Horticulture 2010 Newsletter
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The Shawnee County Master Gardener Greenhouse Project

We are still in the running! Because we finished the month in the top 100 vote getters (we finished 49th) we automatically are re-entered in the voting process for the month of November. Last month with all of you voting we moved from 323rd to 49th. We can do this! With your continued voting we can finish this month in the top 2 and receive funding for an Extension program benefitting the county and the region. Please continue to help us help others. There are still 3 ways to vote each day: www.snco.us/greenhouse, on Facebook (search for the Pepsi Refresh Project), and by texting 103438 (the message) to 73774 (the phone number). (Jamie Hancock, Shawnee Co. Extension Horticulture Agent)

TURFGRASS

Apply Late-Season Nitrogen Application in November

November is the time to give cool-season lawns the last nitrogen application of the season. Why November? Although top growth slows in response to cool temperatures, grass plants are still making food (carbohydrates) by photosynthesis. A November nitrogen application helps boost the photosynthesis rate. Carbohydrates that are not used in growth are stored in the crown and other storage tissues in the plant. These carbohydrate reserves help the turfgrass green up earlier in the spring and sustain growth into May without the need for early-spring (March or April) nitrogen. Those early-spring nitrogen applications are less desirable because they can lead to excessive shoot growth and reduced root growth. Other benefits of November-applied nitrogen for cool-season grasses include improved winter hardiness, root growth and shoot density.

How much should you apply? One to 1½ pounds actual nitrogen per 1,000 square feet of lawn area is sufficient. Note that this is “pounds of actual nitrogen” and not “pounds of fertilizer.” Fertilizers only contain a percentage of nitrogen and so much more fertilizer must be applied to
obtain the 1 to 1½ pounds of actual nitrogen. For example, four pounds of a 25-4-4 would be needed to equal 1 pound of actual nitrogen. The rate suggested on the bag should result in about a pound of nitrogen per 1,000 square feet being applied.

In order for this application to be effective, the nitrogen must be readily available to the plant because the growing season is nearly over. Therefore, for a November application use a soluble (quickly-available) nitrogen carrier such as urea or ammonium sulfate. Many turfgrass fertilizers sold in garden centers and other retail outlets also contain soluble nitrogen. Avoid products that contain water-insoluble nitrogen (slow-release) for this application. As always, sweep up any fertilizer that gets on driveways, sidewalks, or streets and reapply it to the lawn. (WU)

**FRUIT**

Reproducing Apple Trees

Every so often we receive a question about how to make apple seeds germinate. Often, the person is looking for a way to reproduce an apple tree that is dying. Unfortunately, apple trees do not come true from seed. In other words, the apple seed produces trees that differ from the parent. It is extremely unlikely that any apple produced from seed will bear quality fruit. About one in every 80,000 apple seedlings will produce commercial quality fruit.

So how do you reproduce an apple that is like the parent? The most common way is by grafting. Grafting is a procedure that joins two plants together. The upper part (or scion) becomes the top part of the tree, while the lower part (or stock) provides the root system or part of the trunk. Apples are relatively easy to graft. How to graft is beyond the scope of this newsletter, but local libraries should have materials that cover the procedure, or you can find an excellent publication on the web at [http://extension.missouri.edu/explorepdf/agguides/hort/g06971.pdf](http://extension.missouri.edu/explorepdf/agguides/hort/g06971.pdf) (WU)

**ORNAMENTALS**

Spruce Problems

Spruce have been shedding needles this fall in far greater numbers than normal. At times this has been only on the interior of the tree but in other cases, needles clear to tip of the branches have turned brown and dropped. If only the needles toward the interior of the tree are affected, it is probably natural needle drop and the plant is fine. This is an entirely natural process and does not harm the tree in the least.
If needles clear to the tip are lost, it becomes more complicated. Although disease is a possibility, environmental stress is more likely the culprit. Our quick shift from cool, moist weather to extremely hot, dry weather this summer is probably behind the needle loss. What is surprising is that in most cases twigs are still alive and the tree may throw out new growth next spring. This will likely be a “wait and see” situation. Do not remove any trees unless you are sure the tree or major branches are dead. Check individual branches by bending the tips. If they are dry and brittle, that portion of the branch is dead. If the tip is still supple, wait until spring to see what happens. (WU)

**What is the “Wild” Shrub with the Bright Red Berries?**

People in the eastern third of the state have been reporting shrubs with bright red berries growing wild. The berries are clustered around the stem and the leaves are still a bright green color. These are likely one of two species of bush honeysuckle, (Amur or Tartarian), which can get 6-20 feet tall. This landscape shrub has become a serious understory invasive throughout the Midwest from eastern Kansas to Ohio. Many states have it on their noxious weeds list. All of our native honeysuckles are vines, similar to the vining Japanese honeysuckle. Bush honeysuckles are also noticeable in the spring as they put out leaves much earlier than most other trees and shrubs. Leaves also stay green much later into the fall. This long growing season gives it a competitive advantage over other native species, and the vigorous growth can take over a woodland understory, reducing the number of native woodland wildflowers and other shrubs. If you want to promote native species on your property, then controlling bush honeysuckles is needed. Honeysuckle seedlings can be readily hand pulled when the soil is damp. Chemical control is needed for larger infestations, as cutting alone results in vigorous resprouting. Foliar applications of glyphosate (ie. Roundup) in late summer and fall works well. Treating cut stumps with Tordon RTU, or concentrated (20% - 50%) glyphosate is also quite effective. Several studies have shown basal spraying with triclopyr (Garlon) not to be effective, while basal applications with 2,4-D or picloram products work well, using an oil carrier to penetrate the bark. Please follow all label instructions when using pesticides. (CJB and WU)

**FLOWERS**

**There is Still Time to Plant Spring-Flowering Bulbs**

Generally, it is recommended to plant hardy bulbs (especially daffodils) in October to give them enough time to root before winter. But it is certainly not too late to plant them now. As long as the soil temperatures are above 40 degrees F, the bulbs should continue root development.
Soil temperatures across Kansas last week averaged in the 50s and 60s. Although many of the best bulbs have probably already been purchased, garden centers may still have a good selection. Be sure to select large, firm bulbs that have not begun to sprout.

While many bulbs can adapt to a wide range of soil types, none can tolerate poorly drained soil. Prepare the planting bed by adding organic matter such as peat moss, well-rotted manure, or compost. Adequate fertility is essential. It is best to rely on a soil test to determine what nutrients are needed. Garden soils that have been regularly fertilized in the past may have excess levels of phosphorus. Excess phosphorus can interfere with the uptake of other essential micronutrients. In such cases, it would be better to use a fertilizer relatively high in nitrogen such as a 29-5-4, 27-3-3 or something similar. Fertilizers such as the above should be applied at the rate of 2/3 pound per 100 square feet. In the absence of a soil test, or if phosphorus is needed, add a low analysis, balanced fertilizer such as 5-10-5 or 6-10-4 at the rate of 2 to 3 pounds per 100 square feet of bed. Mix all amendments thoroughly with the soil before planting the bulbs.

The size and species of the bulb determines how deep to plant. In general, the depth to the bottom of the bulb should be about 2 to 3 times the size of the bulb, but check the planting instructions specific to each particular flower. (WU)

**Winter Storage of Summer Bulbs**

As winter approaches, we need to start thinking about storage of the bulbs that will not survive our Kansas winters. The bulbs of gladiolus, caladium, dahlia, tuberous begonia, calla lily, and canna lily need to be dug and stored so they can be planted next year. Actually, the storage organ of the above plants is not a true bulb. Canna and calla lilies are rhizomes, caladium and tuberous begonias are tubers, gladiolus is a corm and dahlia is a tuberous rooted plant. All of these plants should be dug after frost has browned the foliage. Then, allow them to dry for about a week in a shady, well-ventilated site such as a garage or tool shed. Remove any excess soil and pack them in peat moss, vermiculite or perlite. Make sure the bulbs don't touch so that if one decays, the rot doesn't spread to its neighbors. Dusting them with fungicide before storage will help prevent them from rotting.

Caladium should be stored between 50 and 60 degrees F.; the remaining bulbs mentioned should be stored near 40 degrees F. Finding a good spot to store the bulbs may be difficult. Some people place them against a basement wall furthest from the furnace and insulate them so that the wall keeps them cool. (WU)
PESTS

Yellow Collared Scape Moth

Those of you who have spent time outside this fall may have noticed “firefly” looking moths feeding on goldenrod and chrysanthemum flowers. This is the yellow collared scape moth (Cisseps fulvicollis), which is common this time of year. Adults are black in color except for the prothorax, which is orange. The forewings are brown to black in color, and the hindwings have a large translucent spot near the distal area. The larvae are white to pale-yellow in color, hairy, with tufts of extended hairs located along the body. The head is yellow, orange, to brown in color with distinct black spots. Larvae feed on grasses and lichens. In general, adults are present from May through October (or until the first frost) and feed on flowers during the day and night. Adults are attracted to outdoor lighting. (RC)

MISCELLANEOUS

Caring for Houseplants During the Winter

Houseplants need varying amounts of water and fertilizer at different times of the year. They need the most during summer when light levels are high and days are long. They need the least during the short days of winter. The primary reason for this is light. Light fuels plant growth. More light allows more growth, which results in a greater demand for water and nutrients. When light is limited, the need for water and nutrients decreases dramatically. Therefore, it becomes easy to overwater and overfertilize during the winter months. Excess water and fertilizer can kill a plant by damaging the root system. Overwatering can suffocate roots by eliminating oxygen, and excess fertilizer can burn roots.

It is never wise to water on a set schedule. Rather, allow the potting soil to tell you when watering is needed. Check to see if the soil is moist 1-inch deep by inserting your finger into the potting mix. Don't water unless the mix is dry. Another method of determining when to water is the weight of the pot. Use the former method to determine how light the pot should be before watering.

Another common mistake homeowners make with houseplants is fertilizing during the winter in order to perk plants up. This is the exact opposite of what should be done. Remember it is a lack
of light that gives plants the doldrums, not a lack of fertilizer. Therefore, it is best not to fertilize at all during the middle of winter (December-January) and to fertilize sparingly during November and February (maybe 1/4 a normal rate). (WU)

**Draining Hoses and Irrigation Lines**

Hoses and shallow irrigation lines may be damaged over the winter if water is not drained. Lawn irrigation systems usually have shallow lines but are normally built to be self-draining. If there is a main shut-off valve for the system, close it and then run through the zones to make sure any pressure has a chance to bleed off. Hoses can be drained simply by stretching them out and then coiling them for storage. Water will drain as you pull the hose toward you for coiling. Store them in a protected place as UV light can make them brittle over time. (WU)

**Time To Think About The Use of Dormant Oils**

The use of dormant oils is a pest management tactic designed to deal with insect and mite pests that survive the winter in an overwintering life-stage, which may include eggs or mature females. Instead of waiting until spring to initiate “control” measures, applying dormant oils may be helpful in reducing costs associated with pesticide (in this case, insecticides and miticides) use later in the season. The advantages of applying dormant oils include a wide range of activity against most species of mites and scales—even the eggs; minimal potential for resistance developing in insect and/or mite pest populations; less directly and indirectly harmful to beneficial insects and predatory mites compared to pesticides with long-residual activity; and relatively non-toxic to humans and other mammals. The disadvantages of dormant oils include potential to harm or kill plants during the growing season (phytotoxicity) and minimal residual activity or less persistence.

Dormant oils, which are typically derived from paraffinic crude oil, are the heaviest of the petroleum-based oil sprays and have a low unsulfonated residue (UR). The unsulfonated residue is an assessment of the phytotoxic compounds remaining after distillation and refining. A high UR (greater than 92 percent) indicates a highly refined product with less potential for phytotoxicity. Dormant oils generally have a UR value less than 92 percent.

Dormant oil applications are primarily directed at killing overwintering pests including mites and scales, before they become active in the spring, and are capable of causing plant injury.
Applications are made during winter to minimize phytotoxicity to ornamental plants. A 2- to 4-percent rate is generally recommended in late fall to early spring. Dormant oils have contact activity and either suffocates, by blocking the breathing pores (spiracles), or directly penetrates and disrupts cell membranes of exposed insect and mite pests. However, dormant oils have minimal residual activity once residues dissipate, so thorough coverage is essential.

Dormant oils are applied to all plant parts, which means that the overwintering stage of the insect or mite pest must be located on the plant. But not all insect and mite pests overwinter on plants. For example, dormant oil applications are not effective against the two-spotted spider mite (Tetranychus urticae) because this mite overwinters as a female in plant debris, mulch, or other non-plant protected places. In contrast, the spruce spider mite (Oligonychus ununguis) overwinters as an egg on plants, primarily evergreens such as arborvitae, hemlock, juniper, and pine, which means that this mite species is susceptible to dormant oil sprays.

Dormant oils are effective in killing the overwintering stages of scales, especially first and second instars or nymphs (=crawlers). For example, euonymus scale (Unaspis euonymi) overwinters as second instar nymphs or mature females; both life stages are susceptible to dormant oil applications. However, certain scales that overwinter as eggs, such as oystershell scale (Lepidosaphes ulmi) and pine needle scale (Chionaspis pinifoliae), are more tolerant of dormant oil applications. The reason is that the eggs are generally stacked or piled on top of each other, and the dormant oil may not penetrate and contact the bottom layer. As a result, additional insecticide applications are typically required after egg hatch.

An issue when using dormant oils is the potential for plant injury or phytotoxicity. Dormant oils sprays may harm some plants such as arborvitae, beech, redbud, and certain maples (Japanese, red, sugar, and amur). Furthermore, the needles of Colorado blue spruce may be discolored or change from blue to green as a result of a dormant oil application. Phytotoxicity is usually a problem when higher rates (for example, greater than 4 percent) are used and/or when applications are performed in early fall before dormancy or in late spring at bud-break. Problems associated with phytotoxicity are less likely to occur when applications are made in early November through February when most plants are completely dormant. In order to avoid phytotoxicity it is important to make sure the spray solution is continually agitated. Also, never apply dormant oils when there is a possibility of freezing (temperatures at or below 32ºF). Dormant oils should be applied to deciduous plants when the ambient air temperature will stay above freezing for at least 24 hours. Evergreens, in general, are more susceptible to damage than deciduous plants, so it is best to apply dormant oils when temperatures remain above 40ºF over a 24-hour period. Furthermore, dormant oils should never be applied to plants that are stressed because stressed plants are more susceptible to phytotoxicity. Lack of moisture, extreme temperatures, sudden drastic changes in the ambient air temperatures after spraying, prolonged windy conditions, or disease or insect infestations may predispose plants to phytotoxicity.

There is a prevailing notion that insect and mite pest populations cannot develop resistance to dormant oils. But this is not true. For example, a Christmas tree plantation of Scots pines was sprayed with dormant oils for more than 10 years in a row to “control” pine needle scale. Eventually, the scale population became more and more difficult to “control.” Why? It was determined that the scale covers actually increased in thickness, which made it hard for the
dormant oil to penetrate the outer covering and kill the eggs.

Preventative dormant oil applications may avoid dealing with abundant insect and/or mite pest populations later on during the season. Input from insecticide and/or miticide applications may be reduced, which preserves the natural enemies of mites and scales, including predators and parasitoids that naturally regulate populations of these pests. (RC)

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