



This is a section from the

2023/2024

New Jersey Commercial Tree Fruit Production Guide

The recommendations are **NOT** for home gardener use.

The **full guide** can be found on the Rutgers New Jersey Agricultural Experiment Station (NJAES) website at: <https://njaes.rutgers.edu/pubs/publication.php?pid=e002>. The guide is revised biennially.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and New Jersey Board of County Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

PESTICIDE USE DISCLAIMER

THE LABEL IS THE LAW

A pesticide applicator is legally bound by the labeling found on and with the pesticide container in their possession. Before using a pesticide, check and always follow the **labeling distributed with the product at the point of sale for legally enforceable rates and restrictions.**

In addition to the pesticide products listed in this Production Guide, other formulations or brands with the same active ingredient(s) may be commercially available.

ALWAYS CHECK THE LABELING ON THE PRODUCT CONTAINER ITSELF:

- a) to ensure a pesticide is labeled for the same use,
- b) to ensure the pesticide is labeled for the desired crop,
- c) for differences in rates and percent active ingredient, and
- d) additional restrictions.

Check the physical product label for the maximum amount of pesticide per application and the maximum number of applications per year.

IMPORTANT: DO NOT RELY ON ELECTRONIC LABELING (unless it is “web labeling” found directly on the product container). *Online pesticide labels may not be the same as the labeling distributed with the product. Some services include: Proagrica’s CDMS <http://www.cdms.net/>; Agworld DBX powered by Greenbook <https://www.greenbook.net/>; or Agrian <https://www.agrian.com/labelcenter/results.cfm>.*

These electronic label services provide use disclaimers, and in some cases legally binding User Agreements assigning ALL liability to USER of service. For example, Agrian’s webpages* cite (in red): *The material and content contained in the Agrian Label Database is for general information only. Agrian Inc. does not provide any guarantee or assurance that the information obtained through this service is accurate, current, or correct, and is therefore not liable for any loss resulting, directly or indirectly, from reliance upon this service. This Label Database does not replace the official manufacturer issued label. Users of this database must read and follow the actual product label affixed to the container before use of the product. Use of the Label Database is subject to the Terms of Use and Privacy Policy * [date accessed: 12/23/2022].*

See a detailed regulatory discussion of this and other essential information on Pesticide Safety and the Pesticide Label in Chapter 1. Electronic labeling is discussed in section 1.3.1.

If you are having a **medical emergency** after using pesticides, always **call 911** immediately.



In Case of an Accident

- Remove the person from exposure
- Get away from the treated or contaminated area immediately
- Remove contaminated clothing
- Wash with soap and clean water
- Call a physician and/or the National Poison Control Center (1-800-222-1222).
Your call will be routed to your State Poison Control Center.
- **Have the pesticide label with you!**
- Be prepared to give the **EPA registration number** to the responding center/agency

9 Plums

The plums adapted to New Jersey are of great diversity. All species and various horticultural varieties have distinct tree and fruit characteristics. The two most commercially important species are *Prunus salicina*, Lindl., the Oriental varieties, and *Prunus domestica*, L., the garden or European varieties. Varieties of *Prunus americana*, Marsh, the common wild or American plum, and other interspecific types have been hybridized with *Prunus salicina* varieties to produce some excellent-flavored plum varieties for planting in New Jersey. Plum culture has not been widespread in New Jersey because of limited research on fruit set, and varieties and rootstocks adapted to our climate.

Generally, the Oriental plum varieties are upright spreading to drooping trees and produce round to chordate shaped fruit (heart-shaped with pounced apex) with yellow to red, to almost black skin color. Plumcots are interspecific hybrids of Japanese plums *Prunus salicina* and apricots *Prunus armeniaca*. Plumcot is a generic term for these hybrids.

Pluots® are later-generations that show more plum than apricot characteristics; the fruit's exterior has smooth skin closely resembling that of a plum. Pluots were developed Floyd Zaiger, and "Pluot" is a registered trademark of Zaiger Genetics.

Apriums® are complex plum-apricot hybrids that show more apricot traits, genetically they are one-fourth plum and and three-fourths apricot. Aprium varieties were developed in the later 1980s by Floyd Zaiger, and Aprium is a registered trademark of Zaiger's Genetics.

The European, or common garden plum varieties are more upright in growth habit and produce oval- to ovate-shaped plums with blue to black skin color. Some varieties have a dry texture, very high sugar content, and are processed into prunes.

The Beach Plum (*Prunus maritima*) is a small tree native to coastal areas in New Jersey that has been the focus of commercial interest for use as fresh and as processing fruit. This species is in the early stages of domestication and variety information for it is unavailable.

9.1 Plum Varieties

Oriental Types

The Oriental type varieties grown on available rootstocks are generally shorter-lived and irregularly to moderately productive. The trees are stressed by many of the same problems affecting peach trees, namely winter injury, spring frost, moisture stress, nematodes, root rots, and other unknown short life characteristics. Some Oriental type varieties also experience latent incompatibility with available rootstocks and decline slowly.

Fruitfulness is also a problem in Oriental type plums because of variability in time of bloom, incompatibility, and sensitivity to variation in temperatures during the dormant season. The Oriental type varieties bloom earlier than European type varieties. Plumcots generally bloom earlier than most Japanese type plums. The following varieties are suggested for small commercial plantings.

Early-Season:

Early Golden - Small to medium, globose, golden-yellow, yellow fleshed clingstone ripening in early July about 7 days before Shiro. The flesh is soft and juicy with very good flavor. The tree is spreading, vigorous, and moderately productive with low susceptibility to bacterial spot. It is self incompatible and needs to be pollinated with Methley or other early blooming varieties.

Methley - Small, globose, reddish purple, red fleshed clingstone ripening in early July. The flesh is soft, juicy and of fair to good flavor. The tree is upright spreading, vigorous, and productive with low susceptibility to bacterial spot. The tree is self compatible and self-fruitful and it is an Oriental X American hybrid.

Shiro - Medium, globose, yellow, yellow-fleshed clingstone ripening in early to mid-July. The flesh is soft and very juicy, with excellent flavor. The tree is vigorous, spreading, large, and moderately productive with low susceptibility to bacterial spot. It is pollinated by Methley, Vanier and other Oriental type varieties.

Black Ruby - Medium, globose, reddish black to purple black, yellow-fleshed freestone ripening in mid-July. The

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flesh is semi- juicy with very good flavor. The tree is spreading medium, vigorous, and lightly productive, with moderate susceptibility to bacterial spot. It is a good pollinator for other early blooming varieties. It is pollinated by other Oriental type varieties including Methley.

Mid-Season:

Santa Rosa - Medium size, globose, purple red, yellow fleshed, ripening in late July. The flesh is firm, juicy, and sweet with very good flavor. The tree is spreading, vigorous, irregularly productive with medium susceptibility to bacterial spot. It is self- incompatible and must be cross-pollinated with other Oriental type varieties.

Red Ace (Ace) - Medium, globose to slightly oval, light red, yellowish-red fleshed semi- freestone, ripening in late July. The flesh is moderately firm and sweet with very good flavor. The tree is spreading, vigorous and moderately productive with moderate susceptibility to bacterial spot.

Redheart - Medium-large, globose to heart-shaped, yellowish-red fleshed semi-freestone, ripening in early August. The flesh is firm, crisp, and fine-grained with very good flavor. The tree is upright spreading, vigorous, and moderately productive. It is self- incompatible and is pollinated by Red Ace, Shiro, Santa Rosa, or other early blooming Oriental types.

Ozark Premier - Medium-large, globose, reddish blush, yellow-fleshed clingstone ripening in early August. The flesh is moderately firm and juicy with good to very good flavor. The tree is spreading vigorous, moderately productive with moderate susceptibility to bacterial spot.

Late-Season:

Vanier - Medium size, globose, bluish-red, yellow-fleshed clingstone, ripening in early August. The flesh is moderately firm, juicy with good flavor. The fruit hangs on the tree well. The tree is upright-spreading, vigorous, and moderately productive with low susceptibility to bacterial spot. It is self-incompatible and pollinated by Ozark Premier and Santa Rosa.

South Dakota - Medium to small, globose to ovate, yellow with slight red blush, yellow-fleshed freestone, ripening in early August. The flesh is soft and juicy, with very good flavor. The tree is spreading, very vigorous, and productive. This Oriental x American plum hybrid is winter hard and produces many blooms. It is partially self fruitful and an excellent pollinizer for other Oriental x American hybrids.

Ruby Queen - Large, globose, dark reddish purple, red-fleshed, clingstone ripening in mid-August. The flesh is firm, and juicy with excellent flavor. The fruit hangs on the tree well. The tree is medium, spreading, vigorous, and productive with moderate susceptibility to bacterial spot. It is pollinated with other mid-season blooming varieties. Tested as USDA BY8155-70.

Fortune - Large, globose, reddish purple blush over yellow ground color, yellow fleshed clingstone, ripening in late August. The flesh is firm, juicy and sweet with very good flavor. The tree is upright-spreading, vigorous and productive. It is pollinated by other Oriental type varieties.

There are many other Oriental and Oriental X American hybrid varieties that have not been observed or tested in New Jersey. More evaluative research needs to be done to select recommended best plumcot varieties.

Flavorich is a very late dark blue pluot® but its quality had been disappointing on a tree that consistently sets light crops. **Flavor King**, **Flavor Queen**, and **Flavor Supreme** pluots® have consistently produced light crops after 15 years of evaluative research. All have very good eating quality.

European Types

European plums are generally longer-lived, more productive, and more consistent in cropping than Oriental varieties. They do experience many of the same problems as many Oriental varieties.

Early-Season:

Earliblue - Medium, slightly oblong to ovate, blue, greenish-yellow-fleshed semi freestone, ripening in early August. The flesh is soft with very good flavor. The tree is upright spreading, vigorous, and moderately productive. It needs cross pollination from other European varieties.

Castleton - Medium size, slightly oval, purplish blue, greenish-yellow-fleshed freestone ripening in mid-August. The flesh is firm and juicy, with good flavor. The tree is upright spreading, vigorous, and productive. It looks very much like Stanley and is best pollinated by Stanley.

Mid-Season:

Mohawk - Medium-large, oval, blue, amber yellow flesh, semi freestone, ripening in mid- to late August. The flesh is sweet and firm with very good flavor. The tree is upright spreading and productive. It benefits from cross pollination like Stanley.

Richards Early Italian - Medium-large, oval, blue, greenish-yellow-fleshed, freestone ripening in late August. The flesh is firm, with excellent flavor. The tree is upright spreading, vigorous, and moderately productive.

Late-Season:

Italian - Large, oval, purplish blue, greenish-yellow-fleshed, freestone ripening in early September. The flesh is firm and sweet with excellent flavor. The tree is upright spreading, vigorous, and moderately productive. It is self-fruitful but benefits from cross pollination.

Brooks - Large, oval, dark blue, ovate, greenish-yellow-fleshed freestone, ripening in early September just after Italian. The flesh is firm and slightly tart with excellent flavor. The tree is upright-spreading, vigorous and has been productive, more than Italian. Self-fruitful.

Valor - Medium-large, dark bluish-purple, greenish-yellow-fleshed freestone, ripening in early September. The flesh is moderately firm with very good flavor. The tree is upright- spreading, vigorous, and productive.

Bluefre - Large, ovate, dark blue, greenish-yellow freestone, ripening in mid-September. The flesh is firm with very good flavor. The tree is spreading, vigorous, and moderately productive. It has been an inconsistent cropper in southern New Jersey. It is self-fruitful but benefits from cross pollination with other European varieties.

Long John - Large to very large, oblong to ovate, purplish blue, amber-yellow-fleshed freestone, ripening with Stanley. The flesh is firm, with excellent flavor better than Stanley. The tree is upright-spreading, vigorous, and productive. The tree benefits by pollination with Stanley or Castleton.

Stanley - Medium-large, oval, blue, greenish-yellow freestone, ripening in mid-September just after Bluefre. The flesh is firm with good flavor. The tree is of medium vigor, upright-spreading and productive. Stanley has always been a consistent cropper in Southern Jersey. Stanley is Self-fruitful.

There are many other European varieties not tested or observed in New Jersey.

9.2 Plum Rootstocks

Myrobalan (*Prunus divaricata*) seedlings and **Myrobalan 29C** clonal stocks are the recommended rootstocks for all European plum varieties. They are also compatible with many Japanese and Japanese X American hybrid varieties, but tend to be shorter-lived on sandy or drought sensitive soils. They are more adapted and longer-lived on loamy or clay-loam soils. **Lovell and Halford peach seedlings** are used on many Japanese plum varieties. Trees are short-lived and susceptible to most problems experienced with peach varieties. Japanese plum varieties on Lovell and Halford peach seedlings are better adapted to sandy soils than European varieties on Lovell or Halford peach seedlings.

Mariana 2624 clonal rootstock is compatible with most plum varieties. Trees of all varieties are more sensitive to low winter temperatures on this rootstock than other rootstocks.

Citation appears to be promising rootstock for semi-dwarf plum trees *Krymsk 1*. A new rootstock from Russia has not been tested in New Jersey but is being offered with Japanese plums as very winter hardy and producing a semi-dwarf tree.

Pumiselect is a dwarfing clonal selection of *Prunus pumila* sold with Japanese type plums.

9.3 Plum Pollination

All Oriental type plums need cross-pollination. Methley and South Dakota will set heavy crops in some years without cross- pollination. All other varieties should be planted as a design with at least three varieties for cross-pollination.

Most European varieties require cross-pollination. Varieties described as self-fruitful will set better and more consistent crops with cross-pollination.

Oriental hybrid varieties do not pollinate or set fruit of European plum varieties.

9.4 Plum Disease and Pest Management

Plums Disease Management Program – Fungicide and Bactericide Timing

DISEASE	Delayed Dormant	Pre-Bloom through Bloom	Petal-Fall	Shuck-Fall	Covers	Pre-Harvest	Post Harvest
Bacterial Canker							
Black Knot							
Brown Rot Blossom Blight							
Bacterial Spot							
Brown Rot							

Plums Insect and Mite Pest Management Program – Insecticide and Acaricide Timing

INSECT AND MITE PESTS	Delayed Dormant	Pre-Bloom through Bloom	Petal-Fall	Shuck-Fall	Covers	Pre-Harvest	Post Harvest
Scale Insects		Do not apply insecticides during Pre-Bloom and Bloom!					
Leafrollers							
Plum Curculio							
Oriental Fruit Moth							
Lesser Peach Tree Borer							
Peach Tree Borer							
European Red Mite							
Two-Spotted Spider Mite							

Key: = Optimum timing

The Label is the Law

A pesticide applicator is legally bound by the labeling found on and with the pesticide container in their possession. Before using a pesticide, check and always follow the **labeling distributed with the product at the point of sale** for legally enforceable rates and restrictions. See the Pesticide Use Disclaimer on page 2.

Observe cautions on the product label to minimize potential exposure to bees and other pollinating insects.

Abbreviations			
Stone Fruit Preharvest Interval Key		Units of Measurement	
D	Dormant application only	/A	per acre
PB	No later than prebloom	d	day(s)
FB	No later than full bloom	fl oz	fluid ounce(s)
PF	No later than petal-fall	gal	gallon(s)
SS	No later than shuck-split	h	hour(s)
SF	No later than shuck-fall	lb	pound(s)
FC	No later than first cover	oz	ounce(s)
NTL	No time limit (usually up to the day of harvest) - consult label	pt	pint(s)
		qt	quart(s)
NA	Not applicable		

DELAYED DORMANT					PLUMS
DISEASE	Bacterial Canker				
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²				REI PHI
Bordeaux mixture (lb/100 gal)	++ 5, 7.5				24 h D
Copper, fixed	++ various rates				12-48 h various

¹ ++++ = excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated.

² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

DELAYED DORMANT					PLUMS
INSECT PEST	Scale Insects				
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²				REI PHI
Centaur WDG (oz)	+++ 34.5-46.0				12 h 14 d
Esteem 35WP (oz)	++++ 4.0-5.0				12 h 14 d
Superior Oil (gal)	++++ 4.0				4 h 0 d
Venerate XC (qt)	+++ 2.0-4.0				4 h 0 d

¹ ++++ = excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated.

² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

PREBLOOM THROUGH BLOOM					PLUMS
DISEASE	Black Knot ¹	Brown Rot Blossom Blight			
Product and formulation ²	Product Efficacy Rating ³ and Rate/A ⁴				REI PHI
Abound 2F ⁵ (fl oz)	-	++++ 12.0-15.5			4 h 0 d
Bravo Weather Stik 6F ⁶ (pt)	++++ 3.0-4.0	++ 3.0-4.0			12 h pF ⁸
Bumber/Tilt ^{6,8} (fl oz)	-	+++ 4.0			24 h 0 d
Captan 80WDG ^{6,7} (lb)	++ 2.5	++ 2.5			24 h 0 d
Cevya 3.34SC (fl oz)	-	+++ 3.0-5.0			12 h 0 d
Copper, fixed	+ various rates	+ various rates			12-48 h various
Elevate 50WDG (lb)	-	++ 1.0-1.5			12 h 0 d
Fontelis 1.67SC (fl oz)	-	++++ 14.0-20.0			12 h 0 d
Flint Extra 4.05SC (fl oz)	-	++++ 2.5-3.8			12 h 1 d

Prebloom Through Bloom DISEASE - continued on next page

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Prebloom Through Bloom DISEASE - continued

PREBLOOM THROUGH BLOOM				PLUMS
DISEASE	Black Knot ¹	Brown Rot Blossom Blight		
Indar 2F (fl oz)	+++ 6.0	+++ 6.0		12 h 0 d
Luna Experience 3.34SC (fl oz)	–	++++ 6.0 - 10.0		12 h 0 d
Luna Sensation 4.2SC (fl oz)	–	++++ 5.0-7.6		12 h 1 d
Merivon 4.18SC (fl oz)	–	++++ 4.0-6.7		12 h 0 d
Miravis 1.67SC (fl oz)	–	++ 3.4-5.1		4 h 0 d
Pristine 38WG (oz)	++ 10.5-14.5	++++ 10.5-14.5		12 h 0 d
Quadris Top 2.72SC (fl oz)	–	++++ 12.0-14.0		12 h 0 d
Quash 50WDG (oz)	–	+++ 2.5-3.5		12 h 14 d
Rally 40WSP (oz)	–	+++ 2.5-6.0		24 h 0 d
Rovral 4F ⁶ (pt)	–	++++ 1.0-2.0		24 h PF ⁸
Sulfur, actual ⁹ (lb)	–	++ 10.0		24 h NTL ⁸
Topguard EQ (fl oz)	–	++ 6.0-8.0		12 h 7 d
Topsin M WSB (lb) plus Captan 80WDG ⁷ (lb)	+++ 1.0 plus 1.25	+++ 0.5-0.75 plus 1.25-2.5		48 h 1 d
Vangard 75WG (oz)	–	+++ 5.0		12 h 2 d

¹ Bravo is most effective material against Black Knot and should be used from pre-bloom through petal-fall in severe cases.
² Alternate products of different chemistry for resistance management; see peach and nectarine efficacy Table 7.7 for details.
³ +++++=excellent, +++ = good, ++ = fair, + = poor, – = ineffective or not rated.
⁴ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.
⁵ Abound is very phytotoxic to apples, do not use near apples.
⁶ Generic products and/or other formulations are available.
⁷ Continuous use of Captan can cause leaf spotting and fruit injury.
⁸ Do not apply to Stanley plums prior to 21 days before harvest.
⁹ Avoid sulfur if temperatures are above 90°F; lower rates are less phytotoxic.
¹⁰ PHI Key: FB=No later than full bloom; PF=No later than petal-fall, NTL= No time limit (usually up to the day of harvest) - consult label.

PREBLOOM THROUGH BLOOM		PLUMS
INSECT PEST	Do not apply insecticides prebloom through bloom!	

PETAL-FALL				PLUMS	
DISEASE	Bacterial Spot ¹	Black Knot ²	Brown Rot Blossom Blight		
Product and Formulation ³	Product Efficacy Rating ⁴ and Rate/A ⁵				REI PHI
Abound 2F ⁶ (fl oz)	-	-	++++ 12.0-15.5		4 h 0 d
Bravo Weather Stik 6F ⁷ (pt)	-	++++ 3.0-4.0	++ 3.0-4.0		12 h PF ¹²
Bumber/Tilt ^{7,10} (fl oz)	-	-	+++ 4.0		24 h 0 d
Captan 80WDG ⁸ (lb)	-	++ 2.5	++ 2.5		24 h 0 d
Cevya 3.34SC (fl oz)	-	-	+++ 3.0-5.0		12 h 0 d
Copper, fixed	+++ 0.5-1.0 oz MCE ⁹	+ various rates	+ various rates		12-48 h various
Elevate 50WDG (lb)	-	-	++ 1.0-1.5		12 h 0 d
Fontelis 1.67SC (fl oz)	-	-	++++ 14.0-20.0		12 h 0 d
Flint Extra 4.05SC (fl oz)	-	-	++++ 2.5-3.8		12 h 1 d
Indar 2F (fl oz)	-	+++ 6.0	+++ 6.0		12 h 0 d
Luna Experience 3.34SC (fl oz)	-	-	++++ 6.0 - 10.0		12 h 0 d
Luna Sensation 4.2SC (fl oz)	-	-	++++ 5.0-7.6		12 h 1 d
Merivon 4.18SC (fl oz)	-	-	++++ 4.0-6.7		12 h 0 d
Miravis 1.67SC (fl oz)	-	-	++ 3.4-5.1		4 h 0 d
Pristine 38WG (oz)	-	++ 10.5-14.5	++++ 10.5-14.5		12 h 0 d
Quadris Top 2.72SC (fl oz)	-	-	+++ 12.0-14.0		12 h 0 d
Quash 50WDG (oz)	-	-	+++ 2.5-3.5		12 h 14 d
Rally 40WSP (oz)	-	-	+++ 2.5-6.0		24 h 0 d
Rovral 4F ⁷ (pt)	-	-	++++ 1.0-2.0		24 h PF ¹²
Sulfur, actual ¹¹ (lb)	-	-	++ 10.0		24 h NTL ¹²
Topguard EQ (fl oz)	-	-	++ 6.0-8.0		12 h 7 d
Topsin M WSB (lb) plus Captan 80WDG ⁸ (lb)	-	+++ 1.0 plus 1.25	+++ 0.5-0.75 plus 1.25-2.5		48 h 1 d

¹ Japanese plums are susceptible to bacterial spot. ² Bravo is most effective material against Black Knot and should be used from pre-bloom through petal fall in severe cases. ³ Alternate products of different chemistry for resistance management; see peach and nectarine efficacy Table 7.7 for details. ⁴ ++++ = excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated. ⁵ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval. ⁶ Abound is very phytotoxic to apples, do not use near apples. ⁷ Generic products and/or other formulations are available. ⁸ Continuous use of Captan can cause leaf spotting and fruit injury. ⁹ Metallic Copper Equivalent (Actual Copper). ¹⁰ Do not apply to Stanley plums prior to 21 days before harvest. ¹¹ Avoid sulfur if temperatures are above 90°F; lower rates are less phytotoxic. ¹² PHI Key: PF=No later than petal-fall, NTL= No time limit (usually up to the day of harvest) - consult label.

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SHUCK-FALL				PLUMS	
DISEASE	Bacterial Spot ¹	Black Knot			
Product and Formulation ²	Product Efficacy Rating ³ and Rate/A ⁴				REI PHI
Captan 80WDG ⁵ (lb)	–	++ 2.5			24 h 0 d
Copper, fixed	+++ 0.5-1.0 oz MCE ⁶	+ various rates			12-48 h various
Topsin M WSB (lb) plus Captan 80WDG ⁵ (lb)	–	+++ 1.0 plus 1.25			48 h 1 d

¹Japanese plums are susceptible to bacterial spot. ² Alternate products of different chemistry for resistance management; see peach and nectarine efficacy Table 7.7 for details. ³ ++++ =excellent, +++ = good, ++ = fair, + = poor, – = ineffective or not rated. ⁴ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval. ⁵ Continuous use of Captan can cause leaf spotting and fruit injury. ⁶ Metallic Copper Equivalent (Actual Copper).

SHUCK-FALL Avoid killing bees on blooming ground cover.					PLUMS
INSECT PEST	Leafrollers	Plum Curculio			
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²				REI PHI
Altacor (oz)	++++ 3.0-4.5	–			4 h 10 d
Apta/Bexar (fl oz)	++ 21.0-27.0	+++ 21.0-27.0			12 h 14 d
Asana XL ³ (fl oz)	++++ 4.8-10.0	++ 8.0-14.0			12 h 14 d
Avaunt (oz)	+++ 5.0-6.0	++++ 5.0-6.0			12 h 14 d
Baythroid XL (fl oz)	++++ 2.4-2.8	++ 2.4-2.8			12 h 7 d
Besiege (fl oz)	++++ 6.0-12.0	++ 9.0-12.0			24 h 14 d
Cormoran (fl oz)	+++ 20.0-28.0	++ 20.0-28.0			12 h 8 d
Danitol 2.4 EC (fl oz)	++++ 10.6-21.3	++ 10.6-21.3			24 h 3 d
Delegate 25WG (oz)	++++ 4.5-7.0	+ 7.0			4 h 7 d
Endigo ZC (fl oz)	++++ 5.5-6.0	S 5.5-6.0			24 h 7 d
Entrust SC (fl oz)	++++ 4.0-8.0	–			4 h 7 d
Envidor 2SC (fl oz)	–	–			12 h 7 d
Exirel (fl oz)	+++ 13.5-20.5	+++ 13.5-20.5			12 h 3 d
Imidan 70W (lb)	+++ 1.5-3.0	++++ 1.5-3.0			7/14 d ⁴ 14 d
Intrepid 2F (fl oz)	++++ 8.0-16.0	–			4 h 7 d
Lambda-Cy (fl oz)	++++ 2.56-5.12	++ 2.56-5.12			24 h 14 d
Leverage 360 (fl oz)	+++ 2.4-2.8	++ 2.4-2.8			12 h 7 d
Sevin XLR Plus (qt)	++ 2.0-3.0	++ 2.0-3.0			12 h 3 d
Verdepryn 100SL (fl oz)	++++ 5.5-11.0	+++ 5.5-11.0			4 h 7 d
Warrior II ³ (fl oz)	++++ 1.28-2.56	++ 1.28-2.56			24 h 14 d

¹ ++++ = excellent, +++ = good, ++ = fair, + = poor, – = ineffective or not rated.

² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

³ Generic products and/or other formulations are available.

⁴ Imidan REI 7 d for farm labor, but 14 d for u-pick operations.

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COVERS					PLUMS
DISEASE	Bacterial Spot ¹	Black Knot			
Product and Formulation ²	Product Efficacy Rating ³ and Rate/A ⁴				REI PHI
Captan 80WDG ⁵ (lb)	–	++ 2.5			24 h 0 d
Copper, fixed	+++ 0.5-1.0 oz MCE ⁶	–			12-48 h various
Topsin M WSB (lb) <u>plus</u> Captan 80WDG ⁵ (lb)	–	+++ 1.0 <u>plus</u> 1.25			48 h 1 d

¹ Japanese plums are susceptible to bacterial spot.

² Alternate products of different chemistry for resistance management; see peach and nectarine efficacy Table 7.7 for details.

³ ++++ =excellent, +++ = good, ++ = fair, + = poor, – = ineffective or not rated.

⁴ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

⁵ Continuous use of Captan can cause leaf spotting and fruit injury.

⁶ Metallic Copper Equivalent (Actual Copper).

COVERS Avoid killing bees on blooming ground cover.						PLUMS
INSECT OR MITE PEST	INSECTS			MITES		REI PHI
	Leafrollers	Oriental Fruit Moth	Plum Curculio	European Red Mite	Two-Spotted Spider Mite	
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²					
Acramite 50WS (oz)	–	–	–	++++ 12.0-16.0	++++ 12.0-16.0	12 h 3 d
Actara 25WG (oz)	–	–	+++ 4.5-5.5	–	–	12 h 14 d
Altacor (oz)	++++ 3.0-4.5	++++ 3.0-4.5	–	–	–	4 h 10 d
Apollo SC (oz)	–	–	–	++++ 4.0-6.0	++++ 4.0-6.0	12 h 21 d
Asana XL ³ (fl oz)	++++ 4.8-8.0	++++ 4.8-8.0	++ 8.0-14.0	–	–	12 h 14 d
Assail 30SG (oz)	–	+++ 5.3-8.0	++ 7.0-8.0	–	–	4 h 7 d
Avaunt (oz)	+++ 5.0-6.0	+++ 5.0-6.0	++++ 5.0-6.0	–	–	12 h 14 d
Apta/Bexar (fl oz)	++ 21.0-27.0	–	+++ 21.0-27.0	–	–	12 h 14 d
<i>Bacillus thuringiensis</i> ^{3,4} (lb)	++++ 0.5-2.0	–	–	–	–	4 h –
Baythroid XL (fl oz)	++++ 2.4-2.8	++++ 2.0-2.4	++ 2.4-2.8	–	–	12 h 7 d
Besiege (fl oz)	++++ 6.0-12.0	++++ 6.0-12.0	++ 9.0-12.0	–	–	24 h 14 d
Cormoran (fl oz)	+++ 20.0-28.0	++++ 20.0-28.0	++ 20.0-28.0	–	–	12 h 8 d
Danitol 2.4 EC (fl oz)	++++ 10.6-21.3	+++ 10.6-21.3	++ 10.6-21.3	++ 10.6-21.3	++ 10.6-21.3	24 h 3 d

Covers INSECT PESTS - continued on next page

Covers INSECT PESTS - continued

COVERS Avoid killing bees on blooming ground cover.						PLUMS
INSECT OR MITE PEST	INSECTS			MITES		
	Leafrollers	Oriental Fruit Moth	Plum Curculio	European Red Mite	Two-Spotted Spider Mite	
Delegate 25WG (oz)	++++ 4.5-7.0	+++ 6.0-7.0	+ 6.0-7.0	-	-	4 h 7 d
Endigo ZC (fl oz)	++++ 5.5-6.0	++++ 5.5-6.0	++ 5.5-6.0	-	-	24 h 14 d
Entrust SC (fl oz)	++++ 4.0-8.0	+++ 4.0-8.0	-	-	-	4 h 1 d
Envidor 2SC (fl oz)	-	-	-	++++ 16.0-18.0	++++ 16.0-18.0	12 h 7 d
Esteem 35WP (oz)	-	+++ 4.0-5.0	-	-	-	12 h 14 d
Exirel (fl oz)	-	++++ 10.0-20.5	+++ 13.5-20.5	-	-	12 h 3 d
Imidan 70W (lb)	+++ 1.5-3.0	+++ 1.5-3.0	++++ 1.5-3.0	-	-	7/14 d ⁵ 14 d
Intrepid 2F (fl oz)	++++ 8.0-16.0	+++ 10.0-16.0	-	-	-	4 h 7 d
Lambda-Cy (fl oz)	++++ 2.56-5.12	++++ 2.56-5.12	++ 2.56-5.12	-	-	24 h 14 d
Leverage 360 (fl oz)	++++ 2.4-2.8	+++ 2.4-2.8	++ 2.4-2.8	-	-	12 h 7 d
Mustang Maxx (fl oz)	++++ 1.28-4.0	++++ 1.28-4.0	++ 1.28-4.0	-	-	12 h 14 d
Onager EC (oz)	-	-	-	++++ 12.0-24.0	++++ 12.0-24.0	12 h 28 d
Savey 50DF (oz)	-	-	-	++++ 3.0-6.0	++++ 3.0-6.0	12 h 28 d
Vendex 50WP (lb)	-	-	-	+++ 1.0-2.0	+++ 1.0-2.0	48 h 14 d
Venerate XC (qt)	-	+++ 1.0-2.0		-	-	4 h 0 d
Verdepryn 100SL (fl oz)	++++ 5.5-11.0	++++ 5.5-11.0	+++ 5.5-11.0	-	-	4 h 7 d
Voliam Flexi (oz)	++++ 4.0-7.0	++++ 4.0-7.0	+++ 6.0-7.0	-	-	12 h 14 d
Warrior II ³ (fl oz)	++++ 1.28-2.56	++++ 1.28-2.56	++ 1.28-2.56	-	-	24 h 14 d
Zeal (oz)	-		-	++++ 2.0-3.0	++++ 2.0-3.0	12 h 7 d

¹ +++++=excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated. ² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval. ³ When noted, generic products are available.

⁴ Various products. See label. ⁵ Imidan REI 7 d for farm labor, but 14 d for u-pick operations.

PLUMS

PREHARVEST				PLUMS	
DISEASE	Brown Rot ¹				
Product and Formulation ²	Product Efficacy Rating ³ and Rate/A ⁴				REI PHI
Abound 2F ⁵ (fl oz)	+++ 12.0-15.5				4 h 0 d
Bumber/Tilt ^{6,8} (fl oz)	++++ 4.0				24 h 0 d
Captan 80WDG ^{6,7} (lb)	+++ 3.0-3.75				24 h 0 d
Cevya 3.34SC (fl oz)	++++ 3.0-5.0				12 h 0 d
Elevate 50WDG (lb)	++ 1.0-1.5				12 h 0 d
Fontelis 1.67SC (fl oz)	++++ 14.0-20.0				12 h 0 d
Flint Extra 4.05SC (fl oz)	++++ 2.5-3.8				12 h 1 d
Indar 2F (fl oz)	++++ 6.0				12 h 0 d
Luna Experience 3.34SC (fl oz)	++++ 6.0 - 10.0				12 h 0 d
Luna Sensation 4.2SC (fl oz)	++++ 5.0-7.6				12 h 1 d
Merivon 4.18SC (fl oz)	++++ 4.0-6.7				12 h 0 d
Miravis 1.67SC (fl oz)	+++ 3.4-5.1				4 h 0 d
Oso 5%SC (fl oz)	+++ 6.5-13.0				4 h 0 d
Pristine 38WG (oz)	++++ 10.5-14.5				12 h 0 d
Quadris Top 2.72SC (fl oz)	++++ 12.0-14.0				12 h 0 d
Rally 40WSP (oz)	+++ 2.5-6.0				24 h 0 d
Topguard EQ (fl oz)	++ 6.0-8.0				12 h 7 d
Topsin M WSB (lb) <u>plus</u> Captan 80WDG ⁷ (lb)	+++ 0.5-0.75 <u>plus</u> 1.25-2.5				48 h 1 d

¹ Apply two-three preharvest sprays starting 21-14 days before harvest.

² Alternate products of different chemistry for resistance management; see peach and nectarine efficacy Table 7.7 for details.

³ ++++ =excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated.

⁴ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

⁵ Abound is very phytotoxic to apples, do not use near apples.

⁶ Generic products and/or other formulations are available.

⁷ Continuous use of Captan can cause leaf spotting and fruit injury.

⁸ Do not apply to Stanley plums prior to 21 days before harvest.

PREHARVEST Avoid killing bees on blooming ground cover.						PLUMS
INSECT OR MITE PEST	INSECTS			MITES		REI PHI
	Leafrollers	Oriental Fruit Moth	Plum Curculio	European Red Mite	Two-Spotted Spider Mite	
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²					
Acramite 50WS (oz)	–	–	–	++++ 12.0-16.0	++++ 12.0-16.0	12 h 3 d
Altacor (oz)	++++ 3.0-4.5	++++ 3.0-4.5	–	–	–	4 h 10 d
Assail 30SG (oz)	–	+++ 5.3-8.0	++ 7.0-8.0	–	–	4 h 7 d
<i>Bacillus thuringiensis</i> ^{3,4}	++++ various rates	–	–	–	–	4 h –
Baythroid XL (fl oz)	++++ 2.4-2.8	++++ 2.0-2.4	++ 2.4-2.8	–	–	12 h 7 d
Cormoran (fl oz)	+++ 20.0-28.0	++++ 20.0-28.0	++ 20.0-28.0	–	–	12 h 8 d
Danitol 2.4 EC (fl oz)	+++ 10.6-21.3	+++ 10.6-21.3	++ 10.6-21.3	++ 10.6-21.3	++ 10.6-21.3	24 h 3 d
Delegate 25WG (oz)	++++ 4.5-7.0	+++ 6.0-7.0	+ 6.0-7.0	–	–	4 h 7 d
Entrust SC (fl oz)	++++ 4.0-8.0	+++ 4.0-8.0	–	–	–	4 h 1 d
Exirel (fl oz)	–	++++ 10.0-20.5	+++ 13.5-20.5	–	–	12 h 3 d
Intrepid 2F (fl oz)	++++ 8.0-16.0	+++ 10.0-16.0	–	–	–	4 h 7 d
Leverage 360 (fl oz)	+++ 2.4-2.8	+++ 2.4-2.8	++ 2.4-2.8	–	–	12 h 7 d
Venerate XC (qt)	–	+++ 1.0-2.0	–	–	–	4 h 0 d
Verdepryn 100SL (fl oz)	++++ 5.5-11.0	++++ 5.5-11.0	+++ 5.5-11.0	–	–	4 h 7 d

¹ +++++=excellent, +++ = good, ++ = fair, + = poor, – = ineffective or not rated.

² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

³ When noted, generic products are available.

⁴ Various products. See label.

PLUMS

POSTHARVEST					PLUMS
DISEASE	Bacterial Canker ¹				
Product and Formulation	Product Efficacy Rating ² and Rate/A ³				REI PHI
Bordeaux mixture (lb/100 gal)	++ 4, 7				24 h NA
Copper, fixed	++ various rates				12-48 h various

¹ Apply two sprays at 10% and 80% leaf drop. If canker has been a problem, apply four sprays at 14 day intervals.

² ++++ = excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated.

³ Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

POSTHARVEST Avoid killing bees on blooming ground cover.					PLUMS
INSECT PEST	Lesser Peach Tree Borer	Peach Tree Borer			
Product and Formulation	Product Efficacy Rating ¹ and Rate/A ²				REI PHI
Asana XL ³ (fl oz/100 gal)	+++ 5.8	+++ 5.8			12 h 14 d
Danitol 2.4EC (fl oz)	++ 10.6-21.3	++ 10.6-21.3			24 h 3 d

¹ ++++ = excellent, +++ = good, ++ = fair, + = poor, - = ineffective or not rated.

² Rates are in amount of formulated product per acre, unless otherwise noted. REI=Restricted Entry Interval. PHI=Preharvest Interval.

³ Per acre rate by handgun in minimum of 100 gal/A; apply after harvest during early September in south Jersey, slightly later in the northern parts of the state. Thoroughly wet trunks and scaffold limbs. Avoid contact with sweet cherry foliage to prevent defoliation.

