EXTENSION
Cass County | 8400 144th Street, Suite 100 | Weeping Water, NE 68463 | 402-267-2205 | http://cass.unl.edu

Early Season Disease Control in the Home Orchard

Fruit trees will soon be blooming, marking the beginning of another growing season. Many diseases become active during blooming, so it's time to prepare to protect your trees and ensure a good harvest.

Brown Rot After harvesting, gardeners are often disappointed to find apricot, peach, cherry or plum fruits quickly develop a soft fuzzy brown rot. This is caused by a very common fungal disease aptly named brown rot.

Two major infection periods occur with brown rot, 1) during flowering and 2) several weeks before fruit harvest. During the early spring blossom blight period, flower petals are infected. The disease quickly spreads causing entire flowers to turn brown or black and die. Spring infections are not serious in themselves, but dead infected flowers remain in the tree producing fungal spores which infect stems and twigs causing cankers. They also infect fruits later in the season. If humid or wet conditions occur during fruit ripening, brown rot outbreaks can be severe.

Brown rot fungus overwinters primarily on dried infected fruits from the previous season, called mummies. All rotted fruit and mummies should be collected beneath trees or removed from the branches in fall to reduce disease pressure the following year.

If your trees have a history of infection, the first fungicide control application should be made when 25% of flowers are open, followed by two additional applications - 10 days after shuck fall and a final application 10 days later. Applications to prevent the fruit rot disease stage should begin one month before harvest and continue on 7- to 10-day intervals until harvest is complete. Recommended fungicides include captan, myclobutanil, thiophanate-methyl and propiconazole.

Note - shuck fall occurs when papery coverings over the expanding young fruits have split open and fallen from a majority of fruits.

Cherry Leaf Spot

More severe on sour cherries than sweet cherries, this fungus overwinters on fallen cherry leaves and in the spring produces large numbers of spores from these old leaves. Spores are moved by air currents and rain. In the presence of spring moisture, spores initiate new infections on young leaves.

Symptoms include numerous, tiny purple spots on upper leaf surfaces, which enlarge and die. Affected leaves turn yellow, often with a green halo around the infected spots giving leaves a mottled appearance. Masses of spores appear in dead leaf spots. Infections may also girdle the fruit stems, causing fruit drop. The most serious effect comes from early summer leaf loss, or defoliation, caused by heavy leaf spot infections and can weaken the tree.

Control is greatly improved by raking up and destroying last year's infected leaves before new leaves emerge. Preventive fungicides are recommended at petal fall, shuck fall and two weeks later. Recommended fungicides include myclobutanil, thiophanate-methyl and propiconazole.

Cedar Apple Rust & Apple Scab

Wet spring conditions also favor heavy infections of these two fungal diseases of apple trees. Apple scab overwinters on infected leaves and fruits. Mature fungal spores are released into the air during periods of spring rain and blown to nearby trees. Cedar-apple rust overwinters on its secondary host – juniper. Gelatinous orange fruiting structures develop on junipers during wet spring weather and disperse to susceptible apple hosts.

Spores that land on a leaf or fruit and come in contact with water germinate and cause infection, so disease development is favored by wet, humid weather that prevails from late April through June.

Apple scab causes bright yellowish-orange leaf and fruit spots, which often have a band of red or yellow around the outer edge.

Cedar-apple rust causes olive to greenish-black leaf spots. Similar cracked, scabby spots appear on the fruits with heavily infected fruits becoming misshapen.

Effective control using fungicides depends on the timeliness and repetition of applications, and the degree of coverage obtained on both the upper and lower leaf surfaces. Begin applications in spring at bud break and repeat applications as directed by the fungicide label. Typically, 3-4 fungicide applications made 7-14 days apart are required for good control. Recommended fungicides include chlorothalonil, thiophanate-methyl, myclobutanil, mancozeb or propicopnazole.

For a complete spray schedule for all home fruits, refer to the University of Missouri's publication "Fruit Spray Schedules for the Homeowner", http://extension.missouri.edu/p/G6010. Control application timing is given based on plant growth stage, so the recommendations can easily be interpreted for use by Nebraska growers.

Fungicides mentioned are available with the following product names.

- Captan
- Chlorothalonil: Daconil, Fung-onil, Ortho Garden Disease Control
- Thiophanate-methyl: Cleary's 3336, Fungo
- Myclobutanil: Immunox, Eagle
- Mancozeb: Dithane, Fore, Protect
- Propicopnazole: Banner Maxx, Infuse

Always read and follow all label directions and precautions.

Your Suggestions are Welcome!
Is there a lawn and gardening topic you would like to learn more about? Sarah Browning is an Extension Educator with Nebraska Extension and can be contacted by phone 402 441-7180, by mail at 444 Cherrycreek Road, Lincoln, NE 68528: or by e-mail sarah.browning@unl.edu.

Image credits

5558709 - brown rot of peach, Rebecca A. Melanson, Mississippi State University Extension, Bugwood.org

5511598- cherry leaf spot, Ward Upham, Kansas State University, Bugwood.org
5507888 - cedar apple rust, George Hudler, Cornell University, Bugwood.org

Sarah Browning
Extension Educator
Nebraska Extension
In Lancaster County
444 Cherrycreek Rd, Ste A, Lincoln, 68528-1591
402 441 7180