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FALL IS THE BEST TIME OF YEAR FOR LAWN CARE

Brown Patch left some yards looking brown and dead this year. If this is the case with your lawn, reseeding is necessary and fall is the best time to do it. Reseeding, fertilization, weed and thatch control, establishment of new lawns, and renovation of poor quality lawns should be done over the next few weeks.

The ideal time for planting grass seed to either establish a new lawn or renovate a poor quality one is September through mid-October in Missouri. During September grasses grow rapidly in the cool fall weather and have less competition from germinating weeds. The key to long term lawn quality is proper soil preparation. Soil should be tilled six inches deep. Incorporate organic matter, such as compost or peat, when tilling. If soil test results indicate a soil pH problem, sulfur or lime should be added at this time. After tilling smooth with a rake and apply starter fertilizer. Top quality grass seed will germinate better and be more disease resistant over time. Newly seeded lawns must have adequate moisture for seed germination and seedling growth. The seedbed and later seedlings must be kept moist for six weeks.

In early fall use a regular lawn fertilizer with N-P-K ratios of 3:1:2 or 4:1:2. For example, a bag may list 24-0-12 or 32-8-16. Amounts don't need to be exact but should be similar to the suggested ratios. Hold off applying "winterizer" fertilizers until late October or early November. More people are opting for natural lawn control, meaning they do nothing and let the lawn grow naturally, or they are using organic lawn care products. Whatever you choose to do is fine. I tend to fall in the middle. I don't go overboard with fertilizers, but when I notice weeds I add some lime to the soil in the problem areas, and use a winterizer fertilizer in late fall. Lawns and other plants in shade grow slower and don't need as much nitrogen as plants in full sun. Therefore, shady lawns should be fertilized at half the recommended rate.

September and October are the best months to control perennial broadleaf weeds like dandelions and clover. In autumn the weeds prepare for winter by pulling nutrients and starches from their leaves into their roots. By doing this, they also draw herbicides into their root systems, thus more effectively killing the weed. Actively growing grass will quickly fill in the bare spots created after the weeds die.

Thatch is a build-up of living and dead grass roots and stems between the soil and green grass blades. The amount of thatch in the lawn may be checked by cutting three to four inches down into the grass with a shovel and lifting up a piece of sod. Thatch looks like a thick tangle of dark brown roots.

If you need this newsletter in alternative format, please contact Jennifer Schutter at the Adair County Extension Center.
above the soil level. If thatch is greater than 1/2 inch, the lawn should be core aerated or dethatched in fall or spring. In lawns with a thatch layer over 3/4 inch thick you should aerate then topdress with a thin layer (1/8 to 1/4 inch) of soil or compost. Topdressing adds microorganisms that help breakdown thatch.

**SOURCE:** University of Illinois Extension  
[http://extension.illinois.edu/ortihints/0208e.](http://extension.illinois.edu/ortihints/0208e.)

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**KNOWING WHEN TO HARVEST APPLES CAN BE TRICKY**

In recent weeks I’ve had questions about how to tell if apples are ripe and when to harvest them. It appears we will have a good apple harvest this year. There are reports of no or very few pears on trees this year and few to no plums.

The harvest period for apples varies from one variety (cultivar) to another. For example, Jonathan apples are normally harvested in mid to late September. The harvest season for Red Delicious apples is normally late September to early October. However, the harvest period for apple varieties is strongly influenced by weather conditions during the growing season. Gardeners, therefore, should base the harvest time on the maturity of the apples rather than a specific calendar date.

There are several indicators of apple maturity. Mature apples are firm, crisp, juicy, well-colored, and have developed the characteristic flavor of the variety. Red color alone is not a reliable indicator of maturity. Red Delicious apples, for example, often turn red before the fruit are mature. Fruit harvested too early are astringent, sour, starchy, and poorly flavored. Apples harvested too late are soft and mushy.

When harvesting apples, pick and handle the fruit carefully to prevent unnecessary damage. Sort through the apples during harvest. Remove and promptly use bruised or cut apples. Also, remove apples, which exhibit insect and disease problems. Use the largest apples first as they don’t store as well as the smaller fruit.

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**GROWING MUSHROOMS IN MISSOURI WORKSHOP**

On October 2 & 3, we will offer two mushroom growing workshops. The focus will be on growing oyster, winecap and shiitake. Each person will take home an inoculated log.

The workshop on Friday, October 2 will be at the Missouri Department of Conservation office in Kirksville from 9-3. The workshop on Saturday, October 3 will be at the Macon Expo Center in Macon from 9-3 and is coordinated by Max Glover in the Shelby County Extension Center. The speaker is Gregory Ormsby Mori, education and outreach coordinator for the University of Missouri Center for Agroforestry.

Pre-registration is required by September 25 and is limited to 30 participants. No late registrations accepted. Call the Adair County Extension Center at 660-665-9866 or the Shelby County Extension office at 573-633-2640 for a registration form or download it at [http://extension.missouri.edu/adair](http://extension.missouri.edu/adair).

**AGENDA:**

8:30  Registration/Coffee  
9:00  Introductions, review of agenda and workshop objectives, participant concerns/questions.  
10:00  Species and methods for forest farmed mushrooms. An introduction to 3 common species grown in agroforestry/permaculture practice (Shiitake, Oyster, Winecap) and 3 growing techniques (logs, totems, straw/woodchip beds).  
10:45  Morning Practice session. Group A: Shiitake Log Inoculation; Group B: Oyster Totems and Winecap Straw Beds  
12:00  Lunch  
12:45  Afternoon Practice session: Group A: Oyster Totems and Winecap Straw Beds; Group B: Shiitake Log Inoculation  
2:00  Getting started. Things to consider, for both the hobbyist and small farmer, for growing mushrooms: sourcing materials, costs, setting up a growing area, management & marketing.  
2:45  Discussion, review, wrap-up
WET WEATHER WOES

By: Dr. David Trinklein, University of Missouri Extension

“When you’re up to your neck in alligators, it’s hard to think about draining the swamp.” So goes the wording of an old saying aimed at reminding people that certain dilemmas in life could have been prevented, had we thought about their cause earlier. It bodes well for those of us having plants that are suffering from the very wet spring we have experienced this year.

The first question to address is, “How does too much rainfall damage plants?” The answers lies in the fact that the cells of plants (including their roots) respire just as do the cells of animals. Since oxygen is needed for respiration, plant cells die without adequate oxygen. The oxygen content of the atmosphere is about 21 percent. The oxygen concentration in the soil atmosphere is significantly lower. Should it drop to less than 10 to 12 percent, plant roots suffocate and die. When excessive rainfall occurs, soil pores that had been filled with air suddenly become filled with water. The latter forces oxygen-laden air from the soil fairly rapidly. The result is a sub-oxidized, or oxygen-deficient, soil atmosphere.

Plants in standing water or sub-oxidized soil first lose their lower roots where the oxygen concentration initially is lower. If the water persists in the soil for long periods, the roots will gradually die upward until only surface roots remain. The greater the number of roots that die, the less likely the plant will survive after the soil finally dries. Fortunately, not many gardens experience standing water for extended periods of time. When the soil oxygen concentration drops below the above-mentioned critical level, water uptake decreases with an hour’s time. The result is a phenomenon known as “water wilt” where plants show symptoms of wilting even though there is abundant water in the soil. Water wilt is more common among herbaceous plants (e.g. tomato) than on woody plants. Another problem that tends to develop in wet soils is compaction. Driving equipment on or, to a lesser extent, walking on wet, saturated soil tends to reduce larger inter-particle pore spaces into smaller ones, resulting in soil compaction. The problem is more severe in clay soils than in sandy soils. Compaction not only reduces the amount of air in the soil while it is wet, it will continue (to a lesser extent) the problem after the soil dries. When the soil warms during the early spring, woody ornamentals begin to develop new roots. When the soil is saturated, these roots become oxygen-starved and die nearly as quickly as they are formed. These “feeder roots” are very important for the well-being of the plant. Thus, trying to establish new trees and shrubs in the landscape when the soil continually is wet becomes a challenge.

Additionally, plants that have lost roots during an extended wet period are ill-prepared to handle the rigors of a typical Missouri summer. If the summer remains cool and moist, few root-related problems would be expected. However, if the weather transitions from cool and wet to hot and dry, the reduced root area cannot keep up with the loss of water via transpiration. Leaf scorch, twig dieback, wilting or even death of the plant may result. Because of heavy spring rains this year, garden plants should be monitored carefully during the next months. Water them regularly if we should experience dry periods. As a rule, most garden plants require about an inch of water per week during the summer. If this is not received as rainfall, supplemental irrigation should be practiced. When doing the latter, water well but avoid frequent, light watering. The latter tends to discourage plants from developing a deep, penetrating root system.

What about “draining the swamp?” Other than not locating a garden in a flood plain, little can be done to prevent damage to plants growing in standing water. However, there are things that can be done to minimize the damage to garden plants during extended wet periods of weather. All involve working with the soil. Plants growing in permeable, well-drained soil are less subject to wet-weather damage than those growing in “tight” soils. Permeable soils retain less of the rainfall they receive because of their large inter-particle pores. Thus, the pore spaces that held air before a rain event soon re-establish their air content, thanks largely to gravity.

Permeability is a function of soil structure. The latter describes the arrangement of soil particles (solids) and the pore spaces between them. When soil particles aggregate, they form “clumps” and have larger pores form between the solids. This promotes rapid infiltration of water and good drainage. Conversely, when soil particles are dispersed, pores become small and are more likely to retain water rather than air. Dispersed soils are notorious for being poorly drained.

The first and most obvious step is to adjust the soil to better accommodate plant needs. Since clumps are more easily broken than dispersed soils, a mechanical approach is preferred. Additionally, adding organic material can help by providing a more open structure that will allow oxygen to reach deeper roots. Organic matter also improves the physical properties of soils by increasing aeration, water retention and overall structure.

Dr. David Trinklein, University of Missouri Extension
GARDENING TIPS FOR SEPTEMBER

ORNAMENTALS
• Plant evergreens now.
• Take cuttings of annuals to have vigorous plants for over-wintering.
• Plant spring bulbs except for tulips as soon as they are available. Keep tulips in a cool, dark place and plant in late October.
• Divide perennials, especially spring bloomers. Enrich the soil with peat moss or compost before replanting.
• Divide peonies now. Replant in a sunny site and avoid planting deeply.
• Lift gladiolus when their leaves yellow. Cure in an airy place until dry before husking.
• Begin forcing poinsettias to bloom at the end of the month. Place plants in a cool, dark room or closet from 5 p.m. until 8 a.m. for about 8 weeks or until top leaves turn red.

VEGETABLES
• Sowing seeds of radish, lettuce, spinach, and other greens in a cold frame will prolong fall harvests.
• Pinch out the top of brussel sprout plants to plump out the developing sprouts.
• Keep broccoli picked regularly to encourage additional production of side shoots.

FRUIT
• Pick pears before they are fully mature. Store in a cool, dark basement to ripen.
• Discard any spoiled or fallen fruits.
• Paw paws ripen in the woods now.
• Check along peach tree trunks to just below the soil line for gummy masses caused by borers. Probe holes with thin wire to puncture borers.

TURFGRASS
• Begin fall seeding or sodding of cool season grasses. Seedbeds should be raked, det-hatched, core-aerified, fertilized, and seeded. Keep newly planted lawn areas moist, but do not wet.
• If soils become dry, established lawns should be watered thoroughly to a depth of 4-6 inches.
• Cool season lawns are best fertilized in fall. Make up to 3 applications between now and December. Do not exceed rates recommended by fertilizer manufacturer.
• It is not uncommon to see puff balls in lawn areas at this time.
• Newly seeded lawns should not be cut until they are at least 2-3 inches tall.

MISCELLANEOUS
• Fall is a good time to add manure, compost, or leaf mold to garden soils for increasing organic matter content.
• Monitor plants for spider mite activity. Reduce their numbers by hosing off with a forceful spray of water.
• Seasonal loss of inner needles on conifers is normal at this time. It may be especially noticeable on pines.

- Missouri Botanical Garden -