roots just above the surface of the soil and is tumbled about by the wind. In rolling along the seeds may be scattered, and in this way it becomes quite widely distributed, as it propagates only by seed. The flowers of the tumbling mustard are pale yellow or cream color and are about one quarter of an inch in diameter. The seed pods are very long and slender, often containing from one hundred to one hundred twenty small brown or greenish yellow seeds. When this plant is very abundant in grain fields it interferes with cutting and elevating in self-binders. The seeds of tumbling mustard are found most commonly in the commercial seed of timothy, white clover, and redtop.

Eradication.—Clean seed grain carefully and prevent any mustard plants from going to seed. Pull stray plants by hand, carry them from the field, and burn them. These weeds usually appear at the edges of fields or where recently burned over but may appear in grain crops. If so, cultivate early in the season with a weeder or light harrow and pull by hand.

Fig. 11. Canada Milk Vetch

Canada Milk Vetch (*Astragalus canadensis* L.)

Other common name.—Canadian rattleweed.

Description.—Canada milk vetch, a perennial plant, grows from one to four feet high. It is propagated most commonly by seeds, which are yellow-green in color and more or less flat and kidney-shaped. It grows particularly well in dry gravelly soil and is often found along streams and in waste places and also in cultivated fields. It blossoms from July to August and seeds from August to November. The flowers are greenish yellow in color, very numerous, and clustered together in dense spikes. The leaves are compound, each being made up of from twenty-one to twenty-seven oblong leaflets. Seeds are occasionally found in the seed of red clover, timothy, and alfalfa.

Eradication.—Destroy the plants of Canada milk vetch before seeds form by mowing, pulling, or hoeing out. If fields are badly infested, plow and plant to a cultivated crop.

Indian Mallow (*Abutilon theophrasti* Medic.)

Other common names.—Velvet leaf, American jute, butter print.

Description.—Indian mallow is not a native plant. It grows particularly well in rich soil and is often found in waste places, farm yards, and vacant city lots. It is an annual weed, flowering from July to October and seeding from August to November. The plant generally grows from three to eight feet high and is very stout and somewhat branched. It has very large velvety, heart-shaped leaves from three to twelve inches broad, and on account of the velvety texture of the leaf the plant is often called velvet leaf. The large deep yellow, five-parted flower afterwards develops into a peculiar fruit made up of from twelve to fifteen hairy carpels with spreading beaks. The kidney-shaped seeds are grayish brown, one eighth of an inch long. They are seldom found in commercial seed.

Eradication.—Prevent seeding. Cut out all growing plants of Indian mallow before seeds mature. Practice good tillage and clean cultivation. Keep waste places occupied with grass or other crops.

Water Hemlock (*Cicuta maculata* L.)

Other common names.—Spotted cowbane, musquash root, beaver poison, muskrat weed, death-of-man, children's bane; also wrongly called water parsnip.

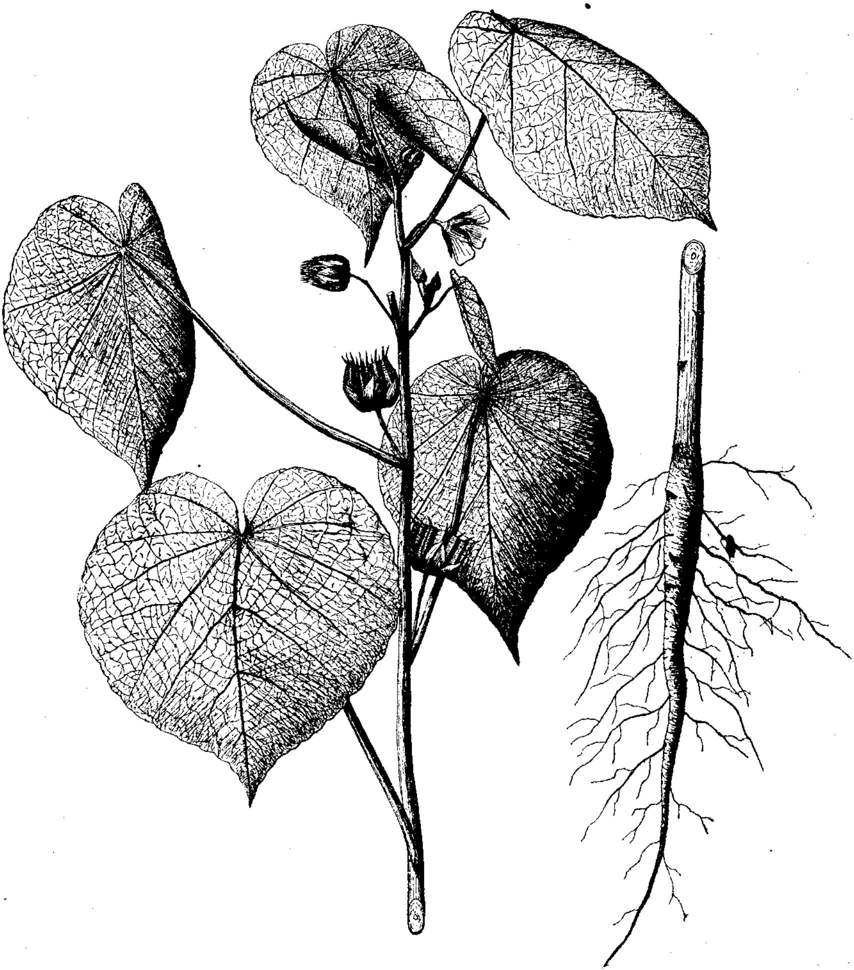

Fig. 12. Indian Mallow

Description.—Water hemlock is a perennial weed which grows almost entirely in wet meadows, marshy places, and along the sides of streams and ponds. The plants grow from three to six feet high. It is one of the few poisonous plants found in Minnesota. The root is particularly poisonous altho it has a pleasant aromatic taste. When it is eaten by cattle, death almost always follows. Persons have also been known to die from eating the root. Water in low places is often made poisonous by cattle crushing the roots. It blooms from July to August and seeds from August to October. The small, white flowers are formed in compound umbrella-like, many-flowered clusters from two to four inches across. Water hemlock is scattered almost entirely by seeds and by offsets from the crown of the root. The seeds are very seldom found in commercial seed.

Eradication.—Because of its poisonous nature and the danger to livestock, water hemlock should be destroyed wherever found. Spud or spade out or pull by hand after a rain, when the ground is soft. Prevent seed forming whenever possible. Drain and cultivate fields that are badly infested. When the fields are plowed and cultivated it is good practice to bring the roots to the surface with a spring-toothed harrow and gather and burn them.

Common Milkweed (*Asclepias syriaca* L.)

Other common names.—Silk weed, swallow-wort, silken cissy, cottonweed.

Description.—Milkweed is a perennial and is quite common throughout the state. It is often considered a very serious weed pest. It is particularly common in fields and pastures and in waste places, but it also often infests cultivated fields. The plant, which grows from two to five feet high, is propagated both by seeds and by root-stalks. The underground root-stalks are often hard to destroy. This makes the weed quite bad in cultivated fields. The opposite leaves are very thick and the under surface is covered with fine hairs. Both leaves and stem contain a thick milky juice. Milkweed flowers between June and August and seeds between August and October. The pinkish flowers are formed in dense nodding clusters and are very fragrant. The flat brown seeds are scattered particularly by the wind, owing to a tuft of fine silken hairs at the end of each seed.

Eradication.—Prevent milkweed from seeding by cutting the plants early. Practice good plowing and clean cultivation, prepare the land well, and make full seedings of all crops. Top-dress pastures and encourage full stands of grass.

Fig. 13. Water Hemlock

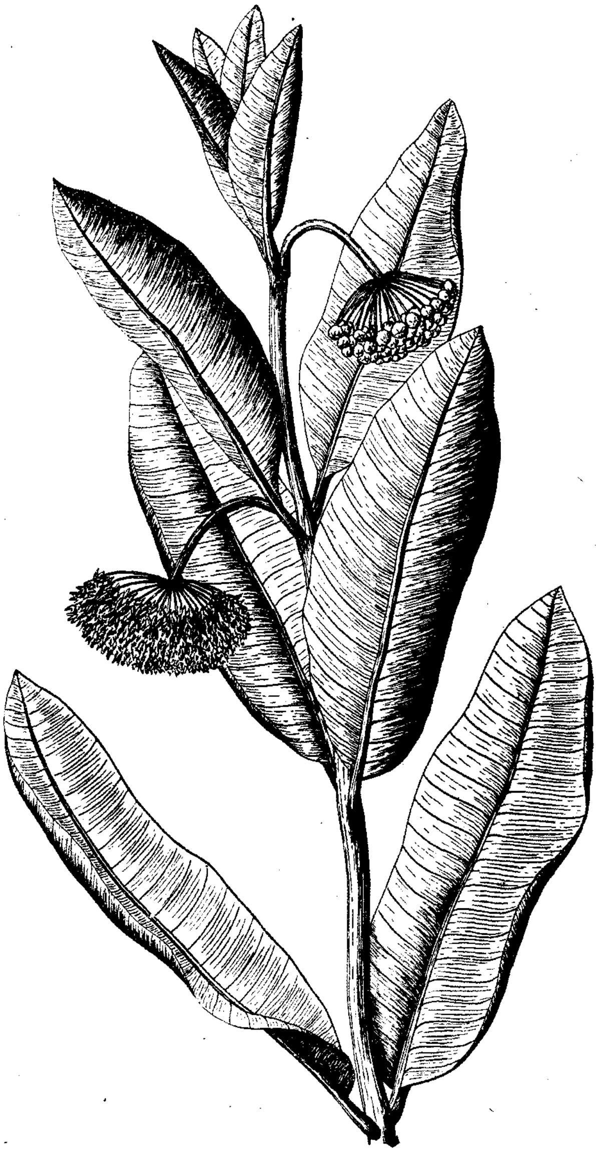

Fig. 14. Milkweed

Fig. 15. Hoary Vervain

Hoary Vervain (*Verbena stricta* Vent.)

Other common names.—Wooly vervain, mullein-leaved vervain.

Description.—Hoary vervain is a perennial weed from two to four feet high, which flowers from June to September and seeds from August to November. It is seldom found in cultivated fields but is quite common on dry plains and prairies. The purplish flowers are borne on a dense solitary club-shaped spike between six and twelve inches long. The flowers at the bottom of the spike open first. The oblong reddish-brown seeds are often found in the commercial seed of red clover, timothy, alfalfa, and lawn grass. This plant is spreading slowly by its seeds being carried in hay.

Eradication.—Be careful to sow no grass seed containing seeds of hoary vervain. Cut grass crops early to prevent seeds from maturing. Spud out occasional plants when found.

Wood Sage (*Teucrium canadense* L.)

Other common names.—American germander, ground pine.

Description.—Wood sage is a perennial plant, flowering from June to September, and seeding from August to November. It lives on rich, low grounds, along roadsides, and on the banks of streams. This plant belongs to the Mint family, and grows from one to three feet high. It is not very much branched. It propagates only by seeds. The seeds are ovoid in shape, brown and rough, and are generally found in commercial seeds of timothy, millet, barley, red clover, oats, flax, and white clover.

Eradication.—Avoid sowing grass seed containing weed seeds. Spud out stray plants and plow and subdue badly infested spots.

Dragonhead Mint (*Dracocephalum parviflorum* (Tourn.) L.)

Other common name.—Dragonhead.

Description.—Dragonhead mint grows from four inches to two and one-half feet high. It is either an annual or a biennial and flowers from early June to August. The seeds mature early in the fall. It generally grows in rocky or gravelly soil, and is quite commonly distributed throughout the state. The pinkish white flowers are all crowded in a dense terminal head and the seeds, by means of which

Fig. 16. Wood Sage

Fig. 17. Dragonhead Mint

Fig. 18. Wild Bergamot

the plant is distributed, are black or blackish brown; about twice as long as wide; and three-sided, two sides being flat and the other side curved. They are often found in commercial seed of red clover, timothy, alsike clover, wheat, oats, and alfalfa, and sometimes in flax.

Eradication.—Sow only clean grain. Have grass seed examined for purity before sowing. Pull or spade out all plants.

Wild Bergamot (*Monarda fistulosa* L.)

Other common names.—Oswego tea, horsemint.

Description.—Wild bergamot is a perennial plant generally found in open woods and thickets and on dry rocky hills. It blooms from June to September and seeds from July to October. The plant grows from two to three feet high and has a very distinct aromatic odor. The flowers vary from purplish to yellowish pink, white, and dotted, and are clustered in a solitary head at the end of the branch. Wild bergamot propagates by seed and by division of its roots. The brownish green seeds are seldom found in commercial seed samples.

Eradication.—Wild bergamot is not troublesome in cultivated crops or tilled land. Eradicate by digging out the plants or plowing the land.

Common Plantain (*Plantago major* L.)

Other common names.—Greater plantain, dooryard plantain, birdseed plantain, wayside plantain, broad-leaved plantain, and round-leaf plantain.

Description.—Common plantain is a perennial plant found commonly on lawns, along roadsides, and in waste places. It flowers from May to September and seeds from July to October. The leaves are very broad and quite leathery. The small, white flowers appear in long cylindrical spikes. Plantain reproduces itself by means of seeds which often appear in commercial seed of red clover, timothy, alsike clover, and white clover, and sometimes in redtop and bluegrass.

Eradication.—Meadows infested with plantain should be plowed and thoroly cleaned. A hoed crop or bare fallow gives excellent results. In reseeding the land use only well-cleaned and certified seed.

Lawns that are badly infested should be spaded up, cultivated, heavily manured, and reseeded thickly to pure Kentucky bluegrass and white clover or to any good lawn-grass mixture. Top-dress the lawn

Fig. 19. Common Plantain

frequently and encourage a thick growth of grass. Remove stray plants from the lawn by pulling after a rain or by running a sharp knife deeply under the crown and pulling. Keep the lawn mowed closely and allow no plants to go to seed.

Bracted Plantain (*Plantago aristata* Michx.)

Other common names.—Western buckhorn, bristly buckhorn, and western ripple grass.

Description.—Bracted plantain is an annual or winter annual, and as yet is not very widely distributed throughout the state. The plant is generally found in grass lands, yards, waste places, and on dry prairies, and grows from six to twelve inches high. The leaves are more grass-like than those of the common plantain and on the cylindrical spikes are many sharp-pointed bracts from which it gets its name, bracted plantain. It flowers from May to September and seeds from June to October. The only method of propagation is by seeds which are found in commercial samples of alfalfa and redtop, and to some extent in red clover and timothy.

Eradication.—Sow only grass seed that is free from the seeds of weeds. Prevent plants from going to seed by pulling or removing with a knife. Keep the grass lands fully occupied with grass crops and the lawns richly fertilized.

Gumweed (*Grindelia squarrosa* (Pursh) Dunal.)

Other common names.—Rosin weed, scaly grindelia, gum plant, and tar weed.

Description.—Gumweed is generally a perennial altho it is sometimes a biennial. It is one of the composite group, flowering from June to September and seeding late in the fall. Gumweed is generally found in grain fields, waste places, along roadsides, and in clover and alfalfa fields. It grows from three to four and a half feet high, and is propagated only by seeds, which are blown about easily by the wind. The large terminal flowers are about an inch in diameter and bright yellow in color. The heads are very sticky. The whitish seeds are commonly found in commercial samples of alfalfa and sweet clover, and sometimes in redtop and alsike clover.

Fig. 20. Bracted Plantain

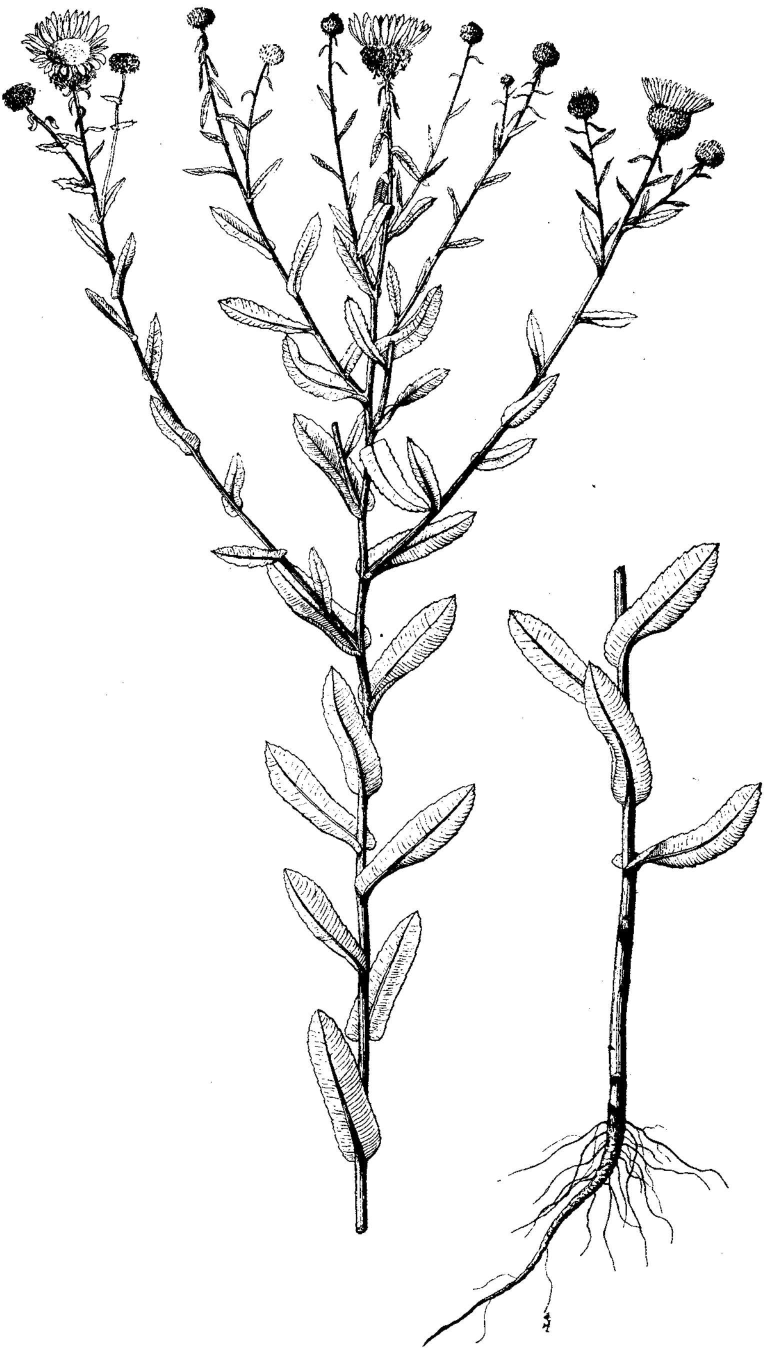

Fig. 21. Gumweed

Fig. 22. Beggar-Tick

Eradication.—Good plowing and clean tillage will hold gumweed in check in tillable land. Sow only pure grass seed and well-cleaned grain. Pull or dig out all plants found growing in the fields or by the roadside before they go to seed.

Beggar-Tick (*Bidens frondosa* L.)

Other common names.—Sticktight, small bur-marigold, devils boot-jack, pitchfork weed, and beggar-lice.

Description.—Beggar-tick is an annual plant, flowering from July to September and seeding from August to October. It grows most commonly in moist soil, in gardens, fields, along roadsides, and in waste places. The plant grows from two to five feet high. It is propagated by seed only. The yellow flower heads are about half an inch in diameter and are not very conspicuous. The wedge-shaped brown seeds are much flattened and generally have two awns. These awns are barbed and by clinging to the fur of animals and the clothing of men aid greatly in distributing the seed. They are seldom found in commercial seed.

Eradication.—Beggar-tick may be eradicated by preventing all plants from going to seed. Planting cultivated crops, with hand hoeing and pulling stray plants wherever found will keep it in check. Sow no grain or grass seed containing seeds of beggar-tick.

Roadside Thistle (*Cirsium discolor* (Muhl.) Spreng.)

Other common names.—Field thistle and plumed thistle.

Description.—The roadside thistle is one of the perennial thistles, altho it is sometimes a biennial. It is not considered so bad a weed as some of the other thistles. It flowers from July to November, and seeds late in the fall. It is generally found in fields, along roadsides, and in meadows and pastures. The leaves are deeply cut and are covered with spines and hairs. This thistle is not so prickly as most of the thistles. It grows from two to seven feet high and spreads by means of seeds, which are easily carried by the wind. The purplish flower-heads are from one and a half to two inches in diameter, and are generally solitary at the end of the branches. The seeds of roadside thistle are sometimes found in commercial samples of timothy, red clover, and alfalfa.

Fig. 23. Roadside Thistle

Eradication.—Spud out, pull, or otherwise destroy all thistles before seeds mature. Plow and cultivate fields that are badly infested and follow by a cultivated crop. Hoe by hand if necessary. Sow no seed containing seed of this plant.

Black-eyed Susan (*Rudbeckia hirta* L.)

Other common names.—Brown-eyed Susan, hairy cone-flower, yellow or ox-eye daisy, niggerhead, orange daisy, English bull's eye, and brown daisy.

Description.—Black-eyed Susan is a biennial, flowering from June to October and seeding from July to November. It generally grows on prairies, meadows, pastures, and in waste places, and is from one to three feet high. The flower heads are from two to four inches in diameter, and are solitary on long hairy stems. The center of the flower is dark purplish brown, and the ray flowers are orange-yellow. The plant is propagated by seeds which are often found in commercial samples of timothy, red clover, and alsike clover.

Eradication.—Black-eyed Susan is not a troublesome weed and yields to cultivation. Mowing each year before the seeds ripen will prevent reseeding.

Dandelion (*Taraxacum officinale* Weber.)

Other common names.—Blow-ball, lion's tooth, peasant's clock, doon-head clock, yellow gowan, priest's crown, Irish daisy, monk's head.

Description.—The dandelion is a perennial weed very commonly found on lawns and in waste places. It flowers from very early spring until freezing time, generally seeding about two weeks after flowering. It is one of the worst weeds found on the lawn. The leaves are spread on the ground in a flat rosette, making them hard to cut with the lawn mower. The young plants are excellent for greens in the spring, and the plant is also used medicinally. It has large yellow heads which open in fair weather and close on dark days. The light brown seeds are easily distributed by the wind, and are often found in lawn-grass mixtures, Kentucky bluegrass, and timothy seed.

Eradication.—The full occupation of the land with desirable grasses and crops will hold the dandelion in check in meadows and fields. It is most troublesome on lawns, since it seeds freely and the seeds blow

Fig. 24. Black-eyed Susan

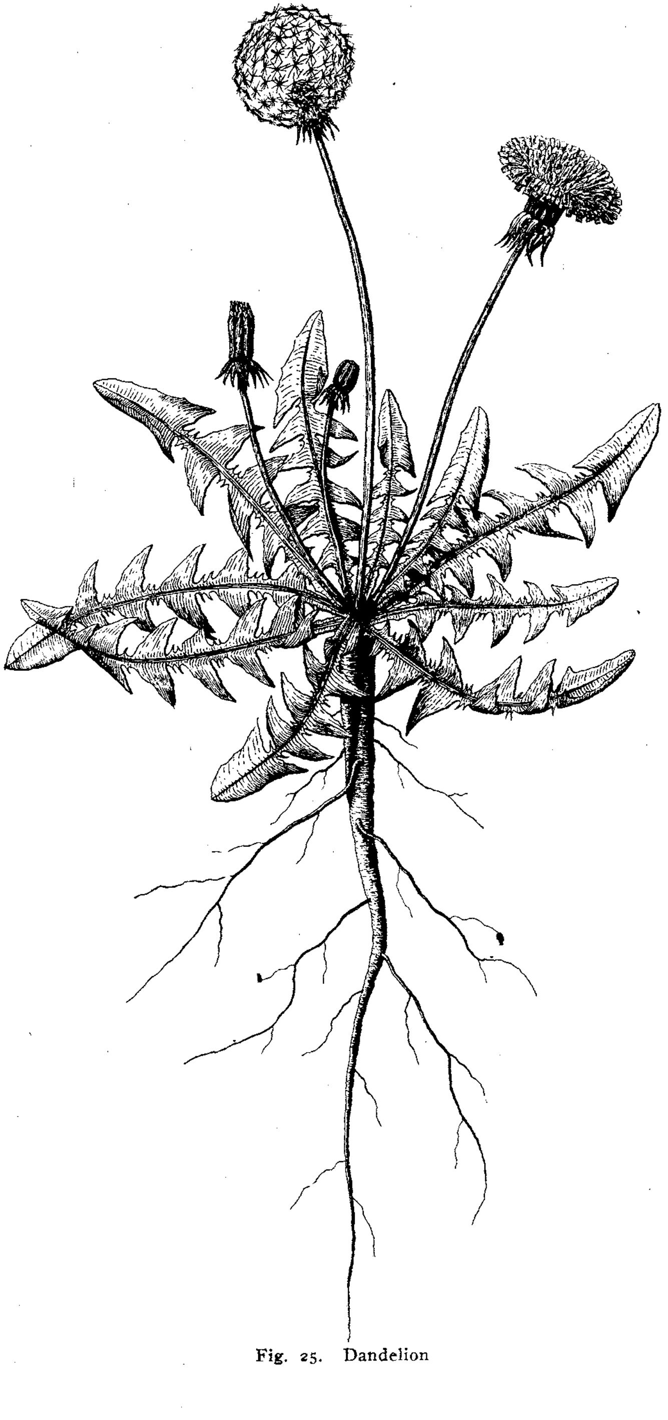

Fig. 25. Dandelion

about readily, thus reinfesting lawns that have been cleaned. The surest remedy against dandelions in the lawn is a rich soil frequently top-dressed with well-rotted manure or a nitrate of soda fertilizer. Such a soil thickly seeded to a mixture of Kentucky bluegrass, redtop and white clover will grow a thick turf that will be troubled but little by dandelions.

If a lawn is only thinly infested, spudding or digging out with a knife is often resorted to. Where badly infested, persistent spraying with sulphate of iron will hold them in check, altho it seldom results in complete eradication because the dandelion has become so universally established as to be quickly reseeded.

In spraying with iron sulphate it is best to make the application two or three days after the lawn has been cut. Spray on bright sunny days just after rather than just before a rain. A heavy rain will wash off the sulphate before the leaves are affected. Spraying at intervals of three or four weeks through an entire season is necessary to kill all of the dandelions. The solution for spraying should be composed of 1½ pounds of iron sulphate to 1 gallon of water. A compressed-air pump with a nozzle that will throw a fine spray is best. It should be tight enough not to leak. The solution will discolor clothing and cement work, so care must be used in applying it.

Summary of Information for Use in the Recognition of the Weeds Described in This Bulletin

Name	Class	Color of		Found in
		Flower	Seed	
1. Western wheat grass	Perennial	Green	Straw color	Red clover, bromus, alfalfa
2. Nodding wild rye	Perennial	Green	Straw color	Bromus
3. Hemp	Annual	Green	Gray-brown	Rarely occurs
4. Common smartweed	Annual	Green and pink	Brown	Timothy, flax, and red clover
5. Swamp dock	Perennial	Green	Light brown	Rarely occurs
6. Maple-leaved goosefoot	Annual	Green	Dark gray	Red clover and timothy
7. Ball mustard	Annual or biennial	Yellow	Straw color	All cereals
8. Indian mustard	Annual or biennial	Yellow	Reddish brown	All cereals and most forage crops
9. Tumbling mustard	Annual or winter annual	Light yellow	Light yellow to green	Timothy, alsike, and redtop
10. Canada milk vetch	Perennial	Greenish yellow	Deep yellow	Timothy
11. Indian mallow	Annual	Deep yellow	Grayish brown	Rarely occurs
12. Water hemlock	Perennial	White	Straw color	Timothy
13. Common milkweed	Perennial	Pink	Brown	Never found in crop seeds
14. Hoary vervain	Perennial	Purple	Brown	Timothy and red clover
15. Wood sage	Perennial	Light purple	Brown	Timothy, red clover, and cereals
16. Dragonhead mint	Annual or biennial	White and pink	Gray-brown	Timothy, red clover, occasionally in cereals
17. Wild bergamot	Perennial	Purple	Brown	Rarely occurs
18. Common plantain	Perennial	Pale green	Brown	Timothy, alsike, red clover, redtop
19. Bracted plantain	Annual or winter annual	Pale green	Light brown	Alfalfa
20. Gumweed	Biennial or perennial	Bright yellow	Cream color	Alfalfa
21. Beggar-tick	Annual	Yellow	Dark brown	Rarely occurs
22. Roadside thistle	Perennial	Purple	Tan with yellow tip	Timothy, red clover, cereals
23. Black-eyed Susan	Biennial	Deep yellow, dark center	Black	Lawn grass, timothy, and alsike
24. Dandelion	Perennial	Yellow	Light brown	Lawn grass