The Backyard Orchardist
Fruit Pests: Pear
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DISEASES

Fire Blight

IMPORTANCE AS A PEST ON PEAR: high
OTHER FRUIT HOSTS: apple and crabapple

GENERAL INFO: Fire blight is caused by a bacterium called Erwinia amylovora. Pears are very susceptible to fire blight. Blossoms, terminal twigs, and sometimes entire limbs or trees are killed. Environmental conditions favoring infection are warm, rainy days during bloom. Rain, heavy dew, and insects spread oozing bacteria to flowers, where new infections occur.

SYMPTOMS:
• infected blossoms and shoots turn black (shown at right).
• leaves on dead shoots remain attached.
• the bacterium overwinters in sunken cankers in the wood, which begin to ooze in spring when temperatures warm.
• infected twigs wilt over at the tip, in the shape of a shepherd’s crook.

MANAGEMENT: Most importantly, all infected shoots, twigs, and limbs should be pruned out of the tree. Cut 12 inches below the canker into healthy wood to be certain that the bacteria are removed. Do not prune during moist conditions, as this can contribute to disease spread. Protect flowers from infection by applying an antibiotic spray just before, or 24 hours after, a potential wetting event. Use a mix of streptomycin and oxytetracycline to prevent resistance.

Crown Rot and Root Rot

IMPORTANCE AS A PEST ON PEAR: low-moderate
OTHER FRUIT HOSTS: all fruit trees

GENERAL INFO: Crown rot and root rot are caused by a soil-borne, fungus-like organism (Phytophthora). This pathogen is present in most soils, but only causes infection when soils are saturated with water and a host tree is present. The pathogen quickly grows in the cambium, girdling the tree. Once trees are infected, there is no cure.

SYMPTOMS:
• slow growth
• sparse, yellowing foliage
• small fruit
• wilting in hot weather
• sudden plant death
• Can be confirmed by using a knife to expose the inner bark of the root collar or large roots. Look for distinctive brown tissue (infected) in contrast to cream-colored tissue (healthy).

MANAGEMENT: Select sites with good water drainage for planting. Prevent standing water and do not over-irrigate. Do not replant in areas where root and/or crown rot occurred previously. Protect trees adjacent to infected trees by spraying foliage with phosphorus acid (Agri-fos, Fosphite) because phytophthora can spread by root-to-root contact.
Codling Moth

IMPORTANCE AS A PEST ON PEAR: moderate to high
OTHER FRUIT HOSTS: apple, crabapple, and quince

GENERAL INFO: Codling moths are the adults of the common “worms” that infest apples and pears. These moths emerge from overwintering sites in the spring and lay their eggs on and near developing fruits. Larvae bore into the fruit to feed on the flesh and seeds. There are 2 - 3 generations per year.

SYMPTOMS:
• frass (sawdust-like excrement) on the outsides of the fruit
• small holes in fruit
• larvae inside fruit
• rot sometimes accompanies entry holes on fruit

MANAGEMENT: The key to successful management by the backyard orchardist is a combination of cultural practices and accurately timed insecticide sprays. Codling moth activity is strongly regulated by temperature and the time to start sprays varies from year to year. To find out when codling moth is active in your area of the state and for spray timing recommendations, contact your local county Extension agent and subscribe to the USU IPM Tree Fruit Advisory. Insecticides include carbaryl, malathion, gamma-cyhalothrin, bifenthrin, acetamiprid, and spinosad.

Pear Psylla

IMPORTANCE AS A PEST ON PEAR: moderate to high
OTHER FRUIT HOSTS: none

GENERAL INFO: Pear psylla adults overwinter outside the orchard as adults and fly to pear trees in the early spring to lay eggs on buds and twigs. Nymphs hatch in spring and as they feed on leaves and fruit they secrete copious honeydew. Pear psylla may also transmit a disease called “pear decline” that can slowly kill trees over a number of years.

SYMPTOMS:
• sticky honeydew on leaves and fruit, and sometimes black sooty mold
• random, scorched appearance to leaves
• leaf drop and decreased fruit yields

MANAGEMENT: The best control is achieved with a dormant oil spray to kill newly laid eggs. If you need to spray during the growing season, use either a 1% oil spray, insecticidal soap, or spinosad.
Pear-Leaf Blister Mite

IMPORTANCE AS A PEST ON PEAR: moderate
OTHER FRUIT HOSTS: ornamental pears

GENERAL INFO: Pear-leaf blister mites are microscopic mites in the eriophyid group. They burrow under the lower surface of leaves and live inside small blisters all summer. Adults overwinter under leaf bud scales and emerge with new leaf growth in the spring. Very high populations can reduce photosynthesis and tree vigor, and are unsightly. Lower populations can be tolerated.

SYMPTOMS:
- “blisters” that start green in spring and by mid-summer become brown (shown at right)

MANAGEMENT: Treat large infestations in early fall, before leaf drop, when mites are migrating from leaves to buds. Options include carbaryl, horticultural oil, and lime sulfur.

Spider Mites

IMPORTANCE AS A PEST ON PEAR: moderate
OTHER FRUIT HOSTS: all fruits

GENERAL INFO: Mites are very small arthropods that are more closely related to ticks than insects. Spider mites overwinter as adults at the base of trees, or in ground cover, and may become a problem during hot, dry conditions in mid and late summer when they reproduce rapidly. As they feed, they remove sap and chlorophyll from leaves. Pears cannot tolerate high mite populations and symptoms are different from those on other trees.

SYMPTOMS:
- blackened areas on leaves (including midrib, petiole, and/or shoot; shown at far right); blackened areas may show up after control has been implemented, especially if hot weather follows.
- severe feeding can cause deformity of new foliage (shown at near right)
- fine silk webbing that becomes apparent when populations are high

MANAGEMENT: Predatory mites that feed on spider mites can provide effective biological control if they aren’t harmed by pesticides. Low populations of spider mites can be ignored and are often kept in check by the predatory mites. Spider mite outbreaks often follow pesticide applications that upset the predator-prey balance. Washing down trees or plants with a stiff spray of water or applying insecticidal soap or 1% horticultural mineral oil every 5-7 days until mite densities decline can be effective. Avoid applying soaps or oils during the hot part of the day as some leaf burn may result.