Weed Identification in Pastures and Hayfields

This handout is designed to help you identify common weeds found in Southeastern North Carolina pastures and hayfields. This handout has descriptions and pictures of some of the most common weeds. It is divided into warm season broadleaf, grass and other weeds and cool season broadleaf, grass and other weeds. Control methods are not recommended in this handout due to differences in situations, locations, rapidly changing labels, and new products. Please call your local Extension Agent for the best control method for your farm.

Acknowledgments: Thanks to North Carolina State University Weed Science and Virginia Tech Weed Science for the use of pictures and definitions.
Why Identify Weeds?

Weed control is very important in pastures and hayfields. A weed is a plant growing in an area you do not want it to grow. For example, if you are trying to sell bermudagrass hay, anything in your field besides bermudagrass is a weed. Weeds in pastures and hayfields can reduce forage yield and quality. Weeds also have the potential to cause injury or death to livestock in the form of a toxic plant. Besides reducing yield and quality, weeds can interfere with hay drying. Weeds compete with your desired forage and can cause a weakened stand of your grass.

The first step in weed control is identifying the weed or weeds you are trying to get rid of. You should scout your pastures looking for weeds and identify them. Keep a record of what weeds you have in each field and when you start seeing them. This will help determine if your control program is working. Some weeds may take a few years to get under control.

Prevention is any activity that keeps weeds from getting into your pasture. Many weeds are spread by seed. These seeds are dispersed by hay bales, grass seeds, livestock movements, mowing equipment, wind, water, and wildlife. Weeds can be introduced by planting grass seeds that are contaminated with weed seeds. Always know that you are getting the best buy for your money. This is why certified seeds are recommended.

Cultural control increases the competitiveness of the forage. Maintaining proper fertilization such as soil pH, fertility, and management practices maintains grass stands and decreases weed competition. The four control methods below should be used in combination to fight weeds. The effectiveness of control depends on timing.

1. Grazing management is one way to control weeds in a pasture situation. This control allows desired plants to become strong and out compete the weeds. Rotational grazing helps to control weeds by giving desired plants the opportunity to rest and grow undisturbed before being grazed again.
2. Mechanical control usually involves mowing to control weeds. Mowing is usually more effective on broadleaf weeds than grass weeds. Mowing does have negatives such as cost of fuel, may not help with large weeds, and can spread seeds around encouraging more weed growth. If there is no chemical control labeled for a particular weed or if weeds are too mature, mowing may be your only choice to decrease competitiveness.
3. Biological control involves the use of biotic agents such as plants, herbivores, insects, and nematodes to suppress weeds. Biological control is a relatively new area, but progress is being made. Control is usually not complete and may take several years.
4. Chemical control includes the use of herbicides. Herbicides kill by inhibiting the plant growth process. Select an herbicide based on desired forage species, weed species present, cost, and ease of application. It is very important to apply herbicides at the correct time and rate. Always read and follow label directions and pay attention to any grazing and haying restrictions. The label is the law!

**The best time to control weeds with herbicides are when the weeds are young, germinating and actively growing:
   - Cool Season Weeds - the best time to control is October through December. It is also possible to control cool season weeds February through April.
   - Warm Season Weeds - the best time to control is April to mid July for most species.
Terminology

**Alternate** - A type of leaf arrangement characterized by a single leaf at each node.

**Annual** - Plant that germinates, flowers and produces seed in one year.

**Apex** - The tip of a leaf or other plant part.

**Auricle** - A claw-like appendage projecting from the collar of the leaf.

**Basal** - A new plant arising from the base of the stem.

**Biennial** - Plant that generally lives 2 years, where it forms the vegetative structures (roots, leaves) in the first year, and the reproductive structures (fruits, seeds, flowers) in the second year.

**Blade** - The flat portion of the grass leaf above the sheath.

**Bract** - A modified or specialized leaf.

**Broadleaf** - Plants with flattened leaves; dicots, i.e., plants that possess two seedling leaves. Leaves are generally wide (wider than they are long) and have net-like veins. They can have either round or square stems, and growth can be upright, prostrate or vining. Broadleaf plants can have a taproot, a bulbous root, or fibrous roots. They generally have showy flowers. Three key indicators help categorize a plant almost definitively as a broadleaf, rather than a grass, rush, or sedge: a square stem, a non-linear leaf shape, or a non-fibrous root system.

**Bunchgrass** - A non-spreading grass which lacks rhizomes and stolons.

**Cladodes** - Are not leaves but swollen water-storing stem segments.

**Collar** - A narrow band marking the place where the blade and sheath of a grass leaf join. A divided collar is divided by the midrib and a continuous collar is not divided by the midrib.

**Cool season** - A plant that exhibits optimum growth during spring and fall months.

**Cotyledon** - A leaf of the embryo of a seed plant, which upon germination either remains in the seed or emerges, enlarges, and becomes green.

**Crown** - A region of compressed stem tissue from which new shoots are produced, generally found near the surface of the soil.

**Cultivar** - A word derived from 2 words; "cultivated variety," referring to any cultivated variety of a particular plant species.

**Dormancy** - A period when growth and development is temporarily suspended.

**Fibrous roots** - A root system made up of many threadlike members of more or less equal length, as in most grasses. It serves to anchor the plant.

**Flower** - Reproductive structure of some seed-bearing plants, characteristically having either specialized male or female organs or both male and female organs, such as stamens and a pistil, enclosed in an outer envelope of petals and sepals. This structure usually has showy or colorful parts.

**Inflorescence** - The flowering part of a grass or broadleaf.

**Keeled** - Has a longitudinal prominence on the back.

**Lateral** - On the side.

**Leaf** - An extension of a plant's stem that is primarily the plant's food-making organ in photosynthesis.

**Leaf Axil** - The location where the petiole attaches to the stem.

**Leaflet** - One of the segments of a compound leaf.

**Legume** - A plant that belongs to the family Leguminosae (or Fabaceae). Legumes live in a symbiotic relationship with bacteria in structures called nodules on their roots. These bacteria are able to take nitrogen from the air, which is in a form that plants cannot use, and convert it into compounds that the plants can use.
**Ligule** - A membrane-like tissue or row of delicate hairs typically found in grasses at the junction of the leaf sheath and blade.

**Lobe** - A rounded portion of a leaf.

**Midvein** - The vein in the center of a leaf.

**Node** - A joint in a stem, rhizome or stolon.

**Opposite** - A type of leaf arrangement in which the leaves grow in pairs, on opposite sides of the stem, but at the same height of the stem.

**Palmate** - The veins originate from the base of the leaf, and radiate out towards the outer edges of the leaf (in the general shape of a palm).

**Panicle** - A type of seedhead with multiple seeding branches around the stem. Sometimes roughly triangular in shape.

**Parallel** - The veins begin at the base of the leaf and run lengthwise along the whole leaf.

**Peduncle** - A stalk bearing a flower, flower cluster, or fruit.

**Perennial** - A plant that generally lives more than 3 years.

**Petiole** - The stalk of a leaf that attaches the blade to the stem.

**Pinnate** - The veins do not appear to begin or end in one place, but rather form a "net" of veins.

**Primary Root** - Originates in the seed as part of the embryo, normally being the first organ to grow. It grows downward into the soil and produces lateral secondary roots that emerge at right angles behind the root tip. Sometimes it persists and thickens to form a taproot. It is not considered the dominant root.

**Prostrate** - Low growing, parallel and hugging the ground. May form new roots at the nodes.

**Raceme** - A type of seedhead, consisting of spikelets attached along the end of the stem or attached at one point at the end of the stem.

**Rhizome** - An underground creeping stem capable of producing roots and tillers at the nodes.

**Rosette** - Plant that has a cluster of leaves that grow in a circle at ground level. The plant will most likely also have one upright stem form in the center of the rosette late in the growing season.

**Secondary Root** - A root arising from a primary root.

**Sedge** - A plant very closely resembling a grass. Can be distinguished from grasses by the solidly triangular stem section.

**Seedhead** - The dry fruit containing seeds. They can be open-panicle types, compact spikes, or raceme.

**Sepal** - A modified leaf that is part of the outermost of the four groups of flower parts. The sepals of a flower are collectively called the calyx and act as a protective covering of the inner parts in the bud.

**Sheath** - The portion of a leaf base surrounding the stem of a grass. Can be open, closed, or split with overlapping margins depending on the species of grass.

**Spike** - One type of seedhead of grass, at the end of the stem, not branched.

**Sprig** - A rhizome or stolon of a grass, harvested and transplanted to establish a pasture or hayfield.

**Stem** - The stalk of a plant that supports a leaf, flower, or fruit.

**Stolon** - An above ground creeping stem capable of producing roots and tillers at the nodes.

**Summer Annual** - A plant that germinates, flowers and produces seed in one year that exhibits optimum growth during summer months.

**Surfactant** - An additive typically used with herbicides. Include cationic, anionionic and nonionic. The most commonly used is nonionic surfactant.

**Taproot** - A main root that grows straight down from the stem and gives off small lateral roots. Plants with a taproot usually survive drought conditions.
**Tiller** - An emerging grass plant shoot.

**Translucent** - Permitting the passage of light.

**Trifoliate** - Typically consisting of three leaflets. Clover is an example of a trifoliate plant.

**Tuber** - An underground stem attached to the root system, stores carbohydrates.

**Venation** - The appearance of veins in a leaf; either pinnate, palmate, or parallel.

**Vernation** - The arrangement of an immature leaf in the bud shoot; either rolled or folded.

**Warm season** - A plant that exhibits optimum growth during summer months.

**Winter annual** - A plant that establishes from seed, grows, sets seed and dies in one growing season beginning with germination in the fall and dying in the spring/summer.

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**Grass Diagram from University Of Georgia Turfgrass**

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**Broadleaf Diagram**
North Carolina State University
Turf Files
Warm Season Broadleaf Weeds

Cudweed is a summer annual, winter annual or biennial weed. In general, the cudweeds have basal rosettes and the leaves and seedheads are covered in distinct fine, white "woolly" fibers. Some cudweeds only have this hair on the undersides of the leaves and other cudweeds have this hair on all surfaces. Cudweeds overwinter as small basal rosettes, but in the spring usually grow an upright stem. The leaves are egg-shaped and it has a taproot. The fruit bears bristly, white tuft-like projections that are shed at maturity.

Dogfennel is a perennial weed. It can grow over 6 feet tall. The leaves are divided into very fine, somewhat indistinct segments. The stems are hairy especially when young, but leaves are always hairless. The stems are soft and easily broken when young, but become very tough and woody as it ages. When crushed, the leaves and stems have a very distinct odor that is slightly sour and musty.

Horsenettle is a perennial plant from rhizomes with obvious spines on leaves and stems that reach 3 feet in height. Leaves are elliptic-oblong to oval, alternate, petioled, 2½ to 4½ inches long and covered on both surfaces with hairs. Stems are angled at the nodes, become woody with age, and have prickles and hairs. Flowers occur in clusters and are star-shaped with 5 white to violet petals and a yellow center. The fruit is a berry, green when immature, turning yellow and wrinkled with maturity. The plant is capable of poisoning livestock if eaten in sufficient quantity; however, consumption rarely occurs due to the prickly stems and leaves.

Lambsquarter is an annual weed that grows upright 1 to 4 feet tall with many branches. The leaves have a wavy or coarsely toothed margin with a soft gray or white mealy coating on young leaves and underside of mature leaves. The flowers are unremarkable gray-green in dense clusters in leaf axils and branch tips. It is a rapid growing weed with high water use and is very competitive in most situations.

Mare’s Tail or Horseweed is an annual weed. It is an erect weed that can reach 6 feet when mature. Leaves will be 3 to 4 inches long at the base and will taper off towards the top of the plant. The mature plant will flower out later in the summer and will have white or pink flowers.
Warm Season Broadleaf Weeds

Cudweed

Cudweed Seedhead

Dogfennel

Horsenettle

Lambsquarter

Lambsquarter Seedhead

Mare’s Tail or Horseweed
Warm Season Broadleaf Weeds

Pigweed or amaranth is an annual weed. There are approximately 60 species with foliage ranging from purple and red to gold. They have an extended period of germination, rapid growth, and high rates of seed production. It is resistant to herbicides where they have been applied often. It can reach 6½ feet in height. It can have red stems and egg-shaped, wavy-marginlined, alternate leaves. Stems and leaves may or may not be hairy. It has a shallow taproot that is often reddish in color. It has small, green, not noticeable flowers that are produced in dense, compact panicles that are approximately ¾ inch wide and from 2 to 8 inches in length. This weed is often confused with lambsquarter. Pigweed can be very toxic if eaten in large quantities.

Pokeweed is a perennial weed that can grow from 1 to 10 feet tall. They have single alternate leaves with points at the end and crinkled edges. The stems are often pink or red. The flowers are greenish-white, in long clusters at the ends of the stems. The flowers develop into dark purple berries. They usually grow along fence lines. This plant is poisonous to livestock.

Ragweed is an upright annual weed. It has single leaflets, that are deeply lobed, with hairs on the upper and lower surfaces. Leaves can grow to 2 plus inches wide. It has a taproot with many hairs. Flowers are not noticeable. Ragweed emerges in the spring, often in cultivated areas, but is also found in pastures and along roadsides and ditches. It prefers heavier soils.

Showy crotalaria is an annual weed/legume with relatively showy yellow flowers and distinctive seedpods. The stem is erect, reaching 6 feet in height, stout, and green or purplish in color. Stems become waxy and somewhat angled with age. Leaves are alternate, approximately 2 to 6 inches long, widest at the apex and tapering to the base. Leaves are without hairs on the upper surface and covered with hairs on the lower surface. Once mature, it will produce large bright yellow flowers. Showy Crotalaria can produce fruit pods that are 1 to 2 inches in length and take on the appearance of an inflated cylindrical pod. The fruit turns brown to black when mature and the seed within the fruit often becomes unattached resulting in a ‘rattlebox’ sound when shaken. Seeds are considered mildly toxic and can cause problems if consumed in large quantities.
Warm Season Broadleaf Weeds

Pigweed, redroot

Pokeweed

Pokeweed fruit

Ragweed

Showy crotalaria

Showy crotalaria
Warm Season Broadleaf Weeds

Sicklepod is an annual weed with erect, nearly hairless stems, reaching 1 to 6 feet in height. It is a plant with yellow flowers, long narrow seed pods, and multi-divided leaves with the terminal pair of leaflets being the largest. The fruit is a brownish, angular seed produced in a long, slender, curved seed pod (a legume). Sicklepod has a taproot. The leaflets are also photosensitive. The leaflets fold upward by flexible petioles at night or on cloudy days. The pods are green and turn brown as the seeds mature.

Sida species can also be called Ironweed. Prickly Sida is an erect annual weed commonly found late in the season. Stems grow 8 to 20 inches long. It has yellow flowers with 5 petals which can be solitary or in clusters. It is most readily identified by the spiny projections on the stem at the base of each leaf petiole.

Spiny amaranth is an annual that is very similar in appearance to other pigweeds, but with pairs of spines at the base of the leaf petiole and the central stem. The spines of spiny amaranth help to distinguish it from all other closely related pigweed species.

Woolly Mullein is a biennial weed. The first year it produces a rosette and the next year it produces a stalk with yellow flowers. It is a hairy plant that can grow to 6 feet or more tall. It has small yellow flowers that are densely grouped on a tall stem, which protrudes from a large rosette of leaves. It prefers well-lit disturbed soils, where it can appear soon after the ground receives light, from long-lived seeds that persist in the soil seed bank. It is intolerant of shade from other plants and unable to survive tilling. It also hosts many insects, some of which can be harmful to other plants. Although individuals are easy to remove by hand, populations are difficult to eliminate permanently.
Warm Season Broadleaf Weeds

- Sida, Prickly

- Sicklepod

- Spiny amaranth

- Woolly Mullein
Warm Season Grass Weeds

Bahiagrass is a commonly-found warm season grass that spreads by rhizomes and is easily recognized by its characteristic "Y-shaped" black seedhead. This fast-growing invasive grass forms a dense low-growing sod, with small narrow leaves. Bahiagrass can be used as a forage grass.

Barnyardgrass is an annual with thick stems that may reach 5 feet in height. Barnyardgrass is one of the few grass weeds in which ligules are absent. Leaves are without hairs or auricles. The leaf sheaths are often tinted red or maroon at the base. The leaves are smooth and rolled in the shoot. Leaves range from 4 to 20 inches in length and may be 5 to 30 mm wide. Leaves have a distinct white midvein that becomes keeled toward the basal portions of the leaf. A few short hairs may occur at the leaf bases.

Broomsedge is a perennial grass that forms clumps. It often goes unnoticed until it matures into a reddish-brown clump of broom-like leaves. The plant sends up slender stems up to three feet tall in late summer. The stems produce numerous white, wind-borne seeds. It grows on nutrient-poor soils and is especially tolerant of low nitrogen and phosphorous levels. In the springtime, the grass produces clumps of curly, boot-top-tall blades, but the fodder provided is short lived. Broomsedge’s ability to produce allelopathic chemicals suppresses the germination and growth of competitive species. In effect it makes its own natural weed killers.

Broadleaf signalgrass is a spreading annual often found growing along the ground with tips ascending. Stems are bent at the nodes and the plant may also root at the nodes that touch the ground. The plant may reach 3 feet in height. The leaf sheaths and blades are often maroon-tinged. The leaf blades are 1½ to 6 inches long and 6 to 15 mm wide and are wider at the base and tapers toward the tip. Signalgrass has a narrow membranous ligule ½ to 1 mm long fringed with hairs. The roots are fibrous. The seedheads are racemes, each with 2 to 6 "branches" and 1 to 3½ inches long. The spikelets are somewhat flattened in appearance. It is most identifiable by the short, wide leaves, rooting nodes, flattened spikelets and lack of hairs on the leaf blades.
Warm Season Grass Weeds

Bahiagrass

Bahiagrass Seedhead

Barnyardgrass

Barnyard grass seedhead

Broomsedge

Broadleaf Signalgrass

Broadleaf Signalgrass
Warm Season Grass Weeds

Crabgrass is an annual grass. The seedlings sprout quickly, forming a clump with extensive roots. Large crabgrass seedlings are pale green and covered with coarse hairs. It has a membranous ligule and no auricles with young leaves rolled in the bud. Plants form open clumps up to 2 feet tall. Once established, it is difficult to weed out because it roots at the nodes. Smooth crabgrass can be distinguished from large crabgrass by its shorter, wider leaf, blackish brown bract and lack of hairs. Both are highly palatable, good quality forages.

Dallisgrass is a perennial grass often mistaken for palms species. The leaf appearance is very similar to crabgrass. It can be readily identified by its seedhead which has hairy spikelets in 4 rows on 3 to 8 alternate branches. It has short, thick rhizomes. Rank seedheads in late summer can be infected with an ergot-like fungus, turning them gray to black and sappy. Cattle eating a significant amount of the infected seedheads can develop an illness called dallisgrass staggers, which is serious, but not always fatal. Dallisgrass can be used as a forage grass.

Fall Panicum is an annual grass with large round, smooth sheaths that are often bent at the nodes. This weed may reach 7 feet in height. A primary identifying characteristic is the 'zigzagged' growth pattern it takes on due to bending at the nodes. There are hairs on the lower leaf surface. The leaves are rolled in the shoot, 4 to 20 inches long, and auricles are absent. The ligule is a fringe of hairs reaching 2 to 3 mm in length and is often fused at the base. Leaf blades have an obvious midvein and are smooth above, but sometimes slightly hairy near the leaf tip or leaf base. Nodes along the stem are usually swollen and bent in different directions, which contributes to the rather unusual growth habit of this weed. It has a fibrous root system with stems that are capable of rooting at the nodes. The seedhead is a wide, spreading panicle that develops a purplish tint when mature. Individual spikelets are yellow and approximately 3 mm long by 2 mm wide.
Warm Season Grass Weeds

Crabgrass

Crabgrass seedhead

Dallisgrass

Dallisgrass seedheads

Fall Panicum

Fall Panicum Seedhead
Warm Season Grass Weeds

Foxtail is a name for three different species of annuals. All are very similar type grasses and can mainly be differentiated when mature. Foxtail is a clump-forming grass with a seedhead that resembles a fox's tail. Giant foxtail has characteristic foxtail-like seedheads that droop when mature and leaves with many hairs on the upper leaf surface. Giant foxtail is generally larger and has a nodding seedhead, unlike the other foxtails. Yellow Foxtail has a characteristic foxtail-like seedhead that appears yellow when mature and leaves with long silky hairs at the base only. Green foxtail has a characteristic foxtail-like seedhead and leaves with no hairs.

Goosegrass is an annual grass that requires moisture and light for germination. Goosegrass has a prostrate growth habit and is often white in the center with a wagon-wheel like appearance. It does not root at the nodes, but grows well in compacted soils. Leaf sheaths are flattened, smooth, and distinctly white to silver at the base. Goosegrass has a fibrous root system. The seedhead is composed of 2 to 13 spikes each that are 1½ to 6 inches long, 3 to 7 mm wide and grows in clusters at the top of stems. Two rows of flattened spikelets occur along each spike. Each spikelet contains 3 to 6 light brown to black seeds that are 1 to 2 mm long. Plants often appear compressed to the soil, as if they have been repeatedly stepped on. The distinctive white center of goosegrass distinguishes it from most other grass weeds.

Johnsongrass is an aggressive perennial grass. It spreads by rhizomes and seed. It is a very tall, coarse grass with stout rhizomes. It grows in dense clumps and can reach 8 feet in height. The leaves are smooth, 6 to 20 inches long, and have a prominent white midvein. The stems are smooth and pink to rusty red near the base. Panicles are large, loosely branched, purplish, and hairy. Spikelets occur in pairs or threes and each has an obvious awn. Seeds are reddish-brown and nearly ⅛ inch long. The roots are fibrous. Rhizomes are found close to the soil surface and are stout with purple spots and scales at the nodes. It can be poisonous to livestock if it becomes wilted from frost. During hot dry weather, Johnsongrass can contain enough prussic acid to kill livestock if eaten in any quantity. Leaves can cause bloating in livestock from the accumulation of excessive nitrates.

Vaseygrass is a medium-large perennial grass. The stems are tufted, and grow to 7 feet tall. The leaf blades are long and narrow, up to 2 feet long, and ½ inch wide. The leaves are smooth, with long hairs at the base. The sheath is hairy at the base of plant and has prominent ligule.
Warm Season Grass Weeds

Foxtail

Foxtail Seedheads – Giant, Green and Yellow

Goosegrass

Goosegrass Seedheads

Johnsongrass

Johnsongrass seedhead

Vaseygrass seedhead
Warm Season Other Weeds

Common Lespedeza is a mat-forming, wiry stemmed, prostrate, and freely branched annual. It has dark green trifoliate (arranged in threes) leaves with three oblong, smooth leaflets. The leaflets have parallel veins nearly at right angles to a prominent mid-vein. The leaves have smooth edges and a short spur at the tip of each leaflet. It also has a semi-woody taproot and grows close to the ground. It flowers in late summer with pink to purple, single flowers found in leaf axils on most of the nodes of the main stems. Lespedeza can be used as a forage grass.

Field Sandbur or Sandspur is an annual weed. Sandburs are a lighter shade of green than most other grass weeds. The leaves are rough. The roots require careful handling because the seed is actually a bur. It has a membranous ligule that has little hairs on the top of it and a flattened stem. Field sandbur is found mostly on sandy soils. It is troublesome mainly because the green or brown spiny burs can cause discomfort to livestock. The burs are dispersed when they cling to animals, people, clothing, or equipment. The stems may be erect or spreading, are often bent near the base, and are highly branched. They grow from 6 inches to 1½ feet tall and appear flat in cross-section. The plant’s leaves are flat (folded when budding). The leaves usually have a raised midvein and few or no hairs. The base of each leaf forms a sheath that extends down the stem and the point where the leaf base joins the sheath is often lighter in color and hairy. The plant has a shallow and fibrous root system that emerges from the plant base. It reproduces through seed only and competes poorly with other plants.

Nutsedge – (Yellow and purple) is sometimes incorrectly called nut grass, but it is a sedge. Sedges can be distinguished from grasses by the stem. Sedges always have a three sided or triangular stem. Yellow Nutsedge is native to North America and is a fairly cold tolerant sedge. Purple sedge is a native of India and is more commonly a problem in warm season grasses. Both species are perennials that produce tubers on underground rhizomes. The two species can be distinguished by the color of the seedheads and location of the tubers on the rhizomes. Yellow Nutsedge has a yellowish tan seedhead, whereas Purple Nutsedge has a red-purple seedhead. In Yellow Nutsedge the tubers only grow on the ends of rhizomes, while Purple Nutsedge will grow tubers in a chain connected by rhizomes. Purple Nutsedge is generally more difficult to control, so positive identification is important.

Prickly Pear is a low-growing cactus with showy yellow flowers and pads that have many individual prickles that consist of tufts of needle-like spines. It is a perennial cactus that is native to most of the United States. Prickly pear has many pads (called cladodes) with tufts of needle-like spines. The prickly pear has no true leaves present. It has a thick rootstock. Pads are able to root and aid in the spread of this species. Each pad is a stem that is succulent, thick, and contains many individual spines. Upon closer examination, you can see that some of the spines (less than ½ inch long) actually consists of many very small 'needles' that can very easily stick in skin, clothing, fur, etc. Pads also contain some spines that are approximately 1 inch long that do not divide in this manner. Pads that become detached from the parent plant have the ability to root and form new plants in almost any location. The fruit is a cone-shaped capsule that is widest at the top, tapering to the base. Individual fruit are approximately 1 to 1½ inches long, fleshy, and turn red to maroon with maturity. The flowers are bright yellow in color, 2 to 3 inches wide, and sometimes have a reddish center.
**Cool Season Broadleaf Weeds**

**Buttercup** is a annual or perennial broadleaf weed. There are two species common to North Carolina. Bulbous Buttercup is common from the Piedmont East through out the Coastal Plain while Hairy Buttercup is predominate from the Piedmont west into the Mountains. Both are common pasture weeds. They are annuals which reproduce by seed and can invade a field or pasture in one growing season. Bulbous buttercup can be distinguished by the bulbous swelling at the base of the stems. Both species have deeply lobed leaves and produce yellow flowers with (usually) 5 petals.

**Chickweed** is a low-growing annual. The leaves range from ½ to 1¾ inches in length, are light green in color and smooth or possibly hairy toward base and on the petioles. Common chickweed has oppositely arranged small oval or elliptic leaves and stems with rows of hairs. Mouseear Chickweed (Cerastium vulgatum) is very similar in appearance and growth habit, however this species is densely covered with hairs unlike common chickweed.

**Curly Dock** is a perennial weed. Curly dock has deep taproot, a basal rosette of wavy-margined leaves and an unbranched stem that may reach 5 feet in height. Lower rosette leaves are petioled, without hairs, alternately arranged on the stem, and are dark green with wavy margins. The stem leaves are arranged alternately along the stem, have a membranous sheath that encircles the stem (ocrea), and becomes progressively smaller up the flowering stalk. The leaves become reddish-purple with age. As the plant matures, effective control becomes more difficult as the tap root develops.

**Dandelion-Carolina False, Common or Cat’s Ear** are three species of Dandelion. Carolina False Dandelion is a winter annual or biennial weed, whereas Common and Cat’s Ear Dandelions are perennials. The hairy leaves of Carolina False Dandelion are deeply lobed and form a basal rosette with a taproot. The flower stalk can have many branches that end with flowers, unlike common and cat's ear dandelion. Cat’s Ear Dandelion leaves are densely hairy and the lobes of the leaves are more rounded than other dandelions. Common Dandelion can be distinguished from Cat’s Ear Dandelion because young leaves of Common Dandelion are hairless.

**Geranium, Carolina** is a biennial weed that forms a basal rosette initially with subsequent stem elongation and branching as the plant matures. The stems are erect, freely branching near the base to 28 inches tall. The stems are usually pink to red in color and densely hairy. It has divided leaves and distinctive 'crane's bill' fruit. Also, the whitish-pink to purple flower color of Carolina geranium helps to distinguish it from similar geranium species.

**Henbit** is an annual with square stems and pink-purple flowers, reaching 16 inches in height. The leaves are opposite, reach 5 inches in length, are circular to heart-shaped, with hairs on the upper leaf surfaces and along the veins of the lower surface. The leaf margins have rounded teeth. The lower leaves occur on petioles, while the upper leaves are without petioles (sessile).
Cool Season Broadleaf Weeds

Buttercup, Carolina
Chickweed
Curly Dock
Curly Dock- Mature seed heads
False Dandelion
Geranium, Carolina
Henbit
Cool Season Broadleaf Weeds

Oldfield Toadflax is also known as common, blue, or purple toadflax. The plant can flower from early spring to late fall - depending on growing conditions. The small blue flowers have three lobes and basal spurs. The leaves are small, bright green and linear. Small clumps of leaves will form in early spring and the blue flowers will appear on long green stems shortly thereafter.

Plantains-Blackseed, Broadleaf and Buckhorn are perennial weeds that reproduce by seeds and roots. They form a spreading or upright basal rosette of narrowly oval leaves that grow above a long, sturdy taproot with lateral branches. The leaves of Buckhorn Plantain are longer and narrower than the others, sometimes twisted and curled, dark green, and up to 1½ inches wide and 8 inches long. The inflorescence of Buckhorn Plantain resembles a bullet. Broadleaf and Blackseed Plantain can be distinguished by the leaf petioles; Blackseed petioles are usually red-tinged at the base, while Broadleaf Plantain petioles usually are not. Plantains form many small flowers that are tightly clustered at the ends of long stems.

Red Sorrel is a perennial weed. It reproduces by triangular shaped seeds and extensive shallow horizontal roots. It has arrow-shaped leaves, a slender wiry stem with sheathed nodes, and a red to rust-brown color. Cotyledons are oblong and dull green. Seedlings resemble a rosette, made up of many leaves whose shape changes with age from egg- to spade- to arrow-shaped. Flowering stems are slender and erect, reaching heights from 6 to 18 inches. A sheath surrounds the stem like a collar until it turns brown and shatters with age. Leaves grow alternately along the stem. Lower leaves are long, spade-shaped with no lobes. Middle leaves are short and usually have a lateral lobe near the leaf base. Upper leaves are small with no lobes or stalks. Flowers are clustered at the stem top. Female flowers are greenish and male flowers are yellow to red.

Virginia pepperweed is an annual weed that develops as a basal rosette initially, eventually producing flowering stems that have a bottle-brush appearance. Rosette leaves are without hairs, are oval in outline, and are lobed along both sides of the leaf. Rosette leaves do not usually persist once flowering stems are produced. The stems are erect, branched, and reach 20 inches in height. It has a taproot. Individual flowers consist of 4 white or greenish white petals. The fruit are flattened and also have a winged structure around the exterior.

Wild Garlic or Onion are perennial weeds that grow from bulbs. Wild garlic tends to persist later in the growing season than wild onion. Wild garlic sets a flowering stem that can have leaves growing off it up to half the height with a bulblil flower above. Wild onion leaves grow from the base of the bulb. Wild garlic is often confused with wild onion, but the two may be easily distinguished after a closer examination of the leaf cross section. The leaves of wild garlic are hollow and round, while those of wild onion are more flat and solid.

Wild mustard is an annual weed with characteristic yellow mustard flowers. The cotyledons are kidney to heart shaped. The first true leaves are alternate, hairy, elliptic in outline and have wavy margins. It has a taproot in combination with a fibrous root system. The leaves are alternate, egg-shaped to ovate in outline. The lower leaves occur as a rosette, are petiolated, and unevenly lobed with toothed margins. Upper leaves become progressively smaller up the stem, are not lobed, and either clasp the stem or have short petioles. The stems are erect, branched towards the top of the plant and usually have hairs at least at the base of the plant. The flowers are produced in clusters at the ends of branches. Individual flowers have four yellow petals and are approximately ¾ inch wide. The fruit is a dry, elongated fruit with two valves that fall away leaving a central partition.
Cool Season Broadleaf Weeds

Oldfield Toadflax

Plantain, Broadleaf

Plantain, Buckhorn

Plantain, Buckhorn

Red Sorrel

Virginia Pepperweed

Wild Garlic

Wild Garlic or Onion

Wild Mustard
Cool Season Grass Weeds

Annual Bluegrass or Poa Annua is a clump-forming annual grass that tolerates close mowing or may reach 11 inches in height. It is primarily a weed of lawns and turfgrass, but does grow in pastures. The leaves are light green. The leaf blades are ½ to 5 inches long, 1 to 5 mm wide, folded in the bud, and lack hairs on either surface. Leaves have a distinctive boat-shaped tip. The ligule is slightly pointed and membranous. Leaf sheaths are somewhat compressed and flattened, without hairs. The seedhead is an open panicle and ¾ to 2½ inches long. It has a fibrous root system.

Little Barley is a short annual grass that resembles barley or wheat when mature. Little barley rarely reaches more than 2 feet in height and may occur as a weed of pastures, hay fields, and roadsides. Little barley stems range from 4 to 24 inches in height. It has a bluish-green color. The stems turn brown in the spring once the plant has matured. Leaf sheaths are round and usually do not have hairs, but may occasionally have hairs present. The sheath also has split, overlapping, and translucent (hyaline) margins. Seed heads consist of flattened spikes that also turn tan to brown when mature. The seedheads look like other small grain seedheads. Each spikelet contains awns that may range from 2 to 12 mm in length.

Ryegrass is a grass that has two species. There is a Perennial Ryegrass and several cultivars of Annual Ryegrass. Annual Ryegrass often volunteers from seed. Both can be commonly found in pastures and cultivated areas as well as roadsides and ditches. Both have a spike seedhead with seeds alternating from side to side along the stem. Annual Ryegrass can be distinguished from Perennial Ryegrass by observing some slight differences. Annual Ryegrass has long clasping auricles at the nodes, whereas Perennial Ryegrass has short, non-clasping auricles. Perennial Ryegrass typically has 7 to 9 seeds on the seedhead where Annual Ryegrass will have 9 to 15 or more. Also Annual Ryegrass will have an awn on the tips of the seeds where Perennial Ryegrass does not. Annual Ryegrass is often used as a winter cover crop, grazing, or hay.

Cool Season Other Weeds

Hairy Vetch is an annual or perennial herb in the pea family. Hairy vetch is a climbing stem that can reach 6½ feet. The whole plant has a white-woolly appearance because of the long soft hairs. It has a shallow taproot system with strong lateral branches. It has 10 to 20 purple to blue flowers that are brown or long stalks rising from the base of the leaves. Elongated flattened pods contain 2 to 8 rounded seeds from dark brown to grey-black. Hairy vetch grows best in dry, sandy soils.

Yellow Hop Clover is an annual or biennial weed. The leaflets are toothed from mid-blade to tip. It can be distinguished by the sessile (not stalked) attachment of central leaflets. It has peduncles that are stout, stiff, straight, and often shorter than subtending leaves. It has no stolon or rhizome; but upright, hairy branched stems. The flowers are bright yellow with 20 to 30 in loose clusters on long stalks attached at leaf axils. The flowers turn brown and fall-back when mature.
Cool Season Grass Weeds

- Annual Bluegrass- Poa Annua
- Italian Ryegrass Seedhead
- Little Barley

Cool Season Other Weeds

- Hairy vetch
- Hairy Vetch
- Yellow Hop Clover
Resources and References:


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