

Peach Disease Management Overview for Florida

2019 Peach Field Day, PSREU, Citra, FL



Overview

Diseases present challenges at all stages of production

- Plant propagation considerations
- Dormant to bud swell
- Bloom to petal fall
- Shuck split to 14 day pre harvest
- Harvest
- The rest of the year
 - Late spring through summer
 - Summer through winter/ “dormancy”



2019 SOUTHEASTERN PEACH, NECTARINE, AND PLUM PEST MANAGEMENT AND CULTURE GUIDE

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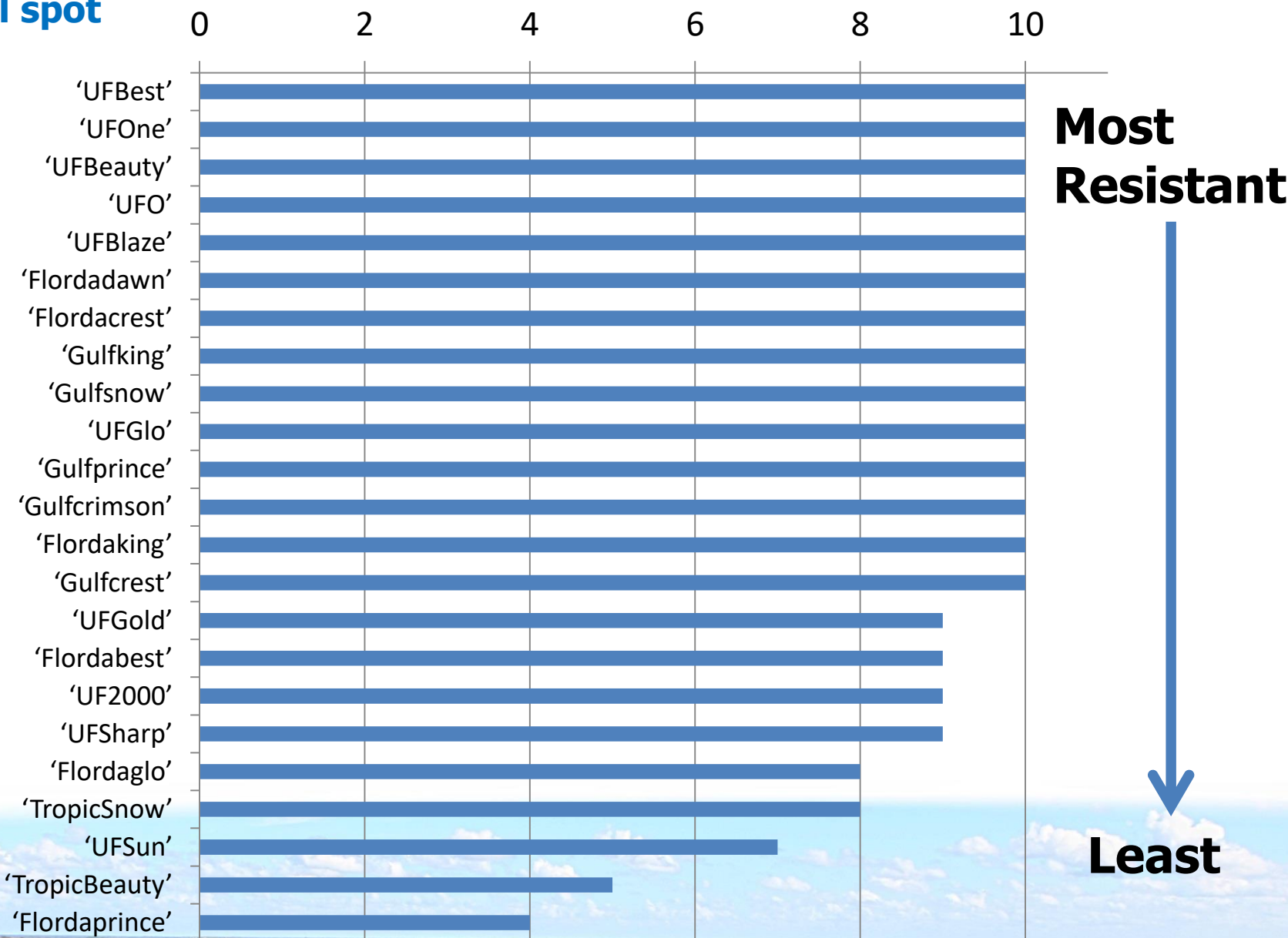
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Peach disease issues

- Bacterial spot and dormant copper applications
 - Peaches are sensitive to copper, follow label rates, and consult the SE guide for precautions
 - Some copper products are also options for organic production
 - Peach varieties vary in their susceptibility



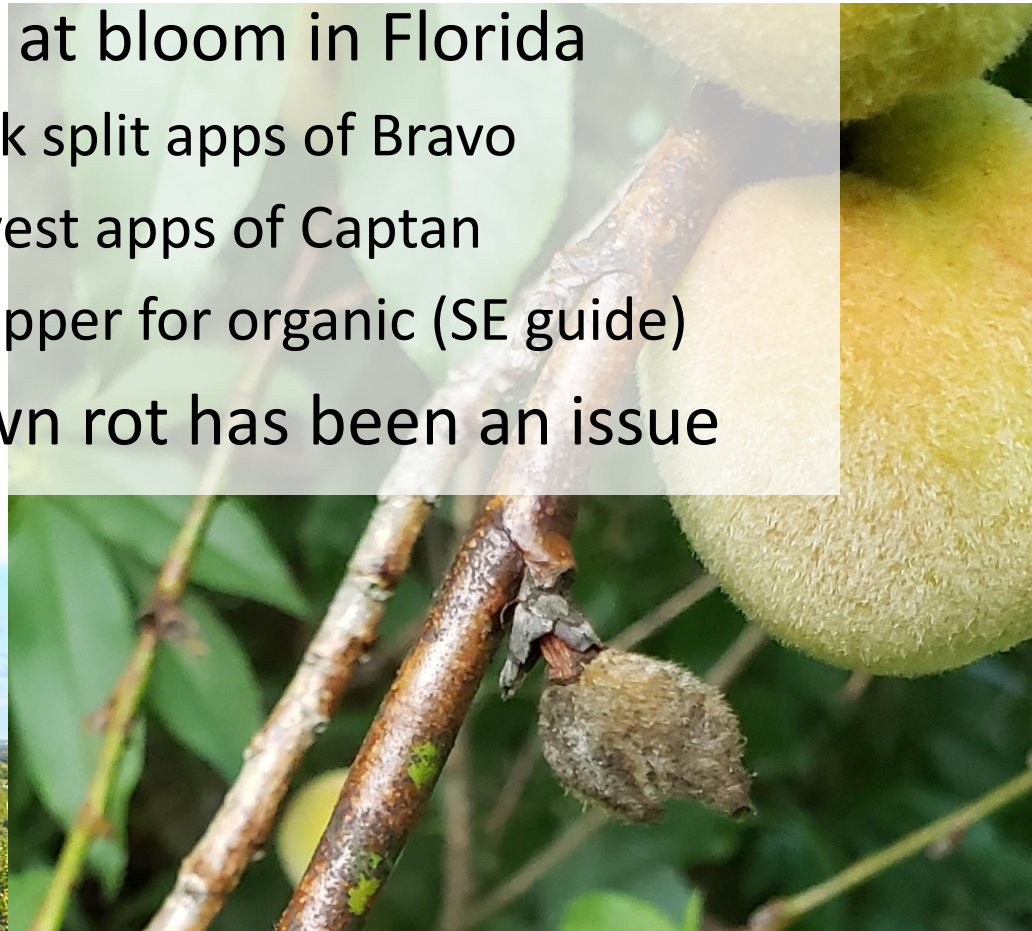
Bacterial spot



Florida Peach and Nectarine Varieties, EDIS

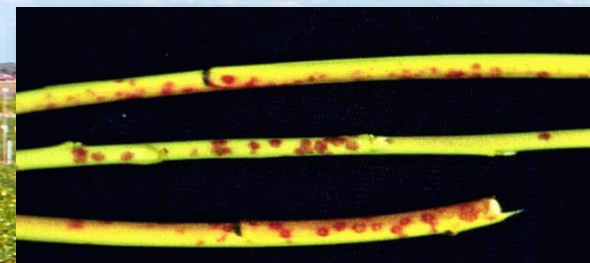
Peach disease issues

- Blossom blight, brown rot, bloom apps
 - Blossom blight and brown rot (both caused by *Monilinia fruticola*)
 - Usually not an issue at bloom in Florida
 - Bloom up until shuck split apps of Bravo
 - Bloom through harvest apps of Captan
 - Reduced rates of Copper for organic (SE guide)
 - Consider this if brown rot has been an issue



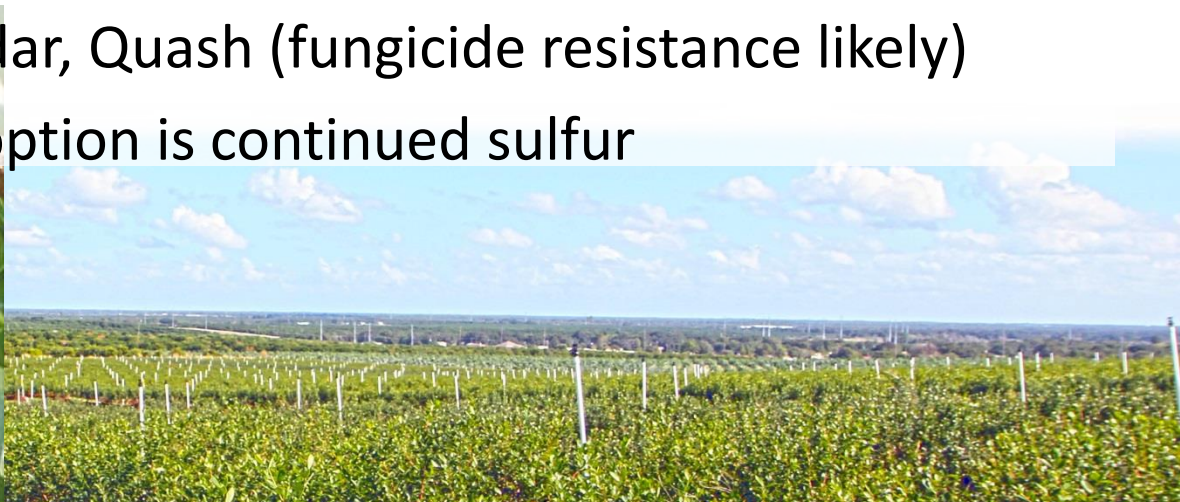
Peach disease issues

- Scab, petal fall to shuck split apps
 - Scab is caused by *Cladosporium carpophilium*
 - Affects fruit quality
 - Organic options include weekly sulfur and/or reduced rates of copper
 - Bravo app(s) through shuck split
 - Captan every 14d after shuck split
 - Abound (or similar) can be substituted for a Bravo or Captan app, has



Peach disease issues

- Brown rot, preharvest apps
 - brown rot (caused by *Monilinia fruticola*)
 - Sporadic issue more common in north FL than farther south
 - Apps occurring 2 weeks and just before harvest where the disease has been an issue
 - Merivon, Luna Sensation > Pristine
 - Orius, Indar, Quash (fungicide resistance likely)
 - Organic option is continued sulfur







Peach disease issues

- Post harvest foliage and tree management
 - Leaf rust is most important and can result in defoliation and may require fungicide applications
 - Avoid overhead irrigation, manage canopies and weeds to promote air movement
 - Organic options include copper and sulfur



Peach disease issues

- Peach Leaf Rust
 - *Tranzschelia discolor*
 - Late summer/fall, wet weather
 - Causes defoliation and early bloom in winter
 - Need to keep leaves on as long as possible
 - Growth, develop fruit buds for next season
 - Controlled with fungicides







Peach disease issues

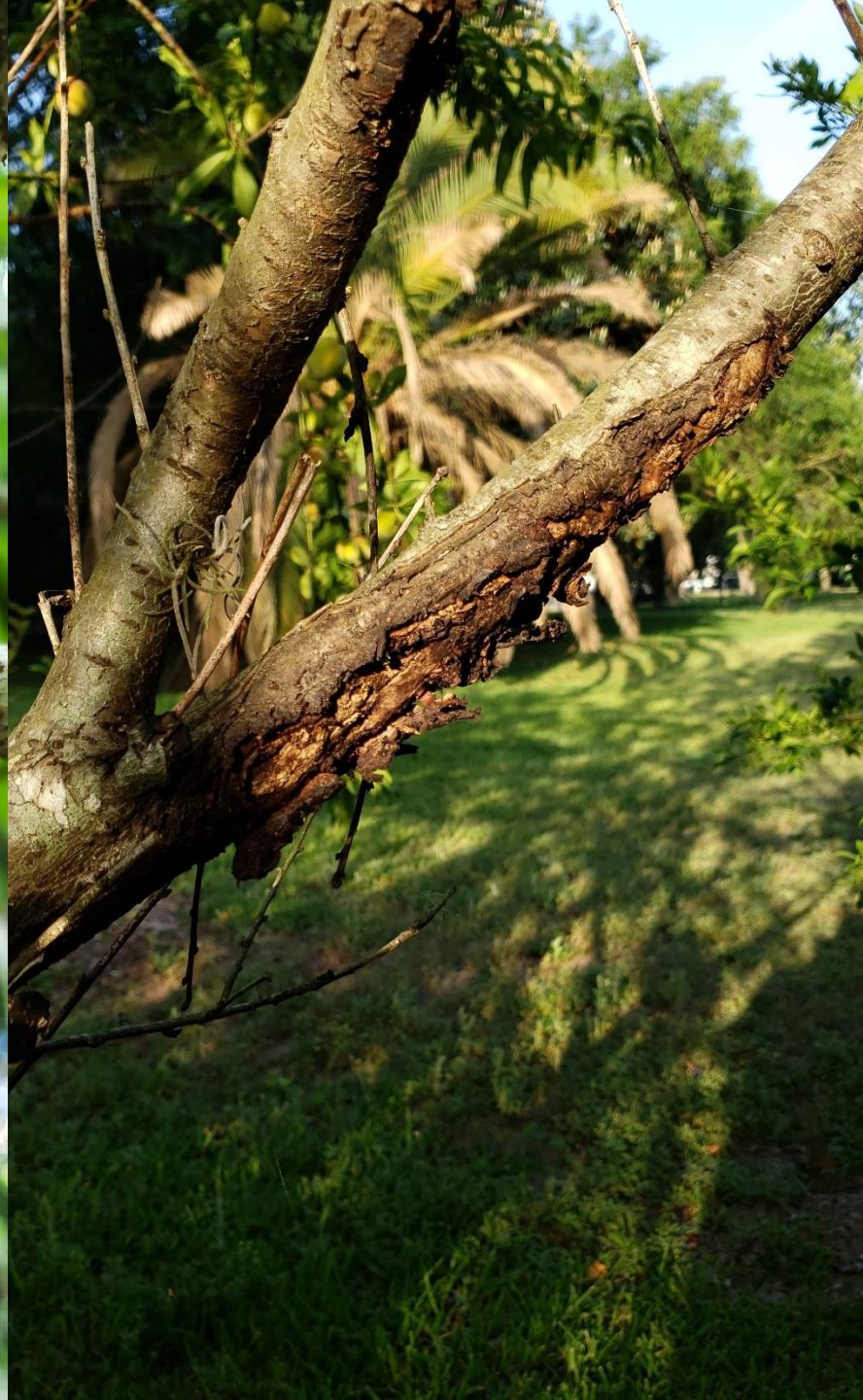
- Not much research has been conducted
 - Not mentioned in the SE guide, a Florida problem
- Fungicides with efficacy include:
 - Abound and other Qols
 - Orius, Quash, Indar, Orbit, Topguard and other DMIs
 - Bravo (5 to 6 apps per season total) and Captan (8 to 10 apps total per season)



Fungal Gummosis

- *Botryosphaeria dothidea*
 - Amber colored sap oozes from cankers under bark
 - Flordaguard rootstock is highly susceptible
 - Fungicide applications (Captan) to trunk early (yrs 1-3) may help to control
 - Reduce stress, sanitation





Mushroom Root Rot

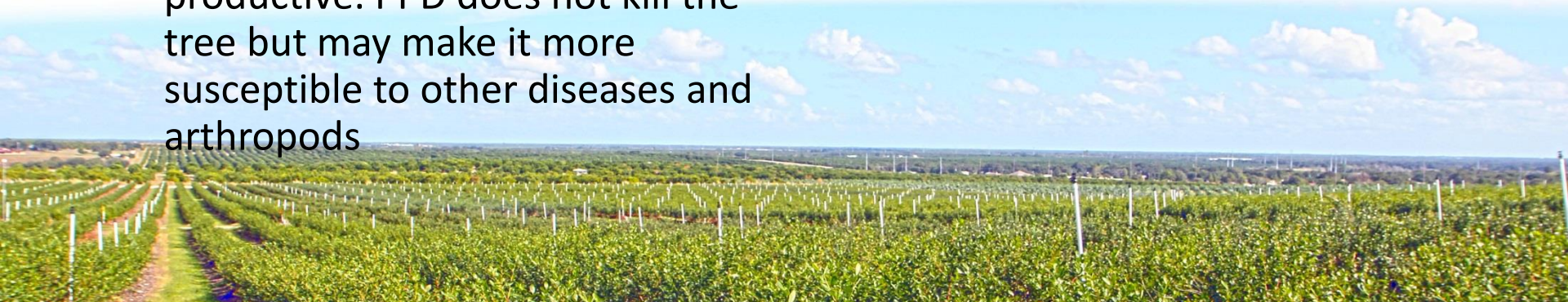
- *Armillaria spp.*, attacks a wide range trees
- First symptoms range from a slow, gradual decline to rapid death
- Slow death of the tree in the aboveground parts is the most common



Phony Peach

Xylella fastidiosa

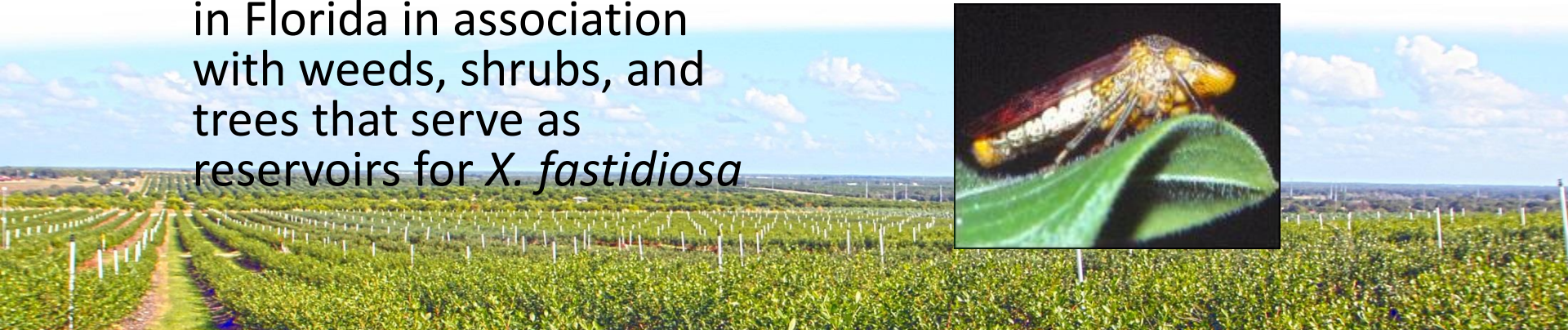
- Canopy of tree is flattened, compact and umbrella-like due to shortened internodes
- Dwarfing
- Early bloom and fruit set and reduced fruit size
- Fruit may be more colorful and will often ripen a few days earlier than normal.
- Production reduced 80-90%
- Trees that develop PPD symptoms before bearing age never become productive. PPD does not kill the tree but may make it more susceptible to other diseases and arthropods



Phony Peach

Xylella fastidiosa

- Can be transmitted by grafting
- Spread primarily by a type of leafhopper known as sharpshooters
- Symptoms can develop as late as 18 months or more after initial infection
- Insects are commonly found in Florida in association with weeds, shrubs, and trees that serve as reservoirs for *X. fastidiosa*



Phony Peach

Xylella fastidiosa

- There is no cure for PPD or any other disease caused by *X. fastidiosa*.
- Rogue trees once confirmed PPD
- Manage weeds
- Replanting in a PPD orchard not likely to be successful



Any Questions?

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Leaf Curl

- *Taphrina deformans*
 - Occurs sporadically
 - Fungicide applications can control it where it occurs regularly
 - Two dormant apps of Ferbam give good control, Ziram, Thiram, Chlorothalonil, copper may also give control



EFFECTIVENESS OF DISEASE CONTROL MATERIALS ON PEACHES, NECTARINES AND PLUMS IN THE SOUTHEAST (+++++ = superior, +++++ = excellent, +++++ = good, +++ = fair, ++ = poor, + = suppression, - = no benefit) See IPM Management Guide section for rating particulars. These ratings are benchmarks, actual performance will vary.

Pesticide [MOA CODE]	Class	Leaf curl	Bacterial spot	Blossom blight	Scab	Anthracnose	Red spot	Sooty peach	Brown rot
Abound [11] Gem [11]	QoI (quinone outside inhibitor)	-	-	-	++++ Resistance a threat	++++	-	-	++++ Resistance a threat
coppers [M1]	multi-site toxins	+++	+++ Resistance a threat	-	-	-	-	-	-
Botran [14]	multi-site toxin	-	-	+	-	-	-	-	+
Mycoshield [41] FireLine [41]	antibiotic	-	+++ Resistance a threat	-	-	-	-	-	-
captan [M4]	multi-site toxin	-	-	++	++++	+++	-	++	+++
Ferbam [M3]	multi-site toxin	+++++	-	-	-	-	+++	-	-
Thiram [M3]	multi-site toxin	+++	-	-	-	-	+++	-	-
ziram [M3]	multi-site toxin	+++	+	-	+	-	+++	+++	-
sulfur [M2]	multi-site toxin	-	-	+	+++	-	-	-	+
chlorothalonil [M5]	multi-site toxin	++++	-	+++	++++	-	-	-	-
Rovral [2]	dicarboximide	-	-	++++	-	-	++	++	-
Orius [3]	DMI (dimethylation inhibitor)	-	-	+++++	-	-	-	-	+++++ Resistance a threat
Quash [3]	DMI	-	-	+++++	-	-	-	-	+++++ Resistance a threat
Indar [3]	DMI	-	-	+++++	++	-	-	-	+++++ Resistance a threat
Rally [3]	DMI	-	-	+++	-	-	-	-	+ Resistance a threat
Orbit [3] PropiMax [3] Bumper [3]	DMI	-	-	++++	-	-	-	-	++++ Resistance a threat
Topguard [3]	DMI	-	-	++++	-	-	-	-	++++ Resistance a threat

EFFECTIVENESS OF DISEASE CONTROL MATERIALS ON PEACHES, NECTARINES AND PLUMS IN THE SOUTHEAST (continued)

Pesticide [MOA CODE]	Class	Leaf curl	Bacterial spot	Blossom blight	Scab	Anthracnose	Red spot	Sooty peach	Brown rot	Rhizopus rot
Topsin-M [1] Thiophanate Methyl [1]	MBC (methyl benzimidazole carbamate)	-	-	++++ Resistance a threat	++++ Resistance a threat	-	-	-	+++ Resistance a threat	-
Vanguard, Scala [9]	anilinopyrimidine	-	-	++++	-	-	-	-	-	-
Inspire Super [9, 3]	anilinopyrimidine and DMI	-	-	+++++	+++	?	-	-	+++++	?
Inspire Super [9, 3] plus Tilt [3]	Anilinopyrimidine and DMIs	-	-	+++++	+++	++++	-	-	+++++	?
Scholar [12]	phenylpyrrole	-	-	-	-	-	-	-	+++++	++++
Fontelis [7]	SDHI-pyrazole carboxamide	-	-	++++	++	+	-	-	++++ Resistance a threat	+
Luna Privilege [7]	SDHI - pyridinyl-ethyl-benzamides	-	-	++++	++	?	-	-	++++ Resistance a threat	+
Merivon [11, 7]	QoI and SDHI-pyrazole	-	-	+++++	++++	++++	-	-	+++++	+++
Luna Sensation [11, 7]	QoI and SDHI - pyridinyl-ethyl-benzamides	-	-	+++++	++++	++++	-	-	+++++	+++
Pristine [11, 7]	QoI and SDHI-pyridine-carboxamide	-	-	+++++	++++	++++	-	-	+++++	+++
Quadris Top [11, 3]	QoI and DMI	-	-	++++	++++	+++	-	-	++++	++

Fungicides with the same MOA CODE, unless multi-site, are NOT appropriate as tank-mixing partners or for alternating as they have similar modes of action and are prone to cross-resistance.



Trade Name	Active Ingredient	Chemical Class	Manufacturer
1. Fontelis (DPX-LEM17)	Penthiopyrad	SDHI	DuPont
2. Luna Sensation	Trifloxystrobin + Fluopyram	Strobilurin + SDHI	Bayer
3. Merivon	Pyraclostrobin + Fluxapyroxad	Strobilurin + SDHI	BASF
4. Inspire Super	Difenoconazole + Cyprodinil	DMI + AP	Syngenta
5. Inspire XT	Difenoconazole + Propiconazole	DMI + DMI	Syngenta
6. Quadris Top	Difenoconazole + Azoxystrobin	DMI + Strobilurin	Syngenta
7. Topguard	Flutriafol	DMI	Cheminova
Chemical Standard = Pristine	Pyraclostrobin + Boscalid	Strobilurin + SDHI	BASF

