Purdue Master Gardener Guide to Common Lawn and Garden Weeds

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Purdue Master Gardener Guide to Common Weeds

Introduction

Often you must identify the weed before you can select or recommend a method of control. This Guide will help you with that task.

These are many different weeds in Indiana! Don't assume your weed is one of the common weeds listed in this Guide. If you are uncertain about the identity of your weed, consult the resources listed at the end of the Chaper 20: Weeds, in the Purdue Master Gardener Manual. Your Purdue Extension county Educator can also help you identify plants.

Information compiled by Mary Welch-Keesey Purdue Consumer Horticulture Specialist.

A Short Primer on Grass Identification

Grasses are difficult to ID. At quick glance, they all look the same. Flowers often do not appear until late in the growing season or are mown off. Grass identification in spring and summer must be based on growth habit and leaves.

Growth habit: Look for overall shape (e.g. upright, prostrate) and growth (spreads all over vs. stays in a clump). Look for stolons and rhizomes in grasses that spread.

Leaves: Key ID characteristics are often hidden. A grass leaf has two parts, a sheath that wraps around the stem and a blade that grows away from the stem. The junction between the sheath and the blade is the collar and is important for grass identification. Gently pull the blade away from the stem to see the collar. Young leaves are more likely to retain ID characteristics than older leaves. Check several leaves (a hand lens is useful) looking for:

Ligules - growth standing up from the collar. It may be short or tall, membranous, hairy, or membranous with a fringe of hairs. Not all grasses have ligules.

Auricles - protrusions that extend from the collar and wrap around the stem. Not all grasses have auricles

Blade and sheath - look for presence or absence of hairs; wavy or straight edges; color; prominence of midrib.



Weedy Grasses

Bermudagrass (Cynodon dactylon)

Weed Type: Perennial grass

Problem Areas: Invades lawns and other areas, highly invasive, more common in Southern Indiana. Can be grown as a lawn grass in the southern US.

Identification: Warm-season grass that spreads by both stolons and rhizomes, will turn brown in cool weather, green up in summer. Creates mats and is difficult to pull out of ground. Ligule is a fringe of hairs, no auricles. Leaf edges are hairy near the collar and may be slightly rough. May be confused with crabgrass (note difference in growth habit and ligules).

See Figure 3.

Large Crabgrass and Smooth crabgrass (Digitaria sanguinalis and Digitaria ischaemum)

Weed Type: Annual grass

Problem Areas: Common invaders of thin lawns especially those mown too short; fertilized in summer; or given light, frequent irrigation. May also be found in garden beds.

Identification: Grows in clump; leaves light green; nodes swollen and stem zigzag; prostrate habit and may root at lower nodes. Both species have membranous ligules and no auricles. Large crabgrass has hairs on sheath and blade; smooth crabgrass has a few hairs on blade just above collar. No stolons or rhizomes. Photo by John Woodmansee.



Figure 1. Crabgrass

Creeping bentgrass (Agrostis stolonifera)

Weed Type: Perennial grass

Problem Areas: Used on golf courses. Home lawns nearby may be invaded. Bentgrass seed has sometimes been included with lawn grass seed. May be a contaminant in low-quality bluegrass seed mixtures. Will be more of a problem in lawns with good irrigation. Can tolerate very low mowing.

Identification: Cool season grass that spreads by stolons. Usually lighter or more bluegreen than lawn grasses with a much finer texture. No auricles. Ligules are long and membranous. Leaves are ridged but not hairy. May be confused with nimblewill (ligules different) or Bermudagrass (which has rhizomes). Foxtails (Setaria species)

Weed Type: Annual grass

Problem Areas: Found in thin lawns or bare garden areas

Identification: There are three common foxtail species, all with thin elongated flower clusters (like a fox's tail). Green foxtail has hairy ligules but otherwise leaf has few hairs (may be rough to touch). Yellow foxtail has hairy ligules and long hairs on the upper surface of leaves, usually near the collar region. Leaves may have a spiral twist. Giant foxtail has hairy ligules and the upper surface of the blade is covered with short hairs. None of the foxtails have auricles. All grow as a clump.

Photo by Mary Welch-Keesey.

Nimblewill (Muhlenbergia schreberi)

Weed Type: Perennial grass

Problem Areas: Primarily a lawn weed.

Identification: Warm season grass that spreads by stolons and forms mats. Will turn brown in cool weather, green up in summer. Leaf blades are relatively small, usually less than 3" long. Leaves have very few hairs and no auricles. Ligules are very short, membranous with distinctive teeth along top. It can be confused with

Bermudagrass (nimblewill has no rhizomes, is small and wiry, and has different ligules) or with bentgrass (ligules are different). Photo by Aaron Patton.



Figure 2. The elongated flower cluster of foxtail.



Figure 3. Nimblewill, Bermudagrass and zoysiagrass will be brown in winter and obvious in a lawn of green, cool-season grasses.

Quackgrass (Elymus repens)

Weed Type: Perennial grass

Problem Areas: Invades lawns, crops and landscapes. May be brought in with topsoil. Rhizomes can survive cultivation

Identification: Cool season grass with long rhizomes. Leaves have very short ligule but long, clasping auricles. Photo by Aaron Patton.

Figure 4. Quackgrass has clasping auricles.



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Zoysiagrass (Zoysia japonica)

Weed Type: Perennial grass

Problem Areas: Warm-season lawn grass sometimes grown in southern Indiana that becomes a weed when growing in lawns of cool season grasses

Identification: Spreads by stolons and rhizomes, will turn brown in cool weather, green up in summer. No auricle. Ligule hairy, collar region with many long hairs. Upper leaf surface may also have long hairs. May be confused with Bermudagrass which also has rhizomes. Zoysiagrass has hairs standing upright on the leaf blade whereas Bermudagrass does not. Zoysiagrass is stiff to the touch.

See Figure 3.

Non-grass Monocots

Wild garlic (Allium vineale)

Weed Type: Perennial monocot

Problem Areas: Invades lawns and bare areas, especially if soil is poorly drained and fine-textured.

Identification: Perennial plant with grass-like leaves that begins growth in very early spring. Leaves are slender, hollow, and nearly round. They will smell like garlic or onion when crushed. Flowers are white to purple held in a small rounded cluster in May or June. Will form aerial bulblets on flower stalks and also bulbs underground. Leaves and stems are waxy. Photo by Aaron Patton.



Figure 5. Wild garlic.

Yellow nutsedge (Cyperus esculentus)

Weed Type: Perennial monocot

Problem Areas: Invades lawns and landscape beds, especially those with moist to wet soils. Underground structures can lie dormant for 10 years or more waiting for favorable conditions.

Identification: Perennial sedge with a triangular stem, usually much more yellow than lawn grass and faster growing. Flowers and seeds are held in clusters of short spikes. Forms underground structures, small and round, called nutlets. It is very difficult to control with cultivation. Photo by Mary Welch-Keesey.



Figure 6. Yellow nutsedge.

Broadleaf Weeds - Basal Leaves

Broadleaf plantain (Plantago major)

Weed Type: Perennial broadleaf

Problem Areas: Invades lawns, probably second most common weed after dandelion. Tolerates wet or dry soils, compaction, and low mowing

Identification: Leaves form a low rosette, more prostrate than that formed by buckhorn plantain. Leaves, 3-6", have a broad flat petiole and a rounded blade with several parallel veins. Flowers cover the long, very thin flower stalk creating clusters 5-10 inches long (compared to about an inch long for buckhorn plantain). Has a short, thick taproot. Spreads by seed. Photo by Mary Welch-Keesey.



Figure 7. Broadleaf plantain.

Buckhorn plantain (Plantago lanceolata)

Weed Type: Perennial broadleaf

Problem Areas: Invades thin lawns and bare areas. Will tolerate dry soil, compacted soil, and low mowing but not a lot of foot traffic.

Identification: Leaves form a rosette. Leaves are upright, long and slender with parallel veins. You may think it is a monocot but it isn't. Flowers through the summer. Flower cluster is about 1" on the end of a leafless stalk. Open flowers create ring around the cluster, opening first at the bottom of the cluster. Has a short, thick taproot. Spreads by seed. Photo by Mary Welch-Keesey.



Figure 8. Buckhorn plantain. Note upright form compared to broadleaf plantain.

Dandelion (Taraxacum officinale)

Weed Type: Perennial broadleaf

Problem Areas: Invades thin lawns and most other places. Prefers sun but otherwise tolerant of a wide range of conditions.

Identification: Leaves form a low rosette. Leaves are deeply lobed with the tips of the lobes pointing back toward the center of the plant. Flowers are held singly above the leaves, up to 2" wide, and have many yellow petals. Flower stalk is hollow. Seed cluster is a small puffball. Spreads by seed. Taproot allows plant to regrow but it does not naturally spread in this way. However, if pieces of taproot are spread around a garden area by cultivation, each will produce a new plant. Correct mowing height and adequate fertilization will help lawn out-compete dandelions. Photo by Mary Welch-Keesey.



Figure 9. Dandelion, note that lobes of leaf point toward center of plant.

Violets (Viola species)

Weed Type: Perennial broadleaf

Problem Areas: Invades moist, shady, fertile sites including lawns, which often grow poorly in shade

Identification: Leaves form a rounded clump about 5" high. Leaves are heart-shaped and waxy, with a long petiole, the blade often cupping toward the petiole. Flowers blue to violet to white in May, asymmetrical with 5 petals. Forms rhizomes and spreads. Hand digging can be effective if rhizomes are thoroughly removed.

Photo by Aaron Patton.



Figure 10. Violets.

Broadleaf Weeds - Opposite or Whorled Leaves

Common chickweed (Stellaria media)

Weed Type: Annual broadleaf

Problem Areas: Invades shady, moist areas; will grow in mulch

Identification: Winter annual that forms a low, rounded mound of leaves, prostrate stems will sometimes root at nodes. Roots are fibrous. Leaves are opposite, very small (<1") with a pointed tip and teeth on the leaf edge. Leaves are smooth and not very hairy. Flowers are small but conspicuous, with 5 deeply divided petals that appear as 10. Can persist well after flowering (and flower off and on) if environmental conditions remain favorable. Photo by Merrill Ross.



Figure 11. Common chickweed.

Ground ivy (Glechoma hederacea)

Weed Type: Perennial broadleaf

Problem Areas: Invades lawns and landscapes, prefers moist, fertile, shady sites but can tolerate full sun

Identification: Leaves opposite on long petioles. Leaves kidneyshaped, almost encircling petiole, about an inch wide, edges are scalloped. Leaves have a mint scent when crushed. Purple flowers in May but they may not be noticed. Ground ivy forms long slender stolons that root at the nodes. Plant is an aggressive spreader and difficult to control. Hand weeding is seldom completely effective.



Hairy galinsoga (Galinsoga ciliata)

Weed Type: Annual broadleaf

Problem Areas: Invades cultivated areas, including vegetable beds

Identification: An erect summer annual that can grow to 2 ft. Leaves are opposite, oval, and coarsely toothed. Upper surface is densely covered with hairs. Stems are green, sometimes with a red tinge, and covered with hairs. Flowers are less than $\frac{1}{2}$ wide with a yellow center and 4 or 5 white petals, each with 3 lobes. May flower through the summer. In the aster family. Photo by Mary Welch-Keesey.



Figure 12. The scalloped leaves of ground ivy.



Figure 13. Hairy galinsoga.

Henbit and purple deadnettle (Lamium amplexicaule and Lamium purpureum) Weed Type: Annual broadleaf

Problem Areas: Invades garden areas, even with mulch, and thin lawn areas.

Identification: Winter annuals in the mint family with square stems and opposite leaves. May germinate in fall. In spring, it grows rapidly, flowers, and dies, will be gone by mid-summer. Flowers in early spring are purple and held on upper stems. The upper leaves of henbit have no petioles, they are short and broad (kidney shaped) with scalloped edges and may appear to clasp the stem. Upper leaves of deadnettle have short petioles. The leaves are triangular with small teeth.



Figure 14. Henbit on left, purple deadnettle on right.

Photo by Mary Welch-Keesey.

Honeyvine milkweed (Ampelamus albidus)

Weed Type: Perennial broadleaf

Problem Areas: Invades areas with moist, fertile soil, full sun to part shade

Identification: A native perennial vine with opposite, heartshaped leaves up to 7" long. Petiole may be 1-4". Leaf veins are conspicuously white. Unlike other members of the milkweed family, broken stems and leaves do not release a milky sap. Flowering begins in June. Flowers are white with 5 petals held in small clusters in the leaf axils. Fruit is a narrow green pod to 6" long. Spreads by seed. Stems can twine around trees and shrubs, growing to 10 ft. Photo by Mary Welch-Keesey.



Figure 15. Honeyvine milkweed.

Mouseear chickweed (Cerastium fontanum)

Weed Type: Perennial broadleaf

Problem Areas: Invades open areas, especially in lawns. Can tolerate very low mowing and most situations.

Identification: Mat-forming perennial with weak stems that fall over and root at nodes. Leaves are very small, less than an inch long, opposite without petioles, oblong, and very hairy. Flowers are small but conspicuous, with 5 deeply divided petals that appear as 10. Flowers on and off all summer. Spreads by forming mats and by seeds that can stay dormant but viable for several years. Hard to control culturally once established; a dense vigorous lawn can compete against this weed.

Photo by Mary Welch-Keesey.



Figure 16. Mouseear chickweed. All chickweeds have similar flowers.

Purple loosestrife (Lythrum salicaria)

Weed Type: Perennial broadleaf

Problem Areas: Invades moist to wet areas such as low spots, ditches, and wetlands. Was once sold as an ornamental plant. It is now considered invasive in many states and it is illegal to sell or plant in Indiana.

Identification: Branching perennial to 5 ft. Leaves are opposite or whorled low on the stems, may be alternate near tips of stems. Leaves are elongated, the largest about 4" and clasp the stem. Showy purple flowers with 6 petals are held on a tall spike above the foliage, blooming mid-summer to fall. Spreads by rhizomes to form colonies, can also spread by seed. Photo by Mary Welch-Keesey.



Figure 17. Purple loosestrife.

Purslane (Portulaca oleracea)

Weed Type: Annual broadleaf

Problem Areas: Invades areas with bare soil and also those with mulch, common in newly seeded areas where other plants are not well established, prefers areas in full sun. Tolerant of poor, compacted, droughty soils.

Identification: Mat-forming summer annual that grows low to the ground. Leaves are succulent, opposite, oval, waxy, and without teeth. Stems are succulent and red. Flowers are yellow and small, in summer. Has a thick, fleshy taproot. Broken stem segments left on soil will root and resume growth. This species is sometimes cultivated as an ornamental annual. Photo by Mary Welch-Keesey.



Figure 18. Purslane. Note succulent red stem.

Common ragweed (Ambrosia artemisiifolia)

Weed Type: Annual broadleaf

Problem Areas: Invades cultivated areas, anywhere soil has been disturbed, prefers full sun and fertile soil, will tolerate drought

Identification: A summer annual that can grow to 3 ft. Leaves are opposite low on the plant, alternate as you move upward. Leaves (2-4+") are divided several times and are hairy. Stems have long, rough hairs. Flowers are small, green to yellow, held in narrow elongated clusters mid-late summer. Male and female flowers are in different clusters, male flower at the top of the plant, female flowers lower in the leaf axils. Releases large amounts of pollen that can cause hay fever.

Giant ragweed (Ambrosia trifida)

Weed Type: Annual broadleaf

Problem Areas: Fertile soil, will tolerate some shade. Not as drought tolerant as common ragweed.

Identification: Erect summer annual, in good environment can reach over 12 ft in height. Leaves are opposite and hairy, to 12", each with 3 toothed lobes and a long petiole. Stems have white hairs. Flowers are

as described for common ragweed including the potential to cause hay fever. Photos by Mary Welch-Keesey.





Figure 19. Common ragweed, giant ragweed, ragweed flowers.

Speedwell (Veronica species)

Weed Type: Annual broadleaf

Problem Areas: Invades gardens and thin lawns, grows best with ample moisture and some shade

Identification: Several species of winter annual with prostrate stems. Leaves are very small (<1"). Those near the center of plant are opposite, coarsely toothed, almost scalloped, and have petioles. Leaves at tips of stems may be alternate and lack petioles. Flowers in early spring have 4 blue petals. Some perennial species of Veronica are grown as ornamental plants.

Photo by Mary Welch-Keesey.



Figure 20. Small leaves and blue flowers of speedwell.

Spotted spurge (Euphorbia maculata)

Weed Type: Annual broadleaf

Problem Areas: Invades lawns and landscapes with dry, nutrient-poor soils. It competes well with lawn grass that is mowed too short.

Identification: Summer annual that can create a mat of stems more than a foot wide. Stems hug the ground and radiate from a central point. All parts release a milky sap when broken (common characteristic of many Euphorbia species). Leaves are waxy, succulent, opposite, and oblong, <1", often with a maroon mark in the center of the leaf (the "spot" in the common name). Flowers are inconspicuous, pink, and found in the leaf axils. Forms a short taproot. Prostrate spurge (Euphorbia humistrata) is similar but it will root at the nodes.

Photo by Mary Welch-Keesey



Figure 21. Spotted spurge stems hugging a sidewalk.

Broadleaf Weeds - Alternate Leaves

Canada thistle (Cirsium arvense)

Weed Type: Perennial broadleaf

Problem Areas: Invades just about anywhere

Identification: Leaves begin in a low clump early in the season, become alternate as the stem elongates and flowering begins (final height 3-5 ft). Leaves are lobed with spines on the margins. Purple flowers, mid-late summer, are held in a cluster about 1" in diameter with a swollen area below.

Bull and musk thistle are also found in Indiana but their flower clusters are larger (2") and spiny and their stems are spiny. Canada thistle forms an immense system of underground rhizomes making control difficult. Almost impossible to remove by digging and broken rhizomes will regrow.

Photos by Glenn Nice and Aaron Patton.





Figure 22. New growth and flowers of Canada thistle.

Common lambsquarters (Chenopodium album)

Weed Type: Annual broadleaf

Problem Areas: Prefers cultivated areas with loose, bare soil, produces thousands of seeds.

Identification: An erect summer annual that can grow to 4 ft. The leaves are alternate with long petioles, usually triangular or diamond shaped, may be toothed or entire, several inches long. Seedling leaves are typically covered with a gray mealy coating. Individual flowers are small and are held in elongated clusters at the tips of the stems. Stems are angular, grooved, and may have a reddish tinge. The taproot makes it difficult to pull this weed from the ground. Photo by Glenn Nice.



Figure 23. Lambsquarters.

Field bindweed and hedge bindweed (Convolvulus arvensis and Calystegia sepium)

Weed Type: Perennial broadleaf

Problem Areas: Invades landscape beds and other areas.

Identification: Bindweeds have long vining stems that can wrap around and smother any nearby plant. Leaves are alternate with petioles but without teeth, but shape varies

with species (arrow-head to lobed, 1" up to 6" long). Flowers are white to pink/purple, large and showy, with 5 petals fused together in a funnel shape. Spreads by a deep, extensive rhizome system. Pulling the thin stem out of the ground will kill the bindweed that is wrapping around your plant, but new stems will soon grow from the roots. Photos by Mary Welch-Keesey.



Figure 24. Field bindweed and hedge bindweed. Flowers are similar but leaves are different. Note the twining in the field bindweed photo.

Poison ivy (Toxicodendron radicans)

Weed Type: Perennial broadleaf

Problem Areas: Invades open areas in sun or shade. Seeds are spread by birds that eat the fruit and seedlings can pop up almost anywhere.

Identification: Woody plant that can grow as a shrub or a vine. Alternate leaves, each with 3 large leaflets, edges may or may not be toothed, leaf shape quite variable. Flowers greenish yellow, in clusters at leaf axils, usually not used for identification. Spreads by seeds, creeping roots, and stems that root where they touch the ground. Small plants can be pulled out but check regularly for regrowth from broken roots. To control, cut stems and treat with glyphosate or triclopyr. No matter the method, persistence is needed and retreatment may be necessary, possibly several times. Sometimes maple tree seedlings with opposite leaves are mistaken for poison ivy.



Figure 25. Poison ivy.

<u>NOTE:</u> Many people develop a rash from contact with this plant. When working with poison ivy, use gloves and long sleeves, wash clothes as soon as possible. Never burn poison ivy. The smoke can cause breathing problems in sensitive people. Photo by Mary Welch-Keesey.

Pokeweed (Phytolacca americana)

Weed Type: Perennial broadleaf

Problem Areas: Invades neglected areas, prefers part shade and moist, fertile soils. Will be smaller in sunny, drier sites and may lose leaves in drought.

Identification: A well-branched perennial growing to 10 ft with smooth stems sometimes with a purple tinge. Leaves are alternate with petioles, blade an elongated egg shape to 12", especially those low on the plant. Flowers in summer are white to pink, with 5 petals, held in a long drooping cluster. Berries formed are a deep purple releasing a red, staining juice; stalk turns bright red-purple as the fruit matures. Has a taproot up to 6" in diameter. Spreads by seed.



Figure 26. Pokeweed.

Photo by Mary Welch-Keesey.

NOTE: all parts are poisonous to humans and other mammals.

Prostrate knotweed (Polygonum aviculare)

Weed Type: Annual broadleaf

Problem Areas: Invades areas with compacted soil such as paths and play areas

Identification: Summer annual that forms a broad, low, tough mat. Stems radiate from a central point, up to 24" long. Begins growth early in season. Leaves are alternate, elongated, and without teeth, about 1". A thin membranous sheath circles the stem at the leaf base. Flowers are white to pink and inconspicuous.

Photo by Mary Welch-Keesey



Figure 27. All knotweeds have a sheath around the stem at the nodes.

Redroot pigweed (Amaranthus retroflexus)

Weed Type: Annual broadleaf

Problem Areas: Invades new, thin lawn areas and areas with disturbed soil such as garden beds

Identification: An erect summer annual that can grow to 6 ft. Leaves are alternate, up to 6" long, with prominent veins. The petiole may be as long as the blade. Leaf blades are elongated and broadest in the middle. The lower portion of the stem/upper portion of the taproot is often, but not always, tinged with red. Flowers are inconspicuous, with one elongated cluster at the tip of the stem and shorter clusters in the leaf axils. Photo by Glenn Nice.

Velvetleaf (Abutilon theophrasti)

Weed Type: Annual broadleaf

Problem Areas: Invades moist, fertile soils in full sun. Seeds may remain viable for 20 years.

Identification: An erect summer annual that can grow to 7 ft. Leaf blades are heart shaped and large, up to 8", soft and velvety to the touch. Petioles are long, to 4". Leaves are alternate. Flowers have 5 yellow-orange petals. They are ¾" wide, held in the leaf axils on 1" stalks. Forms a taproot. Photo by John Obermeyer.

White clover (Trifolium repens)

Weed Type: Perennial broadleaf

Problem Areas: Invades lawns, especially those growing in soil low in nitrogen or over-fertilized with potassium. Tolerates low mowing but doesn't compete well with taller plants. May be purposely planted as part of a lawn mixture.

Identification: Short plant, about 6", with alternate leaves with three leaflets. Each leaflet may have a faint, white crescent or "v" shaped mark. White flowers are held in a rounded cluster, about ³/₄" across, occurring sporadically through the summer. Spreads by stolons and by seed. Fertilization to encourage grass growth will help lawns compete against clover. Photo by Mary Welch-Keesey.

Larger plant with similarly marked leaves but pink flowers is red clover, Trifolium pratense.







Figure 30. White clover.

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