

# **THIRTY COMMON ORNAMENTAL WEEDS IN IDAHO**

**WEED IDENTIFICATION GUIDE  
- ORNAMENTAL HERBICIDE EXAM -**



**Selections taken from Weeds of Utah,  
by Arthur H. Holmgren and Bernice A. Anderson**

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# COMMON ORNAMENTAL WEEDS IN IDAHO

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## INTRODUCTION

In the weed control exams administered by the Idaho Department of Agriculture, questions about specific weeds are included. In response to the need for appropriate study materials, weed study packets consisting of thirty common weeds have been prepared for the **Agricultural Herbicide, Ornamental Herbicide, and Right-of-Way** exams.

An initial list of weeds for each category was compiled with the help of commercial applicators, the University of Idaho Extension Service, and the Idaho Department of Agriculture. The final list (thirty per category) was compiled with the help of Drs. Don Thill, Robert Callihan, and Don Morishita of the University of Idaho, and Loal Vance of the Idaho Department of Agriculture. Narrative and drawings were taken from \*Weeds of Utah. The information was compiled and edited K. Taylor Cox, Idaho Department of Agriculture.

NOTE: There may be many other common weeds which are not included in the packets. The packets are provided to study for exams, and not necessarily for reference materials. An attempt was made to reconcile the information in the weed study packets with Weeds of the West (Whitson, et.al., 1991), which is recommended as a reference manual.

**What to study:** common name, type of life cycle, morphology (structure or shape), phenology (time the plant grows), habitat, characteristics that make the plant a weed.

\* Special Report 21, Utah Agricultural Experiment Station, November 1970, written by Arthur H. Homgren and Berniece A. Andersen. Kaye Hughie Thorne did most of the drawings (identified by the initials KH or KHT); a few are by Dean Fletcher (DF), O. Charles Walmo (OCW), and Berniece Andersen (BA)

## **GROWTH HABITS DETERMINE THE METHODS OF CONTROL**

As the form and growth habits of weeds largely determine the best method of control, these features are emphasized in the descriptions. Since the length of life of the plant depends on the length of life of the the root, we have a basis for dividing plants into annuals, biennials, and perennials.

**ANNUALS.** Annual plants are those that complete their life cycles (i.e., grow vegetatively, produce flowers and seed, and then perish) in a single growing season. Winter annuals are those plants that germinate from seed in the fall or early winter and quickly complete growth and mature the following spring. Since a continued infestation of annual weeds depends on a yearly succession of seed crops, the simplest and most practical means of control is that which prevents the plants from maturing seed. Ordinary methods of weeding, hand pulling or hoeing, mowing, and clean cultivation are those chiefly employed. Under certain conditions herbicides may be used to advantage.

**BIENNIALS.** Biennial plants differ from annual plants in that they require two full growing seasons to develop flowers and mature seed. After maturing seed they die. During the first season a short taproot is usually formed and only a rosette of leaves grows from the rootcrown. During the second season, a leafy stem develops which produces flowers and seed, thus completing the plant's life cycle. Since perpetuation of the weed crop depends on seed production, the desirable control practices for biennial weeds are essentially those suggested for annuals.

**PERENNIALS.** Perennial plants are those that normally live for more than two years and usually do not produce seed until the second year or later. Since the underground parts (the roots, and frequently underground stems called rootstocks or rhizomes) persist from year to year, plants of this character are the most difficult to control or eradicate, and hence constitute the most serious group of weeds. Some perennials produce woody stems which grow from year to year and consequently develop into shrubs or trees. In our region the greater number of perennials produce leafy and flowering stems from the root or rootstock each year. These stems persist only through the one growing season, and die back to the ground at the end of the season. Most of our noxious weeds are perennials. The most important method of control is prevention. Early recognition of and subsequent eradication of weeds may prevent almost hopeless situations. Clean cultivation and proper cultural practices are still the best control methods known.

## NAMES OF PLANTS

Scientific names for the most part are applied to families, genera, and species. The family name for the mustards, for instance, is **Brassicaceae** and this family contains many genera (plural for genus) such as **Brassica**, **Cardaria**, **Chorispora**, and **Descurainia**, to name a few of them. A genus may include from one to several hundred species. The name **Sisymbrium altissimum L.** is a species in the genus **Sisymbrium** in the **Brassicaceae** family, and is commonly known as tumble mustard. The "L" following the species shows that Linnaeus was responsible for naming this species.

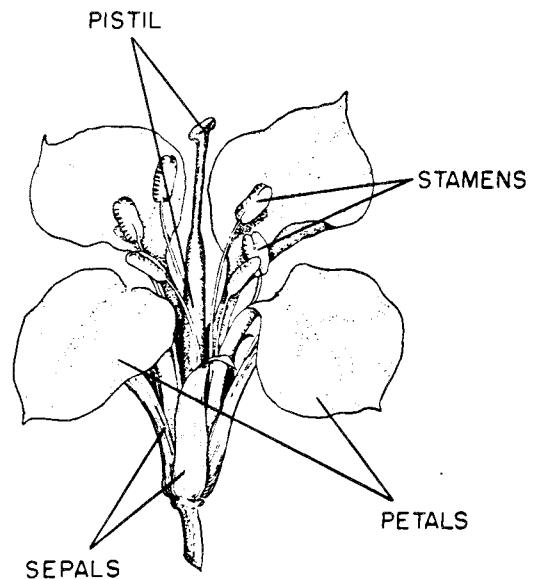
The scientific name for hoary cress is **Cardaria draba (L.) Desv.** In this case Linnaeus originally named the plant **Lepidium draba L.** and Desvaux later transferred it to the genus **Cardaria**.

The common names of plants are often more difficult to apply than scientific names. Some species have many different common names and sometimes a given common name will be used in referring to several different species. The common name given is the one thought to be most acceptable.

## BOTANICAL TERMS

Every effort has been made to keep botanical terms to a minimum. Some terms are so necessary and helpful in describing flowers and plant parts that it would be undesirable to omit them from descriptions. The accompanying labeled illustration of a mustard flower will serve to identify the various parts of the flower. It should be kept in mind that the flower is the structure most commonly used in classifying and identifying plants.

The sepals are usually green when present and constitute the outside whorl of the flower. They are referred to collectively as the calyx. The collective term for the petals is the corolla. The stamens or pollen bearing male parts are encountered next. The pistil or female part of the flower is in the center. The seeds are matured ovules that develop inside the ovary of the pistil.



## GLOSSARY OF BOTANICAL TERMS

- ACHENE*, a small, dry, one-seed fruit where ovary does not open to expel seed.
- ACUTE*, ending in a point less than a right angle.
- ALTERNATE*, one leaf or bud at a node.
- ANNUAL*, of one season's duration from seed to maturity and death.
- ANTHER*, pollen-bearing part of stamen.
- AXILLARY*, a flower or a bud that appears in the axil of a leaf or a bract.
- BARBED*, being reflexed like the barb of a fish hook.
- BARBELLATE*, with barb-like branches.
- BEAK*, applied here to prolongation of fruits and pistils.
- BIENNIAL*, of two seasons duration from seed to maturity and death.
- BLADE*, the expanded part of a leaf.
- BRACT*, a leaf subtending a flower or flower cluster. The leaf or bract is usually dissimilar to the foliage leaves and smaller.
- CALYX*, a collective term for the outer whorl of a flower, the sepals.
- CAPILLARY*, very slender and hair-like.
- CAPSULE*, a dry, many-seeded fruit pod that splits open at maturity.
- CARPEL*, a modified leaf forming the ovary.
- CATKIN*, a unisexual spike of willows and cottonwoods.
- CLASPING*, leaf base surrounding a stem.
- COROLLA*, a collective term for the inner whorl of a flower, the petals; usually colored.
- COTYLEDON*, the seed leaf of a germinated plant.
- CULM*, the hollow or pithy stem of grasses and sedges.
- DECUMBENT*, reclining on the ground but with the ends ascending.
- DEHISCE*, to split open along definite lines.
- DIFFUSE*, of open and usually dense growth.
- EMBRYO*, the tiny plant enclosed within the seed.
- ENTIRE*, the margin not in any way indented.
- EVERGREEN*, remaining green throughout the year.
- FLORET*, the small individual flowers of grasses and composites.
- FRUIT*, the ripened ovary or ovaries along with other united parts; the seed-bearing organ.
- GLANDULAR*, bearing glands. A glandular hair has an enlargement at the apex, making it appear somewhat like a hat pin.
- INFLORESCENCE*, the flowering segment of a plant and, specifically, the arrangement of the flowers.
- INVOLUCRE*, the bracts or leaf-like structures subtending a flower cluster, usually in the composite family.
- IRREGULAR FLOWER*, the parts of a whorl of a flower not all alike.
- LACERATE*, cut in an irregular manner as if the structure had been slashed.
- LANCEOLATE*, lance-shaped; several times longer than wide, broadest towards the base and tapering to the apex.
- LATERAL*, on or at the side.
- LEAFLET*, one part of a compound leaf.
- LEMMA*, the lower of two bracts, subtending a grass floret.
- LIGULE*, as referred to here it is the membranous projection up from the inside of a grass sheath at its junction from the blade.
- LINEAR*, long and narrow with the sides being parallel or nearly so.
- LOBED*, segments divided to about the middle.
- NECTARY*, a tissue for secreting nectar. Each petal of a buttercup has a nectary on the upper surface near the base.
- NODE*, the point on a stem where leaves or branches normally originate; also any swollen or knob-like structure.
- OB*, a prefix meaning reversed from the usual arrangement.
- OBLONG*, two or four times as long as broad.
- OBTUSE*, blunt or rounded on the apex.
- OPPOSITE*, two leaves or buds at a node.
- OVATE*, egg-shape or about one and one-half times as long as broad with the widest part near the base.
- PALMATE*, parts arising from approximately one point.
- PANICLE*, a compound cluster of flowers consisting of associated spikes or racemes. An example is the inflorescence of wild oat.

*PAPPUS*, the crown of bristles, scales, or capillary hairs on top of the achene in composites.

*PERENNIAL*, of three or more seasons' duration.

*PERIANTH*, a collective term for the sepals (calyx) and petals (corolla).

*PETAL*, one of the divisions of a corolla.

*PETIOLE*, the stalk of a leaf supporting the blade.

*PINNATE*, leaflets of a leaf arranged on each side of a common axis; feather-like.

*PINNATIFID*, pinnately cleft or parted.

*PISTILLATE*, a female flower having a pistil and no stamens.

*PLUMOSE*, like a feather, the term is often applied to hairs that have finer hairs along the side, making it appear feather-like.

*POLLEN*, the spores or grains borne by the anther.

*RACEME*, a flower cluster with one-flowered stalks arranged along a common axis.

*RAY FLOWER*, the modified outer flowers of a composite head with strap-like corollas; irregular flowers.

*REFLEXED*, part bent outward or backward.

*RHIZOME*, a horizontal underground stem that is sometimes called a rootstock.

*ROOTSTOCK*, the same as rhizome.

*ROSETTE*, a dense cluster of leaves at the base of a plant on a very short stem.

*RUNNER*, a trailing stem that roots at the nodes.

*SCURFY*, scale-like particles on a surface that resemble human dandruff.

*SERRATE*, the margin cut into teeth which point upward.

*SHEATH*, a tubular structure surrounding an organ or a part. An example is the basal part of a grass leaf that surrounds the stem or culm.

*SINUS*, the space between two lobes or divisions of a leaf or other expanded organ.

*SPIKE*, an inflorescence where the flowers are without a flower stalk and arranged on a single axis with the lowermost flower opening first.

*SPORE*, a simple one-celled reproductive structure found in ferns and horsetails.

*STAMEN*, the pollen-bearing or male organ of a flower.

*STAMINATE*, a male flower having stamens and no pistils.

*STIPULE*, one of a pair of appendages at the base of a leaf stalk. These structures vary considerably in different species of plants.

*STOLON*, an above ground shoot that takes root at its tip and gives rise to a new plant as in the strawberry.

*SUBTEND*, to stand below or close as a bract below a flower.

*TAP-ROOT*, a vertical usually stout root where main root is readily identified.

*TENDRIL*, a modified leaf or stem part, usually thread-like, by which a plant clings for support.

*TOMENTUM*, matted woolly hairs.

*TRUNCATE*, appearing as if the end had been chopped off.

*TUBER*, usually an enlarged underground stem.

*TUBERCLE*, a pimple-like or small rounded structure.

*UMBEL*, an inflorescence with the flower stalks appearing from approximately the same point.

*UNISEXUAL*, either staminate or pistillate, of one sex.

*WHORLED*, three or more leaves or buds or other structures at a node.

*WOOLLY*, provided with long, soft, matted hairs.

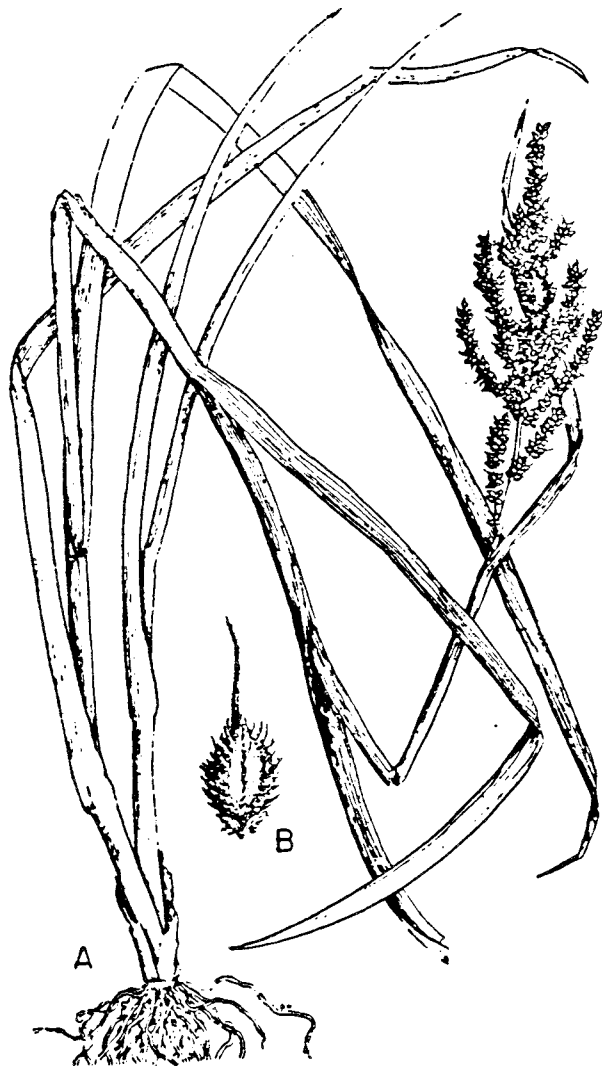
**Echinochloa crus-galli (L.) Beauv. Barnyardgrass.**

Barnyardgrass was introduced from Europe and has become widespread throughout the United States. It often becomes a pest in moist, fertile ground, but also does well in drier areas in cultivated fields and gardens.

Description--Barnyardgrass is a vigorous annual with considerable variation in our area. Under ideal conditions plants may attain a height of 3 feet or more or remain as low as 6 to 8 inches in less favorable areas. The stems may be erect or perhaps more often rest on the ground. The panicles are reddish to dark purple and even the upper part of the stems may be red. The spikelets are crowded with each one having a conspicuous awn and scattered stiff hairs. The grain is tightly enclosed within the flowering scales. It is approximately  $\frac{1}{4}$  inch long, yellowish to brown, shining, rounded on one side, and flattened on the other.

Barnyardgrass may be recognized in the seedling state by the broad blades and the complete absence of a ligule.

Barnyardgrass  
*Echinochloa crus-galli*  
A, plant showing annual  
roots;  
B, detail of spikelet.





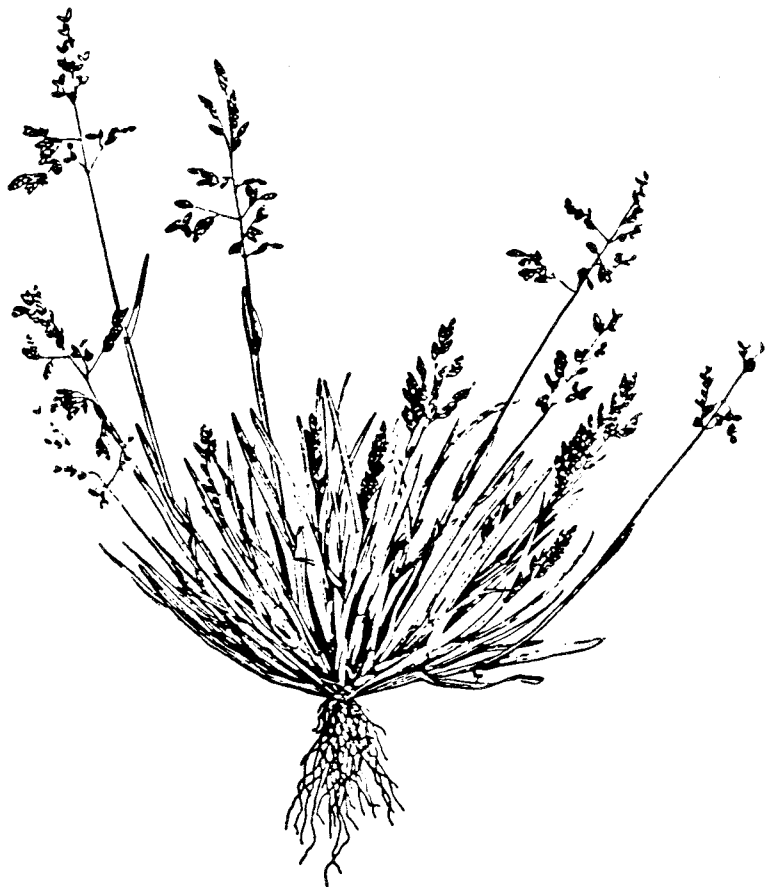
Poa annua L. Annual bluegrass.

Annual bluegrass was introduced into this country from Europe. It is now well distributed as a weed of moist, cool places, thriving in lawns where it is an objectionable weed. The plants die early in the season, leaving discolored patches in our lawns.

Description--Annual bluegrass is bright or pale green, tufted annual grass with soft foliage. The plants reach a height of 4 to 8 inches often root at the lower nodes of the prostrate stems. The open panicle has crowded spikelets.

NOTE: Kentucky bluegrass (*Poa pratensis* L.) is an important turf species that invades flower borders and is often the worst weed the home gardener has to battle. Its vigorous rhizomes soon grow out of the lawn area and into the perennial flower border where a complete spading job becomes necessary.

Annual bluegrass,  
*Poa annua*:  
drawing showing annual  
habit of grass.

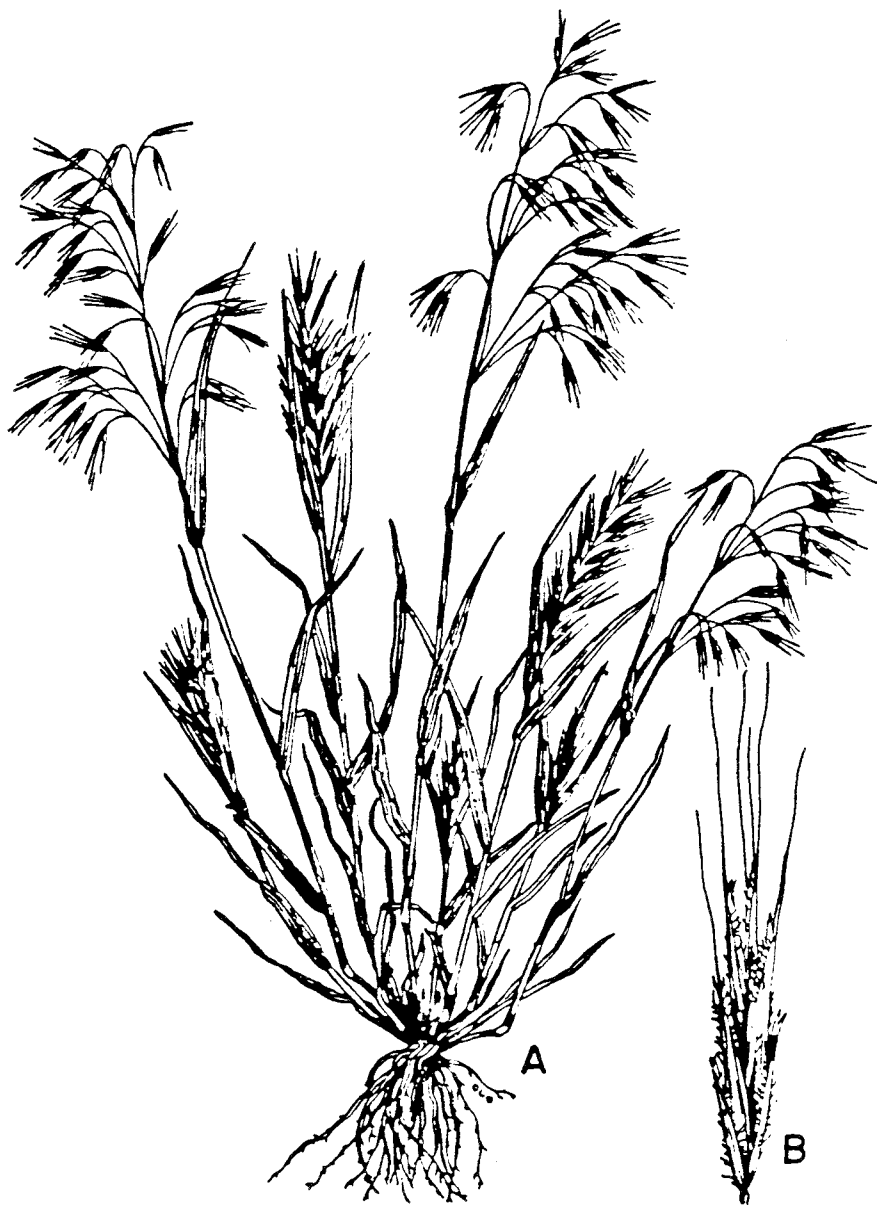


**Bromus tectorum L. Downy brome.**

Downy brome, or cheatgrass, is a common weed in the Western States that was originally introduced from Europe. It is a weed in waste places, roadsides, and spring-fall foothill ranges. The grass will grow and perpetuate itself in soil types that are free of excessive amounts of injurious salts.

Description--Downy brome is an annual or winter annual that reproduces only by seed. The plants are usually 10 to 15 inches high, although viable seeds may develop on plants no more than 2 inches high. The leaf blades and sheaths are hairy. The drooping flower stalks are awned and oatlike and turn a reddish brown late in the season.

Downy brome,  
*Bromus tectorum*:  
A, drawing showing  
habit of plant;  
B, spikelet.

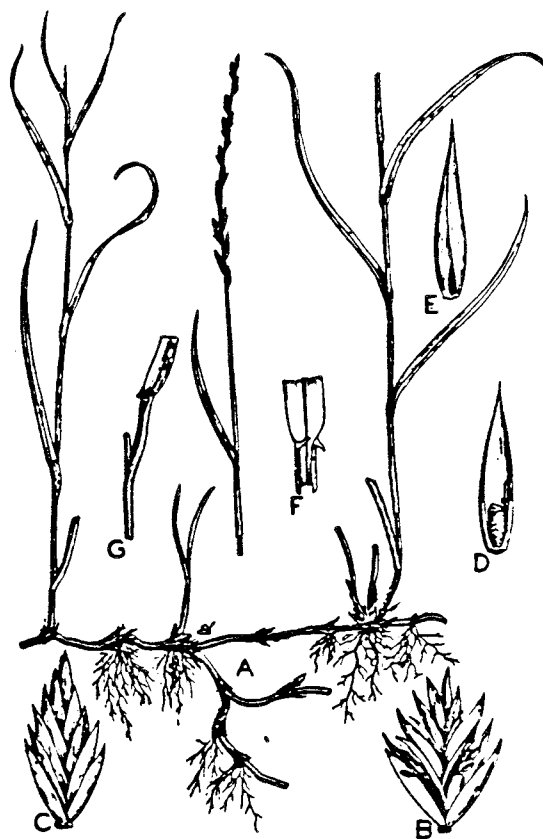


**Agropyron repens (L.) Beauv. Quackgrass.**

Quackgrass, introduced from Europe, has long been a troublesome weed in the United States, particularly in the northeastern states. It is widespread throughout Idaho as a noxious weed of low-lying valley areas. The grass will grow readily in most soils. It occurs in cultivated fields, along ditch banks, in pastures, and waste places and develops most vigorously in moist or wet lands. Quackgrass is often a vigorous lawn weed that we find objectionable because of its broad leaf blades. It is salt tolerant but will not grow on heavily saline areas. It resembles native western wheatgrass (*Agropyron smithii*) which occurs commonly in dryer benches and uplands.

Description--Quackgrass is a perennial with unbranched stems commonly 1 to 3 feet high; the leaf blades are flat, thin, and form one-fourth to one-half inch wide; the leaf sheath and blades may be thinly covered with soft hairs or sometimes with whitish, powdery bloom, but are mostly without the hairy covering; the flowering heads resemble those of wheat, but are more slender and have only one spikelet at a joint; each flattened spikelet bears two vertical rows of florets (grass flowers enclosed by two scales.) Two or three in each row. Grains are nearly  $\frac{1}{4}$  inch long, slender, yellowish-brown, and are enfolded by the lemma (flower scale), which is drawn to a sharp point. Usually 20 to 30 viable seeds are produced in each head. The rootstocks are shallow, but in cultivated soil may penetrate as deeply as 8 inches. Rootstocks extend away from the parent plant for several feet, branch extensively, and form a tough, interwoven mass. The joints are conspicuous, clothed by a scaly brown sheath, and freely giving rise to slender fibrous absorbing rootlets.

Quackgrass  
*Agropyron repens*:  
A, habit of plant and  
underground rootstocks,  
B, spikelet at maturity;  
D and E, florets containing  
"seed" F, drawing showing  
"ears" at junction of blade  
and sheath; G, leaf sheath  
attached to stem.



Panicum capillare L. Witchgrass.

Witchgrass is a native plant that often becomes common in gardens and along roadsides. When the plant is matured, the panicle breaks off and tumbles about, leaving a trail of seeds.

Description. Witchgrass is an annual with stems that are often prostrate at the base. The plants vary in height from  $\frac{1}{2}$  to  $2\frac{1}{2}$  feet. Both leaves and stems have conspicuous hairs. The diffuse panicle is densely flowered and produces an abundance of seeds. The individual grains are tiny and enclosed in the flowering scales.

Witchgrass,  
*Panicum capillare*:  
drawing showing annual  
habit of grass.

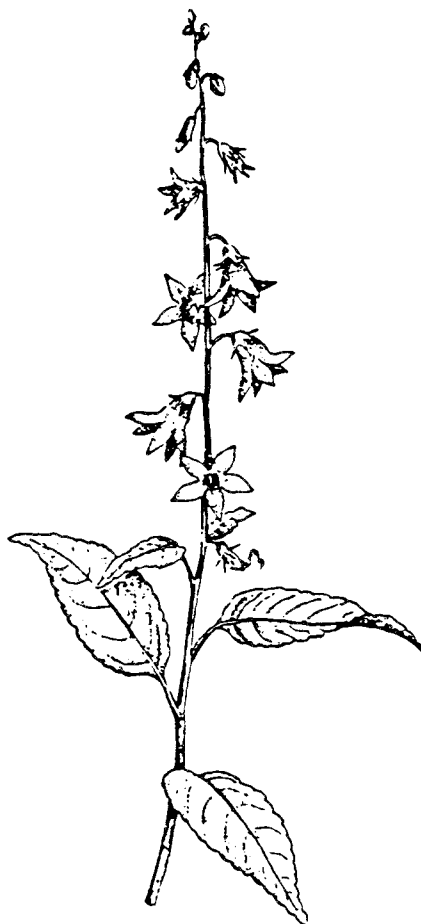


Campanula rapunculoides L. Creeping bellflower.

Introduced from Eurasia as an ornamental and often escaping from cultivation, creeping bellflower often persists about houses and along roadsides. It may become a difficult weed in the perennial flower border or the rose garden. This bellflower may gradually crowd out other species of bellflower, thereby carrying their names with it.

Description--Creeping bellflower is a perennial from slender rootstocks and thick taproots with milky sap. The stems are slender, erect, and 2 to 3 feet high or more. The lower leaves are occasionally heart-shaped, the stem leaves are narrower, 2 to 4 inches long, irregularly serrated on the margins. The bell-shaped flowers are blue, about 1 inch long, and nodding on the stem.

Creeping bellflower,  
*Campanula rapunculoides*:  
drawing showing lower and  
upper parts of plant (note  
the drooping bell-shaped  
flowers).

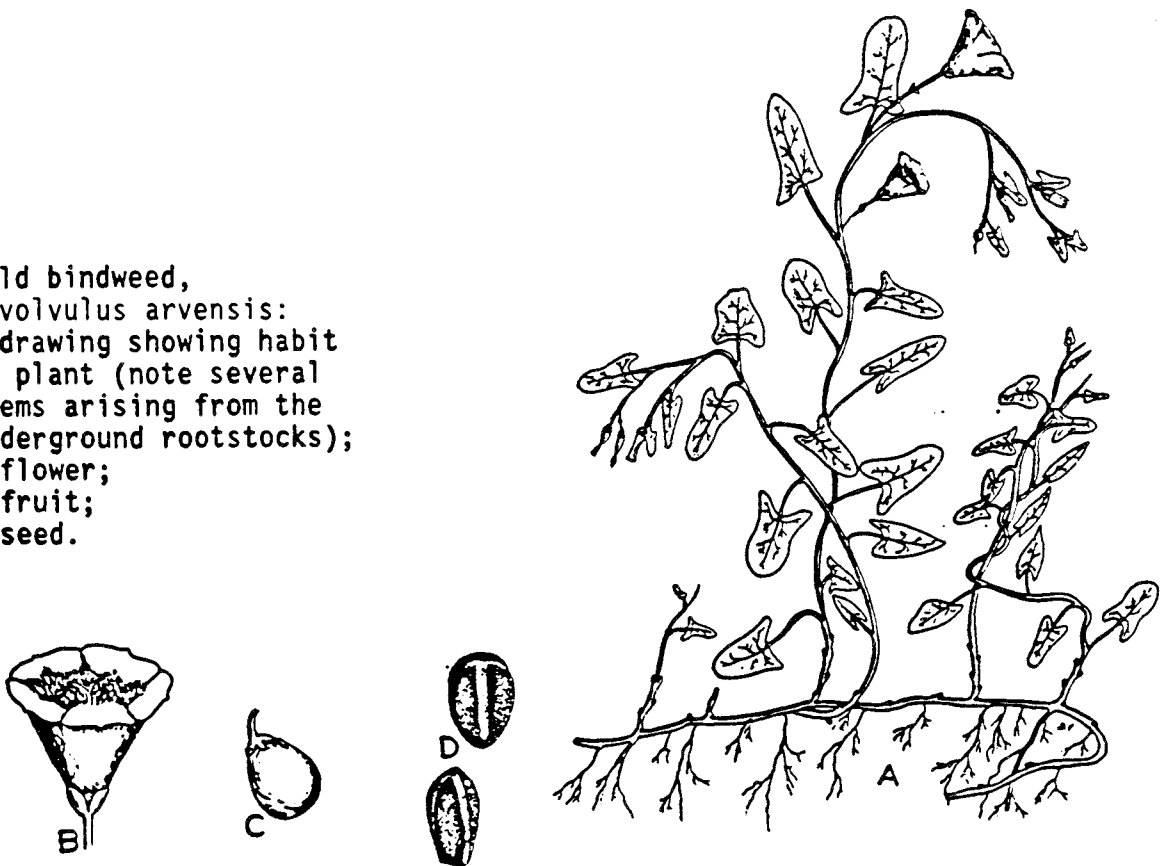


Convolvulus arvensis L. Field bindweed.

Field bindweed, introduced from Europe, is widespread and a serious weed throughout the country. In Idaho, it is extensively distributed in cultivated fields and waste places, and because of a remarkable adaptability to different environmental conditions, may be found at altitudes as high as 10,000 feet. It is a most troublesome weed to eradicate because of a large, fleshy, deep-seated taproot, which may penetrate the soil to a depth of 10 feet, and which may repeatedly give rise to numerous long rhizomes, even when cut off below the crown. It reproduces by seeds and rootstocks.

Description--Field bindweed is a perennial from a deep-seated taproot, which gives rise to several or numerous slender underground rhizomes or prostrate, twining stems. The leaves are alternate and arrow-shaped mostly about 1 to 2 inches long. The white or pink, bell-shaped flowers, frequently as much as an inch in length, are borne on stalks about 1 inch long, which rise from axils of the leaves. The fruit is a two-celled capsule, somewhat less than ½ inch in diameter, producing from two to four seeds. The seeds are angled, rough, gray-brown, often appearing nearly black.

Field bindweed,  
*Convolvulus arvensis*:  
A, drawing showing habit  
of plant (note several  
stems arising from the  
underground rootstocks);  
B, flower;  
C, fruit;  
D, seed.



**Cichorium intybus L. Chicory.**

Chicory is a common weed of roadside, fields, and waste places, and a native of Eurasia. The plant has been cultivated for the root as a substitute or adulterant for coffee and the leaves for use in salads.

Description--Chicory is a perennial with milky juice from a long, deep taproot with stems from 1 to 4 feet high. The leaves are alternate, rough and hairy, the lower leaves are deeply cut and large with the stem. The flowering heads are about 1½ inches broad with several blue, rarely pink or white, flowers in each head. The heads are wide open in the mornings and tend to close by midday.

Chicory,  
*Cichorium intybus*:  
drawing showing habit  
of plant with taproot.

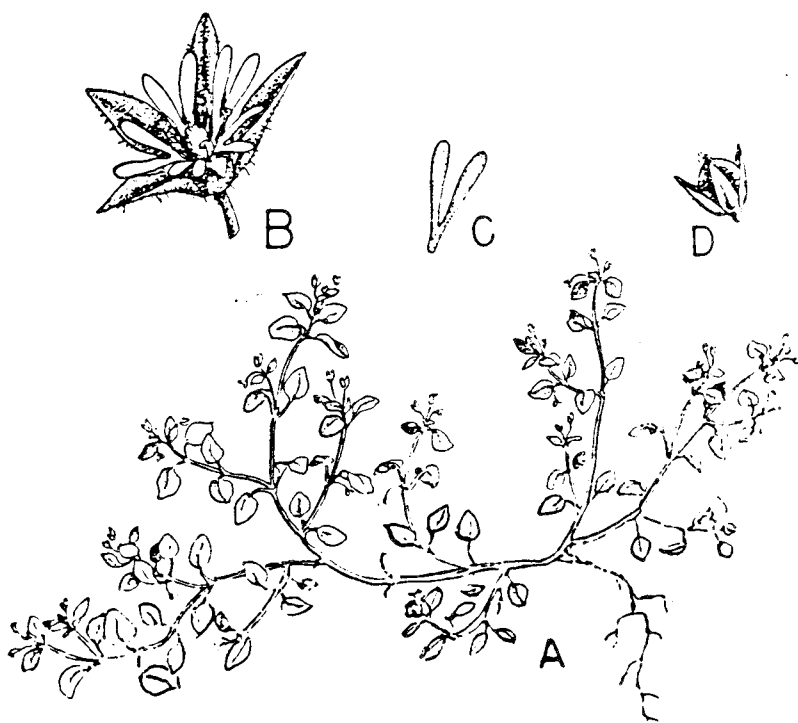


**Stellaria media (L.) Vill. Common chickweed.**

Common chickweed was introduced from Europe and has become a common weed of new lawns, gardens, around dwellings, and in fields. It is also a troublesome greenhouse weed.

Description--Common chickweed is an annual or winter annual with much-branched creeping or ascending branches with a conspicuous line of hairs on one side. The plants may root at the nodes and form mats. The leaves are broadly oval and pointed. Those on the lower part of the plant have definite stalks while those higher on the branches do not. The flowers are no more than 1/4 inch across, with petals somewhat shorter than the sepals. The capsules are many-seeded, extend beyond the sepals, and open by six teeth.

Common chickweed,  
*Stellaria media*:  
A, drawing showing  
entire habit of  
plant  
B, flower;  
C, an individual  
two-parted petal  
D, immature capsule  
showing three stigmas  
on top.





Rumex crispus L. Curly dock.

A common weed of wet meadows, flood lands, ditchbanks, waste places, and often as a lawn weed, curly dock was introduced into this country from Europe.

Description--This plant is a perennial from a stout taproot with ridged stems up to 3 feet high. Leaves are 4 to 12 inches long and have a wavy and curly margin. The flowers are small and in dense, brown clusters. The fruits are reddish-brown, triangular, and nearly 1/10 inch long. Several other species of dock occur here, although curly dock is the most important and common weed. The waving and curled leaf margin will serve as the key character in identifying this species.

Curly dock,  
*Rumex crispus*:  
perennial plant  
showing stout taproot.



Erodium cicutarium L'Her. Redstem filaree.

Introduced from Europe and now widely scattered in Idaho, Redstem filaree becomes a weed in new lawns, fields, pastures, and waste places. This is considered to be a good forage plant, especially on sheep ranges.

Description--Redstem filaree is an annual or biennial with spreading or nearly prostrate stem. The leaves are much dissected with paired stipules at the base of the leaf stalks. The flowers are pink to purple and in umbrella-like clusters. There are five sepals and each one is bristle-tipped. The fruit is made up of five parts that become separated at maturity. The long styles appear as tails on the fruits and become spirally twisted when dry.

Redstem filaree,  
*Erodium cicutarium*:  
drawing showing  
entire plant.

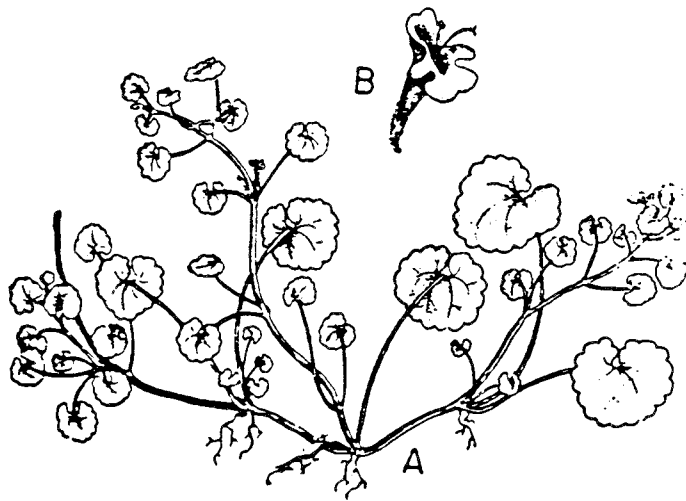


Glechoma hederacea L. Ground ivy.

Ground ivy has become established in lawns, and is difficult to control.

Description--Ground ivy is a creeping or trailing perennial with flowers much like those found in catnip. The creeping habit and flowers in the axils of regular foliage leaves will readily separate these closely related species.

Ground ivy,  
*Glechoma hederacea*:  
A, drawing of plant  
showing creeping stems;  
B, flower.

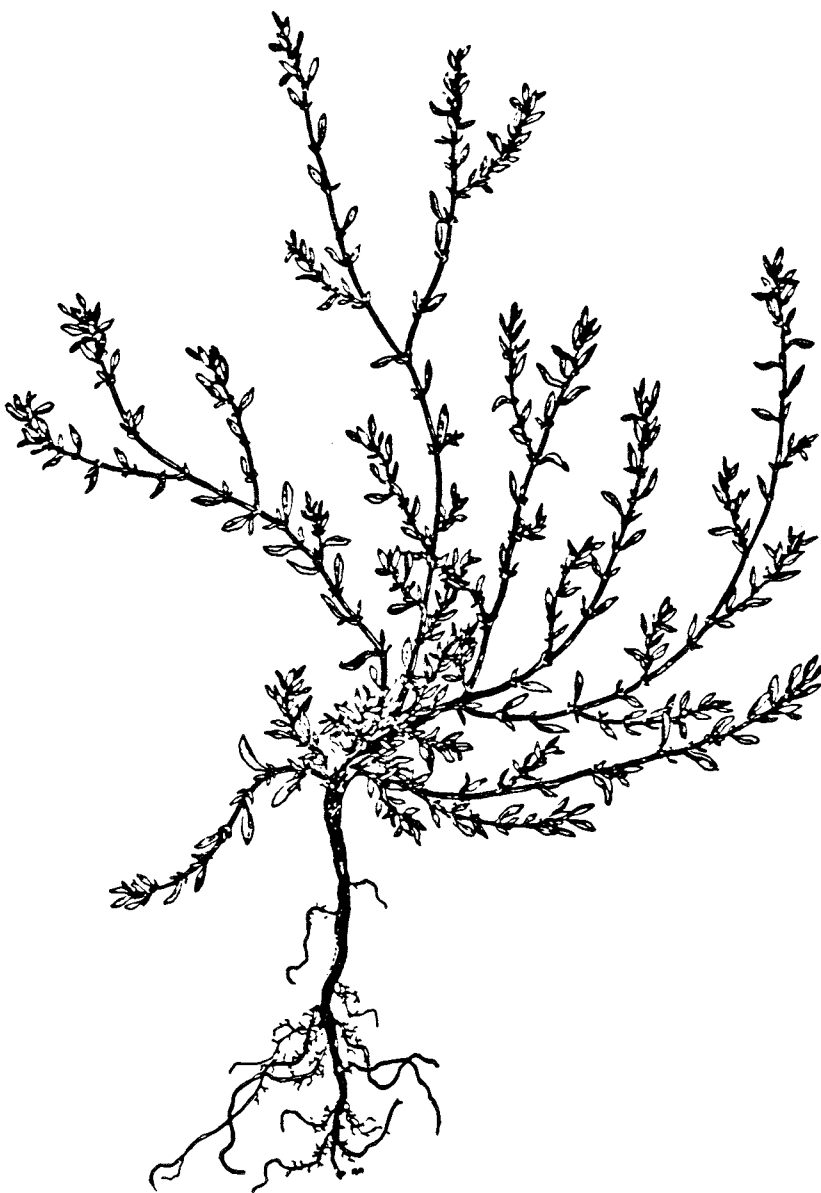


Polygonum aviculare L. Prostrate knotweed.

Prostrate knotweed is an introduced annual that will grow and thrive in hard trampled soil in yards, driveways, along roadsides and waste places.

Description--Plants form prostrate mats that become much branched with maturity. The leaves are bluish-green in color, thin, and with an acute apex. Inconspicuous rose-colored flowers appear in the axils of the leaf. The fruits, "seeds," are three-angled and a dull brown to black. Parts of the flower will usually remain attached to the fruits.

Prostrate knotweed,  
*Polygonum aviculare*:  
plant showing prostrate  
branches.



Kochia scoparia (L.) Schrad. Kochia.

Kochia was introduced into this country from Eurasia. It superficially resembles smotherweed and occurs in similar habitats.

Description--Kochia is an erect annual that becomes much branched. The species is highly variable in color and form. Spherical and pyramidal plants in colors of varying green to reds are often grown in our gardens and escape from cultivation. The leaves are placed alternately on the stem and usually have a conspicuous hairy margin. The small flowers are in axillary clusters and the individual flowers have a five-lobed calyx that develops into wing-like appendages.

Kochia,  
Kochia scoparia:  
side stem and a small  
part of the main stem.



Chenopodium album L. Common lambsquarters.

Common lambsquarters is a native of Eurasia that is common in gardens, waste places, and grain fields.

Description--This species is an annual from 1 to 6 feet high with ridged, green, or sometimes reddish-striped stems. Leaves are highly variable in shape but usually somewhat triangular in outline with coarsely toothed margins. The lower leaf surface is grayish green and densely covered with mealy particles. The small flowers are crowded in the leaf axils and at the stem tips. Each flower develops a tiny, single, shiny black seed that is often covered by a white papery envelope, the calyx. The seed has a coiled embryo.

Common lambsquarters,  
*Chenopodium album*:  
A, drawing of plant;  
B, fruit surrounded by sepals.

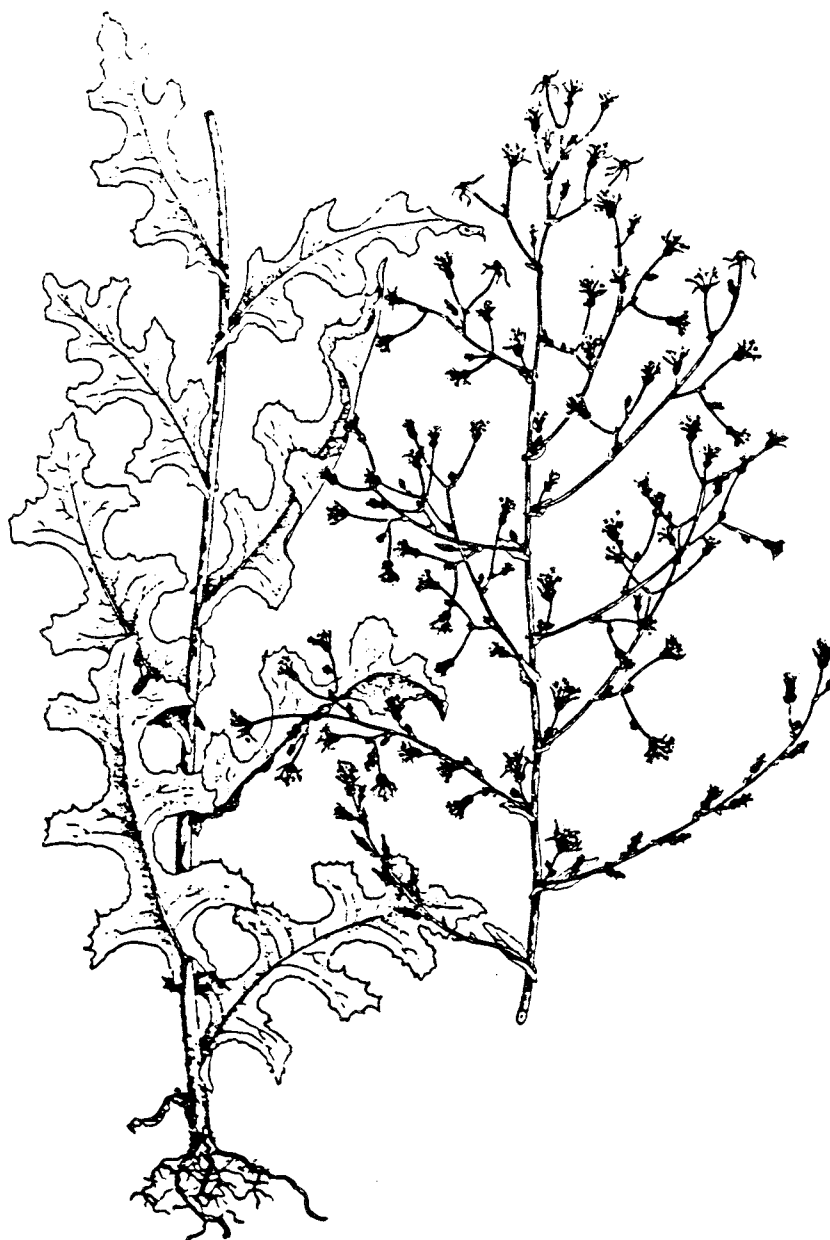


**Lactuca serriola L. Prickly lettuce.**

Introduced from Europe, prickly lettuce is a common weed of roadsides, waste places, gardens, and cultivated land.

Description--Prickly lettuce is biennial or winter annual with milky juice. The stems arise from a taproot and may vary in height from 1 to 5 feet. The leaves are alternate, deeply divided, and clasping the stem with pointed ear-like projections. The flowering heads are numerous, with bracts that elongate at maturity. The flowers of the head are all strap-shaped ray flowers, yellow and turn bluish with age. The seeds are roughened, contracted abruptly on top to form a beak with a parachute of bristles above.

Prickly lettuce,  
*Lactuca serriola*:  
drawing showing annual  
habit of plant.

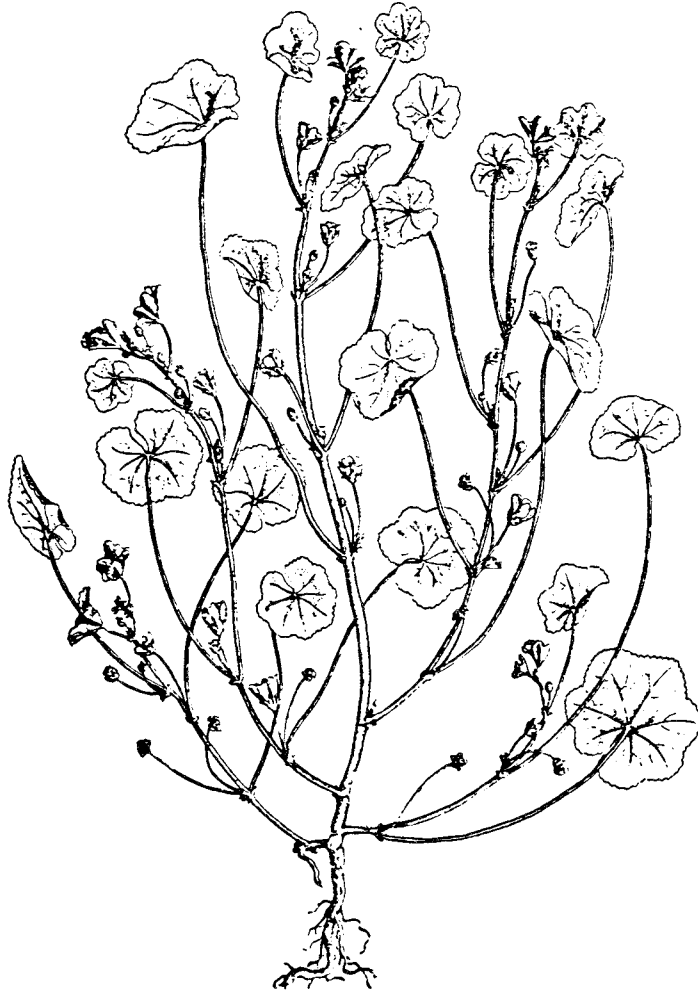


**Malva neglecta Wallr. Common mallow**

Naturalized from Europe, common mallow is often found in new lawns, gardens, and waste places. It is a prolific seed producer and often becomes a troublesome weed in gardens.

Description--Common mallow is an annual, winter annual, or biennial with many spreading or procumbent stems from a deep taproot. The leaves are nearly round in outline with a heart-shaped base and paired stipules at the base of the leafstalks. Flowers are whitish, with the well-known hollyhock form described in the above species. The fruits are arranged in a ring and are mucilaginous.

Common mallow,  
*Malva neglecta*:  
drawing showing  
entire plant



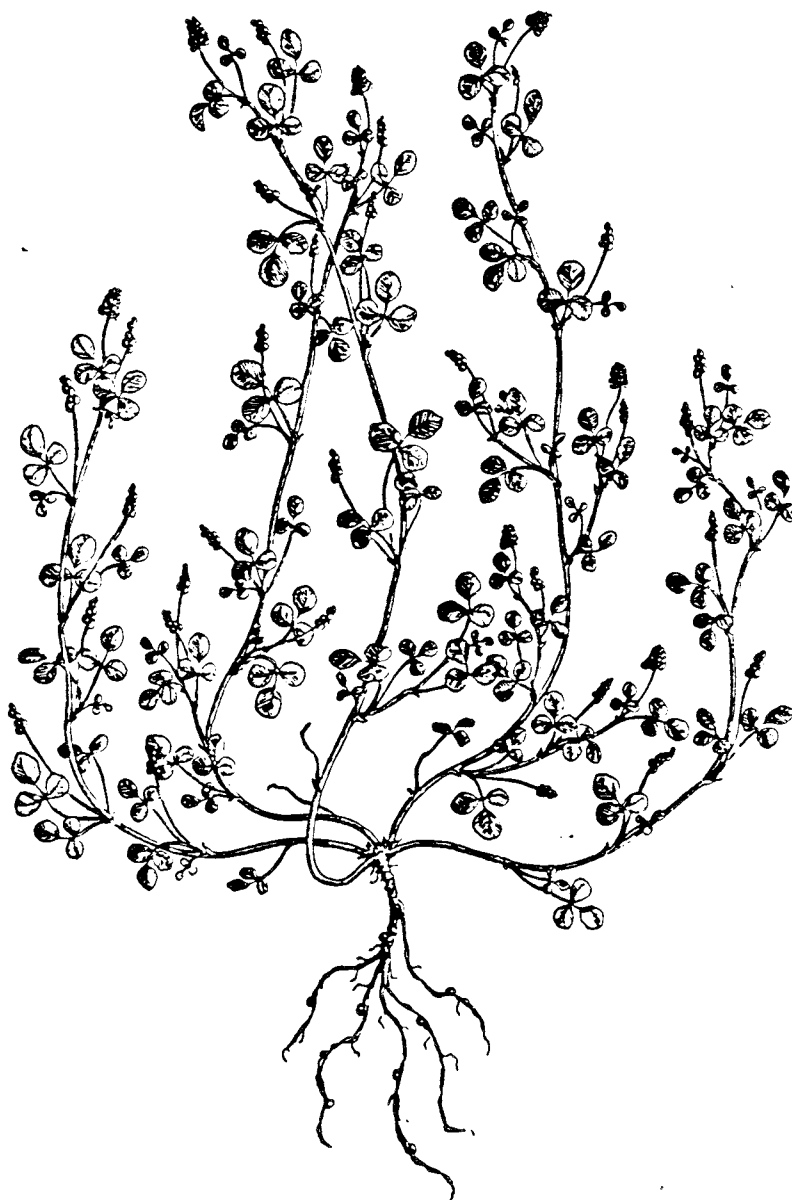


Medicago lupulina L. Black medic or yellow trefoil.

Black medic was introduced from Eurasia and has become a troublesome weed in lawns. It is also found in gardens, fields, and waste places.

Description--Black medic is an annual or winter annual with branched prostrate stems and trifoliate leaves. The plant looks much like a clover, but the terminal leaflet is on a short stalk placing it beyond the pair below while the three leaflets in a clover arise from a common point. The flowers are small, yellow, and in dense short spikes. The pods become strongly curved and ordinarily mature with one seed.

Black medic,  
*Medicago lupulina*:  
drawing of entire plant.



Amaranthus retroflexus L. Redroot pigweed.

Redroot pigweed is probably native in tropical America. It is so widely distributed throughout the world that its origin and history of spread are obscure. Dense stands are usually found in cultivated fields and especially so on well-manured soils. Toxic amounts of nitrates may be stored by plants growing in fertile soils.

Redroot pigweed is a coarse, erect annual from 2 to 3 feet high with reddish taproots. The leaves are long-stalked, dull green; the lower surface has prominent light-colored veins. The flowers are numerous, green, crowded into dense terminal spikes and also in the leaf axils below. Each flower is enclosed in three bracts that produce the bristly appearance of the spike. The seeds are a shiny black and no more than 1/23 of an inch broad.

Redroot pigweed,  
*Amaranthus retroflexus*:  
drawing showing annual  
habit of plant (note thick,  
heavy spikes).



Plantago major L. Broadleaf plantain.

Broadleaf plantain is likewise of European origin and has become widely distributed in America. It is more common than narrow-leaved plantain, occurring in similar habitats, but is more frequently a pest of lawns, where it becomes one of the more serious weeds.

Description--Similar to narrow-leaved plantain, broad-leaved plantain has broader, relatively shorter five to seven ribbed leaves. the flowering spike is more slender and considerably longer, and the seeds are smaller and more angled than in the narrow-leaved plantain.

Broadleaf plantain,  
*Plantago major*:  
A, drawing showing habit  
of plant;  
B, flower;  
C, capsule;  
D, and E, seed.



**Plantago lanceolata L. Buckhorn plantain.**

Buckhorn plantain was early introduced into America from Europe and Asia, and has become well-established throughout the country. It occurs commonly in meadows, agricultural lands, roadsides, waste places, and sometimes in lawns. It reproduces from seed.

Description--The plant is a perennial from a deep-set stout taproot, the crown of which produces a rosette of leaves each year. The leaves are lance-shaped, 3 to 6 or even 12 inches long, coarsely three to five ribbed, and hairy or nearly smooth. The greenish-white flowers are borne on a naked stem, some 6 to 12 or 15 inches long, and form a dense, cylindrical, short, cone-shaped spike. The capsules dehisce in the middle with the top coming off like a lid. The seeds are less than 1/8 inch long, elliptical, shiny, brown, and with a scar on the concave surface.

Buckhorn plantain  
*Plantago lanceolata*:  
drawing showing  
habit of plant

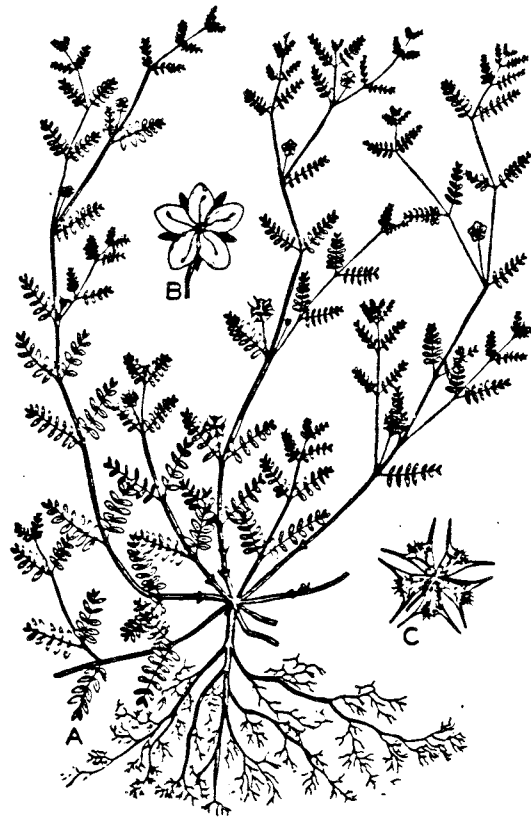


Tribulus terrestris L. Puncturevine.

Puncturevine is a troublesome annual weed which has been introduced from the Mediterranean region and is particularly abundant on the West Coast. It has spread in Idaho mostly along roadsides and railroad right of ways, becoming common in many places. The plant is readily recognized by the two-horned burs, which reputedly can penetrate automobile tires. Considerable loss is experienced in hay that comes from infested fields. Burs, which readily catch in sheep fleeces, depreciate the value of wool.

Description--Puncturevine is a prostrate, trailing vine, the hairy branches radiating from a slender taproot. When support is available, the plant readily becomes a scrambler or climber. The leaves are mostly opposite and compound, with four to seven pairs of oval or elliptic leaflets which are about  $\frac{1}{2}$  inch long. The flowers are produced singly on long stalks arising from the axils of leaves. The yellow flowers have five petals about  $\frac{1}{2}$  inch long, and 10 stamens. The fruit is a five-part bur, which readily breaks into wedge-shaped two-horned segments at maturity, each somewhat more than  $\frac{1}{4}$  inch long.

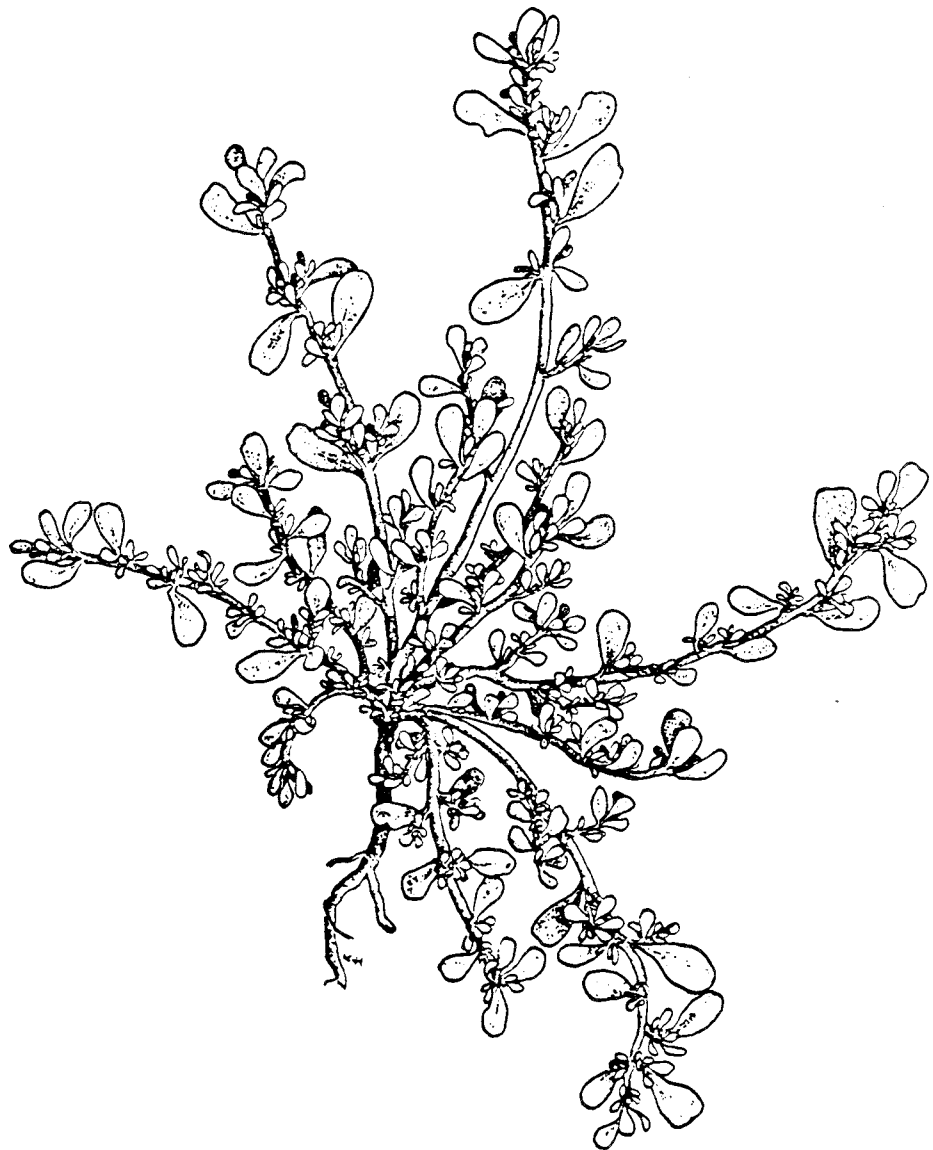
Puncturevine,  
*Tribulus terrestris*:  
A, drawing showing annual  
habit of plant;  
B, flower;  
C, fruit.



Portulaca oleracea L. Common purslane.

Common purslane was introduced into this country from Europe and is now a common plant throughout the United States. It thrives in gardens in well fertilized soil and becomes especially persistent in soils that are damp most of the time. Common purslane has several peculiarities that make it troublesome, such as late germination, inconspicuous flowering, seeding over a long period of time, and the ability of uprooted plants to take root again and continue ripening seed.

Description--Common purslane is an annual with prostrate, fleshy stems and leaves. Matured plants often have a reddish color and form large, intricately branched mats. The lower leaves are placed alternately on the stems, while those above are in dense clusters. The flowers are produced in the leaf axils and have five yellow petals that are open on sunny mornings. The seed capsules are small and loaded with numerous black, tiny seeds. The capsule looks like a lead bud and opens below the middle by a lid exposing the matured seeds.



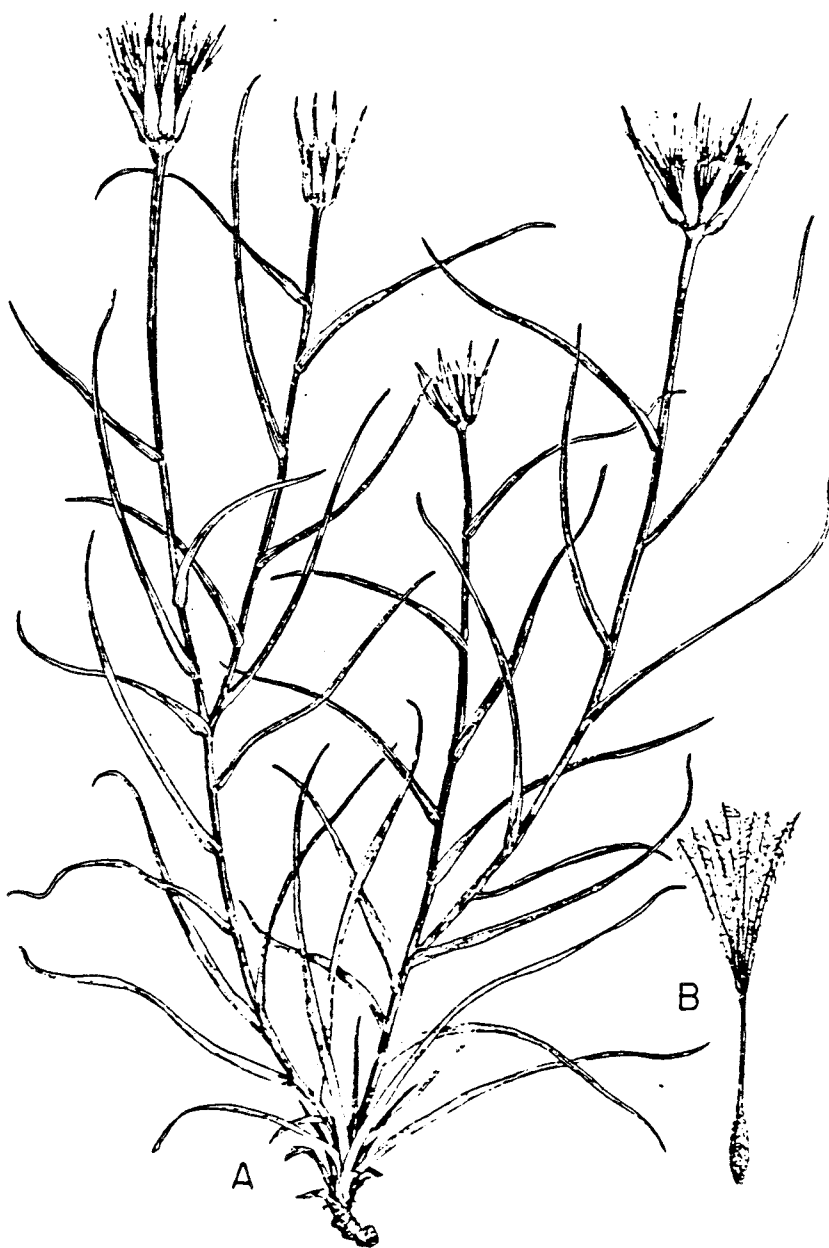
Common purslane,  
*Portulaca oleracea*:  
annual plant showing  
fleshy leaves.

**Tragopogon dubius Scop. Western salsify.**

Western salsify is of European origin and all are found in such habitats as old meadows, ditchbanks, roadsides, and waste places. Also known as goatsbeard.

Description--Western salsify is a biennial that becomes branched in well developed plants. The stems are 1 to 3 feet high and have long, narrow, grass-like alternate leaves. the branches have single large head. The flower stalks become enlarged under the heads. The flowers in a head are pale yellow, all strap-shaped ray flowers that are surpassed by the narrow leaf-like bracts. The seeds taper to a slender beak that is topped by a tawny or whitish pappus of interwoven plumose bristles that form the parachute.

Western salsify,  
*Tragopogon dubius*:  
A, drawing showing  
habit of plant;  
B, seed with pappus.



Capsella bursa-pastoris (L.) Medic. Shepherdspurse.

Shepherdspurse is a European plant that was introduced into this country more than 250 years ago. It is widely distributed in Idaho and is a common sight around dwellings, waste places, and gardens.

Description--Shepherdspurse is an annual or winter annual. Robust plants become much branched and often reach heights of more than 3 feet. Basal leaves often occur in dense rosettes and vary considerably in form, from deeply cleft to nearly entire. Stem leaves are also variable in form, but are always stalkless and clasping with ear-like projections. The flattened pods are about  $\frac{1}{4}$  inch long, triangular in outline, and notched on top. The seeds are orange-yellow,  $\frac{1}{25}$  of an inch long, and about 20 per pod.

Shepherdspurse,  
*Capsella bursapastoris*:  
drawing showing entire  
plant with fruits and  
flowers.





**Veronica Spp. Speedwells.**

The three species illustrated and described here are annuals that reproduce by seeds. The flowers are quite similar in all of them, with four united petals that vary in colors from white, pale blue, to lavender. The petals and two attached stamens come off readily.

**Veronica biloba L. Bilobed speedwell.**

Bilobed speedwell was introduced into this country from Asia. It is one of the earliest and most abundant weeds, and thrives in fields and waste places.

Description--The most distinguishable feature of this weed is that the capsule is cleft nearly to the base. The leaves may be toothed or entire in poor specimens. The flower stalks are longer than the subtending bracts.

**Veronica persica Poir. Persian speedwell.**

Persian speedwell was introduced into this country from Eurasia. It is usually a winter annual where it infests cultivated fields and often becomes a troublesome weed in lawns.

Description-- These plants have prostrate stems that may spread considerable distances in robust plants. The leaves are several-toothed and shorter than the long flower stalks borne in their axils. The pale blue flowers are nearly a half inch in diameter, the largest of the annual speedwells discussed here. The capsule is broadly notched with wide spreading lobes.

**Veronica peregrina L. Purslane speedwell.**

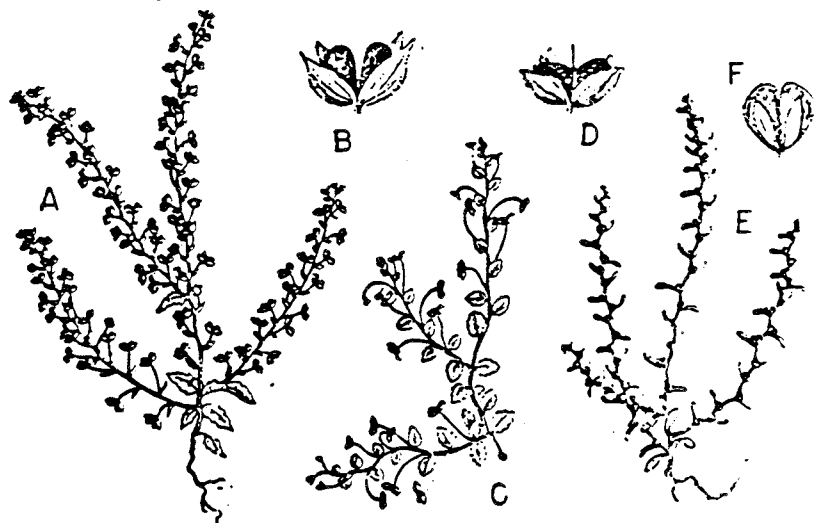
This is perhaps the only native species of the annual speedwells. It is a common weed in cultivated soil or waste places and is often abundant in a new lawn, but soon gives way as the lawn becomes established.

Description--A small erect annual, purslane speedwell may be branched or unbranched, depending on the thickness of the stand. The narrow leaves and stalkless flowers that are scattered along the stem will serve to identify this speedwell.

Bilobed speedwell,  
*Veronica biloba*:  
A, plant showing annual habit;  
B, capsule.

Persian speedwell,  
*Veronica persica*:  
C, branch of plant;  
D, capsule,

Purslane speedwell,  
*Veronica peregrina*:  
E, plant showing annual  
habit;  
F, capsule.



## Prostrate Spurges

Three species of prostrate milk spurges are common weeds of gravelly driveways, cultivated areas, or in new or poorly established old lawns. They are so similar that their common characters will be discussed first and then their differences. They are much branched annuals often with reddish stems. Vigorous plants often have an expanded area above the annual root system where the numerous branches take off. Specimens growing under ideal conditions may attain a diameter of 2 to 3 feet and produce hundreds of viable seeds. An intricate system of stems and leaves produces a beautiful lacy network that may be seen as a large plant if lifted. The small leaves vary in form but are commonly obovate in outline. A finely toothed leaf apex often develops in all three species. The small female flowers elongate in fruit. The capsule has three compartments, each containing a single seed. The first two species are indigenous to our area, but hairy spurge has likely been introduced from eastern United States.

### Euphorbia glyptosperma Engelm. Ridgeseed spurge.

A smooth plant without hair, ridgeseed spurge may be distinguished from the other two species by having seeds with 3 to 5 transverse ridges on each face. The seed character may be seen with the help of a hand lens.

### Euphorbia serpyllifolia Pers. Thymeleaf spurge.

Thymeleaf spurge differs from the above species mainly in the characters of its seeds that are smooth, somewhat pitted, or slightly wrinkled.

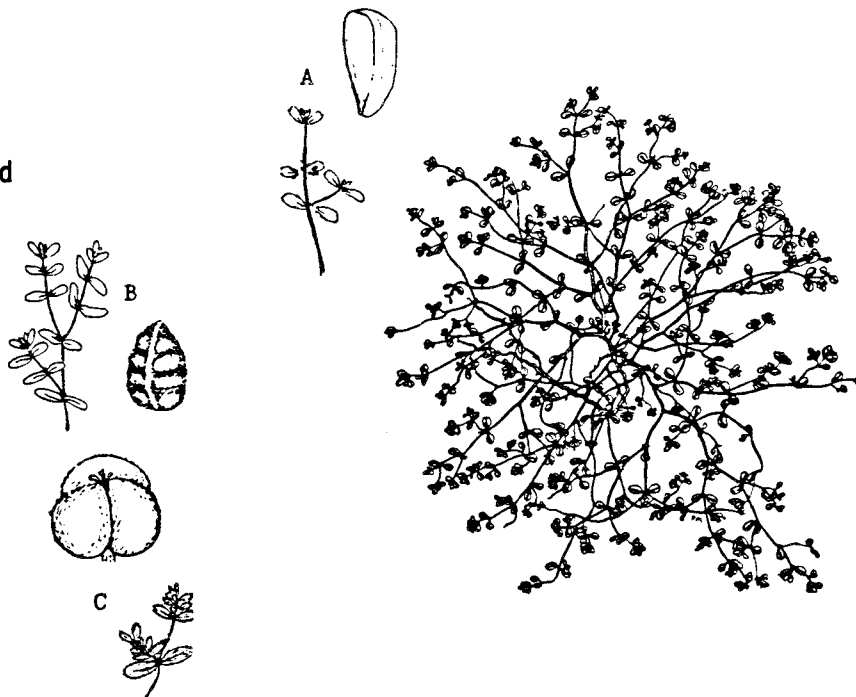
### Euphorbia supina Raf. Hairy spurge.

As the common name suggests, this species is hairy on the stems, leaves, and the three-angled fruits. The leaves, which vary in color from green to reddish-green, usually have conspicuous red spots somewhere near the center.

A, Thymeleaf spurge,  
*Euphorbia serpyllifolia*:  
looking down on plant and  
inset on tip of stem and  
smooth seed.

B, Ridgeseed spurge,  
*Euphorbia glyptosperma*:  
tip of stem and seed  
with ridges.

C, Hairy spurge,  
*Euphorbia supina*:  
tip of hairy stem and  
three-parted capsule.



Cirsium vulgare (Savi) Tenore. Bull thistle.

Bull thistle is an introduction for the Old World. It is common in over-grazed pastures, along ditchbanks, and waste places, particularly in lower, heavier, and most moist soils.

Description--Bull thistle is a coarse, prickly, biennial plant, usually 2 to 3 feet, or more, in height. The leaves sometimes appear in a large rosette during the first year. In the second season, a flowering stem develops. The stem leaves are lance-shaped, smaller than the basal, but otherwise similar. They are variously deeply and sharply lobed and toothed, and are quite hairy beneath. The base, particularly of the upper leaves, continues down the stem as paired wings. The heads are mostly terminal, single, and large, sometimes 3 inches across, and produce numerous purplish tubular flowers. Seeds are flattened, smooth, less than  $\frac{1}{4}$  inch long, and bear at the summit a crown of long, soft, plumose bristles.

Bull thistle,  
*Cirsium vulgare*:  
A, drawing showing upper  
part of plant with  
flowering heads;  
B, seed;  
C, seed with crown  
of plumose bristles.

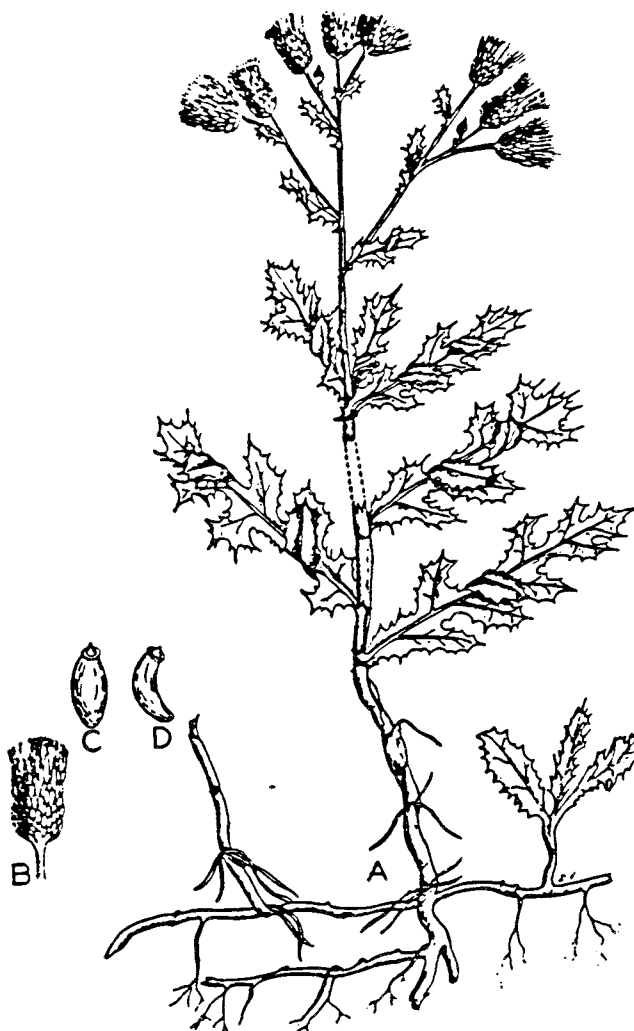


*Cirsium arvense* (L.) Scop. Canada thistle.

Canada thistle was early introduced into America from the Old World, and is now widely spread throughout the cooler portion of North America. Having become common and persistent, it is one of the more serious weeds of the state; it occurs in heavier, moister areas in pastures, along irrigation ditches, and low-lying fields.

Description--Canada thistle produces extensive coarse and branching rhizomes which give rise to numerous stems from 1 to more than 4 feet tall. The leaves are alternate, lanceolate, or oblong in outline, strongly and irregularly lobed with spiny-toothed margins. The small, tubular, usually purple flowers are aggregated in heads which are about  $\frac{1}{2}$  inch across and which are arranged in a flat-top inflorescence. The heads (commonly mistaken for a single flower) of a single plant produce only one kind of flower, male or female. Female flowers (and plants) produce seeds (achenes) which are about  $\frac{1}{4}$  inch long, flattened, smooth, brown, and oblong in shape. The crown of plumose bristles borne on the summit is naturally shed as the achene reaches maturity.

Canada thistle,  
*Cirsium arvense*:  
A, drawing showing habit  
of plant;  
B, head consisting of  
numerous flowers;  
C, and D, seed in  
different views.



Oxalis Stricta L. Yellow woodsorrel.

Yellow woodsorrel is a native in the United States but is an introduced weed in Idaho. It is common in flower gardens where it is often introduced with bedding plants purchased from nurseries.

Description--Yellow woodsorrel is an annual or occasionally a perennial weed with sour watery juice. The stems sometimes branch at the base, and are occasionally decumbent. The leaves have three leaflets, each leaflet heart shaped. The flowers are less than ½ inch long, yellow, and sometimes reddish at the base. The fruit turns down at maturity, about ¾ inch long and five-celled in cross section.

Yellow woodsorrel,  
*Oxalis stricta*:  
drawing of entire plant  
(note heart-shaped leaflets).

