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21 November 15 PSAs

If a fairly large spruce dies at the very top, a variety of factors ranging from a root problem to drought, bark beetles or Zimmerman pine moth can be the cause. In many cases, dieback at the top of spruce trees is caused by the fungal disease cytospora canker. This disease infects stressed or older trees, often through wounds such as from hail storms. Once infected, the fungus grows in the water conducting tissue and eventually kills the branch; or if on the trunk, causes dieback from the top down. If we could climb to the tree top, a sunken area covered with a bluish white resin might be found on the trunk. This is the cytospora canker. Spruce branches can also be infected and most have bluish-white resin blisters on them. When this disease infects branches, they can be pruned out. When cytospora canker infects the trunk, the best recommendation is tree removal. Fungicides are not effective against canker diseases.

Warm, dry days during fall leads to water stress in trees. Going into winter, this sets trees up for injury from winter desiccation; and water-stressed plants are more susceptible to insects and diseases. It is still important to water trees and shrubs during fall. Plants need one inch of water per week from irrigation or rain. When the soil is dry, apply water deeply, moistening the soil 12 to 18 inches deep, until the ground freezes. Use a long-bladed screwdriver or piece of rebar to check the depth of water infiltration. If using a sprinkler, let it run in a low pattern in one area until the soil is moistened deeply, then move the sprinkler as needed to water the entire area beneath the tree's canopy. Or coil a soaker hose several times around the tree from the trunk to the dripline, and let it run until the soil is moistened to the desired depth. All trees benefit from fall watering but evergreens and young trees should be a priority.

Many disease organisms and some harmful plant insects carry over from one season to the next on fallen leaves, fruits, dead branches, or nearby weeds and grasses. If infected or infested plant debris is not removed and discarded, it produces new fungal spores or bacteria to re-infect plants next season; or provides overwintering sites for insects. If a plant had a disease or insect issue this past season, removing plant debris now will help reduce pest problems next season. Rake up plant debris like fallen leaves or fruit from beneath and around plants, then discard or burn it. Inspect woody plants for branch cankers and dead twigs. These are best pruned out and destroyed in early spring. If you suspect branches were killed by a disease, cuts should be made at least four to six inches below the margin of visible infection. Ideally, shade and fruit tree pruning should be done in spring just before new growth begins.

Checking the soil moisture of fruit trees is important during fall and early spring. The first 100 days of the spring growing season is critical for branch and bud development of new and established fruit trees. If trees do not have good stores of soil moisture going into winter or in early spring, overall growth and yield is affected. To check soil moisture, push a long Phillips head screwdriver or a rod with a sharpened point into the ground in about 12 places beneath the tree's canopy and beyond the drip line. Where the soil becomes dry, it will become difficult to push the probe in further. Ideally, the soil should be moist to a depth of 12 to 18 inches as this is where roots pull water from. If the soil is dry or only shallowly moist, use a low running sprinkler or soaker hose on warm days in late fall to deeply moisten the soil. Do not overwater plants as this can lead to weak and tender branch growth as well as poor functioning roots.

Now is the time to start amaryllis bulbs to have them bloom for Christmas. Amaryllis bulbs can be huge. The larger the bulb, the larger the flowers; and the more expensive the bulb. Amaryllis likes tight quarters. When planting, the container should only be one to two inches larger in diameter than the bulb. Leave about half of the bulb exposed. When planting, hold an Amaryllis bulb so the roots hang down into the pot, then add potting mix. Firm the mix around the roots carefully so roots are not snapped off. Water thoroughly and place the bulb in a warm, sunny location. Day temperatures in the 70s and night temperatures in the 60s are best for Amaryllis. Flower buds may appear right away or the plant may remain dormant for a period of time, but eventually mature bulbs will bloom. When flower buds begin to show color, move the plant to a cooler location and out of direct sunlight so the flowers last longer. (Source: Ward Upham, K-State)

Autumn is an excellent time to add organic materials and till garden soils. Winter can still be a good time to take care of this chore as long as the soil isn't frozen. It is far wiser to till now than to wait until spring when cold, wet conditions can limit your ability to work soils easily. Working soil when it is wet destroys soil structure and results in hard clods that are very slow to break down. On the other hand, dry soil may need to be watered so it can be more easily tilled. Be sure to wait several days after watering to let soil moisture levels moderate. You want the soil moist, not wet or dry, when tilling. There is a limit to how much organic material such as leaves can be added in one application. Normally, a layer 2 inches deep is adequate with 5 to 6 inches being the maximum that can be added at one time. Shredding the material before application encourages faster and more complete decomposition due to increased surface area. Remember, soil preparation is an important key to a successful garden. (Ward Upham)

FALL COLOR OF TREES AND SHRUBS

By: Kelly Feehan, Extension Educator

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We had a decent year for fall color in trees and shrubs. A year like this shows which plants can have beautiful fall color when conditions are right. Shorter days, cool nights, sunshine and good moisture are ideal conditions for fall colors to be unmasked.

Short days and falling temperatures signal trees and shrubs to quit producing the green pigment chlorophyll. As chlorophyll breaks down, the pigments masked by chlorophyll are then shown.

When fall colors appear, people often want to plant those trees and shrubs. This is great, but before selecting a plant check out its other characteristics. Be sure it will be a quality plant year round and not only for a few weeks during fall.

If red fall color and a high quality tree are important to you, consider planting an oak. Red, Shumard or scarlet are three oaks recommended for Nebraska. White oak can have dusty red fall color. The newer hybrid elm 'Frontier' is noted for its burgundy fall color.

Red maple and Autumn-blaze maple can have outstanding red or reddish-orange fall color. Before buying one, be aware both have softer wood that is more subject to wind and ice damage. In certain soils, both can develop iron chlorosis and decline. If you can live with these bad points, go ahead and plant these trees in the right locations.

Orange fall color is harder to come by. Many trees have brownish orange fall color, but for a true orange Table Rock sugar maple is one of our few choices. Sugar maples are not as heat tolerant as other maples and are best planted in protected locations with adequate moisture. Table Rock is a selection from Nebraska and considered more heat tolerant.

Some serviceberries, also known as Juneberry, have beautiful orange fall color in the right years, as will some crabapple cultivars. Autumn Brilliance serviceberry is a good choice. Prairifire and Indian Magic crabapples have reddish orange fall color.

An ornamental tree with red or burgundy fall color is ornamental or Callery pear. Unfortunately ornamental pear is overplanted and considered invasive in some states and planting these trees is best avoided.

Many trees have yellow fall color. A few quality shade trees that are not overplanted include Ginkgo, Kentucky coffeetree, bitternut hickory and many types of newer elm hybrids.

For shrubs, burning bush or *Euonymus alatus* is the one often selected. These are now overplanted and it would be wise to consider other shrubs for fall color. Many *Viburnums*, especially blackhaw *Viburnum*, are noted for their red fall color.

Other quality shrubs for fall color are oakleaf *Hydrangea*, Torr birchleaf *spirea*, red and black chokeberry, spicebush, beautyberry and fragrant *Sumac*. When it comes to shrubs, be sure to note plant size to be sure the shrub will not overgrow the planting site.

While fall color is a characteristic to look for, be sure other plant characteristics are also desirable. And know that fall color is fleeting. Only good in some years and short lived. Learn more about plants by asking at local garden centers or your local Extension office.