

PP-51

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Home Orchard Fruit Production for Apples and Stone Fruits

Description and Damage

Growing fruit in a backyard or home orchard can be rewarding or can be very frustrating, depending on disease and insect pests that may be present. While it is tempting to plant fruit trees and not apply chemical control measures, it is often impractical, and the resulting fruit crop may be disappointing or not result in any harvestable fruit. Various diseases affect fruit, and some are caused by fungi while some are caused by bacteria and viruses, so accurate examination and diagnosis is important. Disease development is dependent on the host, pathogen, and a suitable environment (mainly temperature and moisture). Controls may include preventative (protectant) fungicides, but availability and labels may vary for different states, and label directions must always be followed.

The most common fruits grown in home orchards are apples, stone fruits (peach, plum, cherry), grapes, brambles, blueberries, and small fruits such as strawberries. This guide will cover apples and stone fruits. Apple trees are commonly affected by fire blight, apple scab, fruit rots, rusts, and powdery mildew. Peaches and other stone fruits are affected by peach leaf curl, brown rot, and leaf spot. Insect pests are not covered in this guide.

Control and Management

For home orchardists, chemical control and yearly pruning may be difficult. Proper soil preparation, planting and spacing can be the best cultural management strategies to get off to a good start. The use of resistant cultivars is one of the best disease control options, and may give good yields of fruit with the least amount of management. Apple cultivars are being bred for disease resistance and a good list may be found from Purdue University Cooperative Extension. A few apple cultivars with resistance to several disease organisms include 'Freedom', 'Liberty', 'Macfree', 'Novamac', 'Priscilla', 'Runkel', 'Sundance', 'Trent', and 'William's Pride'. Find the complete list at:

<https://www.extension.purdue.edu/extmedia/BP/BP-132-W.pdf>.

Apple trees with fire blight should be trimmed 10-12 inches below the affected areas, when weather is dry, cleaning pruners between cuts. Control of scab and leaf spot should begin at bud swelling and first color in buds. A good preventative spray schedule should be followed if at all possible. Some fungicides are only available to commercial applicators, for which a license is needed. There are

various publications that list spray programs by plant stage, i.e. Pink, or petal drop. A good example may be found at the University of Kentucky site:

http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-GEN-08.pdf. Most labeled fungicide chemicals should be applied preventatively, according to the label, and may not provide good control once disease has developed and pathogens can be seen producing spores on plant tissue. Repeat applications and proper timing are often crucial to good control.



Fire blight on Pear Image N. Gregory

A simple program for apples would include at least three preventative fungicide sprays at:

Bud Color (just before opening), Petal Fall (last petals falling), First Cover (ten days after petal fall), using a fungicide containing myclobutanil, propiconazole, or sulfur, according to the label.

A simple program for control of diseases of stone fruits such as brown rot, peach leaf curl, leaf spot, and other fruit rots would include at least three preventative fungicide sprays at:

Bud Color (Pink, just before buds open), Petal Fall (last petals falling), and First Cover (7 days after shuck split), using a fungicide such as chlorothalonil, captan, or myclobutanil.

Combination tree fruit spray products are available that may control both disease and insects.

However, it is always good to scout for what is present, and spray only what is necessary and labeled. .

Insecticide sprays may harm bees, so always read the label and spray according to label directions.

Contact your local Cooperative Extension office for assistance with diagnosis or specific chemical recommendations. More detailed publications are available from Virginia Tech:

<http://www.virginiafruit.ento.vt.edu/>.

Reference to commercial products or trade names does not imply endorsement by University of Delaware Cooperative Extension.