



Mulching

November is a good time to add mulch to your garden and ornamental beds for protection against the cold. Mulches provide protection by insulating the plant roots. Mulches also prevent soil crusting and soil movement caused by rainfall.



Organic mulches have the added benefit of building soil structure and improving soil drainage. Two popular organic mulch options are bark and pine needles. Pine needles are insulating, non-matting, and enhance the landscape's appearance, but are not the best choice for weed control. I would not recommend choosing hay as a mulch in the landscape or vegetable garden. Hay may contain herbicides, such as 2,4-D, which can be detrimental to your herbaceous plants and garden crops. Hay, most likely, will contain weed seed as well. If you choose hay as a mulch, know your source!

How much mulch to apply will depend on the mulching material used. An application rate of 6 to 8 inches is recommended for both pine needles and straw. Bark should be no deeper than 2 to 3 inches. You can spread a small amount of mulch with your hands but a rake is advised for larger tasks. Establishing a barrier around the bed will help hold the applied mulch in place.



Keep in mind that organic mulches must be reapplied periodically as they deteriorate over time. The cost of mulch will depend on the material, its availability, and the size of the mulching area. Mulching large areas can be costly. Buying in bulk (rather than by bag) when possible is one way to reduce that expense. For more information on garden and landscape mulching, see Extension Publication P2301, *Mulches for the Landscape*.



Camden Oglesby, Extension Agent
MSU-ES Hancock County
Phone: 228-467-5456 E-mail: cdo94@msstate.edu

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CONTACT INFORMATION

Forrest County
Phone: (601) 545-6083
Email: ext-forrest@lists.msstate.edu

George County
Phone: (601) 947-4223
Email: h.steede@msstate.edu

Greene County
Phone: (601) 394-2702
Email: mm3583@msstate.edu

Hancock County
Phone: (228) 467-5456
Email: cdo94@msstate.edu

Harrison County
Phone: (228) 865-4227
Email: tim.ray@msstate.edu

Jackson County
Phone: (228) 769-3047
Email: sls534@msstate.edu

Lamar County
Phone: (601) 794-3910
Email: rosso@msstate.edu

Perry County
Phone: (601) 964-3668
Email: b.odum@msstate.edu

Pearl River County
Phone: (601) 403-2280
Email: eddie.smith@msstate.edu

Stone County
Phone: (601) 928-5286
Email: hbj4@msstate.edu



Eddie Smith, Ph.D., C.A., Co. Coordinator & Extension Agent
MSU-ES Pearl River County
Phone: (601) 403-2280 E-mail: eddie.smith@msstate.edu

Grow Greens for Fresh Produce in the Winter

I love cool-season gardening. It's a fantastic way to keep enjoying fresh and healthy produce even as the temperatures begin to drop, and days get shorter.

The cooler months are perfect for growing several crops such as broccoli, Brussels sprouts, cabbage, carrots, kale, lettuce and spinach.

I think lettuce is one of the easiest crops to grow in the fall, winter and spring. It only takes about 20 to 60 days to grow many varieties of lettuce, and they can tolerate frost and light freezing temperatures.

Growing lettuce in raised beds or containers is easier than growing it in-ground, which is more traditional. In containers, there is less weed competition and it is easier to harvest.

If you are looking for colorful lettuce to grow, Cherokee lettuce is a great selection. It has thick, medium-sized, reddish-maroon leaves. And unlike many lettuce varieties, it can tolerate warmer temperatures and not develop a bitter taste.

Ideal cos romaine lettuce is another great lettuce to grow. This selection is heat tolerant like Cherokee lettuce, but it also can tolerate frost and light freezing temperatures. Its green, upright foliage makes it a great choice for small gardens or raised beds. Its growth habit makes it a great choice for growing hydroponically.

Mustard and collard greens are two other classic cool-season vegetables for our fall gardens. Both leafy greens also grow well in raised beds and containers where they are more manageable and require less work.

It is surprising how many plants perform well in a small, raised bed or container. This allows you to enjoy fresh greens even if you only have a small patio, balcony, or sunny kitchen window.

If you like spicy greens, Red Giant mustard greens are for you. The flavor of the big mature leaves is similar to horseradish, while younger leaves usually have a milder flavor.

Red Giant is a colorful, purple-tinted mustard plant with large leaves and a bright green stem. Its purple color intensifies in cool temperatures. This plant matures in 35 to 40 days.

While mustard greens are good, I prefer collard greens for their sweeter flavor.

If you are interested in growing your own, try Top Chop, an excellent collard green with large, wide, smooth leaves. It is known for being very cold hardy. This collard plant usually takes about 74 days to mature. You can grow Top Chop in the fall, winter, and spring.

I've just named a few varieties, and there are many other great cool-season vegetables you can grow. Check your local nurseries and garden centers to see what is available in your area.



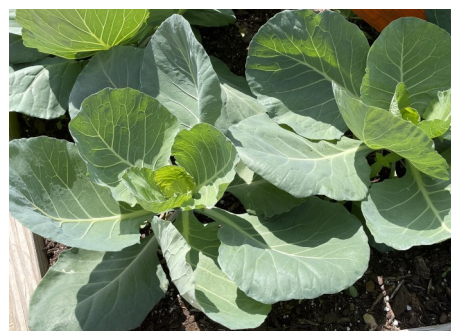
Cherokee lettuce



Ideal Cos Romaine lettuce



Red Giant mustard



Top Chop

Garden Calendar: November

Plant

- Plant shrubs and trees after soil cools.
- Plant summer blooming perennials: Iris, Daylily, and Daisies. Plant winter and spring annuals: Pansy, Pinks, Flowering Cabbage, and Kale.
- Root Rose cuttings.



Water

- Water all newly planted trees and plants regularly.



Prune

- Remove dead limbs and prune evergreen shrubs.
- Cut off tops of brown perennials, leave roots in the soil.



Do Not Prune

- Do not prune spring flowering shrubs such as Azaleas, Hydrangeas, Mock Orange, Spirea, and Flowering Quince because flower buds are already forming.
- Delay pruning of most trees and shrubs until February since any new growth stimulated by pruning may be killed by a sudden freeze.

Miscellaneous

- Put leaves and spent annuals into compost bin.
- Add mulch to your garden and all ornamental beds for winter protection.
- Repair and sharpen garden tools, store with light coat of oil to prevent rusting.
- Build bird feeders and houses.



In Bloom

- Impatiens, Cannas, Roses, Witch Hazel, Gerbera Daisies, Sweet Olive, Camellias, Sasanquas, Japanese Plum, and Poinsettias.





Ross Overstreet, C.A., Co. Coordinator & Extension Agent
MSU-ES Lamar County
Phone: (601) 794-3910 E-mail: r.overstreet@msstate.edu

Kudzu Bugs

With the onset of cooler temperatures, kudzu bugs are leaving fields and kudzu patches to seek overwintering sites. Their numbers are higher than ever this year and this has resulted in large concentrations of adults on non-legume plants in home and commercial landscapes. This is prompting calls from clients who are concerned that the bugs are damaging these plants. Sometimes bugs are stacked more than one layer thick, and it is understandable that clients would be concerned about such large numbers of insects. Fortunately, kudzu bugs do not seem to cause serious damage by this behavior and treatment is usually not needed to protect plants this late in the year.



The nuisance effect of having this large number of bugs flying around is another question, especially if bugs are concentrating on plants around patios, doorways or porches. In cases where treatment is desired, spraying with a pyrethroid insecticide (bifenthrin, permethrin, cyfluthrin, cyhalothrin) that is labeled for use on the plants being treated will kill a lot of kudzu bugs (Ortho Bug B Gon Insect Killer for Lawns and Gardens Concentrate and Hi-Yield Lawn, Garden, Pet & Livestock Insect Control concentrate are two examples), although it may not completely eliminate the problem because of continued migration of new bugs.

Kudzu bugs accumulating on the outsides of buildings and invading the insides of buildings in search of a place to overwinter is a much greater problem. Although kudzu bugs are susceptible to pyrethroid insecticides, such as bifenthrin, cyfluthrin, cyhalothrin, or permethrin, good proactive physical exclusion is the best defense against this problem, and clients should be encouraged to spend most of their time and money on making buildings bug-proof, rather than on insecticide sprays.

Spraying exterior surfaces of buildings with a pyrethroid insecticide that is labeled for such use (Bayer Advanced Carpenter Ant and Termite Killer Plus Concentrate and Hi-Yield Lawn, Garden, Pet & Livestock Insect Control concentrate are two examples) can help reduce numbers of bugs resting on building exteriors, but, without having the physical exclusion in place, large numbers of bugs will still get inside if the building is experiencing heavy kudzu bug activity.



Brad Jones, Co. Coordinator & Extension Agent
MSU-ES Stone County
Phone: 601-928-5286 E-mail: hbj4@msstate.edu

Weed Update: Vaseygrass

Vaseygrass is a warm season perennial clump grass that is a pest in hay, pasture and lawn settings. Over the past 5-8 years weather patterns have led to delayed mowing and clipping in many areas that have allowed this weed to become more prevalent, especially in hay fields or low maintenance lawn areas.

While livestock will graze it when the blades are short and tender the nutritional value is relatively low and once it matures there is a noticeable hairy texture to the leaves and seed heads which most animals avoid grazing. In hay settings quality and palatability are affected and this grassy weed will readily take over desirable grasses when allowed.

Small infestations can be controlled by spot spraying the grass with non-selective herbicides (ex. glyphosate) or hand pulling. Best control is seen when either is done prior to seeding as this grass readily reestablishes from a seed bank. Timely cutting or clipping to inhibit seed production also helps to reduce this grass in many settings.

If the situation warrants chemical control over the entire field there are very few options available, especially during the growing season. Please seek input from your county Extension Agent on possible options. In many cases a wick wiper to cover the leaves as it out grows other grasses is an option but multiple passes are recommended to ensure coverage.





Tim Ray, C.A., Co. Coordinator & Extension Agent
MSU-ES Harrison County
Phone: (228) 865-4227 E-mail: tim.ray@msstate.edu

The Role of Nutrients in Plants

Like us, plants need nutrients in varying amounts for healthy growth. There are 17 essential nutrients that all plants need, including carbon (C), hydrogen (H), and oxygen (O), which plants get from air and water. The remaining 14 are obtained from soil but may need to be supplemented with fertilizers or organic materials such as compost. These elements are grouped based on their relative abundance in plants.

Macronutrients are the primary and secondary nutrients. Primary or major nutrients are those nutrients required relatively in large quantities by the plants for their growth and development. These are nitrogen (N), phosphorus (P) and potassium (K). Secondary nutrients are those nutrients which are required by plants in moderate amounts and given secondary importance in its supply and management. These are calcium (Ca), magnesium (Mg) and sulfur (S).

Micronutrients are those which are utilized by plants in relatively smaller quantities for their growth and development, but these are equally important & essential to plants as macronutrients. The micronutrients are iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), boron (B), molybdenum (Mo), chlorine (Cl) and nickel (Ni). More often than not, our soils contain an adequate amount of micronutrients so there's seldom a need to supplement them. For this article, we will focus on the primary and secondary nutrients. We may revisit micronutrients another time.

What are the major roles of the primary and secondary nutrients in plants? Keep in mind, they are all important elements for various physiological and metabolic processes in plants, but we will keep it relatively simple and name just a few key roles.

- **Hydrogen** and **oxygen** are the two components of water. Plants are made up of 80-95% water. Water is needed in all metabolic processes of plants including nutrient uptake from the soil and movement throughout the plant. It is needed for photosynthesis and plant respiration. Oxygen is also needed in the soil for the benefit of root growth. Compacted soils have reduced oxygen and affect growth.
- **Carbon** comes from the air in the form of carbon dioxide. Plants take in carbon dioxide during the photosynthetic process, which produces the oxygen that we need to survive. Carbon is important for fuel or energy production and reserves in the form of carbohydrates that plants need to stay healthy and come out of winter dormancy. Carbohydrates are used to construct cell walls, fibers, stems, leaves, flowers, roots, tubers, wood, branches, grain, and fruits.
- **Nitrogen** is the basic component of proteins and chlorophyll (the pigment that gives plants their green color). It plays an essential role in plant growth and feeds microorganisms in the soil. Although nitrogen is found in high amounts in the atmosphere it is found in very small amounts in soil. For this reason, we often supplement the needed amount depending on the plant(s) grown.
- **Phosphorus** plays an important role in root growth and promotes the establishment of young plants, flowering, fruiting and ripening, photosynthesis, respiration and overall plant growth. Seed starter and bloom-inducing fertilizers contain a higher amount of phosphorus than the other two primary nutrients.
- **Potassium** promotes the movement of sugars, turgor and stem rigidity. It also increases the plant's overall resistance to cold, diseases, insect pests, etc. This is an important element that often gets overlooked when addressing soil nutrient issues.
- **Calcium** plays a vital role in plant structure because it is part of cell walls and holds them together. Calcium promotes the development of the root system and the ripening of fruit and seeds. It is found in the growing parts of plants (apex and buds).
- **Magnesium** is an important part of chlorophyll. It helps fruit ripen and seeds germinate. It also reinforces cell walls and promotes the absorption of phosphorous, nitrogen, and sulfur by plants.
- **Sulfur** is a component of several proteins, enzymes and vitamins. It contributes to chlorophyll production and helps plants absorb potassium, calcium and magnesium.

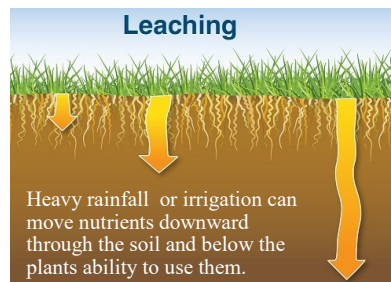




Tim Ray, C.A., Co. Coordinator & Extension Agent
MSU-ES Harrison County
Phone: (228) 865-4227 E-mail: tim.ray@msstate.edu

The Role of Nutrients in Plants—continued

Nutrient availability in soils can be affected by soil texture (loam, loamy sand, silt loam), organic matter content and pH. Clay particles and heavy organic matter in soils will hold and slowly release nutrients that can be used by plants. Organic matter should be around 3-6%. Sandy soils are more prone to nutrient losses through leaching as water carries nutrients, such as nitrogen or potassium, below the root zone where plants can no longer access them. Soil pH can influence nutrient uptake when too low or too high. Most fruits and vegetables grow best when soil pH is slightly acidic to neutral, or between 5.5 and 7.0 but, there are exceptions with acid-loving plants such as blueberries, azaleas, camellias, etc.



For more information on plant nutrition there are several publications related to this topic on the Extension website at www.extension.msstate.edu.

Private Applicator Certification Training

The Mississippi Pesticide Safety Education Program has updated its online and face-to-face certification programs to meet this demand. The new mandated training and competency requirements from the U.S. Environmental Protection Agency are for applicators who use restricted use pesticides on farmland and need to renew or obtain certification.

The new trainings are designed to provide increased public health and safety benefits by raising safety standards to be consistent with commercial applicators. Trainings consist of video modules covering new safety, environmental protection and application procedures. These modules prepare applicators for the 55-question competency exam, which requires a score of at least 70%.

Mississippi's online and face-to-face certification programs are developed and delivered by the Mississippi State University Extension Service. For private pesticide applicator online training, visit <http://msuext.ms/dkp8h>. To learn about upcoming in-person trainings, visit <https://extension.msstate.edu/calendar> or contact your local Extension office. The new trainings cost \$60 per applicant.

The online private applicator training consists of video modules and an online proctored exam. While the video modules are accessible on mobile devices, the online exam will require a laptop or desktop computer, a webcam, adequate internet connection and valid photo identification. The online test will be proctored by the online proctoring system Honorlock. Alternatively, the private applicator exam can be taken either online or as a paper test at a local MSU Extension office.

Calendar of Upcoming Events

Date	Event
	PINE BELT BEEKEEPERS ASSOCIATION MEETING
Nov 7th	The Pine Belt Beekeepers Association meeting will be held at the Lamar County Extension office beginning at 6 PM.



Specialty Crops Conference

Lake Terrace Convention Center
Hattiesburg, MS

December 12th 10AM - 3PM*

Food as a Business Workshop Sessions

Market Outlets Opportunities, Marketing Considerations

Food Regulations, Labeling, Food Safety

Loans, Credit Readiness, Loan Programs

Digital Marketing & Social Media, State Agency Services/Programs

H-2A Temporary Agricultural Program



December 13th 7:30AM - 4PM*

Breakfast

Welcome & General Session

Keynote: Dr. Christian Stephenson

What is Organic Certification & Is It Right for My Farm?

Technical Programs

Fruit Crops, Vegetable Crops, Cut Flowers & Ornamental Horticulture

Vendor Market

*Lunch and refreshments provided



Registration Fee: FREE
Pre-Registration Required

Registration Deadline 12/2/24
<https://tinyurl.com/SCropsC>

FOR MORE INFO:

ELIZABETH CANALES - DEC249@MSSTATE.EDU
COURTNEY CRIST - CAC400@MSSTATE.EDU
CHRISTINE COKER - CEC117@MSSTATE.EDU

**FARM
BUREAU
INSURANCE**

**GENUINE
MS**

STATE
**MISSISSIPPI STATE
UNIVERSITY**
EXTENSION



SOUTHERN
EXTENSION
RISK MANAGEMENT
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