

Fruit IPM Report Apr 22, 2014

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This week in Fruit IPM

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Peach scab lesions on fruit with old lesions on wood.

Peach

Brown Rot: Blossom infections from the brown rot fungus can occur whenever pistils are exposed and a favorable climate exists. Infections can occur during any wetting period when temperatures are between 41 and 86°F. However optimum conditions (See [WVU Kearneysville, Brown Rot of Peach and Nectarine](#)) for infection occur with *wetting and temperatures in the mid 70's*. During long wetting periods (several days or more) blossoms can be infected regardless of temperature. Generally infections that occur when conditions are sub optimal are less severe. Blossoms and fruitlets will remain susceptible until the pistil desiccates (sometime between petal fall and shuck split).

Petal Fall Insect Complex: An OFM biofix was set for April 14 in southern counties. Treatments for the first flight will be due at 170-200 degree days after the first trap captures or "biofix." We have had 66 degree days accumulate since 4/14. This timing usually coincides with late petal fall to shuck split.

Avaunt is one of the better materials for plum curculio (PC) at this time, and also covers Oriental fruit moth and tarnished plant bug. Any covers that include Imidan will also do a good job with PC. While the synthetic pyrethroids (Asana, Ambush/Pounce, Warrior, Baythroid) are rated for control of petal fall insect pests, experience has shown that the pyrethroids may be weak at lower rates against plum curculio (PC), especially in hot weather. If using any pyrethroids (Ambush, Asana, Baythroid, Danitol, Perm-Up, Pounce, Warrior, Lambda-Cy, or any of the other generics), use a high rate in order to control both OFM and PC. Endigo, a premix for stone fruit; contains the active ingredients for warrior and actara and is a good choice around shuck split for the entire insect complex. Rotate pyrethroids (IRAC group 3) and O.P.'s (IRAC group 1B) with different chemistries for resistance management (see IRAC groups below).

The key arthropod targets at petal fall are *OFM, PC and various catfacing insects, primarily tarnished plant bug and native stinkbugs*.

Green Peach Aphids (GPA): GPA colonies begin forming sometime during bloom. Examine trees for the presence of colonies from pink to shuck split. Count the number of colonies on ten trees and use a treatment threshold of 2 colonies/tree at petal fall for peach, and 1 colony/tree for nectarine. The best way to scout for aphids during bloom is with a beating tray. See USU Extension Video [How to Monitor for Fruit Pests Using a Beating Tray](#). See the 2014 NJ Commercial Tree Fruit Production Guide for recommended materials and rates.

Thrips: Thrips overwinter as adults in leaf litter and other protected places. Flower thrips and western flower thrips can start moving into orchards sometime during the bloom to petal fall period and can be troublesome on nectarines in some years. **No thrips have been seen in the flowers as of this writing.**

Make sure to check your flowers and early developing fruit. Lannate, and Delegate are effective for thrips control at petal fall to shuck split. Carzol may be used at petal fall. Entrust can be purchased if you want the slightly more active ingredient that was in Spintor. Actara can provide suppression. Thrips monitoring can be accomplished by collecting a sample of blossoms; opening the shucks and examining the inside with a hand lens. If thrips are present inside the shucks, treatment with an effective insecticide is suggested. Although early thrips injury is sometimes seen on both peaches and nectarines at harvest, they are generally considered more damaging to nectarines.

Bacterial Spot: Treatments using copper formulations or terramycin should start at shuck split. However, late sprays in the presence of warm weather often means that an intended application at late petal fall really can occur at shuck split. In this event, it's better to error on the early side and include something for bacterial spot. Oxytetracycline (a specific type of terramycin – Mycoshield and FireLine) formulations have limited residual activity, and are thought to have as much as 24 hours "back-action". Mycoshield/FireLine works best when applied as dilute as possible and under slow drying conditions. Fruit will be very susceptible at shuck split. See the production guide for recommended materials and rates. Coppers (most common = Kocide 3000 @ 1.5 oz/A) but also Champ, Copper-Count-N, Cuprofix, and Nu-Cop) can also be started at late petal fall to shuck split. Watch your rates, since these can all be phytotoxic, and the same conditions (cooler weather with slow drying conditions) that make antibiotics more effective because of increased uptake, also can provide better conditions for copper phytotoxicity. Avoid Captan/copper tank mixes if: it is very hot; has been overcast for several days in a row; or if applying at low volume. Do not acidify spray solutions when using copper.

Rusty Spot: Rally should be included at petal fall on rusty spot sensitive varieties. Apply at 2.5 – 5 ozs./acre. Other materials that can control rusty spot include Adament, Gem and Quadris Top when used at the higher rates.

Peach Scab: Scab has become more prevalent and widespread in recent years. As petal fall becomes shuck split, scab becomes an important disease to control. In blocks that had scab last season, increased levels of overwintered scab inoculum are present on last year's wood and as rain occurs, spores are splashed onto the fruit during rainy periods from shuck split through the following six weeks. The lesions appear from 40 to 70 days after infection. They first appear as small (1-2 mm) green spots, but enlarge to 2-3 mm and become black as spores are produced. Most lesions are found on the shoulders of the fruit where spores were splashed down from the twig. They do not appear until about redhaven season, but by then the damage has already occurred. Since conidia begin forming around petal fall, the first scab sprays should begin then. Gem, Bravo, Pristine, Inspire Super, or a Captan/Topsin-M combination are all very effective scab fungicides. If you do not grow apples, Quadris Top is an excellent scab fungicide that will also control rusty spot. Do not use Quadris Top if you use the same sprayer for apples, since it has the same active ingredient as Abound, which can be phytotoxic to apples. These materials are also very effective for blossom blight control. In orchards that had scab last year, Make a solid application of Quadris Top, Gem or Topsin-M at full rates during petal fall to get suppression of lesions. Solid applications are preferable.

Apple

Diseases: Apple Scab, Powdery Mildew, Cedar Apple Rust, are diseases of concern at this time. Primary apple scab spores are released during any substantial wetting and infection period. Make sure you are well covered. Cedar apple rust infections can occur anytime between pink and 3rd cover. The DMI fungicides Rally, Procure, and Indar are standard scab, rust, and mildew materials. These materials and should be combined with a protectant, usually an EBDC such as Manzate. However new products (See N.Lalancette, [Integrated Fungicide Programs for Early Season Apple Disease Control](#)) allow us formulate new strategies to manage primary scab without relying solely on DMI's. The rains predicted later this week should provide a significant infection period.

Pear

Pear Psylla: Pear Psylla nymphs began hatching early this week. Nymphs will feed on developing clusters through bloom. The best option for control at popcorn is Surround @ 25-50#/ac. Esteem may also be used through bloom.

Fire Blight: From a calendar perspective, **blossom** sprays using Streptomycin should be applied on a 3-7 day schedule or anytime temperatures are 65°F or above and the relative humidity is 60% or above when the bloom is open. Mycoshield now has a supplemental label allowing use on apples and pears. Rotations of Streptomycin and Oxytetracycline will help manage resistance.

Blueberries

Cranberry Weevil: Scouting done late last week and early this week showed increased activity of cranberry weevil. An average of 3 weevils per bush was seen on one farm with a high count of 4 weevils per bush. This is very close to a treatment threshold, and with warmer weather more activity is expected. Therefore growers may to treat if seeing increased activity. Bees will likely be coming in before the end of the week in some areas. If you are doing your own scouting, use a 10 bush sample, and inspect 20 blossom clusters per bush. Examine 5 clusters on each of 4 shoots per

bush. Sampling is done from the mid to upper areas of each bush. Data from each site is a composite from the data collected on all 200 clusters (about 2,000 estimated fruit), but is divided by 10 bushes for an average per 20 clusters. Most varieties range from 10 + berries per cluster, so a simple percentage of infestation may be calculated when needed. The percent of injured blossom clusters is reported. A blossom cluster is rated as injured if at least one blossom in the cluster has a weevil puncture. Treatment thresholds are set at 5 weevils per bush or 20% of blossom clusters (at least 1 injury or puncture per 5 clusters) with reported injury.

Plum Curculio (PC): PC adults should start to appear during bloom. Recent research has shown that a program of both prebloom and immediate postbloom insecticides gives superior control. Rimon applied prebloom @ 25oz/A would need to be applied now or during the next couple of days before bees are present. See the [Blueberry Bulletin](#) for more information.

Scouting Calendar

The following table is intended as an aid for orchard scouting. It should not be used to time pesticide applications. Median dates for pest events and crop phenology are displayed. These dates are compiled from observations made since 1995 in Gloucester County. Events in northern New Jersey should occur 7-10 days later.

Pest Event or Growth Stage	Approximate Date	2014 Observed Date
1/4" Green Tip Red Delicious	March 27 +/- 10 Days	April 11
Tight Cluster Red Delicious	April 8 +/- 10 Days	April 17
Oriental Fruit Moth Biofix	April 8 +/- 10 Days	Not yet observed
Pink Peach (Redhaven)	April 10 +/- 9 Days	April 13
Pink Apple (Red Delicious)	April 13 +/- 11 Days	Not yet observed
Full Bloom Peach (Redhaven)	April 16 +/- 7 Days	Not yet observed
Green Peach Aphid Observed	April 16 +/- 16 Days	Not yet observed
Oriental Fruit Moth – 175 DD target	April 19 +/- 12 Days	Not yet observed
Full Bloom Apple (Red Delicious)	April 20 +/- 9 Days	Not yet observed
Petal Fall (Redhaven)	April 21 +/- 9 Days	Not yet observed
Petal Fall (Red Delicious)	April 27 +/- 13 Days	Not yet observed
Shuck Split (Redhaven)	April 29 +/- 7 Days	Not yet observed
Tufted Apple Bud Moth Biofix	May 4 +/- 10 Days	Not yet observed
Plum Curculio Oviposition Begins	May 5 +/- 16 Days	Not yet observed
Oriental Fruit Moth – 375 DD target	May 10 +/- 10 Days	Not yet observed
Codling Moth Biofix	May 14 +/- 16 Days	Not yet observed

Trap Counts – Southern Counties

WEEKEND	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
4/18	0				0		0			