



Adding Organic Matter to Garden Soil

Regardless of the soil in your garden, it can be improved by adding organic matter. If your soil is heavy clay, the addition of organic matter improves both drainage and aeration and also allows better root development. Liberal amounts of organic matter help sandy soil hold water and nutrients.



When adding organic matter to soil, supply enough to physically change the soil structure. Ideally, at least one-third of the final soil mix should be some type of organic material. To accomplish this, spread a 2 to 4 inch layer of organic material over the garden surface and till it to a depth of at least 6 to 10 inches. Apply the recommended rate of fertilizer over the garden surface at the same time, and till it in along with the organic material.

For gardeners with rototillers or those who are considering renting or buying one, here are some tips to make the tilling job much easier.

- When tilling heavy clay soils or breaking ground for a new garden, reduce the tiller's engine speed so that it turns the soil more thoroughly with less bucking and bouncing.
- When tilling ground for the first time, don't try to work it to the maximum depth in the first pass. The first time around, set the brake stake to half the desired depth. Then set it for full depth and go over the ground a second time.
- Till only when the soil is slightly dry and friable. Tilling when it's too wet leaves large clods which become rock-hard when dry. Mud clumps clinging to tiller blades upset its balance, causing undue wear on you and the tiller.

Where do you get organic matter?

This magical stuff which improves soil and serves as a food source for soil fungi and bacteria comes in the form of peat moss, compost, hay, grass clippings, barnyard fertilizer, shredded bark, leaves or even shredded newspapers.



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Caring for Houseplants

Houseplants add color to our homes and can improve air quality. Usually plants in the home have fewer problems than those in the landscape, but infestations of insects or pathogens, as well as environmental conditions, may cause the plants to be unhealthy or less attractive.

One of the major causes of problems in houseplants is the level of watering. Underwatering is frequently first seen as yellowing of the leaves and browning around the leaf edges. The air inside our homes tends to be much lower in humidity than it is outside. This may cause plants to lose water by transpiration much quicker than expected. Additionally, being placed near an air vent can cause leaves to desiccate. Overwatering is another frequent problem and can cause leaves to wilt. The soil mix for overwatered plants will often have a sour smell and the root system may be dark and off color. To avoid problems with over or underwatering, stick your finger into the soil to a depth of about two inches. If you feel moisture, do not water the plant.

Insect pests of houseplants include aphids, whiteflies, scale, and mealybugs. These insects often hide on the underside of leaves allowing them to escape notice until populations are high. Take care when purchasing new plants or bringing plants in from outdoors as you may be carrying these insects into the house. Infestations of insects can harm the appearance of plants as well as transmit plant diseases. Occasionally, houseplants will develop sooty mold due to insect infestations. Sooty mold is caused by a fungus and appears as a black coating on leaves, and in severe cases stems of plants. This mold is feeding on the “honeydew” produced by sap feeding insects. Most insect pests of houseplants can be removed by forcefully washing leaves of the plant with water. Insecticidal soap and Neem oil, which are both widely available in garden stores, are also effective in eliminating most pest problems.

Disease problems are less common in houseplants as most bacterial or fungal diseases require periods of high humidity in order to infect the plant. The lower humidity inside houses prevents this from occurring in most cases. However, as with insect pests, care should be taken not to bring infected plants into the house as these can serve as a source of pathogens to infect other plants. Disease in houseplants is usually first observed as yellow, brown, or black spots on the leaves. The shape of these spots varies with the particular organism causing the disease. Grayish-white powdery material on leaves and stems is a sign the plant is infected with powdery mildew. Houseplants may also occasionally develop root-rot diseases which are initially observed as wilting or a lesion near the base of the stem. Houseplant diseases are best managed preventatively. Care should be taken to not overwater the plant, and when watering do not allow the foliage to remain wet for long periods of time as this promotes disease development. Plants should also be spaced to allow for good air circulation. Should disease symptoms appear, the affected foliage can be pruned so that it does not serve as a source for more disease. Additionally, once the disease is diagnosed, fungicides or bactericides can be applied if needed.

If you have questions about this, or other topics related to home horticulture, please contact the Hancock County office of the Mississippi State University Extension Service at (228) 467-5456, or by email at cstep@ext.msstate.edu.



Garden Calendar: January

Now is the time of year that Cabin Fever and garden catalogs in our mailboxes get us dreaming about getting out into the garden.



Planning

- Start plans on paper for changes or improvements in the garden.
- Order seed for early planting.

Equipment

- Repair and sharpen mowers and tools. Order new pots and markers.
- Check condition of sprayers.

Planting

- Set out trees and shrubs.
- Plant Sweet Peas, Poppies, and Larkspur.



Fertilizing

- January - March is the proper time to fertilize trees and shrubs.
- Apply lime to lawns if needed.

Pest Control

- Scale on broad-leaf evergreens should be sprayed with dormant oil for control.

Pruning

- Trim Nandinas.

Mulch

- Mulch Lilies with compost.
- Protect tender plants during periods of extreme cold.

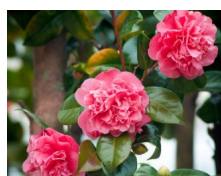


Miscellaneous

- Keep bird feeders stocked. Provide water for birds.
- After freeze, check to make sure plants have not heaved out of the ground.

In Bloom

- Camellia, Winter Honeysuckle, Winter Jasmine, and in mild winters Flowering Quince





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Transplanting Young Trees

It's that time of year again when we're ready to purchase and plant new trees. There are some important steps to help with tree establishment and survival. Establishing landscape trees successfully depends on techniques and care. Improper planting and inadequate follow-up care are the main causes of tree death in the landscape. Site preparation involves more than just digging a hole for each tree. For example, most nurseries grow ball and burlap and bare-root trees in sandy to loamy soil. When you move these trees to the landscape site, the difference in soil texture can make transplanting more difficult. A loam soil has fairly balanced amounts of clay, silt, and sand, making it ideal for transplanting trees.

When choosing a planting site, it's a good idea to test soil drainage. An easy way to help determine soil drainage is to choose a day when the soil is not excessively wet from rain or other factors. Dig a hole 1 foot wide and fill with water. If all the water has not drained out within 6 hours, the soil has poor subsurface drainage. Regardless, in most instances, there are alternatives to accommodate tree planting. If your planting site does not allow for surface drainage you can remove excess water by planting in a raised bed, which needs to be at least 12 inches deep, or preparing a large berm. Such structures can even complement your landscape. If you have to plant directly on heavy soil, incorporate a 3-inch layer of new soil to form a transition layer. Add organic matter such as pine bark or leaf mold. Add the bark at the rate of 2 to 3 inches per 6-inch depth of existing claylike soil to be amended. Do NOT remove all existing soil and simply replace with a lighter soil.

When planting, dig the hole at least twice as wide as the diameter of the tree being transplanted. Dig the edges of the hole at a 45-degree angle. For ball and burlap plants, dig the planting hole no deeper than the height of the soil ball. Digging the hole deeper lets a plant settle and can suffocate the roots. Planting depth needs to be the same as in the field where the plant was grown. Remove the burlap from the top of the soil ball by rolling it down the side of the soil ball. You can remove all burlap if the soil ball is intact. Cut all strings or metal wire. Handle container-grown plants the same way as ball and burlap plants. Spread the roots by gently teasing to break the circular root pattern. If the plant is pot bound, make three vertical cuts through the root system. Also, cut the bottom of the root ball to remove matted roots. Some bare-root plants are packed with materials to keep roots moist in the bag. After removing the packing bag, carefully remove any packing material from the roots. Inspect the roots for any diseased, broken, or dead roots, and clip any of these roots with pruning shears before planting. Clip exceptionally long roots. If transplanting grafted trees, be sure the graft is above the soil line. Immerse the roots in a bucket of water to soak for at least 1 hour. Thoroughly water newly transplanted trees. Water is crucial during the first growing season since lack of water is the leading cause of transplant failure. If you water your trees properly, you have a greater chance for success.

Mulching is essential for young trees. It helps save and extend available water, reduces competition by keeping down weeds, moderates temperature extremes, and acts as a barrier or visible marker for landscape maintenance equipment, particularly weed eaters. Too much mulch can be harmful. Mulching with only 2 inches of bark or 6 inches of pine straw is enough to control weeds and hold moisture in transplanted trees.

Staking and guying is sometimes necessary if a tree will not stand up by itself or is in a windy or heavy-traffic area. Young trees have a small trunk diameter in relation to tree height; guywires support slender trees and protect them from wind damage. When staking trees, remember that the main tree stem grows stronger more quickly if the top of the tree is free to move with the wind. Remove as soon as the tree is stable.



When transplanting B&B trees, remove the string and as much of the burlap and wire as possible.



Container grown trees should be inspected for potential girdling. Roots should be spread out before planting.



When transplanting grafted trees, be sure the graft is above ground. Note the shovel laying across the hole as a guide.



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Pruning

We usually have a long window of opportunity to do many of our winter chores, and we can usually find a good day to suit our comfort level from late December through early March. With most of our perennials in dormancy, now is a great time to start thinking about our pruning needs and preparing for pruning our landscape plants during January or February. We recommend waiting until the entire plant is dormant before doing any major pruning, as this can cause unwanted stress to the plant or even cause a flush of new growth, which can then be injured by cold temperatures.



Pruning grapes and muscadines -Remember when pruning grape vines, the grapes are produced from the buds of one year old canes which are about 1/4 to 1/3 inches in diameter and are reddish brown. When properly pruned, 80 percent to 90 percent of the grape wood is removed every year. Now you know why people can make so many grapevine wreathes. Grape vines with a main trunk and four canes are often trained to a two-wire trellis. Before pruning, select four strong lateral one-year old canes (arms) that are close to the trellis and mark with a ribbon or colored tape. Tie the four arms to the trellis. Remove everything else. Prune off the ends of this year's arms so that 10 to 15 buds remain on each of the arms and only 2 to 3 buds are left on the renewal spurs.

Pruning fruit trees -Peaches, plums, pears and apples especially require annual pruning to remain productive. If left unpruned, fruit production tends to be limited to the top and outer portions of the tree and every other year. Harvesting becomes a real chore, and becomes left to the giants of the family. Remove any diseased or crossing branches first. Then cut back last year's growth by about 50%. Peaches and plums are usually pruned to an open-center so remember to keep that area free of branches, while apples and pears are typically pruned with a central leader.

More detailed information on the correct procedure for pruning, as well as general care of fruit trees, can be found in the following publications at your local Extension office or on the website at extension.msstate.edu :

IS1434 - FRUIT AND NUT REVIEW - PEACHES, NECTARINES, AND PLUMS

IS1433 - FRUIT AND NUT REVIEW - APPLES AND PEARS

P2290 - ESTABLISHMENT AND PRODUCTION OF MUSCADINE GRAPES



EVENTS:

Pine Belt Beekeepers Association Meeting - January 6th at 7:00 p.m. at the Lamar County Extension Office



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Bolting

One of the most frustrating and confusing things that may happen in a vegetable garden is “bolting”. Also called “running to seed”, bolting is the premature production of flowering stems before the plant is ready to be harvested. The production of these flowering stems diverts the plant’s resources away from vegetative growth, which will lead to a poor quality harvest. Often, plants such as lettuce will also become bitter tasting and have tougher leaves once the plant has bolted.

Many different plants are affected by bolting, but it is more common in cool season crops, such as lettuces and brassicas including cabbage, turnips and radishes. Basil, beets and spinach also frequently have problems with running to seed. Some biennial plants such as onions and carrots also have a tendency to bolt.

Bolting can be caused by a number of factors. Changes in day length trigger flowering in many plants, and so this may lead to plants bolting. Stress on the plant from insufficient water or nutrients may also cause bolting. The response to stress by the plant is to attempt to produce seed so that it will be able to produce seed before dying. One of the most frequent causes of bolting in South Mississippi is weather warming up following a period of colder temperatures. The colder temperatures “prime” the plant to be ready to produce seed as soon as the weather gets warmer. Ideally this occurs in the spring; however, here in South Mississippi, plants can be excused for being just as confused by the weather as we are.

One of the best ways to prevent plants bolting is to reduce stresses on the plant. Poor growing conditions such as dry soil or poor soil nutrition will make plants far more likely to bolt. While it is impossible to control the weather, protecting plants with covers or in cold frames during cold spells will be helpful. It is also important to choose plant varieties that are resistant to bolting. Plant breeders have produced varieties of many garden plants that are less prone to run to seed. In the case of lettuces, they can be kept from bolting by regularly picking the outer leaves, which prevents them from fully maturing. This can greatly extend the time over which the plant can be harvested. Due to the unpredictability of the weather, it’s a good practice to sow seeds for a few plants every two weeks rather than planting all at one time. This will guarantee that you produce a good crop despite variations in temperature. Also keep in mind that flowers will lead to seed that can be collected for next year’s garden.



Broccoli Flowers



Spinach Bolting



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Peppermint

Peppermint (*Mentha piperita*) is a perennial aromatic herb with erect square, branched stems that is a hybrid of water mint (*Mentha aquatica*) and spearmint (*Mentha spicata*). Peppermint and its essential oil are used as flavoring agents, as culinary herbs, herbal teas, and medicinally.

Peppermint and peppermint oil have been studied as insecticides, acaricides, antimicrobials, fungicides, and herbicides. Peppermint oil can be used as a mosquito larvicide. Studies have proven peppermint oil as a comparable repellent to commercially available repellent. Houseflies are susceptible to the volatiles generated by peppermint oil with acetone on treated filter paper. During a lab study, eggs, nymphs, and adults of greenhouse whitefly were exposed to vapor treatments of peppermint oil and had a 100% mortality rate of adult whiteflies.

Peppermint reproduces vegetatively via “runners” (rhizomes and stolons), which originate from the main rootstock. Stolons are stems growing at or just above the soil surface. Rhizomes are stems growing at or just below the soil surface. Both have fewer leaves than do vertical stems and can produce new roots and shoots from buds. New root growth from stolons and rhizomes near the soil surface creates the impression that peppermint is a shallow-rooted crop. In fact, peppermint roots are easily found two feet below the surface. They grow from 1-3 feet tall and aggressively spread by underground rhizomes. They produce violet flowers.

Mints are extremely hardy perennials. They prefer a full sun location but will tolerate light shade. Mint is propagated by either stem or root cuttings. Because mints have a prolific growth habit, they will become invasive in the garden. Place them in the garden where they can't interfere with other plants or try and check their spreading root system. It is highly suggested that mints be grown in containers above ground. Other suggestions for containing mints include planting mints in large bottomless containers that are sunk into the garden. To keep plants vigorous, it's suggested that they be divided every 3-4 years to maintain the flavor of the leaves. Flower spikes should be removed as they appear.

Common diseases of peppermint are verticillium wilt, powdery mildew, and leaf rust. Numerous insects and invertebrate pests attack peppermint, including the two-spotted spider mite, root borers, several cut worms and armyworms, alfalfa looper, cabbage looper, grasshoppers, multiple slug species, symphylans, and flea beetles.

Leaves can be harvested as needed, but the more frequently the stems are cut the newer growth is produced. It is the new growth that has the most flavorful leaves. Leaves that are to be dried are best taken just as the flowers begin to appear. Bunches of mint in a glass of water will keep fresh for 3-7 days or can be stored in the refrigerator, dry and wrapped in plastic for a week.

The oil is stored in glands on the leaves. As plants approach bloom, oil concentration increases, and the lower leaves drop from the plant. Oil concentration reaches its peak during bloom. Cutting is recommended at early bloom development state to minimize leaf loss and maximize oil concentration quality.



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Peppermint: Continued

Growing Peppermint Indoors

Considering mint's aggressive growth habit and potential to overtake a grow space, it's a perfect candidate as an indoor herb. If you'd like something useful and pretty, inside your home, peppermint might be for you. Peppermint is a hardy herb in USDA Zones 5 through 9 outdoors but can easily be grown indoors.

Choose a container that is wider than it is tall and drains well. Use a regular commercial type of substrate or one with equal amounts of sand, peat, and perlite mixed in.

There is no need to place more than one plant in a pot due to mint's aggressive growth habit. Water the plant

well after planting and place in front of a window that provides direct sunlight at least four to six hours a day for best results. Ideally, place in an east-facing window during the spring and summer or a west or south-facing one in the fall and winter. Be sure to turn pot frequently so that the plants grow straight. Indoor mint prefers moist soil but does not like to sit in water. In between thorough waterings allow the top inch (2.5 cm.) or so to become dry and then water again. Locate your mint plant in area with an indoor temperature of around 65 to 70 degrees Fahrenheit . during the day and 55 to 60 degrees Fahrenheit at night.

If you wish to grow mint plants in water, simply take tip cuttings of about five to six inches in length from an established mint plant. Remove the bottom leaves and place the cuttings in a water-filled glass or bottle. Set this in a sunny window with at least four to six hours of light each day.

While fertilizing isn't a must with this plant, you can give it an occasional dose of all-purpose water-soluble fertilizer or fish emulsion. Mix the fertilizer at half strength. Don't over fertilize, as this can cause the herb to lose its flavor.



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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