



Why Soil Testing is Important

Plants differ with respect to their soil pH and nutrient needs. Soils vary considerably in their capability to meet a plant’s nutritional needs depending on factors such as soil parent material, soil texture and structure, the amount of organic matter, biological activities, regional climate, and current growing conditions. Taking a soil test and using the recommendations that come with it will help plants receive adequate amounts of nutrients needed for plant growth. Other benefits, such as minimizing fertilizer runoff into the environment and cost savings from applying only what your plants need, are also good reasons for taking a soil test.



Soil Sampling

The results of your soil test will be only as good as the sample you collect. Follow the four steps below to take a good soil sample.

Step 1

Take a small amount of soil from the top 4- to 6-inch depth and place in a bucket. Repeat process 5 to 10 times from different places in the area or plot you are sampling.

Mix the soil and transfer it to a pint size zip-lock bag (fill bag completely). Label the bag with a five digit code. Use a separate sample bag for each area; for example, one sample bag for the side lawn, one sample bag for the front lawn, and one sample bag for the vegetable garden.

Step 2

If you are sampling the area around your home divide your home area into different plots, according to use.

Step 3

Bring your soil samples to the county Extension Service office. **Make sure you bring a check or money order to pay for your soil test. The fee is \$8.00 per sample.**

Step 4

The Extension Service staff will help you fill out a soil testing form and package your sample to be mailed to the soil testing lab. You should receive your results in about 10 days. If you have questions about your soil test results, contact the county Extension Service office.

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Dollar Spot Management

As we head into fall we will begin to see fungal issues in many lawns. One that has been popping up lately, due to the ideal temperature and extended period of leaf wetness, is dollar spot. While most common in Bermuda and zoysiagrass, this fungal problem can occur in most warm season turfs. Initial symptoms on leaves will be chlorotic spots that turn to straw colored areas with a reddish margin. When looking at the lawn these infected areas will look like small circular spots that are a light straw color.

Managing dollar spot can be done by maintaining soil moisture and soil nutrition. Watering to maintain soil moisture should be done in a way that does not prolong wet periods, such as early morning or late afternoon. Maintaining adequate soil nutrition is important, particularly nitrogen levels, so that the grass can outgrow the fungus. Taking a soil test and following instructions are important because overapplication of nutrients can lead to other issues. Making sure you avoid thatch buildup and removing clippings regularly will also help with this disease.

Fungicides can help manage this disease, but this can be difficult due to various resistances that the fungus may have. Make sure to rotate between fungicides to avoid these problems. Fungicides that have been shown to help include myclobutanil (Fertilome F-Stop Fungicide Granules or similar) and fluxapyroxad (Xzemplar or similar). Make sure you read and follow all instructions to avoid plant damage. Myclobutanil, for example, should not be applied when temperatures are over 85 degrees due to potential for suppressed growth and burning. Applications are most beneficial when applied every 14-28 days preventatively. Trying to eliminate an established problem will take higher application rates more often and may not work.



Garden Calendar: September

Get Ready

- ◆ Make sure you've ordered daffodils and other spring bulbs for October planting.
- ◆ Build or buy compost bin in anticipation of autumn leaves.



Plant

- ◆ Plant cool season leafy root vegetables: Carrots, Beets, Turnips, Lettuce, and Spinach.
- ◆ Sow hardy annuals: Sweet Alyssum, Calendula, Annual Pinks, Snapdragon, and Sweet Peas.
- ◆ Sow rye grass seed in winter lawns.

Fertilize

- ◆ Stop feeding mums when the buds start showing color.
- ◆ Acidify Azaleas and Camelias.



Water

- ◆ Slow down watering of Azaleas and Hydrangea to allow them to harden against winter freezes.
- ◆ Spray foliage of Camelias in anticipation of their bloom.
- ◆ Water potted plants and hanging baskets frequently.

Prune

- ◆ Disbud Camellias, Dahlias, and Chrysanthemums to produce specimen blooms. It is generally not a good idea to prune this late in the year, because new growth will be more susceptible to winter freezes.

Miscellaneous

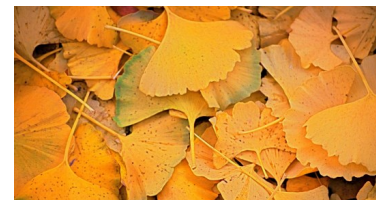
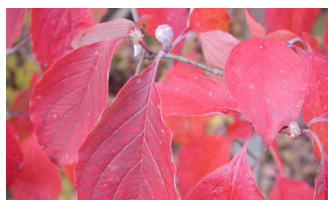
- ◆ Turn compost pile.
- ◆ Propagate by layering. Scrape underside of a strong branch, bend down to ground, cover with soil and weigh down with a brick. Water from time to time and end of branch will put out new growth; becoming a new plant.
- ◆ Pick flowers in bloom and dry for future arrangements. Bundle flowers together and hang upside down in a dry, sheltered area.
- ◆ Repot houseplants. Prune away damaged foliage and give a good dose of food.

In Bloom

- ◆ Canna, Cosmos, Copper Plant, Marigolds, Periwinkle, Plumbago, Crape Myrtle, Althea, Four-o'clocks, Salvia, Ageratum, Coleus, Lycoris, Aster, Begonia, Celosia, Chrysanthemum, Coral Vine, Ginger Lily, Gladiolus, Jacobina, Liriope, Morning Glory, Petunia, Phlox, Rattle Box, Rose, Spider Lily, Torenia, Vinca, White Zephyranthes Lily, Zinnia, Buddleia, Franklin Tree.

Fall Color

- ◆ Flowering Dogwood with showy, drooping red leaves.
- ◆ Ginkgo leaves turn pure yellow.





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Repairing Storm-Damaged Trees

Storms can play havoc with our landscape and fruit trees. The type of care you give damaged trees depends on their size, the extent and type of damage, and the time required for surrounding soil to reach normal moisture levels. A tree's size largely determines its ability to recover. A small, vigorous tree is more likely to survive than a larger one. In general, a damaged large tree is weakened more than a smaller tree receiving the same kind of damage. Types of damage to trees include falling and being uprooted, broken and torn limbs, wounds, split branches, and exposed roots. In many cases, the damaged tree will have to be removed and replaced. Decide what to do with tree stumps. If you are going to leave them, cut them off flush with the ground. If you plan to have them removed, leave 4 feet of stump. Removal is cheaper and easier if stumps can be pulled out rather than dug out. Stumps can be cut at ground level and the remains removed using a stump grinder.

When removing broken and torn limbs, the tree must be pruned properly to avoid additional damage. Removing tree limbs is dangerous work, so you should hire a certified arborist for the job if you feel the need. Cut off small broken or torn limbs 1 inch or less in diameter with a single cut at the branch collar to avoid unnecessary bark stripping. To remove large, heavy limbs greater than 1 inch in diameter, use the drop cut method as illustrated in Figure 1 to avoid ripping bark and wood. Never cut flush with the trunk or branch from which you are pruning. This will delay healing and possibly allow rot organisms an entry into the tree.

The amount of damage to the bark of trees inhibits the plant's ability to recover, especially when there is more than one type of injury. Just like when we cut our finger, it is important to "clean" the wound on a tree by removing all jagged and protruding wood and making smooth, clean cuts with a saw or chisel. It is important to remove and smooth out any rough places where water could accumulate and allow rot organisms to grow. Generally, wounds to a tree will heal themselves through the growth of callus tissue. This callus tissue will seal off, or compartmentalize, the damage from the rest of the tree. Sealing a wound can trap moisture and harmful organisms and stimulate the rotting process.

Leaning trees less than 4 inches in diameter can be straightened and staked back into an upright position. The staking/bracing may be required for an extended period, up to 2 years, but be sure to remove afterwards. Prune the damaged tree just enough to balance root losses but avoid severe pruning. Remove broken, diseased, and malformed branches to give the tree a desirable shape. Cover exposed roots and be sure to water the tree well to provide moisture. Trees larger than 4 inches can be difficult to fully straighten, but a certified arborist may be consulted. It may be best to remove the tree and plant a new one in its place.

Continue to care for the injured tree after repairs are completed by providing needed moisture and add the correct amount of fertilizer beginning in spring as leaf buds begin to form. Consult a certified arborist if you are uncertain as to the best procedure for repairing or replacing damaged trees. You may contact your county Extension office for the names of Certified Arborists in your area or refer to isa-arbor.com. For more information call your local Extension office or refer to Information Sheet 1355 at extension.msstate.edu.

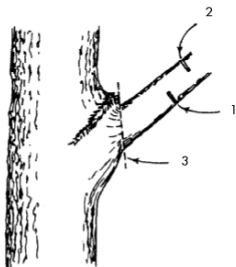


Figure 1. Drop Cut Method: (1) Make a cut $\frac{1}{2}$ way on the underside of the limb, about 1 foot from the trunk or branch. (2) Make a second cut on the upper side of the limb, about 2 to 6 inches farther out on the limb than the first cut until the branch splits off. (3) Remove the remaining stub by making a single cut at the branch collar.



Photo: A final cut should be at the branch collar, not against the trunk, to allow proper wound healing.



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How to help Monarch Butterflies

The monarch butterfly (*Danaus plexippus*) is one of the most recognizable and beloved insects that visits our landscapes. One of the most remarkable things about the monarch is its yearly migratory pattern which ranges from Mexico to Canada. Recently, the monarch butterfly has been in the news as it was classified as an endangered species by the International Union for Conservation of Nature (IUCN). This recent classification is as a result of several decades of observed declines in the overwintering population of monarchs in Mexico. Many are interested in how they can assist with conservation efforts for monarchs. It is also important to understand that has led to the declines in overwintering populations over the past several decades.

The monarch butterfly population is divided into eastern and western populations. What we see here in southern Mississippi is the eastern migratory population. Yearly, these monarchs overwinter in high altitude forested sites in Mexico. In February through April, monarchs leave their overwintering site and fly north reaching areas of the southern United States. This generation lays eggs and caterpillars mature, leading to a second generation that continues to migrate north reaching the extent of their range in early June. In July the process of migration begins again, with a new generation moving southward recolonizing areas of the southern US. The final yearly migration returns the monarchs to their overwintering sites as late as December. Monarch populations have been measured by observing the total area covered by the overwintering butterflies since 1994. The large number of the butterflies makes a direct count difficult, so an indirect way to measure the population is necessary. Declines in population have been shown by the reduced area covered by the overwintering monarchs.

The decline in monarch butterfly populations is a result of a number of factors. One of the most serious is the removal of the monarch's habitat. The overwintering sites for monarchs was under threat due to illegal logging taking place in the very small areas the butterflies use. Fortunately, this has been dramatically reduced. Habitat loss has also resulted from the reduction of open areas across the summer range of monarchs. Expansion of people into formerly undeveloped areas has led to a reduction of nectar and caterpillar feeding resources for the butterflies. Another factor that is important in monarch butterfly decline is climate change. Monarchs are very sensitive to changes in temperature that trigger reproduction and migration. In addition, the increased frequency of droughts and extreme weather can seriously impact populations. **(continued on page 6)**



Overwintering monarch butterflies aggregating in fir forests in Mexico



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Continued: How to help Monarch Butterflies

We can all be involved with the conservation of monarch butterflies. One of the best ways to do this is to make spaces in our home landscapes that provide floral resources to adult butterflies and feeding resources for caterpillars. Growing milkweed is an important way we can ensure that the monarch butterflies have places to lay eggs and for caterpillars to feed and grow. Here in south Mississippi, we have several native species of milkweed that not only provide for monarchs, but also look great in the landscape. It is important to plant native milkweed species. Due to the interest in planting milkweed, tropical milkweed (*Asclepias curassavica*) has frequently been sold in garden centers and planted in home landscapes. Tropical milkweed does not die back in winter and this can lead to a buildup of a protozoan parasite (*Ophryocystis elektroscirrha*) (OE) that reduces the health of the butterflies. Tropical milkweed can also interfere with the migration of monarchs, leading them to reproduce when they should be migrating. As temperatures increase, tropical milkweed can also develop levels of toxic concentrations of cardenolides. These chemicals are important for monarch's protection from predation, but when levels are too high, they can be damaging to the butterflies. Planting native milkweeds such as common milkweed (*Asclepias syriaca*), swamp milkweed (*A. incarnata*), and showy milkweed (*A. speciosa*) solves these issues. Planting multiple species is beneficial as they mature and flower at different times through the season.



**Common milkweed
(*Aesclepius syriaca*)**

Planting additional butterfly nectar plants is also important to support monarchs. Adults use a range of plants as nectar sources. Blazing star and lantana are two plants favored both by monarchs and by gardeners. Coreopsis, black-eyed susan, and joe-pye weed are also great plants for butterflies. Avoid insecticide use in areas planted for butterflies, especially when monarchs are in the area. Adult butterflies will often shelter for the night on the underside of shrub foliage, but you can also provide shelter by placing a simple log pile near the garden area. An area for butterflies to obtain water can be provided by allowing a small area for mud puddles. Placing a few flat stones in open sunny areas will give them a good place to warm up on cool mornings.

While it is tempting to protect growing caterpillars by rearing them in protected areas, this is not a good practice to support the monarch population. Captive bred monarchs tend to show less success in migration and reproduction. Large releases of butterflies also lead to competition for limited resources when the butterflies are introduced to the environment. Finally, captive monarchs are more prone to disease issues that can harm their ability to survive once released. Rather than rearing insects in protected spaces, make room for monarchs and other butterflies throughout your landscape.

Monarchs add beauty to our home landscapes, and with the addition of a few plants we can help ensure that they continue to do so for many years to come. While the classification of monarch butterflies as endangered has raised alarm, there is also reason to be optimistic about the long-term health of monarch butterfly populations. Firstly, awareness of the decline of monarchs has created a great deal of interest in taking steps to protect them. Secondly, while declines in monarch butterflies have been observed in their overwintering sites in Mexico, a survey of summer populations recently conducted has shown that monarch populations are strong in summer breeding areas here in the southeastern US. Insects have a fantastic ability to recover populations quickly and with all of our support, the monarch butterfly will grace our gardens for many years to come.




**Junior Master
Gardener** 
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Gary's Butterfly & Pollinator Garden Tips

Presented by Dr. Gary Bachman, Extension/Research Professor
 Saturday, September 24, 2022 9:00-10:30 a.m.

Poplarville City Park

For GPS Directions: 300 West McClendon Street
 Poplarville, MS 39470



Pearl River
County



Pearl River
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For more information or to register, call the
 Pearl River County Extension Service Office at 601-403-2280.



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Events

LAMAR COUNTY EXTENSION
OFFICE PRESENTS

MISSISSIPPI STATE
UNIVERSITY
EXTENSION

**POND/LAKE
MANAGEMENT**

TUESDAY, SEPTEMBER 13TH - 6 PM

PREREGISTER | **216 SHELBY ST PURVIS MS** | **FREE
EVENT**
601-794-3910

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Online Private Applicator Certification Program

A private applicator is a certified applicator who uses or supervises the use of restricted-use pesticides to produce an agricultural commodity on his or her own land, leased land, or rented land or on the lands of his or her employer. Private applicators must be at least 18 years old.

In response to limited face-to-face training during the COVID-19 situation, the Mississippi Department of Agriculture–Bureau of Plant Industry has approved an online private applicator certification program developed by the MSU Extension Service. Persons needing to obtain or renew their private applicator certification can complete the online training (two video training modules and a competency exam) by using the following link: <http://extension.msstate.edu/content/online-private-applicator-certification-program>. The fee for training and testing is \$20, payable online by credit card, debit card, or eCheck.

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