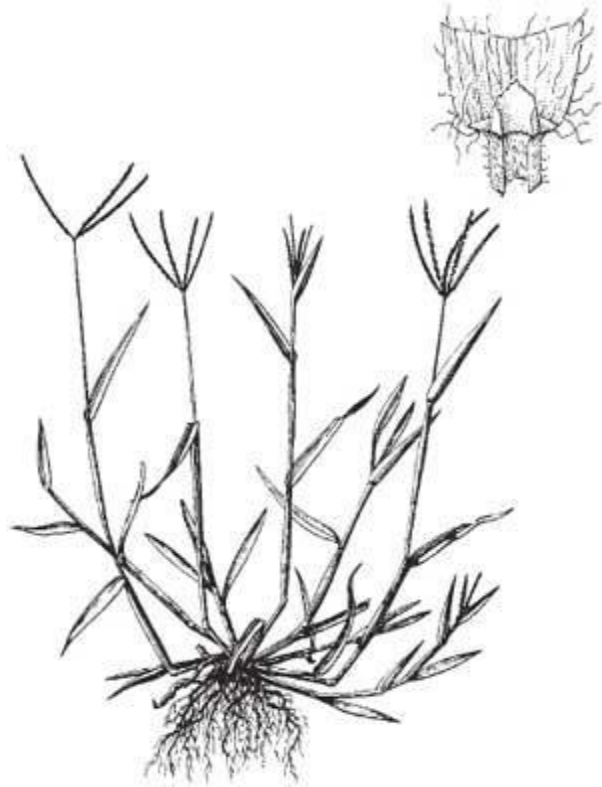


Plant Identification

Weed Descriptions: Grasses and Grasslike Weeds

Crabgrass (*Digitaria* spp.)

Two species of crabgrass, hairy and smooth, are commonly found in Pennsylvania (smooth crabgrass predominates in turfgrass stands). Both species are summer annuals and have wide ($\frac{1}{4}$ - to $\frac{1}{2}$ -inch), sparsely hairy, pale-green leaves that taper to a sharp point. Leaves of hairy crabgrass are hairier than smooth crabgrass. The ligules of both species are long and membranous. Crabgrass does not have auricles. Seedheads are divided spikes that project like fingers from the stem, producing thousands of seeds in late summer. Seeds germinate in spring when soil temperatures reach 55° to 58° F for several consecutive days. Crabgrass plants die after the first frost in early fall.



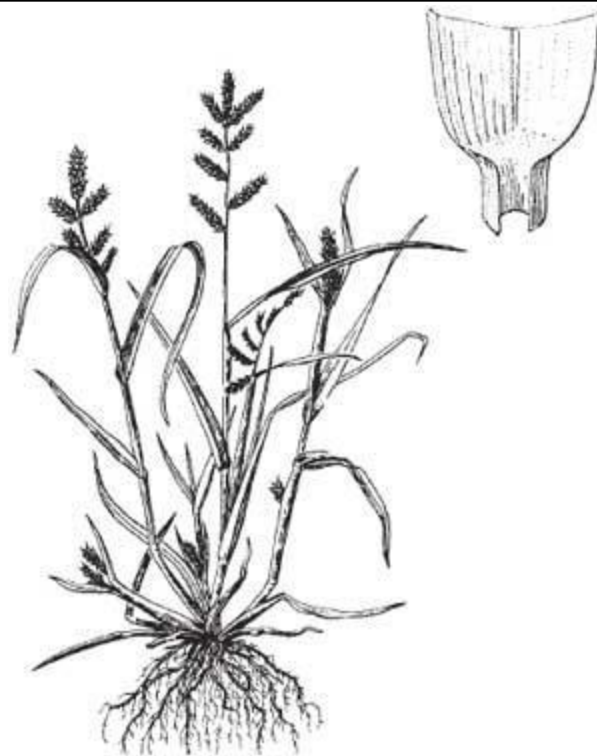
Goosegrass (*Eleusine indica*)

Goosegrass, also known as silver crabgrass, is common in southern Pennsylvania. Leaves are darker green and narrower than crabgrass ($\frac{1}{8}$ to $\frac{1}{4}$ inch) and sheaths have a silvery-green color (especially near the center of the plant). The ligule of goosegrass is membranous and divided in the center. The collar region is sparsely hairy and has no auricles. Goosegrass has a divided spiketype seedhead bearing seeds in straight rows on the seed stalks. Goosegrass seeds germinate four to six weeks later than crabgrass and germination continues throughout the summer.



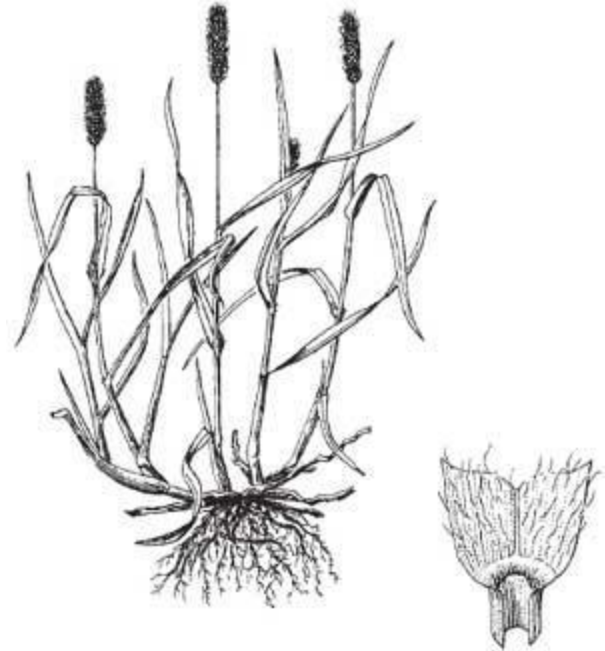
Barnyardgrass (*Echinochloa crusgalli*)

Barnyardgrass is a summer annual grass with wide (greater than $\frac{1}{2}$ inch) leaves and sheaths that lie close to the ground. Barnyardgrass seeds germinate later than crabgrass seeds, and plants do not tolerate low mowing heights. This species has no ligule or auricles. The seedhead is composed of compact spikes arising at several locations on the main stalk. Barnyardgrass can be a problem in newly established turf if seed is introduced with the topsoil

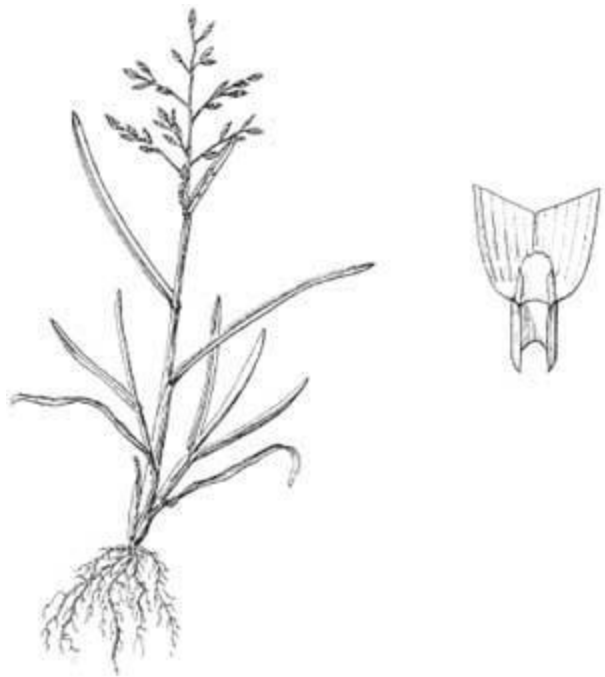


Foxtail (*Setaria* spp.)

Foxtail is a light-green, leafy, summer annual grass weed that reaches maturity in midsummer. It is often confused with crabgrass. As a weed in turf, foxtail is much less common than crabgrass, but it can proliferate under low-fertility conditions and high mowing heights as well as in spring seedlings. This weed can be distinguished from crabgrass by its hairy ligule and short, compact spike seedhead.

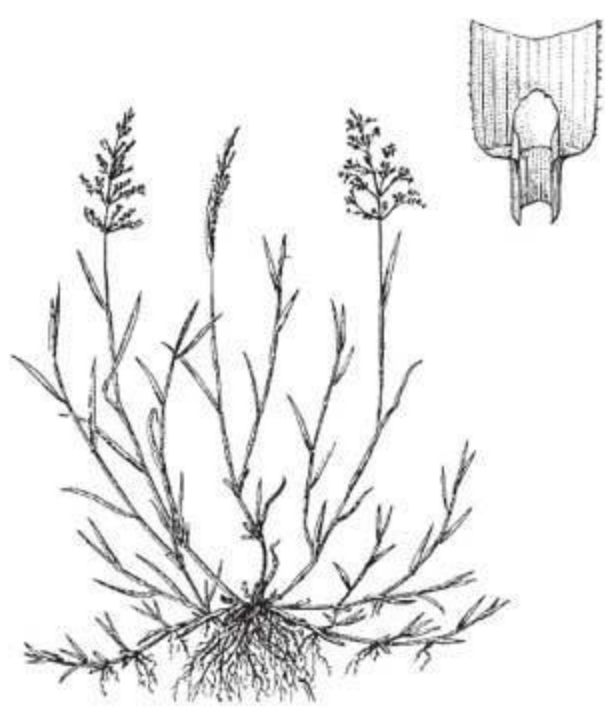
**Annual bluegrass (*Poa annua*)**

Annual bluegrass is a light-green, small-statured, bunch-type winter annual grass. Annual bluegrass is a highly diverse species with some subspecies functioning as short-lived perennials. The ligule is long and membranous and no auricles are present. Small but conspicuous open-panicle seedheads are evident during most of the growing season. Most seeds germinate in late summer or early fall. Although this species can persist throughout the entire growing season on irrigated sites, it usually dies during hot, dry conditions if not irrigated.

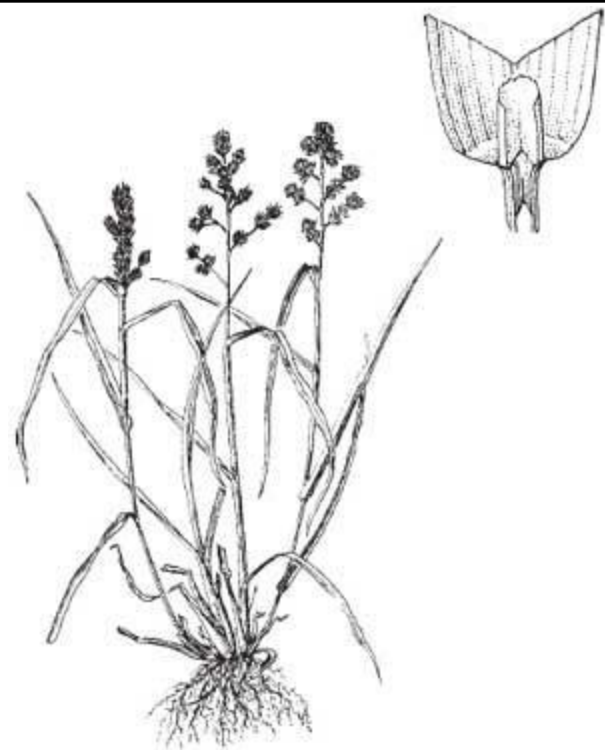


Bentgrass (*Agrostis* spp.)

Bentgrasses are desirable turfgrass species when used on golf course fairways, putting greens, and croquet courts. However, they are a common perennial grass weed in many home lawns. Like other stoloniferous weeds, bentgrass creeps over desirable turf and forms large light-green patches that usually turn brown in summer. Bentgrass has rolled vernation; long membranous ligules; no auricles; and narrow, flat leaf blades that have equal-sized veins across the entire width of the blade. The seedhead is an open panicle but is rarely seen in lawns.

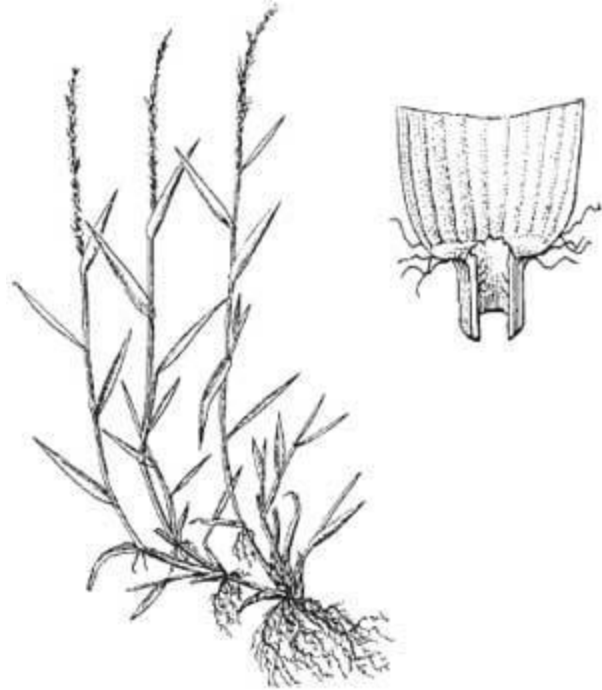
**Orchardgrass (*Dactylis glomerata*)**

Orchardgrass is a bunch-type perennial grass weed that forms light green clumps in lawns. Leaves have folded vernation and are wide ($\frac{1}{4}$ to $\frac{1}{2}$ inch), light green, and pointed at the tip. The sheaths of orchardgrass are strongly compressed and flattened. Other features of orchardgrass are the long, membranous ligule and the open-panicle seedheads.



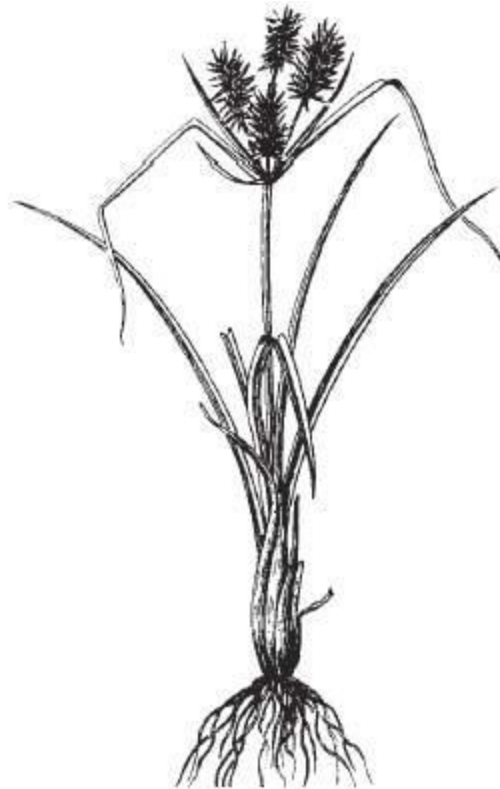
Nimblewill (*Muhlenbergia schreberi*)

Nimblewill is a blue-green perennial grass that is common in Pennsylvania lawns during summer. It spreads over existing turf by stolons and forms dense patches. Leaf blades have a medium texture (about ¼ inch wide) and are short (1 ½ to 2 inches) with leaf tips tapering to an abrupt point. The stems are long, slender, and wiry with prominent nodes. Ligules are short, membranous, and jagged. The leaf blades have long hairs at the margins but do not possess auricles. Seedheads are long, slender, and inconspicuous. Nimblewill grows rapidly during the warm summer months and turns brown or tan in winter.



Yellow nutsedge (*Cyperus esculentus*)

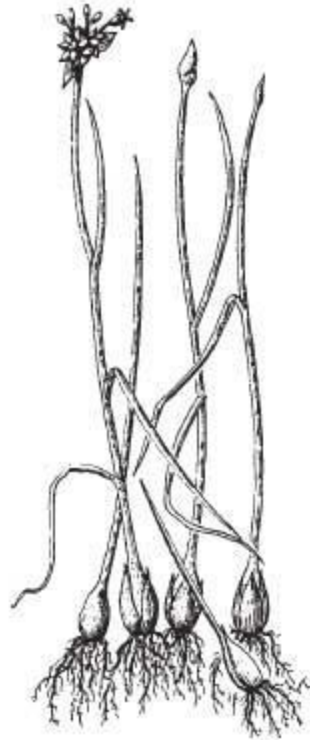
Yellow nutsedge is not a true grass but a member of the sedge family. Plants in this family are characterized by erect, triangular stems and a preference for moist or wet areas. Leaves and stems are yellow-green and shiny. Although leaves and aboveground stems die in winter, new growth occurs in spring and summer from vigorous, scaly rhizomes and nutlets that grow underground. Chestnut-brown seedheads may be present on plants that are not mowed.



Wild garlic (*Allium vineale*)

This species is a perennial weed that has a strong garlic or onionlike odor when cut. It is one of the first weeds to emerge in early spring. Wild garlic produces long, slender, mostly hollow leaves that are dark green and covered by a waxy substance. Leaves emerge from underground bulblets that are covered by thin, papery scales. Flowers may be present on uncut stems and can be white, pink, or purple.

A closely related species, wild onion (*Allium canadense*), looks very much like wild garlic. Wild garlic is more common in Pennsylvania and has hollow leaves. Wild onion has flat (not hollow) leaves. Depending on the growth stage and time of year, it may be difficult to distinguish between these two species.

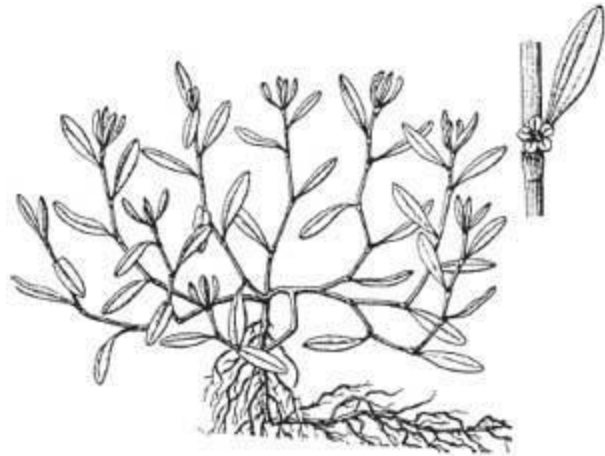
**Weed Descriptions: Broadleaf Weeds****Black medic (*Medicago lupulina*)**

Black medic is a low-growing, dark-green, summer annual broadleaf weed in turf. It can sometimes act as a perennial during years when the winter is mild. Black medic leaves have three leaflets with the center leaflet extended on a short stalk. Stems may spread one or two feet from the original growing point but do not root at nodes. Black medic has small, compact, yellow flowers that form in leaf axils.



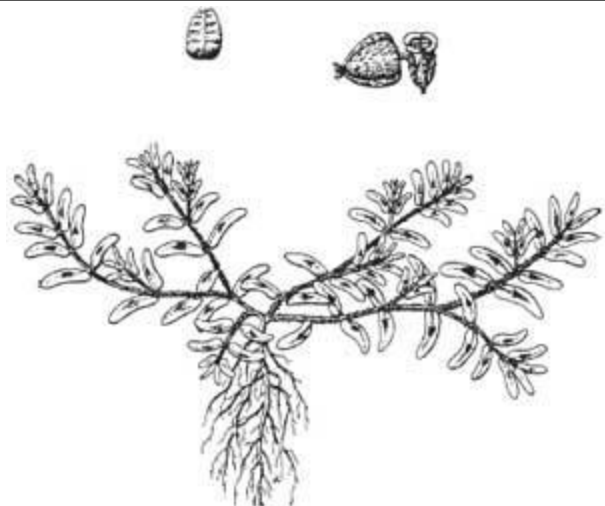
Prostrate knotweed (*Polygonum aviculare*)

Prostrate knotweed is a low-growing summer annual that is well adapted to compacted, highly trafficked areas such as along sidewalks, in athletic fields, and in golf course cart paths. The leaves are alternately arranged on stems, small ($\frac{1}{2}$ to 1 inch long by $\frac{1}{4}$ to $\frac{1}{2}$ inch wide), and blue green, and have margins that are not serrated or lobed. Each leaf is elliptical, tapering to a rounded tip. Stems grow prostrate but do not root at nodes. One distinct feature of knotweed is the papery sheath at the base of each leaf. Flowers are very small and white, and grow in the leaf axils.



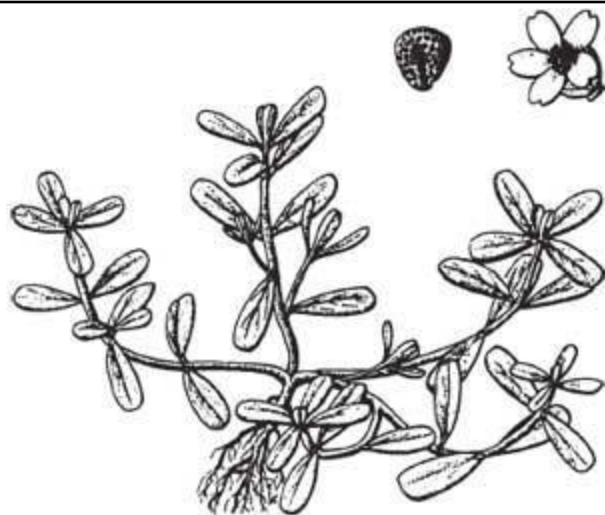
Prostrate spurge (*Euphorbia supina*)

Prostrate spurge (sometimes called spotted spurge) is a summer annual weed that spreads in a prostrate fashion over the soil surface or over desirable grass species. Prostrate spurge can be recognized by its oppositely arranged, small ($\frac{1}{4}$ - to $\frac{3}{4}$ -inch-long) leaves that have a reddish-brown mark or enlarged spot on the upper surface. When broken or cut, the stems exude a white, milky substance. Flowers of spotted spurge are very small and pink or white. This species is common in newly established turf and frequently occurs in mature turf that has been thinned by insect attack.



Purslane (*Portulaca oleracea*)

Purslane is a prostrate-growing, succulent (fleshy) summer annual that grows in newly established turf or in thin lawns. Stems are thick, sprawling, and red. Leaves are thick and fleshy, light green and wedge-shaped. Flowers are small and yellow. Purslane is a prolific seed producer and seeds may lie dormant in soil for many years before germinating.



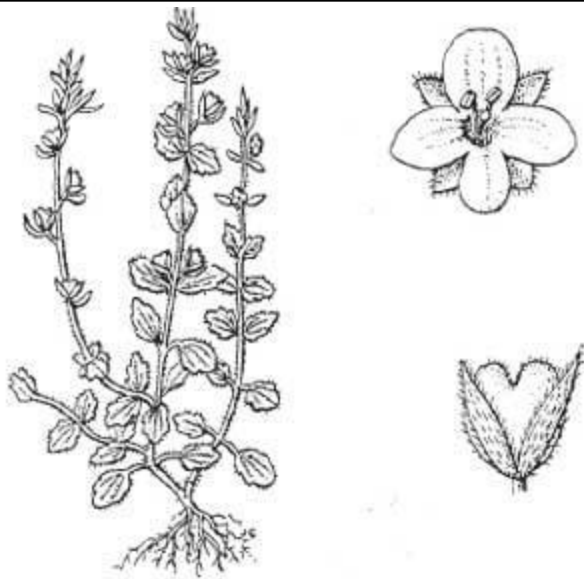
Common chickweed (*Stellaria media*)

Common chickweed is most often classified as a winter annual, but it can grow and flower at any time during the growing season. Leaves are small and elliptical (tapering to a point), and occur opposite one another on square stems that have a single row of hairs. Leaf surfaces are smooth (not covered with hairs). Common chickweed spreads in turf via branched, creeping, aboveground stems that root at the nodes. Flowers are small and white, and have five petals. Common chickweed forms dense patches in high-cut turf and prefers moist, shaded areas, but it can grow in sunny areas and under very low mowing heights (less than ¼ inch).



Corn speedwell (*Veronica arvensis*)

Corn speedwell is a low-growing winter annual weed. Upper leaves are small and taper to a point, whereas lower leaves are rounded and lobed. Stems have an up-right growth habit and do not spread more than an inch or two from the crown. Plants are covered with sparse, fine hairs. The plant's most notable features are the small blue flowers that grow in the leaf axils and its heart-shaped seed capsules. This weed grows in thin turf during cool weather.

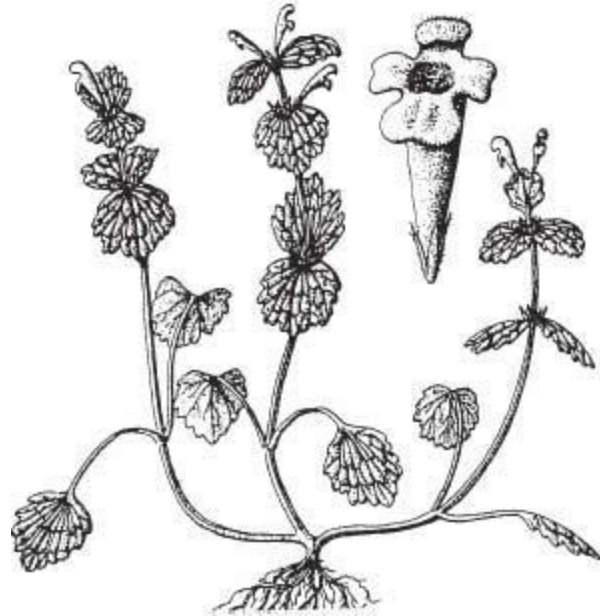


Dog fennel (*Anthemis cotula*)

Dog fennel (also known as mayweed) is a winter annual. It has finely divided leaves that give off an acrid odor when crushed. The plant can grow up to six inches tall, but it has the ability to escape damage by lawn mowers. Dog fennel has a taproot and does not root at nodes. Perhaps the plant's most distinctive feature is the large flower with white petals and a yellow center.

**Henbit (*Lamium amplexicaule*)**

Henbit is a winter annual weed that has oppositely arranged leaves with lobed margins. Stems are hairy and square; they typically grow in an upright fashion but can grow prostrate and occasionally root at nodes. Flowers occur in the axils of upper leaves. They are pale purple, long (up to 3/8 inch), and trumpet-shaped. Henbit is found in moist soils and can be especially troublesome in turf during early spring.



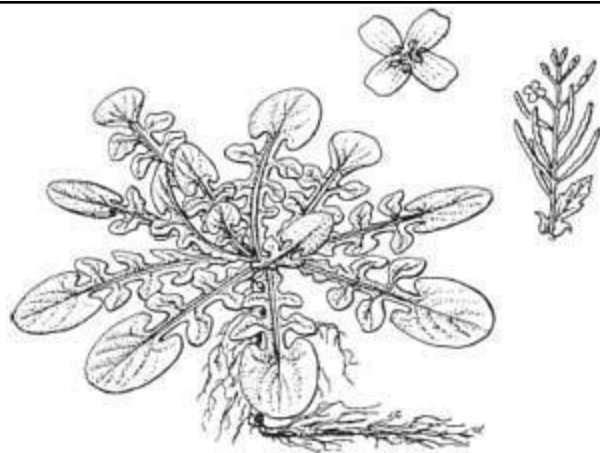
Mallow (*Malva rotundifolia*)

Mallow is a biennial most often found in poorly maintained and underfertilized turf. Leaves are large (greater than 1 inch in diameter) and round with serrated margins. Mallow produces sprawling branches that form nodes that do not root. Flowers are pink to lavender and are produced in the axils of leaves and stems.



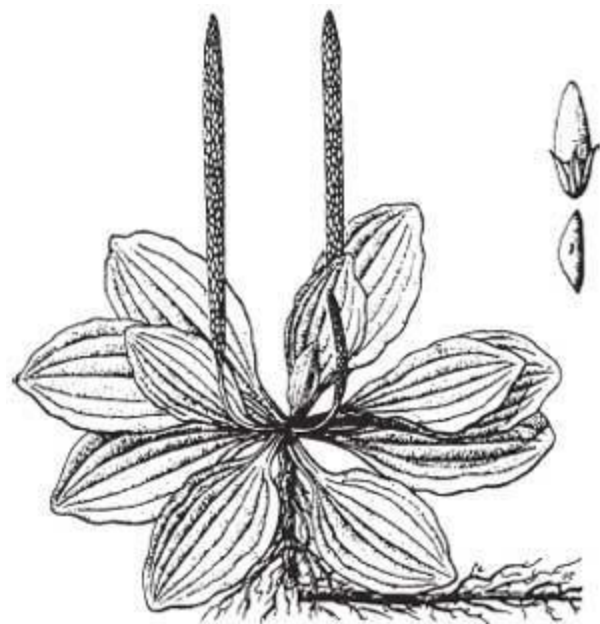
Yellow rocket (*Barbarea vulgaris*)

Yellow rocket functions as a biennial, winter annual, or perennial weed. It produces a rosette of leaves in turf. Individual leaves are strongly lobed and terminate with a large rounded lobe. In most cases, flowers do not develop under low mowing heights, but bright yellow flowers clustered at the tips of the uppermost branches can be observed around fence posts or other structures that are unmowed.



Broadleaf plantain (*Plantago major*)

Broadleaf plantain is a large (3- to 6-inch diameter), low-growing, perennial weed in Pennsylvania lawns. Leaves grow in a rosette fashion and are spoon-shaped with wavy margins. Prominent veins run lengthwise on the leaf surface. Seedheads are long (5 to 10 inches) and are covered with seeds that adhere tightly to the stalk. Broadleaf plantain has a thick tap root that grows deep into the soil.

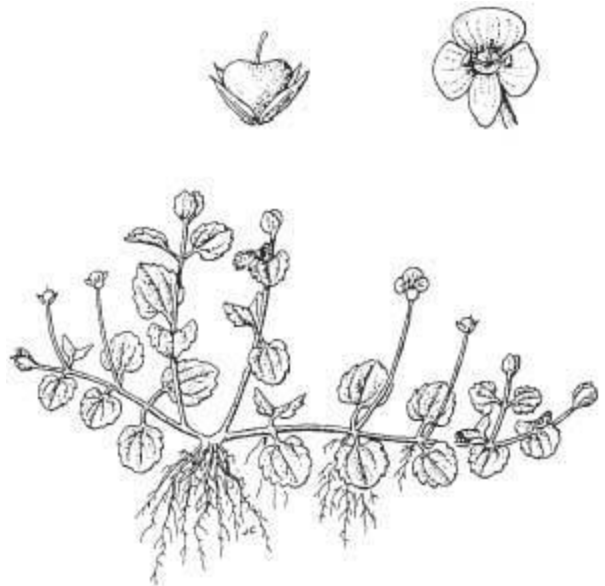


Buckhorn plantain (*Plantago lanceolata*)

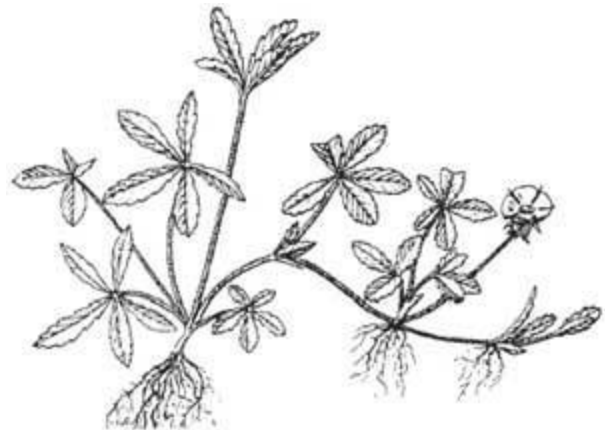
Buckhorn plantain is closely related to broadleaf plantain. It is a large perennial broadleaf weed that grows in a rosette fashion. Leaves are long and much more slender than those of broadleaf plantain. Individual leaves taper to a point and have prominent longitudinal veins and smooth, wavy margins. Seed stalks are long and terminate in small compact seedheads.

**Creeping speedwell (*Veronica filiformis*)**

Creeping speedwell, a perennial, is a small-statured plant that can creep over desirable turfgrasses and form dense, light-green patches several feet in diameter. Leaves are oppositely arranged, very small ($\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter), and rounded with scalloped margins. Stems grow horizontally above ground and root at the nodes. Creeping speedwell produces small blue and white flowers in spring. Seed capsules are heart-shaped.

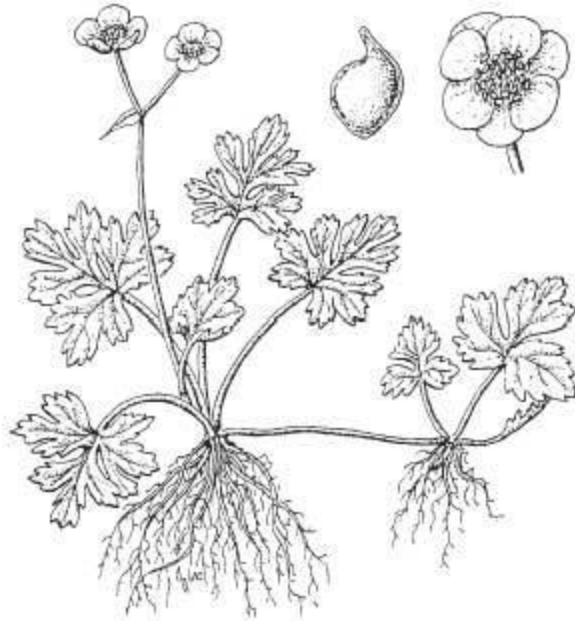
**Cinquefoil (*Potentilla* spp.)**

Cinquefoil is a perennial weed that grows in low-fertility soils and spreads by stolons. Depending on the species, leaves have three to five leaflets with serrated margins. Flowers of cinquefoil are small and bright yellow, and have five petals.



Creeping buttercup (*Ranunculus repens*)

Creeping buttercup spreads by extensive stolons that can quickly take over large areas of thinned turf. Leaves are dark green and divided into three segments. The flowers are small, bright yellow, and cup-shaped.



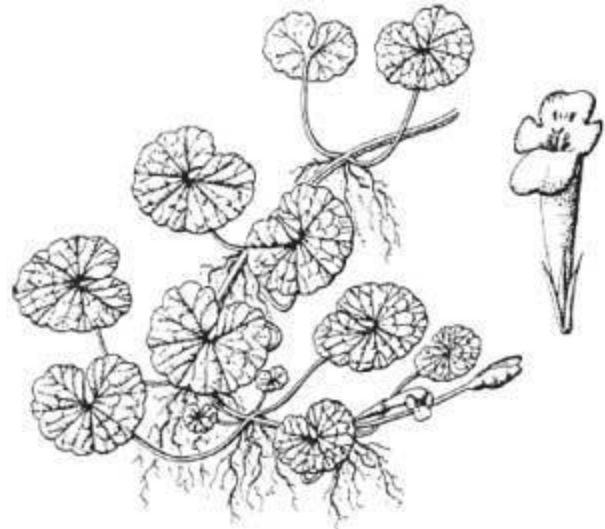
Dandelion (*Taraxacum officinale*)

Dandelion is the best-known and perhaps the most common perennial turfgrass weed in Pennsylvania. It forms a rosette of long, narrow, and strongly lobed leaves. Dandelions produce thick taproots that can penetrate up to several inches into the soil. Bright-yellow flowers (1 inch in diameter) are produced on long stems in spring.



Ground ivy (*Glechoma hederacea*)

Ground ivy is a low-growing, creeping, perennial broadleaf weed. Leaves are oppositely arranged on stems and are round or kidney-shaped with scalloped margins. The upper leaf surface has distinct veins and is sparsely hairy. Stems are square, creeping, and long. Ground ivy produces nodes that root at leaf and stem axils and that can form new stolons. Flowers are blue or purple and trumpet-shaped. This weed is most common in shaded areas, but it can also grow in full sun.



Heal-all (*Prunella vulgaris*)

Heal-all, a perennial weed, grows horizontally in turf by means of creeping, aboveground stems that can root at nodes. Leaves are oppositely arranged on stems and broad at the base; they taper to a blunt tip. Veins are prominent on the upper leaf surface, and margins are smooth (not lobed or serrated). As with other members of the mint family, stems are square. Flowers are violet to purple and are produced in dense clusters at the tips of branches.



Wild violet (*Viola papilionacea*)

Wild violets are persistent perennial weeds that are difficult to control in turf. This species is an upright grower that spreads by means of thick underground stems. Leaves are heart-shaped and margins are serrated. The leaf surface is shiny owing to a thick waxy covering. Flower petals are purple, and the center of the flower is white or yellow.



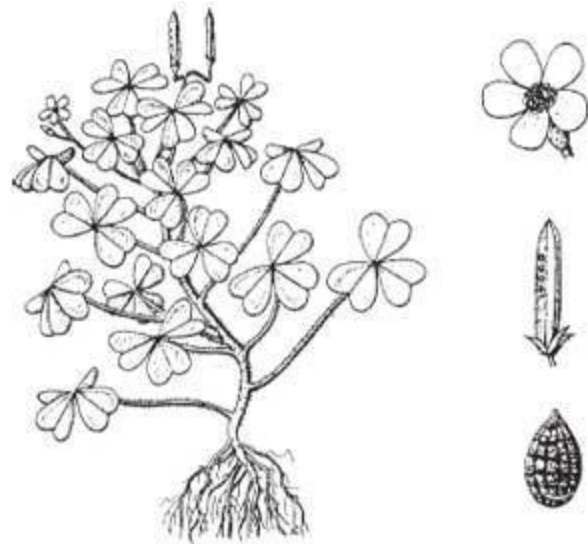
White clover (*Trifolium repens*)

Clover is a very common weed in nearly all turfed areas. Although some homeowners do not find clover objectionable, its creeping growth habit can overtake turf and form large dark-green patches. Clover leaves are composed of three leaflets, each with a small white mark in the center. Stems grow above ground and root at nodes. Clover produces white, compact flowers that are about ½ inch in diameter.



Yellow woodsorrel (*Oxalis stricta*)

Yellow woodsorrel (sometimes called oxalis) is a light-green, upright perennial weed. Like clover and black medic, each leaf has three leaflets. Leaflets of yellow woodsorrel can be distinguished from other weeds by their distinct heart shape. Flowers are bright yellow with five petals. As flowers mature, they lose their petals and form banana-shaped seedpods that forcibly eject seeds.



Yellow and orange hawkweed (*Hieracium* spp.)

Two types of hawkweed grow in Pennsylvania, yellow and orange. Both species are perennials that produce a rosette growth habit. Leaves are long and slender but not lobed or serrated. Perhaps the most distinctive feature of these species is the abundant, bristlelike hairs that cover the leaf surface. Flowers are produced on long stems and are bright yellow (yellow hawkweed) or orange (orange hawkweed).

