Winter Fruit Tree Care

Now is the time of year when many home orchardists start a winter spray program to control summer fruit tree pests and diseases. Instead of immediately reaching for a chemical solution, here are some recommendations from the University of California Statewide Integrated Pest Management program, http://www.ipm.ucdavis.edu.

Prevention: Prevention is the first step in controlling diseases such as peach leaf curl and fire blight in home orchards. Many problems can be avoided by choosing resistant fruit tree varieties and providing them with proper care. That care includes removing all dropped fruit and leaves that might be harboring pests. Proper timing and placement of pruning cuts can also help remove or control disease.

Resistant Varieties: Most pear tree varieties, including Asian pears (with the exception of Shinko) and red pear varieties, are very susceptible to fire blight. Among the more susceptible apple varieties are Fuji, Gala, Golden Delicious, Granny Smith, Gravenstein, Jonathan, Mutsu, Pink Lady, and Yellow Newtown. Wherever possible, plant varieties less prone to fire blight damage. Because most infections originate in the flowers, trees that bloom late or throughout the season (i.e., rat-tail bloom) often have severe fire blight damage.

A few peach varieties are available that are resistant or partially resistant to leaf curl. Currently available resistant varieties include Frost, Indian Free, Muir, and Q-1-8. The peach cultivar Frost is reportedly very disease-tolerant but must receive fungicide applications the first 2 to 3 years. Redhaven peach and most cultivars derived from it are tolerant to peach leaf curl, meaning the disease can be present but damage is limited.

Pruning Management: Successful removal of fire blight infections is done in summer or winter when the bacteria no longer are spreading through the tree. At these times infections have ceased enlarging, canker margins are clearly visible, and cleaning pruning shears is unnecessary. Rapidly advancing infections on very susceptible trees (pear, Asian pear, and some apple varieties) should be removed as soon as they appear in spring. In these cases, dipping shears in 10% bleach solution between cuts might be wise.

However, the location of the cut is far more important than the cleansing of tools. New infections that originate at pruning cuts haven't been observed on orchard trees; instead, the greater risk is "short cutting," wherein the cut isn't made far enough below the

canker to remove all the infected tissue. To locate the correct cutting site, find the lower edge of the visible infection in the branch, trace that infected branch back to its point of attachment, and cut at the next branch juncture down without harming the branch collar. This will remove the infected branch and the branch to which it is attached.

Although symptoms of leaf curl are seen primarily in spring as new leaves develop, there is little you can do to control the disease at this time. Some people remove diseased leaves or prune infected shoots, but this has not been shown to improve control. Normally, diseased leaves fall off within a few weeks and are replaced by new, healthy leaves.

If a tree is severely affected with peach leaf curl this can stunt its growth, so consider thinning fruit later in the season. Pruning in fall prior to applying any fungicides can reduce spore numbers overwintering on the tree and reduce the amount of fungicide needed. If leaf curl symptoms occurred on your trees in spring, be sure to treat the following fall and/or winter to prevent more serious losses the following year.

Chemical Treatment: Historically, the most commonly used fungicides available to home gardeners have been fixed copper products. Note: In the case of fire blight, they often don't provide adequate control even with multiple applications and must be applied to open blossoms in spring.

For all copper-containing products, the active ingredient, copper, is listed as "metallic copper equivalent," or MCE, on the label. Various product formulations differ widely in their metallic copper content. The higher the MCE, the greater the amount of copper and the more effective the product will be. **Read labels carefully and follow directions exactly.**

Currently only liquid products containing copper ammonium complex products with 8% MCE (e.g., Kop R Spray Concentrate [Lilly Miller brands] and Liqui-Cop [Monterey Lawn and Garden]) are available to consumers. The copper ammonium complex products can be made more effective by adding 1% horticultural spray oil to the application mix; the oil also aids in controlling some aphids, scale insects, and mites.

Be aware that repeated annual use of copper products over many seasons can result in a buildup of copper in the soil, which eventually can become toxic to soil organisms, and if it moves into waterways, can harm some aquatic species.

Please contact your local county U.C. Cooperative Extension office for gardening and agriculture advice. This article adapted from the UC Integrated Pest Management program.