



Figure 14.1.1

GROWTH STAGES IN PEACH

1. Dormant
2. Swollen Bud
3. Half-inch green
4. Pink
5. Bloom
6. Petal fall
- 7a. Fruit set–shucks on
- 7b. Fruit set–shucks off

14 General Pest Management Considerations – Peaches and Nectarines

14.1 Diseases

Bacterial Spot

• Biology & Cultural

[1.1] Bacterial spot is a devastating disease of peaches and nectarines as well as plums, prunes and apricots. This disease is most likely to be a problem on susceptible varieties (e.g., Autumnnglo, Babygold 5, Redhaven, California white-fleshed varieties, nectarines). Any variety developed in drier climates and then grown in the more humid climate of New England has a strong likelihood of being susceptible. Also, this disease will be more severe in the warmer southern portions of New England, in wet years, in orchards with lighter (sandy) soils, and in windy orchard sites. The bacterial spot pathogen, *Xanthomonas arboricola* pv. *pruni* infects leaf scars at leaf drop and overwinters in infected twigs. Bacteria populations subsequently multiply during warm weather and ooze out during spring rains. Immature tissues are less susceptible to the bacterial infection, and as such, infections will not begin until petal fall/shuck split. Early season copper applications are quite effective for controlling the bacterial populations, but are also likely to induce phytotoxicity if one is not careful. Moreover, copper phytotoxicity can cause symptoms similar to that of bacterial spot. Do not plant susceptible peach varieties near plums, prunes, or apricots. Prunes, plum, and apricots are also susceptible to bacterial spot, and no materials are registered for use on bacterial spot of prunes, plum, and apricots.

• Pesticide Application Notes

[1.2] Where susceptible varieties are planted, a delayed dormant application of copper may help reduce bacterial spot disease pressure for the season. Along these lines, if applications of copper were made to manage peach leaf curl, these applications will substitute for those needed for bacterial spot. Apply copper with caution. Peaches are very susceptible to copper injury, especially after bud break. Copper phytotoxicity will be exacerbated by cool wet weather and environmental acidity.

[1.3] Where control is needed, apply sprays of Mycoshield or Flameout every 7–10 days from shuck split until 3 wk before harvest. The sprays immediately after shuck split are the most important for protecting the fruit. Thorough coverage is essential. Copper sprays applied for peach leaf curl at leaf drop should also aid in bacterial spot control.

[1.4] Low rates of copper can be applied post-bloom at 7-14 day intervals to reduce harvest damage and build of bacterial populations in susceptible varieties. Do not make more than six such applications. Take caution with post-bloom copper applications. These copper applications may result in phytotoxicity if no rains occur

between applications. If copper sprays are applied under acidic conditions (e.g., with LI-700 or other acidifiers) these may be more phytotoxic than copper applied alone.

Brown Rot (Blossom Blight)

• Biology & Cultural

[2.1] Blossom blight is most likely to occur when the weather is warm (above 60° F) and wet during bloom or when significant numbers of fruit were left unharvested the previous year. Blossom blight may also be serious at lower temperatures if prolonged wetting periods occur. However, blossom sprays on peaches may often be reduced or eliminated if these conditions do not occur. Nectarines are more susceptible to brown rot than most peach cultivars.

[2.2] Good insect control is important to prevent formation of entry points for the brown rot fungus. Pay special attention to control of plum curculio, oriental fruit moth, and tarnished plant bug. Fruits thinned after pit hardening are likely to become infected on the orchard floor and provide a source of inoculum for spread to ripening fruits in the tree; in contrast, fruits thinned prior to pit hardening are much less likely to do so.

Refer to the reference materials list at the end of this publication for a Fact Sheet containing more details on the biology and management of this disease.

• Pesticide Application Notes

[2.3] When used at a rate of 10 oz/100 gal dilute, Rovral provides 24–48 hr kickback activity against blossom blight infections at 68° F. Only 2 applications of Rovral are allowed per year. Orbit, Indar, and Elite also have significant kickback activity. Also, note that Thiram Granuflo is not labeled for use on nectarines

[2.4] More than one blossom blight spray is rarely needed unless disease pressure is extreme.

[2.5] If a previous brown rot spray was applied, a petal fall application is necessary on peaches only if warm and wet weather persists.

[2.6] Fruit are very susceptible to infection for the first 3 wk after shuck split; therefore, the shuck split and 1st cover sprays are important for controlling brown rot, particularly in wet weather. Chlorothalonil (Bravo, Echo) has longer residual activity than captan or sulfur, but do not use Chlorothalonil after shuck split. Indar is also highly effective.

[2.7] Elite, Indar and Orbit are not registered for use until 3 wk before harvest. Fruit becomes increasingly susceptible to infection the last 3 wk before harvest. It is therefore suggested that spray intervals be tightened up during this period and that Elite, Indar, or Orbit be used if disease pressure is high.

- **Pesticide Resistance**

[2.8] For resistance management purposes, the SI fungicides (Indar, Elite, Orbit, and Rally) should not be used routinely throughout the season for BOTH blossom blight AND fruit rot control. Where peaches within the same block ripen over an extended season, continued use of SI fungicides as preharvest sprays for successive varieties will also create selection pressure for fungicide resistance. Use captan or Pristine to break the string of preharvest SI fungicides applied to varieties with varied ripening or harvest dates.

Peach Leaf Curl

- **Pesticide Application Notes**

[3.1] Leaf curl sprays are especially important in years following crop failures because inoculum can build in orchards that do not receive brown rot sprays. Leaf curl sprays can be applied anytime between leaf fall and bud swell. Treatment applied after bud swell may not provide 100% control. Fixed copper compounds applied at leaf fall should also improve bacterial spot control by reducing the inoculum that overwinters in leaf scars. Several other commercial copper formulations in addition to those listed may be labeled for this use on peaches. Most copper formulations should give comparable rates of control at comparable rates of metallic copper.

Peach Scab

- **Biology & Cultural**

[4.1] Most likely to develop if weather is warm and wet the first several weeks following shuck split. Generally more of a problem downstate, on later varieties, and following a year when spring frosts destroyed the crop and no fungicides were applied.

- **Pesticide Application Notes**

[4.2] Where control is needed, apply sprays at 10- to 14-day intervals beginning at shuck split and continuing until 6 wk before harvest. Spray intervals can be lengthened during extended periods of dry weather. Bravo or Echo applied at shuck split will provide at least 14 days of protection for young fruits.

Perennial (Cytospora, Valsa) Canker

- **Biology & Cultural**

[5.1] Perennial canker is the most destructive disease of peach trees in New England and other cold-climate regions. Infections usually become established in pruning wounds or winter-injured tissue, from which they slowly expand and girdle the infected trunk or limbs. The most common point of entry is small, weak shoots that develop in the centers of the trees, then become killed during the winter. Thus, the most effective means of controlling this disease is to prune trees so that their centers are open. Other control practices include establishing new plantings at a distance from old, cankered blocks; training

to promote wide crotch angles (reduced breakage and winter injury); delaying annual pruning until bloom or later, to allow pruning cuts to “heal” quickly; and standard horticultural practices to promote winter hardiness, such as the application of white trunk paint. Some fungicides applied for brown rot control after pruning may help protect these wounds from infection, but such benefits are unproven and likely to be minor. *This disease is controlled almost entirely through horticultural practices!!!*

Refer to the reference materials list at the end of this publication for a Fact Sheet containing more details on the biology and management of this disease.

Phytophthora Root, Crown, and Collar Rots

- **Biology & Cultural**

[6.1] Peach rootstocks are significantly more susceptible to Phytophthora root, crown, and collar rots than are apples (peach is similar to cherry in susceptibility). The main defense against these diseases should be providing good soil drainage through proper site selection and physical manipulations such as tiling or planting on berms; in marginal sites or very wet years, berms are much more effective than tiling. Ridomil will provide additional protection in wet years, on marginal sites, or in wetter sections of the orchard. See comment about application.

Refer to the reference materials list at the end of this publication for a Fact Sheet containing more details on the biology and management of this pest.

- **Pesticide Application Notes**

[6.2] Applications should be made just before growth starts in the spring and at 2–3-month intervals thereafter if soil conditions are very wet. Apply to the soil beneath the tree canopy in sufficient water to assure good coverage (material is moved into the soil by subsequent rain or irrigation). See label for further details.

Powdery Mildew (Rusty Spot)

- **Biology & Cultural**

[7.1] Only a problem on certain susceptible varieties (e.g., Rio-Oso-Gem, Redskin). Can be particularly severe if peaches are planted adjacent to mildew-susceptible apple cultivars.

- **Pesticide Application Notes**

[7.2] Where disease has been a problem, add sulfur to each spray from petal fall through pit hardening. This rate of sulfur may be combined with 1 lb captan/100 gal in the early cover sprays for brown rot protection. When applied for brown rot control, the SI fungicides (Elite, Indar, Orbit) also should provide control of powdery mildew.

Prunus Stem Pitting Virus

• Biology & Cultural

[8.1] Prunus stem pitting virus is spread from broadleaf weed species to trees by the dagger nematode. The virus is seed-transmitted and enters orchards via windblown seeds from infected weed species. Broadleaf weeds in the sodded row middles should be controlled annually using 2,4-D after harvest to minimize the potential sources of virus in the orchard.

X-Disease

• Biology & Cultural

[9.1] The only effective control for X-disease of peach, nectarine, and cherry is the destruction of infected host plants within a 500-ft radius of the orchard. Chokecherry (*Prunus virginiana*) and wild sweet cherry seedlings are the wild hosts that provide most of the inoculum for leafhopper vectors of this disease. Wild black cherry (*Prunus serotina*) is not a host for X-disease. Infected sweet and tart cherry trees (particularly those on Mazzard rootstock) and wild sweet cherry seedlings can also serve as inoculum sources, but leafhoppers cannot acquire the disease from infected peach or nectarine trees. Where X-disease is a concern, new peach and nectarine plantings should be isolated from plantings of sweet cherries that might harbor X-disease.

All chokecherry and wild sweet cherry seedlings within 500 ft of peach, nectarine, and cherry orchards should be eradicated either by physically removing the plants or through use of brush killers. Chokecherries often grow in hedgerows, along fences and property lines, along the margins of woodlots, and in overgrown meadows where they can be managed with brush killers. DO NOT USE BRUSH KILLERS WITHIN THE ORCHARD. Where chokecherries have been removed or treated with brush killers, check for regrowth of chokecherry sprouts during the season following treatment. Some broadleaf weeds can also harbor the X-disease pathogen, and weeds encourage high populations of X-disease vectors. To minimize risks of X-disease, stone fruit orchards should be treated annually (in autumn) with 2,4-D herbicide to eliminate broadleaf weeds in the grass ground cover.

• Pesticide Application Notes

[9.2] Method of Hyvar application: Spread granules around the base of the stump or brush clump. Hyvar is a soil sterilant. Growth of most vegetation will be prevented in the treated area for several years. Do not apply near ditches or where surface water may carry the material to desirable plants.

[9.3] To increase activity of Krenite, add one quart of spray oil/100 gallons. Krenite will not affect current season's foliage, but it will prevent the treated plants from breaking bud in the spring. DO NOT ALLOW KRENITE TO DRIFT ONTO CROP PLANTS. Krenite affects only woody plants, and only those parts of the plant that are sprayed. Thus, it acts like a "chemical pruner." It is not active in soil.

[9.4] Peach and nectarine trees with X-disease can be treated therapeutically by injecting trees with oxytetracycline (an antibiotic) in the fall after harvest. Oxytetracycline kills or suppresses the pathogen in the tree phloem and prolongs the life and productivity of infected trees. Infected trees usually require annual treatment to maintain disease suppression, but some trees recover completely after two successive years of treatment. Peach and nectarine trees in later stages of decline (i.e., X-disease symptoms throughout the canopy) will not recover and should not be treated. Oxytetracycline has not been proven effective for treating cherry trees. Oxytetracycline should only be applied to peach and nectarine trees that have symptoms of X-disease; it should never be applied to healthy trees or used as a preventive for X-disease.

14.2 Insects and Mites

American Plum Borer

• Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• Pesticide Application Notes

[10.1] Apply spray against newly emerging adults, shortly after petal fall. Apply as a coarse, low-pressure spray to give uniform coverage of tree trunks and lower limbs. Particularly a problem in trees with split trunks from *Cytospora* canker or winter injury. Will also contribute to control of peachtree borer and lesser peachtree borer; see comment [17.3]. Only 1 application of Lorsban permitted per season.

[10.2] Rate of Baythroid products for lesser peachtree borer: 1.4-2.0 fl oz/A; for American plum borer: 2.4-2.8 fl oz/A. Rate of *Leverage for lesser peachtree borer: 3.0-3.6 fl oz/A; for American plum borer: 4.4-5.1 fl oz/A. *Baythroid and *Leverage not labeled for peachtree borer.

Cottony Peach Scale, European Fruit Lecanium Scale

• Pesticide Application Notes

[11.1] Low rate of oil during dormant period for European fruit lecanium, high rate for cottony peach scale.

European Red Mite

• Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• Pesticide Application Notes

[12.1] High rate of oil during dormant period.

[12.2] Apply as mites appear in summer; use lower rate of Nexter for European red mite, higher rate for

twospotted spider mite. Acramite, Savey and Apollo limited to 1 application per season.

[12.3] Non-bearing trees only.

Green Peach Aphid

• Pesticide Application Notes

[13.1] Apply spray postbloom, before excessive leaf curling occurs.

Japanese Beetle

• Biology & Cultural

[14.1] Adults emerge from the soil between early July and mid-August to feed on numerous trees and shrubs. In peach trees, beetles devour the tissue between the veins, leaving a lace-like skeleton, and also feed on the surface of the fruit. Severely injured leaves turn brown and often drop. Adults are most active during the warmest parts of the day and prefer to feed on plants that are fully exposed to the sun.

• Pesticide Application Notes

[14.2] Although pheromone traps are available and can be hung in the orchard in early July to detect the beetles' presence, they are generally NOT effective at trapping out the beetles. Fruit and foliage may be protected from damage by applying Sevin, Assail, *Leverage or *Provado; repeated applications may be required.

Obliquebanded Leafroller

• Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• Pesticide Application Notes

[15.1] 3 sprays: end of May (shuck split), 1st hatch (mid-late June: 360 DD43 after 1st trap catch), and 2 wk later. Best results obtained if materials are alternated.

Oriental Fruit Moth

• Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• Biological & Non-chemical Control

[16.1] Pheromone disruption is economically justified if 2–3 sprays are normally applied, and if no other insecticide sprays are routinely needed for other pests after petal fall. For this reason, disruption may not be economical for the 1st brood, as plum curculio sprays at this time normally would also control oriental fruit moth. Pheromones should be applied in mid-June before initiation of the 2nd flight; the need for re-application depends on residual field life of specific formulations: Isomate-M 100,

90 days; Checkmate Sprayable, 14 days. Border insecticide sprays may be needed in orchards adjacent to sources of adult immigration or in other high pressure situations.

• Pesticide Application Notes

[16.2] Against adults, beginning at petal fall. Use 2 applications at a 10-14-day interval. Pyrethroids will also control plum curculio, lesser peachtree borer, and tarnished plant bug. Avaunt will provide suppression of oriental fruit moth and control of plum curculio. Sevin will not control lesser peachtree borer. *Imidan and Avaunt not registered for lesser peachtree borer.

[16.3] Summer sprays should be timed to start approximately at the 10% hatch point, 175-200 DD (base 45° F) after the first adult catch of the second brood, with a second application in 10-14 days. In high pressure blocks, a final spray should be applied 2 wk before harvest to control late season larvae. Suggested action threshold: Avg. of >10 adults/week caught per pheromone trap.

Peachtree Borers (Including Lesser Peachtree Borer)

• Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• Biological & Non-chemical Control

[17.1] Hang pheromone ties at 100/acre in late May before flight begins. If a significant part of the population is (greater) peachtree borer, increase rate to 200-250/acre.

• Pesticide Application Notes

[17.2] Against adults, when first shucks start to split. Will also control plum curculio, oriental fruit moth, and tarnished plant bug. Sevin will not control lesser peachtree borer. *Imidan, Avaunt and Assail not registered for lesser peachtree borer.

[17.3] 3 sprays of pyrethroids to trunk and scaffold limbs against larvae: June 1–10, July 7–15, and August 1–10. 1 application of Lorsban or *Thionex, from July 20 to Aug. 1 OR immediately after harvest, may be substituted for the 3rd spray; do not apply either material to fruit. Only 1 application of Lorsban permitted per season. *Baythroid not labeled for peachtree borer. Suggested action threshold: 1st emergence of adults plus 8 days or 1–2 larvae/tree. Note: Preplant dipping of roots and crowns of peach tree seedlings before planting has given complete control of the peachtree borer for the 1st growing season and has reduced borers during the 2nd season. *Thionex, 2 2/3 qt of 3EC formulation/40 gal, is preferred because it stays in suspension and eliminates the need for constant agitation during treatment. SPECIAL PRECAUTIONS: Wear full PPE to avoid exposing skin to insecticide. Dispose of excess material with extreme care. *Thionex is extremely toxic to fish and wildlife.

Plum Curculio

• **Biology & Cultural**

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

• **Pesticide Application Notes**

[18.1] Against adults, when first shucks start to split; continue at 7- to 10-day intervals. Use 2–3 applications. Pyrethroids will also control oriental fruit moth, lesser peachtree borer, and tarnished plant bug.

[18.2] Frequent applications (7–10-day intervals) of Surround and maximal coverage (minimum of 100 gal/A) are advised while there is active foliar growth.

Tarnished Plant Bug, Stink Bug

• **Biology & Cultural**

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest. Satisfactory control requires adequate management of orchard weeds that attract this pest and act as alternate hosts.

• **Monitoring & Forecasting**

[19.1] Apply spray as insects appear. Suggested action threshold: At pink, 3 bleeding sites/tree or cumulative capture of 7 adults by late pink stage (white sticky-board trap); at petal fall, 3 bleeding sites/tree.

[19.2] Most catfacing injury is caused before shuck split. Later season feeding generally results in only minor surface scarring.

• **Pesticide Application Notes**

[19.3] At 10-day intervals as needed in July and August. Suggested action threshold: 3 bleeding sites/tree.

Western Flower Thrips

• **Biology & Cultural**

Drought conditions and high temperatures may encourage damaging populations in nectarines, although it has not been a particular problem in New England. Adults move from alternate weed or crop hosts to fruit just prior to and during harvest, feed on the fruit surface in protected sites, such as in the stem end, the suture, under leaves and branches, and between fruit. Feeding results in silver stipling or patches; injury is particularly obvious on highly colored varieties.

• **Pesticide Application Notes**

[20.1] In orchards with severe infestations, a petal fall application may be warranted against thrips feeding in fruit clusters. Control using SpinTor or Delegate may be improved by addition of an adjuvant. Carzol labeled for nectarines only.

[20.2] An application after the first harvest may prevent subsequent losses; however, an additional application may be needed if pressure is severe. Control may be improved by addition of an adjuvant. PHI is 14 days for peaches, 1 day for nectarines.

14.3 Peach and Nectarine Spray Table

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)
Dormant					
Bacterial Spot	C-O-C-S	4.0 to 5.0 lb/acre	24	BL	[1.2]
	Kocide 2000 or other copper formulations (see label)	5.7 to 7.1 lb/acre	24	21	
Peach leaf curl	Bravo Ultrex 82.5WDG or Bravo Weather Stik 6F or other chlorothalonil formulations (see labels)	0.9-1.25 lb/100 gal 1.0-1.4 pt/100 gal	12 hr/ 7days (E)	SS	[3.1]
	<i>OR</i> §C-O-C-S	4 lb/100 gal	24	BL	
	<i>OR</i> other copper formulations; see labels				
	<i>OR</i> Echo 6F or Echo 90DF	1.0-1.4 pt/100 gal 0.75-1.2 lb/100 gal	12 hr/ 7days (E)	SS	
	<i>OR</i> Ferbam 76 WDG	1 1/2 lb/100 gal	24	24	
	<i>OR</i> §Kocide	4 lb/100 gal			
	<i>OR</i> Thiram Granuflo	3.9 to 5.1 lb per acre	24	7	
	<i>OR</i> Ziram 76DF, 76WDG	1 1/2 lb/100 gal	48	14	
Phytophthora root, crown, and collar rots	Ridomil Gold 4EC	2 qt per acre	48	0	[6.2]
Cottony peach scale, European fruit lecanium, European red mite	§oil	2-3 gal/100 gal	12	0	[11.1] [11.1] [12.1]
Early Spring					
X-Disease	Hyvar X-L	1 tbsp/stump or brush clump			[9.1, 9.2]
Pink					
Brown rot (blossom blight)	Bravo Ultrex 82.5WDG or Bravo Weather Stik 6F or other chlorothalonil formulations (see labels)	0.9-1.25 lb/100 gal 1.0-1.4 pt/100 gal	12 hr/ 7days (E)	SS	
	<i>OR</i> Captan 50WP or Captan 4L	1 1/2 lb/100 gal 1 pt/100 gal	96 (E) 24 (E)	0	
	<i>OR</i> Echo 6F or Echo 90DF	1.0-1.4 pt/100 gal 0.75-1.2 lb/100 gal	12 hr/ 7days(E)	SS	
	<i>OR</i> Elevate 50WDG	0.33-0.5 lb/100 gal	12	0	
	<i>OR</i> Elite 45DF	2 oz/100 gal	12	0	[2.8]
	<i>OR</i> Indar 75WS	0.8 oz/100 gal	12	0	[2.8]
	<i>OR</i> Orbit 3.6EC	1.6 floz/100 gal	24	0	[2.8]
	<i>OR</i> Rally 40WSP	2.5 to 6 oz per acre	12	0	
	<i>OR</i> Rovral 50WP	8-10 oz/100 gal (max 2 lb/A)	24	PF	[2.3]
	<i>OR</i> or Rovral 4F	8-10 floz/100 gal	24	PF	[2.3]
	<i>OR</i> §Sulfur 95WP	5 lb/100 gal	24	0	

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)
Brown rot (blossom blight) (continued)	OR Quash	2.5 to 4 oz/Acre	12	14	
	OR Vanguard 75WG	5 oz/A	12	BL	
	OR Scala 600SC	9-18 fl oz/A	12	2	
	OR Pristine 38WDG	10.5-14.5 oz/A	12	0	
	OR Thiram Granuflo	3.9 to 5.1 lb/acre	24	7	
Tarnished plant bug	*Ambush 25WP	6.4-19.2 oz/100 gal	12	14	[19.1]
	OR *Asana XL 0.66EC	2-5.8 oz/100 gal	12	14	
	OR *Carzol 92SP	4 oz/100 gal	4-16 days(E)	PF	
	OR Assail 30SG	5.3 to 8 oz/acre	12	7	
	OR Beleaf 50SG	2 to 2.8 oz/acre	12	14	
	OR *Baythroid 2EC	2.0-2.4 fl oz/A	12	7	
	or *Baythroid XL 1EC	2.0-2.4 fl oz/A	12	7	
	Leverage 2.7SE	3.6 to 6.4 fl oz per acre	12	7	
	OR *Proaxis 0.5CS	2.6-5.1 fl oz/A	24	14	
	OR *Pounce 3.2EC	4-12 fl oz/A	12	14	
	or *Pounce 25WP	6.4-19.2 oz/A	12	14	
	OR *Warrior II	2.6-5.1 fl oz/A	24	14	
Bloom					
Brown rot (blossom blight)	See materials listed under Pink				
Oriental fruit moth	See comments [16.1] regarding pheromone disruption				
Petal Fall					
Brown rot (blossom blight)	See materials listed under Pink				
American plum borer, Peachtree borer, Lesser peachtree borer	*Baythroid XL 1EC				[10.2]
	or *Baythroid 2EC				
	OR Leverage 2.7SE	[see Comment]			[10.2]
	OR *Lorsban 4EC	3 qt/100 gal	96	14	[10.1]
OR Pheromone disruption ties: §Isomate-LPTB	100/acre				[17.1]
Green peach aphid	Assail 30SG	2.5 to 5.3 oz per acre	12	7	
	OR Beleaf 50SG	2 to 2.8 oz per acre	12	14	
	*Lannate 2.4L	3/4-1 1/2 pt/100 gal	48-96 (E)	4	[13.1]
	or *Lannate 90SP	1/4-1/2 lb/100 gal			
	OR *Thionex 3EC	2/3 qt/100 gal	48	21/30(A)	
or *Thionex 50WP	1 lb/100 gal	96	21		
Oriental fruit moth	See materials listed under Shuck Split				
Tarnished plant bug	See materials listed under Pink [19.1]				
Western flower thrips	*Carzol 92SP	4 oz/100 gal	4-16 days(E)	PF	
	OR SpinTor 2SC	4-8 fl oz/A	4	14	
	or §Entrust 80WP	1.25-2.5 oz/A			

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)	
Shuck Split						
Brown rot (blossom blight)	Bravo Ultrex 82.5WDG	0.9-1.25 lb/100 gal	12hr/	SS	[3.1]	
	or Bravo WeatherStik 6F	3.125 to 4.125 pt/acre	7days(E)			
	or Bravo Weather Stik 6F	1.0-1.4 pt/100 gal				
		or other chlorothalonil formulations (see labels)				
	<i>OR</i> Captan 50WP	1 1/2 lb/100 gal	96 (E)	0	[2.8]	
	<i>OR</i> Indar 75WS	0.8 oz/100 gal	12	0		
	<i>OR</i> Echo 6F	1.0-1.4 pt/100 gal	12hr/	SS		
		or Echo 90DF	0.75-1.2 lb/100 gal	7days(E)		
	<i>OR</i> Elevate 50WDG	0.33-0.5 lb/100 gal	12	0		
	<i>OR</i> Orbit 3.6EC	4 fl oz per acre	12	0		
	<i>OR</i> Pristine 38WDG	10.5-14.5 oz/A	12	0		
	<i>OR</i> Quash	2.5 to 4 oz/acre	12	14		
	<i>OR</i> Rally 40WSP	2.5 to 6 oz per acre	12	0		
	<i>OR</i> §Sulfur 95WP	5 lb/100 gal	24	0		
	<i>OR</i> Thiram Granuflo	3.9 to 5.1 lb per acre	24	7	[2.6]	
Bacterial spot	§Mycoshield 17WP	12 oz/100 gal	96(E)	21	[1.2]	
	<i>OR</i> Flameout 17WP	12 oz/100 gal	12	21		
Peach scab	Abound	4-5 fl oz/100 gal	4	0	[4.2]	
	<i>OR</i> Bravo Ultrex 82.5WDG	0.9-1.25 lb/100 gal	12 hr/	SS		
	or Bravo Weather Stik 6F	1.0-1.4 pt/100 gal	7days (E)			
		or other chlorothalonil formulations (see labels)				
	<i>OR</i> Echo 6F	1.0-1.4 pt/100 gal	12hr/	SS		
		or Echo 90DF	0.75-1.2 lb/100 gal	7days (E)		
	<i>OR</i> Captan 50WP	2 lb/100 gal	96 (E)	0		
		or Captan 4L	1 1/2-2 pt/100 gal	24 (E)		
	<i>OR</i> Gem 500SC	1.9-3.8 oz/A	12	1		
	<i>OR</i> Indar 75WS	0.8 oz/100 gal (max 2 oz/A)				
	<i>OR</i> §Sulfur 95WP	5 lb/100 gal	24	0		
	<i>OR</i> Quash	2.5 to 4 oz/acre	12	14		
	<i>OR</i> Thiram Granuflo	3.9 to 5.1 lb per acre				
	<i>OR</i> Topsin M 70WSB	6 oz/100 gal	96(E)	1		
		plus Captan 50WP	1 lb/100 gal			
Obliquebanded leafroller	*Baythroid 2E	2.4-2.8 fl oz/A	12	7	[15.1]	
	or *Baythroid XL 1L	2.4-2.8 fl oz/A	12	7		
	<i>OR</i> Belt	3 to 4 oz/acre	12	7		
	<i>OR</i> §Biobit XL2.1FC	1.5-5.5 pt/A	4	0		
	<i>OR</i> §Deliver 18WG	1/2-2 lb/A	4	0		
	<i>OR</i> Delegate WG	4.5 to 7 oz/acre	4	14 (1)		

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)
Obliquebanded leafroller	OR §Dipel DF 10.3DF	1/2-2 lb/A	4	0	
	OR SpinTor 2SC	4-8 fl oz/A	4	14	
<i>(continued)</i>	or §Entrust 80WP	1.25-2.5 oz/A			
Oriental fruit moth,	*Ambush 25WP	6.4-19.2 oz/A	12	14	[16.2]
Lesser peachtree borer, Plum curculio	OR *Asana XL 0.66EC	2-5.8 oz/100 gal	12	14	
	OR Assail 30SG	5.3 to 8 oz per acre	12	7	
	OR Avaunt 30WDG	5 to 6 oz per acre	12	14	
	OR §Aza-Direct 1.2L	12.5-42 fl oz/A	4	0	[9.1]
	OR §Azatin XL Plus 3L	10-21 fl oz/A	4	0	
	OR *Baythroid 2EC, or *Baythroid XL 1EC				
	for lesser peachtree borer:	1.4-2.0 fl oz/A	12	7	
	for oriental fruit moth:	2.0-2.4 fl oz/A	12	7	
	for plum curculio:	2.4-2.8 fl oz/A	12	7	
	OR Delegate 25WG	6 to 7 oz per acre	4	1/14	
	OR *Imidan 70WP	3/4 lb/100 gal	72	14	
	OR Leverage 2.7SE	3 to 5.1 fl oz per acre			
	OR §Neemix 4.5L	7-16 fl oz/A	12	0	
	OR *Pounce 25WP	6.4-19.2 oz/A			
	OR Proaxis 0.5CS	2.6-5.1 fl oz/A	24	14	
	OR Sevin XLR Plus, 4F	2-3 qt/A	12	3	
	or *Sevin 80WS	2.5-3.75 lb/A			
	OR §Surround 95WP	50 lb/100 gal	12	3	[18.2]
	OR *Warrior II	1.28 to 2.56 fl oz/acre	24	14	
	OR Pheromone disruption:				
	or §Checkmate OFM-F	1.32-2.93 fl oz/A			[16.1]
	or §Isomate-M 100	100 ties/A			[16.1]
	§Isomate-LPTB	100 ties/A			[17.1]
Scale	Centaur	34.5 oz/A	12	14	
Additional Summer Sprays					
Bacterial spot	§Mycoshield 17WP	12 oz/100 gal	12	21	[2.7]
	OR Flameout 17WP	12 oz/100 gal	12	21	
Brown rot (Blossom blight)	Captan 50WP	2 lb/100 gal	96 (E)	0	[2.7]
	or Captan 4L	1 1/2-2 pt/100 gal	24 (E)		
	OR Elevate 50WDG	0.33-0.5 lb/100 gal	12	0	
	OR Elite 45DF	2 oz/100 gal	12	0	
	OR Indar 75WS	0.8 oz/100 gal (max 2 oz/A)	12	0	
	OR Orbit 3.6EC	1.6 fl oz/100 gal (max 4 fl oz/A)	24	0	
	OR Pristine 38WDG	10.5-14.5 oz/A)	12	0	
	OR Quash	2.5 to 4 oz/acre	12	14	
	OR Rally 40WSP	2.5 to 6 oz per acre	12	0	
	OR Thiram Granuflo	3.9 to 5.1 lb per acre	24	7	
	OR §Sulfur 95WP	5 lb/100 gal	24	0	
Peach scab	Captan 50WP	2 lb/100 gal	96 (E)	0	[4.2]
	or Captan 4L	1 1/2-2 pt/100 gal	24 (E)		

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)	
Peach scab (continued)	OR Gem 500SC	1.9-3.8 oz/A	12	1		
	OR Pristine 38WDG	10.5-14.5 oz/A)	12	0		
	OR §Sulfur 95WP	5 lb/100 gal	24	0		
	OR Thiram Granuflo	3.9 to 5.1 lb per acre				
	OR Topsin M 70WSB plus Captan 50WP	6 oz/100 gal 1 lb/100 gal	96(E)	1		
Powdery mildew (rusty spot)	§Sulfur 95WP	3 lb/100 gal	24	0	[7.2]	
European red mite, Twospotted spider mite	Acramite 50WS	0.75-1.0 lb/A	12	3	[12.2]	
	OR Apollo 4SC	2-8 oz/A	12	21		
	OR Nexter 75WS	4.4-10.7 oz/A	12	7		
	OR Onager 1EC	12 to 24 fl oz per acre	12	28		
	OR Savey 50DF	3-6 oz/A	12	28		
	OR *Vendex 50WP	1-2 lb/A	48	14		
	OR Envidor	16-18 oz/A	12	7		
	OR Portal	1-2 pt/A	12	365	[12.3]	
Green peach aphid	Assail 30SG	2.5 to 5.3 oz per acre	12	7		
	OR Beleaf 50SG	2 to 2.8 oz per acre	12	14		
	OR *Lannate 2.4L or *Lannate 90SP	3/4-1 1/2 pt/100 gal 1/4-1/2 lb/100 gal	48-96 (E)	4	[13.1]	
	OR Movento	6 to 9 fl oz/acre	24	7		
	OR *Provado 1.6F	2 oz/100 gal	12	0		
	OR *Thionex 3EC or *Thionex 50WP	2/3 qt/100 gal 1 lb/100 gal	48 96	21/30(A) 21		
	Japanese beetle	Assail 30SG	5.3 to 8 oz per acre	12	7	
OR Leverage 2.7SE		3.6 to 4.4 fl oz per acre	12	7		
*Provado 1.6F		2 fl oz/100 gal	12	0		
OR Sevin XLR Plus, 4F or Sevin 80S, *80WS		2-3 qt/A 2.5-3.75 lb/A	12	3		
Oriental fruit moth		Pheromone disruption: §Checkmate OFM-F or §Isomate-M 100	1.32-2.93 fl oz/A 100 ties/A			
	OR *Asana XL 0.66EC	2-5.8 oz/100 gal	12	14	[16.3]	
	OR Assail 30SG	5.3 to 8 oz per acre	12	7		
	OR *Baythroid 2E or *Baythroid XL 1L	2.0-2.4 fl oz/A 2.0-2.4 fl oz/A	12 12	7 7		
	OR Proaxis 0.5CS	2.6-5.1 fl oz/A	24	14		
	OR Delegate 25WG	6 to 7 oz per acre	4	1/14		
	OR Sevin XLR Plus, 4F or Sevin 80S, *80WS	2-3 qt/A 2.5-3.75 lb/A	12	3		
	OR *Warrior II	1.28 to 2.56 fl oz/acre	24	14		
	Peachtree borers (including Lesser Peachtree borer)	*Ambush 25WP	6.4-19.2 oz/A	12	14	[17.3]
		OR *Asana XL 0.66EC	2-5.8 oz/100 gal	12	14	
OR *Baythroid XL 1EC or *Baythroid 2EC		1.4 to 2 fl oz per acre	12	7		
OR Lorsban 4EC		1.5-3 qt/100 gal	96	14		
OR *Pounce 25WP		6.4-19.2 oz/A				

Table 14.3.1. Pesticide Spray Table - Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Pest	Product	Rate	REI (hrs)	PHI (days)	Comments (see text)
Peachtree borers (including Lesser Peachtree borer)	OR Proaxis 0.5CS	2.6-5.1 fl oz/A	24	14	
	OR *Thionex 3EC	1 qt/100 gal	48	21/30(A)	
	OR *Thionex 50WP	1.5 lb/100 gal	96	21	
(continued)	OR *Warrior II	1.28 to 2.56 fl oz/acre	24	14	
Tarnished plant bug,	*Ambush 25WP	6.4-19.2 oz/A	12	3	[19.3]
	OR *Asana XL 0.66EC	2-5.8 oz/100 gal	12	14	
	OR Assail 30SG				
	OR *Baythroid 2E	2.0-2.4 fl oz/A	12	7	
	OR *Baythroid XL 1L	2.0-2.4 fl oz/A	12	7	
	OR Beleaf 50SG	2 to 2.8 oz per acre			
	OR Leverage 50SG	3 to 5.1 fl oz/acre			
	OR *Pounce 25WP	6.4-19.2 oz/A			
	OR Proaxis 0.5CS	2.6-5.1 fl oz/A	24	14	
OR *Warrior II	1.28 to 2.56 fl oz/acre	24	14		
Western flower thrips	SpinTor 2SC	4-8 fl oz/A	4	14	[20.2]
	OR Entrust 80WP	1.25-2.5 oz/A			
	OR Delegate WG	4.5 to 7 oz/acre			
After Harvest, Before Leaf Drop					
Prunus stem pitting virus	Product 2,4-D as described in the weed control section for “Dandelion and other broadleaf weeds in sod cover”				
X-Disease	§Tree Tech OTC (oxytetracycline)	Tree injection: See label instructions			[9.4]
	OR Mycoject	Tree injection: See label instructions			

Table 14.3.2. Growth Regulator Uses in Peaches and Nectarines.

Refer to back of book for key to abbreviations and footnotes.

Refer to label for registration status before applying any pesticide to nectarines.

Timing	Product	Concentration	Rate of Formulated Product	Comments
CHEMICAL THINNING				
50–80% Bloom	ATS (foliar nutrient)		4-6 gal/100 gal	Apply 100 gal/acre.
PREHARVEST FRUIT DROP CONTROL				
1-2 weeks before anticipated harvest	ReTain	132 ppm	333 g/acre (1 pouch)	Apply in sufficient water to ensure thorough but not excessive coverage. An organosilicone surfactant (12 oz/100 gal) should be used with ReTain.