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Backyard Peach & Stone Fruit Disease, Pest and Cultural Practices Calendar

Nicole W Gauthier, Extension Plant Pathologist; Kimberly Leonberger, Plant Pathology Extension Associate;
Ric Bessin, Extension Entomologist; and John Strang & Shawn Wright, Extension Horticulturists

Introduction

Backyard stone fruit (peach, nectarine, plum, and cherry) production requires a proactive approach to disease, insect, and weed management. Preventative practices are recommended to minimize inputs. This guide focuses on preventative cultural practices with options of low-input pesticide applications. Refer to the homeowner fruit spray guide (ID-21) for a more complete pesticide spray schedule.

Cultural Practices

Cultural practices should always be considered when planning, planting, and maintaining a backyard orchard. Some practices keep plants healthy and assure the lowest risk for disease outbreaks or insect infestations. Other practices eliminate and eradicate sources for fungal and bacterial pathogens or insects, thereby reducing risk for disease or infestation. Combine cultural practices with a pesticide preventative program or use them alone for a no-spray alternative.

- A well-drained site located in full sun is required.
- Maintain plant vigor by watering during drought, mulching to regulate soil moisture and temperature, and amending soil nutrients according to soil tests.
- Minimize insect and wildlife damage.
- Prune to open canopy and increase air circulation.
- Utilize specific cultural practices listed in the table to eliminate disease-causing pathogens or insects and reduce risks for infections/infestation.
- Bagging peaches and nectarines when 3/4 inch in size is an effective way of managing pests without spraying. Use the method outlined in EntFacts-218 (bagging apples). Make vertical cuts at tops of bags and place over peach fruit; gather bag tops around branches and secure with staples. Remove bags 3 weeks prior to harvest so fruit will color properly.

Resistance

A healthy orchard begins with planning. Disease-resistant cultivars can reduce the need for many fungicide and bactericide applications. Growers should focus on cultivars that are resistant to bacterial spot. Brown rot and peach scab are often the most challenging peach and stone fruit diseases in Kentucky. Refer to Peach Cultivar Performance (HO-6) for information regarding cultivar selection.

Weed Management

Cultural practices, such as mowing, mulching, and applying landscape fabric, are the primary methods for weed management. These will be cost-effective for backyard growers while also providing the proper environment for tree growth. Mulch/landscape fabric reduces vegetation that can harbor pests and diseases or compete with trees for water and nutrients. If landscape fabric is used, it should be removed during winter to reduce vole hiding places. There are few organic herbicides labeled for use, and these may not be economical for growers with just a few trees. Herbicides that can be used include pelargonic acid (OMRI-approved contact herbicide) and glyphosate (a systemic herbicide); neither of these herbicides provide residual weed control. Herbicides, in combination with mulch during summer, will improve weed control beneath trees and help prevent mower damage to trunks. Herbicide applications should be made with low spray pressure to avoid drift and precautions should be taken to avoid contact with tree trunks, leaves, and fruit. Check labels for full use information and pre-harvest intervals.

Using the Table

The following table focuses on cultural practices as a means for eliminating or reducing risk for tree and fruit diseases and insects. Cultural practices should be considered for each plant growth stage, and should be utilized regardless of pesticide programs. Fungicides and insecticides are listed in the right hand columns with target pathogens or insects. Always read and follow label instructions when using pesticides, including pre-harvest intervals. Organic products (OMRI-approved) are marked with an asterisk (*). Organic fungicides are generally less effective for managing diseases than synthetic products. It is very difficult to produce a peach or nectarine crop in Kentucky without bagging or using pesticides, particularly in wet seasons.

		Cultural Practices		Disease		Insect	
Time of Year[1]	Growth Stage	Target Disease/Insect	Cultural Management	Target Disease	Management[2]	Target Insect	Management[2]
February/ Early March	Dormant (before buds swell)	Black knot Brown rot Insect/mite	Prune cankers and dead, dying and diseased wood; Prune to allow for increased air movement and thorough spray coverage.	Black knot	Chlorothalonil		
				Peach leaf curl	Chlorothalonil or Copper* or Lime sulfur* or Sulforix		
Mid/Late March	Bud swell			Brown rot	Lime sulfur* or Sulforix	Aphids Insect eggs San Jose scale	Dormant oil*[3]
Late March/ Mid-April	Pink (just before blooms open)	Brown rot	Remove fruit mummies; Remove wild *Prunus* species.	Black knot plum	Captan or Chlorothalonil	Plant bug Stink bug	Permethrin[4]
				Brown rot	Captan or Sulfur*	Do Not Use Insecticides During Bloom	
Mid-April/ May	After petals fall	Brown rot Cherry leaf spot	Remove infected leaves and diseased fruit.	Brown rot	Captan or Sulfur*	Catfacing insects Plum curculio	Permethrin[4]
				Cherry leaf spot	Captan or Chlorothalonil		
				Scab	Captan or Chlorothalonil or Sulfur*		
Late May	Shuck split (whorl of dried petal bases splits and falls off)	Brown rot Cherry leaf spot Oriental fruit moth Plum curculio	Bag developing peach and nectarine fruit when 3/4 inch in size; Remove infected leaves and diseased fruit; Thin to one undamaged fruit per 6-8 inches of limb.	Brown rot	Captan or Sulfur*	Oriental fruit moth Plum curculio	Permethrin[4] or Spinosad
				Black knot plum Cherry leaf spot	Captan or Chlorothalonil		
				Scab	Captan or Chlorothalonil or Sulfur*	Plant bug Stink bug	Permethrin[4]

Time of Year[1]	Growth Stage	Cultural Practices		Disease		Insect	
		Target Disease/Insect	Cultural Management	Target Disease	Management[2]	Target Insect	Management[2]
June-July	Summer growth	Brown rot Cherry leaf spot Scab Oriental fruit moth Plum curculio	Remove infected leaves and diseased fruit; Gather and dispose of fallen fruit.	Brown rot	Captan or Sulfur*	Japanese beetle Green June beetle	Neem oil*
				Cherry leaf spot	Captan or Copper*	Oriental fruit moth Plum curculio Plant bug Stink bug	Permethrin[4] or Spinosad
August - September	Late summer/ fall growth	Brown rot Cherry leaf spot Scab Catfacing insects Oriental fruit moth	Remove infected leaves and diseased fruit; Remove fruit bags 10 day to 2 weeks before harvest			Green June beetle	Neem oil*
October-November	After harvest	Black knot Brown rot Cherry leaf spot Scab	Prune cankers and dead, dying and diseased wood; Remove all fruit from tree and clean up all fallen fruit; Remove mummies; Rake fallen leaves and destroy.				

[1] The growth stage indicated typically occurs during this time of year; however, this may vary from year to year depending on environmental conditions.
[2] Products noted with an * indicate those that may be used in organic production. For a list of products approved by Organic Materials Review Institute (OMRI) please see University of Kentucky publication *Homeowner's Guide to Fungicides* (PPFS-GEN-07).
[3] Do not spray oil if temperature will drop below 40°F within 24 hours.
[4] Peaches only.

Resources

- Entomology Extension Publications/Fruit Pests
https://entomology.ca.uky.edu/fruit

- Horticulture Extension Publications/Home Fruit
http://www.uky.edu/hort/document-list-home-fruit

- Plant Pathology Extension Publications
https://plantpathology.ca.uky.edu/extension/publications

- Bagging Apples: Alternative Pest Management for Hobbyists (EntFacts-218)
http://www.ca.uky.edu/entomology/entfacts/entfactpdf/ef218.pdf

- Disease and Insect Control Program for Homegrown Fruit in Kentucky (ID-21)
http://www.ca.uky.edu/agc/pubs/id/id21/id21.pdf

- Fruit, Orchard, and Vineyard Sanitation (PPFS-FR-T-05)
https://plantpathology.ca.uky.edu/files/ppfs-gen-05.pdf

- Homeowner's Guide to Fungicides (PPFS-GEN-07)
https://plantpathology.ca.uky.edu/files/ppfs-gen-07.pdf

- Peach Cultivar Performance (HO-6)
http://www2.ca.uky.edu/agc/pubs/ho/ho6/ho6.pdf

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Photo credit: John Strang, University of Kentucky