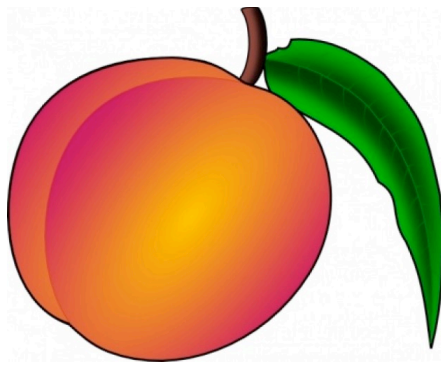


Bug-Wise

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Insect Pests of Homegrown Peaches and Plums: Peaches and plums have several serious insect pests that must be controlled if one hopes to harvest a nice crop of unblemished, worm-free fruit. These recommendations are specifically for the home gardener who only has a few trees in the back yard. Commercial producers and large scale hobby orchardists should refer to the insect control sections of the 2014 Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide. This regional publication is available at: <http://www.ent.uga.edu/peach/peachguide.pdf>. Here we briefly review some of the most important insect pests of peaches and plums and discuss control options that are readily available to the home gardener. Thanks to the input of Dr. Alan Henn, the spray schedule included here also contains disease control recommendations, because there is no point in controlling insect pests and not controlling diseases as well. In most cases the products used for insect and disease control can be tank-mixed and applied together, but there are important exceptions. Read the labels!

Plum Curculio: This is the number one insect pest of peaches and plums in Mississippi. If you find a “worm” in a peach or plum it is probably a plum curculio larva. These little weevils overwinter in ground trash around the orchard, move to the trees in the spring, and begin attacking small fruit as soon as it begins to form. Female weevils use their elongate snouts to puncture the fruit and then lay their eggs inside. A gummy exudate is often present at the crescent-shaped egg-laying scar. Fruit that are attacked when small fall from the tree, but larger fruit remain on the tree with the legless grub developing inside. Fruit that suffer adult feeding injury without successful larval development exhibit distorted growth or “catfacing injury.” There are two or three generations per year.

Because control depends on killing the adult weevils before they can lay eggs, it is important to begin spraying for plum curculio as soon as petal-fall is complete. Gardeners who are serious about protecting fruit from this pest will need to spray every 7 to 10 days for the first few sprays, but summer cover spray intervals can be increased to 10 to 14 days during dry periods. Tighten spray schedules in response to rainfall. Malathion is the most effective treatment available to home gardeners. Several companies offer combination fruit tree sprays that contain malathion as well as an effective fungicide. Be aware that some “combination fruit tree sprays” contain active ingredients that are only marginally effective against plum curculio. Hobby orchardists who have a substantial number of trees and use commercial type sprayers may consider using Imidan 70W (phosmet), which provides excellent control of plum curculio and can be purchased in relatively small quantities (5 lbs).

Cat-facing Insects: Although plum curculios also cause cat-facing, the term “cat-facing insects” is usually used to refer to a group of insects with piercing-sucking mouthparts that cause fruit distortion as a result of their feeding. This distortion occurs because cells of the young fruit are killed around the feeding site and the undamaged portion of the fruit grows faster than the damaged area. Tarnished plant bugs and several species of stink bugs cause this type damage. Fortunately, malathion is reasonably effective against these pests and cover sprays for plum curculio usually provide control of tarnished plant bugs and stink bugs as well. Be aware that mowing of orchard floors or nearby fields and roadways when large numbers of blooming weeds are present, can trigger large movements of tarnished plant bugs, and tighten cover sprays accordingly if this occurs.

Oriental Fruit Moth: Although it is much less common than plum curculio, home orchardists need to be aware of oriental fruit moth and the damage it causes. Adults are small gray moths that are rarely noticed. First generation larvae feed in the tips of succulent developing twigs, causing the tips and first few leaves to die and turn black. Monitor your trees carefully for these “twig-tipping” symptoms during early season because subsequent generations of oriental fruit moths attack the fruit. When feeding in fruit, the caterpillars usually tunnel to the center and feed around the seed. If the worms you find in your fruit have legs or are pinkish in color they are oriental fruit moth larvae and not plum curculios.

Cover sprays for plum curculio will usually control oriental fruit moth as well. Permethrin (be sure to use a brand name product that is labeled for the crop) can be substituted for one or two of the malathion sprays if necessary to control heavy infestations, but use of permethrin as a foliar spray increases risk of spider mite outbreaks.

Peachtree Borers: These pests attack the trunk of the tree and heavy or repeated attacks can cause tree death or reduced vigor and productivity. The day-flying moths lay their eggs on the bark and the hatching caterpillars bore into the tree and tunnel in the cambium. There are two species. Peach tree bore focuses its attacks on the lower few feet of the trunk and root collar. Lesser peach tree bores attack the main trunk and large, lower scaffold limbs.

Timing is critical for successful control of peach tree borers. The goal is to kill eggs and newly hatched caterpillars before they bore into the trunk. Through much of the state, peak flight time for peach tree bore moths is from the first of August through mid-September. Permethrin is currently the best treatment for home orchardists to use for peach tree borers, but permethrin only provides two to three weeks of residual control. Choose a permethrin product that is labeled for peach/plum and apply per label directions for trunk spray. Sprays need only be applied to the trunk, root collar, and bases of lower scaffold limbs. Do not spray the foliage as this can flare spider mites. Spray the first week of August and follow with one or two additional sprays at two to three week intervals. Hobby orchardists who have a substantial number of trees and have a private applicators license may wish to use chlorpyrifos instead—read label carefully before purchase and read the label again before application.

Spider Mites: Two spotted spider mites and European red mites are both pests of peaches and plums. Mite numbers and injury are usually highest in the later and dryer part of the season. Heavy infestations can cause stippling and bronzing of leaves and even leaf webbing. However, there are no miticides available for home gardeners to use for mite control and peaches are relatively tolerant of late season mite infestations. Avoid using insecticides containing permethrin, or other pyrethroid insecticides, as these products have a tendency to trigger mite outbreaks. For preventive control of European red mites apply dormant oil sprays according to the spray schedule for scale insects (see spray schedule).

Scale Insects: Heavy infestations of San Jose scale or white peach scale can severely injure peach and plum trees. Scale infestations are difficult to detect because the insects are small and immobile. Watch for irregular crusty brown or white patches on limbs and twigs and use a hand lens to see individual insects.

Apply a single dormant oil treatment either in late fall or as a “delayed dormant spray” for preventive scale control. Trees that are heavily infested should receive an application of dormant oil in late fall, after 95% leaf drop and before onset of freezing weather, and a second dormant oil treatment should be applied in late winter-early spring during the “delayed-dormant period.” Be sure to follow label directions and heed plant development and weather precautions when using dormant oils.

Granulate Ambrosia Beetles: Recently planted fruit trees, less than about 3 years old, are occasionally attacked and killed by granulate ambrosia beetles. These small bark beetles bore toothpick-sized holes through the trunk, excavate brood chambers and lay their eggs in the wood. In the process they inoculate the tree with disease organisms and it only takes a few attacking beetles to cause a tree to die. Granulate ambrosia beetles often produce tooth-pick sized columns of frass that protrude an inch or two from the trunk during the initial stage of an attack. Fatal attacks are most likely to occur in late winter/early spring as trees break dormancy. Fortunately, such attacks are sporadic and most trees escape injury. Consequently, doing nothing, except replacing trees that happen to be killed, is one approach to managing this pest. Home orchardists can obtain some level of preventive control on recently planted trees by applying a trunk spray of permethrin in late winter/early spring. Choose a permethrin product labeled for trunk spray on peach and mix at the highest rate allowed on the label for trunk sprays. Do not apply insecticides when fruit trees are in bloom. Sprays can be applied before first bloom with the goal of having residual insecticide protection on the bark for the next two to three weeks. See Bug-Wise Newsletter No 1 of 2012 http://msucare.com/newsletters/pests/bugwise/2012/bw_01.pdf for more information on granulate ambrosia beetle.

Spray Schedule to Control Insects and Diseases On Homegrown Peaches and Plums

Read pesticide labels carefully and observe all directions and restrictions.

Time of Application	Material To Use Per Gallon of Water
Dormant - Before buds swell in spring	
Peach leaf curl and bacterial spot	2 cups liquid lime sulfur Apply copper fungicide at the bacterial spot rates.
Scale (especially if scale were a problem last year) or mites, especially European red mite.	Horticultural oil – follow label directions for mixing. Do not apply when temperatures are below freezing. Do not apply when freezing weather is anticipated within next 2 to 3 days.
Delayed dormant (1%-5% bud swell)	
If leaf curl or plum pockets are a problem	Copper fungicide spray ¹
Beginning of bloom (Pink to 5% bloom)	
if bacterial spot is present.	2 tbsp Captan ² 50% WP (fungicide)
If black-knot of plum is present in the area (such as in wild plums)	Chlorothalonil ³
Do not apply insecticides during bloom	
Bloom	
when brown rot was a problem the previous year	Captan ² or Chlorothalonil ³
if black-knot is a problem the previous season	Chlorothalonil ³
Do not apply insecticides during bloom	
Petal fall – start of shuck split	
After ¾ of more of the petals have fallen	
<i>For Disease Control:</i>	
If Scab was a problem the previous season	6 tbsp Sulfur 80% WP (fungicide) or
If Scab or black-knot was a problem the previous season	2 tbsp Captan ² 50% WP (fungicide) + Spectracide Immunox ⁵ ½ fl oz. (fungicide) ⁵ or Captan 50% WP (fungicide) or Immunox ½ fl oz. (fungicide) OR propiconazole ⁵ or
Bacterial spot	Copper based fungicide
and	
<i>For Insect Control:</i>	
Cover sprays for Plum curculio and catfacing insects The first few sprays after petal fall are especially important for plum curculio control.	
	2 tsp Malathion 50% EC (insecticide) ³

Summer Cover Sprays:

Beginning at shuck fall⁴ and at 10-to 14-day intervals until harvest. Spray intervals need to be shorter if there are frequent rains.

For disease insect control:

2 tbsp Captan² 50% WP + Spectracide Immunox⁵ ½ fl oz. OR propiconazole⁵ (fungicide)⁵

AND

For plum curculio and catfacing insects

2 tsp Malathion 50% EC (insecticide)³

Two weeks before harvest and up to harvest

We especially recommend you use Captan + (Spectracide Immunox 1/2 fl oz or Bonide Infuse 1 fl oz) for brown rot control⁵

Post-Harvest, Mid-August and Early September

Permethrin trunk sprays for peach tree borer, mix per label directions
Apply 2 to 3 sprays at 2 to 3 week intervals

Early Dormant – Late fall after leaf drop and before freezing temperatures

For disease control

Chlorothalonil³ or lime sulfur, especially needed if peach leaf curl or plum pockets have been a problem.

For scale insects or overwintering European red mites

Apply horticultural oil after 95% leaf drop and when weather is favorable

WP – wettable powder

tbsp – tablespoon

EC – emulsifiable concentrate

tsp – teaspoon

¹ The rate of copper must be reduced as the season progresses or tree injury (phytotoxicity) may result. Carefully follow label directions. Copper antibacterial activity and phytotoxicity are related to the pH of the water used to dilute the fungicide. Water pH less than 6.5 may increase the risk of phytotoxicity. If necessary, adjust the pH of the water before mixing.

² Do not apply captan within 14 days of an oil spray (as in horticultural oil). Captan may cause leaf spotting if: 1) it is sprayed on so the leaves are drenched (excess solution applied to leaves) or 2) it is sprayed when leaves do not dry for a long period.

³ **Do not tank mix chlorothalonil with an EC formulation of any product, such as Malathion EC. Tree injury will result.**

⁴ Shuck fall is the stage when all flower parts have fallen from the newly formed fruit. It occurs 5 to 7 days after petal fall.

⁵ Do not apply myclobutanil (Spectracide Immunox) OR propiconazole (Bonide Infuse or Monterey Fungi-Fighter) in any combination more than seven times per season for brown rot control.

Blake Layton, Extension Entomologist

This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.



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