



SOUTH CAROLINA FAMILY AND COMMUNITY LEADERS

Affiliated with National Volunteer Outreach Network, Country Women's Council, U.S.A., Associated Country Women of the World and in partnership with Clemson University Cooperative Extension Service
SCFCL website: <http://www.scfcl.com>

Leader Training Guide

Weed Control

Objectives:

The direction in this lesson should result in the student being able to achieve the following objectives listed below:

1. Understanding the definition of a weed and their life cycle.
2. Identifying common broadleaf/grassy weeds.
3. Why weed control is necessary in certain environments versus others.
4. Comprehend effective methods of control.

Lesson Overview/Introduction:

This lesson teaches what a weed is and the importance of weed control in an environment. The student should understand the life cycles of annual, biennial, or perennial broadleaf and grassy weeds, as well as decipher if a weed is beneficial or a hindrance to its surroundings. By correctly identifying common weeds in an area the student then can decide which method of control will be most beneficial.

Lesson:

What is a Weed?

A weed is a wild plant growing where it is not wanted and in competition with cultivated plants. When most people think of a weed their brain automatically goes to how to get rid of it. In some cases, the weeds may be beneficial to the environment. Throughout this lesson we will discuss common weeds in South Carolina and if they are a friend or foe.

To start us off we must understand the difference between an annual, biennial, and perennial weed. An annual weed completes their life cycle within one growing season. Annuals only spread by seed. When discussing annual weeds, they are divided into summer annuals and winter annuals. Summer annuals emerge when the soil temperature rises in spring and will continue throughout summer until fall. Once the first frost hits most summer weeds will slowly begin to die off. Unfortunately, if those annual summer weeds produced a seed head you will likely see them next year. Winter annuals will begin to germinate into early fall. Once the temperature rises in the summer months, the winter annuals will die out. Biennial Weeds are identified by having a two-year life cycle. Within the first year a biennial weed produces a rosette, which is a plant with no central stalk. This means that after germination the plant grows without flowering. In the second year the biennial will produce a flowering stalk. Lastly, a perennial weed lives year after year and

will not die after flowering. They reproduce from seeds and vegetative parts like tubers, bulbs, rhizomes (underground stems), or stolons (above ground stems).

What is the difference between a broadleaf weed and a grassy weed? Broadleaf weeds are dicots meaning they have two young seed leaves. Most broadleaf weeds will display netlike veins in their leaves and nodes containing one or more leaves. They are easy to distinguish from grasses because of differences in their leaf structure and growth habits. They can present flowers on some, but not all. A grassy weed is a monocot meaning it only has one true seed leaf. They have hollow stems between the nodes, and alternate leaves with parallel veins.

Common Broadleaf Weeds

may want to attach pictures to help reference weeds.

Lespedeza – Summer annual – Mat forming, wiry, and freely branched. This weed is often found in soils with low fertility as it grows close to the ground in sparse turf/compacted areas. It has 3 leaves that alternate. This can often be found in driveways.

Lawn Burweed – Winter Annual – Low growing and freely branched, this winter annual is one of the reasons you cannot run around barefoot in the yard. It produces a sharp spinelike tooth in the spring before disappearing. Sometimes mistaken as Parsley Piert, but of the two I would much prefer Parsley Piert as it does not have a bur.

Henbit – Winter annual – Greenish to purple square stems with a pinkish to purple flower on the tip and flowers in the spring. Often confused with Purple Deadnettle as both have purple flowers. Henbit's upper leaves lack petioles (stem of a leaf), and Deadnettle's leaves are more triangular shaped. They both belong to the mint family.

Queen Anne's Lace/Wild Carrot – Biennial – Unfortunately, there is no such thing as a wild carrot. Within its first year, Queen Anne's Lace resembles garden carrot leaves and smells like a carrot when the stem is crushed. The second year it produces a stalk with flowers that are small, white, and dense in a flat shape.

Common Mullein – Biennial – Densely hairy/wooly with a grayish to green tint. The first year it can be confused with Lamb's ear, but there are a few ways to differentiate. The most common being in the second year Mullein will produce a yellow flower whereas Lamb's ear will be purple. Mullein will also grow taller than lamb's ear.

Clover – Perennial – One of the most common weeds in South Carolina. Clover is low growing with creeping stems. It can flower in the spring and fall, ranging in a few assorted color flowers depending on what type of clover you may have. Our most common is white clover, but not limited to red clover or crimson clover.

Dandelion – Perennial – Seedlings grow from a taproot once the soil temperature reaches 50 degrees. A yellow flower emerges shortly after on a hollow stalk. After the flowers have emerged

and bloomed, they will close and begin to produce seeds. They make a fuzzy puff ball in a globe shape, and the seeds are wind dispersed.

Virginia Buttonweed – Perennial – Hairy branched and mat forming from a woody root crown with deep rhizomes. Cross shaped white flowers that bloom in summer. Will reproduce by seed, rhizomes, and stem fragments. Meaning mechanically pulling this weed by hand may be ineffective, as leaving behind small fragments will reestablish the plant.

Common Grassy Weeds

– may want to attach pictures to help reference weeds.

Crabgrass – Summer Annual – While there are several types of crabgrass, the most common we see in South Carolina are Smooth, Large, or Southern Crabgrass. They are all remarkably similar in appearance but have slight differences in the blades. Out of the three, smooth crabgrass is the most distinctive difference with a smooth blade only having tiny hairs around the collar region. Crabgrass is one of the hardest weeds to eliminate once out of its juvenile state. Prevention is key.

Goosegrass – Summer Annual – Clumping grass with a white to silver coloration to the center of the plant. Will appear between mid-summer to fall invading any cultivated or disturbed open habitat. The seedhead branches resemble those of a goose foot which is where it gets its name.

Annual Bluegrass – Winter Annual – Dense, clump forming, and light green are all clear indication of annual bluegrass. It begins to germinate in the fall but is seen in late winter to early spring once it has reached seed head. For warm season turf owners this annoying weed stands out on dormant turf. Due to the number of seeds produced by one plant, it can be difficult to control yearly.

Weed Control in Different Environments

With the knowledge of a few common weeds, understanding their role in the environment is essential. It is important to discuss separate roles of weeds and how they can hinder or help their surroundings. To most, crabgrass is one annoying weed that people do not like. Golf courses do their best to keep crabgrass at bay because nobody wants to be putting the game winning shot and hit a clump of crabgrass. In this instance, crabgrass does not belong on a golf course. When referring to a farmer with a pasture full of livestock, they may applaud the idea of voluntary crabgrass, as this is a way to feed their animals. Next, clover oddly finds itself in our backyards year after year. Most homeowners are constantly looking for a solution to make it disappear. However, clover is a great forage for wildlife like deer and a fantastic source of nectar and pollen for honeybees. Lastly, mullein in the landscape may seem like a waste of space, but for others mullein has an impressive list of benefits for us humans. It also will produce a beautiful flower that

we can admire. These are just a few examples of the diversity of weeds and how they can benefit or hinder their surroundings.

Weed Control Options

When deciding what type of control is going to be most beneficial to the area there are a few options. Prevention is the key to obtaining a healthy landscape. A pre-emergent is a great additive to keep weeds from emerging from the soil, but sometimes we do not realize we have a problem until it is too late. The most common control methods include mechanical, biological, cultural, and chemical control. Mechanical weed control is done by you implementing ways to dismember the weed. Whether that be hand hoeing, using tractor equipment such as a tiller, or even hand weeding. Biological control uses a living agent to keep the weeds at bay. This can be done by releasing a fungus, insect, or even a grazing animal into the area. This method will have a low percentage of total control. Cultural control is making the environment less suitable for pests. In this instance a weed would be considered a pest in the landscape. Examples of cultural control would be to ensure proper soil fertility, proper irrigation, sanitation, and mulching. A soil sample helps determine if the soil can support growth. Without the right nutrients provided in the soil it may be difficult to sustain a producing landscape. Proper irrigation allows the lawn/crop to outcompete the present weeds. The sanitation of an area helps because many pests will overwinter in plant debris. By cleaning up thatch build up, weeds, and fallen plant debris it will provide a less chance of further spread in the future. Mulching is also a great alternative to cultural control. By using wood chips, straw, or even rock it can help smother the weed seed from emerging. The last of the control methods is chemical. Chemical control has become more popular over time because of its effectiveness. It targets a broad range of weeds for a specific crop. When deciding if chemical control is the way to go for your area, please reach out to a local Extension agent to find a product that will work best.

Lesson Summary:

The student should be able to successfully determine the difference between a broadleaf weed versus a grassy weed with knowledge to decide if it is an annual, biennial, or perennial. Within the weeds we discussed, the student can identify a few common weeds that we have present in South Carolina. When deciphering a weed's role in the environment, they should decide if it is beneficial or not.

Suggested Activities:

Mark out a 5x5 section of a grassy area and have the students identify how many different types of weeds there are. Once they have identified weeds that are present, they can separate them into broadleaf or grassy weeds. If the weeds were discussed today, encourage them to decide if they are an annual, biennial, or perennial.

Suggested Materials:

Measuring tape
cones/something to rope off an area.

Lesson Prepared by:

Samantha Brown – Clemson Extension Horticulture Agent – Anderson County

Lesson Review by:

Cory Tanner – Clemson Extension Horticulture Program Team Director

Sources/References:

McCarty, L. B., & Hall, D. W. (2018). *Common weeds and wildflowers: Gardens, roadsides, pastures, fields, golf courses, sports fields, lawns, crops, ornamentals, Sod*. Clemson University Public Service Publishing.

Admin. (2016, October 26). *A Guide to Weed Life Cycles*. Center for Agriculture, Food, and the Environment. <https://ag.umass.edu/turf/fact-sheets/guide-to-weed-life-cycles>

Admin. (2016, October 26). *A Guide to Weed Life Cycles*. Center for Agriculture, Food, and the Environment. <https://ag.umass.edu/turf/fact-sheets/guide-to-weed-life-cycles>

Admin. (2016, October 26). *A Guide to Weed Life Cycles*. Center for Agriculture, Food, and the Environment. <https://ag.umass.edu/turf/fact-sheets/guide-to-weed-life-cycles>

Weed ID and biology. Weed ID and Biology | College of Agriculture, Forestry and Life Sciences | Clemson University, South Carolina. (n.d.). <https://www.clemson.edu/cafls/research/weeds/weed-id-bio/index.html>