Slug: Ask the Master Gardener
Date: October 24, 2004
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Gardeners know that fall is the time to plant spring-flowering bulbs like tulips, crocuses and daffodils. But here in the Skagit Valley, true gardeners also know there are big advantages to fall planting of nursery stock. While the soil still retains heat from the summer months, the lower air temperatures mean less loss of water through the leaves. Top growth is slowed by the cold air, while the roots can continue to develop until the ground freezes. Be sure to mulch the roots of cold-sensitive plants. Then the plant has time to rest before bursting into rapid growth in spring.

Not only is autumn an excellent time for planting here, it's also a time to view trees and shrubs in their finest fall colors. If you are looking for plants with an autumn display, this is the time to visit local nurseries, display gardens and even your neighbor's yard to view varieties. If you haven't visited Washington Park Arboretum or our own WSU Discovery Garden, fall is an excellent time to do so. For added incentive to keep your spade in action, nurseries often have sales at this time of year. Since you might be looking at your tree or shrub through a rainy window in the fall, see what stands out on a particularly dreary wet day to lift your spirits.

And while you're out viewing plants and digging holes for your new plants, the perennial question is bound to occur: "Why do leaves change color in fall?" Like all living organisms, plants detect changes in their environment. The three major components of leaf color intensity are increasing night length, cool temperatures and moisture supply. Because of our location at the top of the United States' latitudes, we see changes in leaf color as early as August, when our nights have already lengthened considerably. Because we normally have abundant moisture and moderate fall and winter temperatures, foliage colors aren't always as brilliant here as in other parts of the country.

But what really makes the leaves turn color? Actually a tree's leaves are orange and yellow even in summer. During the growing season the chlorophyll present during active photosynthesis produces enough green pigment to mask the other colors in the leaves. During winter, there isn't enough sunlight to provide energy for photosynthesis, so with less chlorophyll, the other colors show through. This is the mechanism we see in trees with golden and orange deciduous leaves, likes oaks, birch and poplars. The pigment that produces reds and purples, anthocyanin, only shows up in most leaves with the coming of cooler weather. In maples, some dogwoods, and other trees with red autumn foliage, glucose is trapped in the leaves on bright fall days, producing the pigment showing red. The best reds occur when autumn days are sunny and cool, but the nights don't get down to freezing.

Before all those deciduous trees drop their leaves, call the Forest Service's free Fall Foliage Hotline, 1-800-354-4595, for the latest reports on every area of the U.S. Listen to the section on the Pacific Northwestern region to plan a drive. For a native plant with great fall color look for vine maples (*Acer circinatum*), brilliant red and orange throughout the North Cascades passes in October. Other colorful natives are aspens and larch. The Japanese katsura (*Cercidiphyllum japonicum)* can be seen at the Washington State University Discovery Garden, with heart-shaped leaves turning from soft green to fluttering apricot, orange and bronze. Another fall beauty at the Discovery Garden is the sweet gum (*Liquidambar styraciflua),* which is producing its burred balls of fruit for the first time this year. These seeds provide food for wildlife, while the star-shaped leaves take on gorgeous shades of yellow, orange and mahogany red. The Washington Park Arboretum is known for its fine collection of Japanese maples.

This column is written by Washington State University/Skagit County certified Master Gardeners. Questions may be submitted to WSU/Skagit County Cooperative Extension, 306 S. First Street, Mount Vernon, WA 98273-3805.