

2023 North Jersey Tree Fruit IPM Report

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Observation Overview: The IPM observations for 2023 come from the North Jersey Tree Fruit IPM Program. There are 28 different farms that participate in the program. The on farm scouting program includes a total of 293 acres of apples and 148 acres in peaches. Each farm has traps for the pests included in the trap data and are scouted once a week. The data for the chart below comes from the NEWA model <https://newa.cornell.edu/> using the Rutgers Snyder Farm weather station located in Pittstown, Hunterdon County, NJ. The trap data in Table 1 is an average of the data that is generated on each of the farms in the program. Note the data excludes farms using mating disruption. Mating disruption for codling moth/OFM (both Trece and Isomate) continues to be highly effective again this year. Mating disruption for the peach borer complex is the standard now in Northern NJ, even on farms with less than 5 acres. we have over 12+ years experience not using mating disruption for peach tree borers. Mating disruption for dogwood borer is being utilizing more for controlling dogwood borer especially with the loss of Lorsban and the almost uniform adoption of the tall spindle production system. Note no trap catches were observed in any of the orchard blocks utilizing mating disruption in any of the three pest complexes.

Weather and Cold Events-

Winter freeze event- there were two cold events this past winter, one in December around Christmas and a second in February 2023 where we had 50 degree drops in temperatures. However the

May Freeze Event - There was extensive **freeze Injury** on May 18, 2023 in NY and New England and in four northern New Jersey counties including Warren, Sussex, Morris, Hunterdon Over four orchards in these northern NJ counties sustained temperatures of **25F to 33 F with injury ranging from 10-90% overall depending on location and cultivar.** There was no injury to blueberries in north Jersey based on my observations and telephone surveys. **Note** this was an unprecedented cold event for this late date with apple fruitlets ranging in NJ from 8-15MM. Apple fruitlets (meaning post bloom) are actually more sensitive to cold temperatures than flowers in bloom- apples will take 28F in bloom- see [Critical Spring Temperatures for Tree Fruit Bud Development Stages](#) In general damage in Northern NJ was spotty and not extensive depending on location, site, variety.

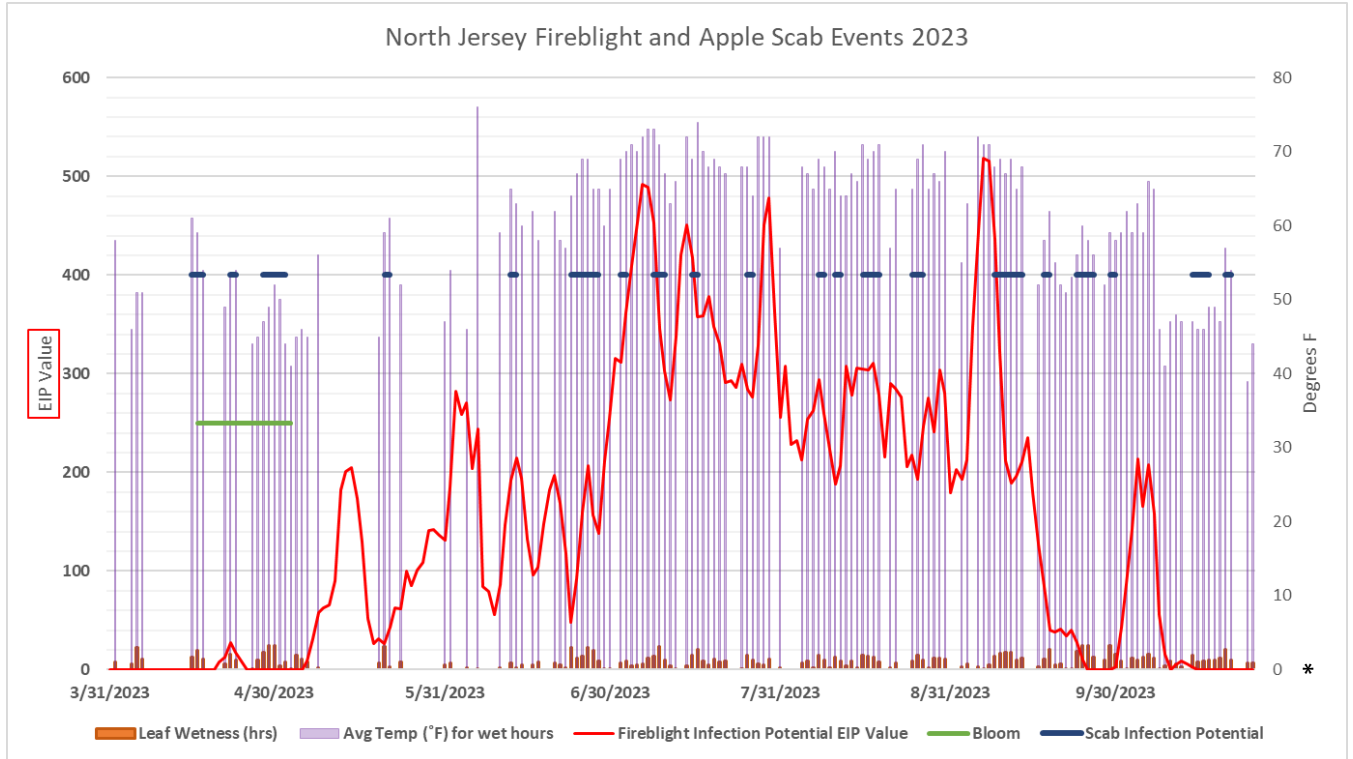
Apple Diseases

Fireblight: This was a low fireblight infection year in Northern New Jersey Both blossom and shoot blight infections were minimal in grower orchards this year. See Figure 1, there was no Infection Potential EIP Value above 100 during the bloom period. Fireblight infection requires an average temperature above 60 Degrees F, a wetting event and an infection potential EIP value above 100. These conditions were not met this year during the blossom blight phase and I did not see any orchards infected with the blossom blight stage of this disease. The few incidences of fireblight this year occurred either from trauma blight following multiple hailstorms.

Apple Scab: This was a low scab year in Northern New Jersey. Most growers were able to avoid major outbreaks of primary scab this year by applying fungicides before an infection incidence was predicted by the NEWA model. There was one extended infection period from 4/28-5/2 which caused a primary scab outbreak at a few farms. These farms were able to keep secondary scab under control through the use of anti-sporulant materials.

Bitter Rot: This disease continues to prove challenging to control. Most farms in the program had bitter rot this year, but it only caused major losses at a handful of farms. One farm lost 34% of their crop to bitter rot. HoneyCrisp continues to be the most impacted cultivar with Bitter rot, especially when grown on full dwarfing rootstocks in our tall spindle production systems. Sunburn on the fruit is one of the main precursors to bitter rot and protectants must be used on sensitive varieties. Strobularians and the pyrophyte materials have proven effective if sprays are started early enough.

Figure 1: Weather Data, Phenology, and Apple Disease Forecasts for 2023 the Rutgers North Jersey Scouting Program



* Depicts average temperature during wet hours because the NEWA model predicts an average temperature of 60 degrees F is required for an infection event.

Table 2- Insect Pests for Apple and Peach from the Rutgers North Jersey Scouting Program

North Jersey Average Trap Catches of 28 Growers 2023										
	STLM	CM	OFM-P	OFM-A	TABM	LPTB	DWB	OBLR	BMSB	GPTB
4/8/2023	10.1									
4/15/2023	19.6		4.9							
4/22/2023	190.7		11.0							
4/29/2023	27.7	11	6.9							
5/6/2023	19.3	0.2	3	6.2						
5/13/2023	34.1	2.9	4.4	1.9	1.1	0				
5/20/2023	30.6	6.8	3.6	0.4	11.5	0				
5/27/2023	15.9	3.8	2.4	0.1	17.5	11.1	17.4			
6/3/2023	11.8	2	1.4	0	26.3	12.3	16.7			
6/10/2023	23	2.5	1.9	0	43.7	5	16.1	28		
6/17/2023	62.8	2	1.2	0.5	52.9	6	14.5	27		
6/24/2023	133.5	2.7	3.2	0	51.9	8	11	7	1	
7/1/2023	87.4	0.2	4.4	0	32.9	1.2	12.4	6	1	3.2
7/8/2023	296.4	0.5	0	0	36.9	0	29.6	0	1	1
7/15/2023	189.1	0.25	4.1	0	9.3	3.6	28.2	1	1	7.6
7/22/2023	177.4	1.0	0.8	0.0	5.6	2.6	45.5	0.0		5.6
7/29/2023	145.3	2.4	0.7	0.0	0.8	1.7	24.2	0.0	1.0	2.1
8/5/2023	143.7	5.3	2.4	0.0	2.9	1.8	17.8	5.0	0.0	2.8
8/12/2023	135.9	2.4	2.2	0.0	4.7	1.0	14.8	1	0	1
8/19/2023	76.5	3.1	0.0	0.0	3.9		6.5	3	0	
8/26/2023	51.1	1.3		0.0	10.2		5.1	5	1	
9/2/2023	62.9	0.5		0.0	14.1		5.0	0		
9/9/2023	38.2	0.4		0.0	7.6		9.4	0		
9/16/2023	22.9	0.0		0.0	19.6		7.5	4		

This data is compiled from 28 apple growers and 22 peach growers. 10 growers were excluded from CM, OFM-A, OFM-P, and DWB data, 12 growers were excluded from LPTB and GPTB data due to the use of mating disruption.

Apple Pest Discussion

Codling Moth: A biofix was set for 5/4 in Mercer and Middlesex counties (central NJ), 5/10 for Hunterdon, Morris, Warren, Sussex and Bergen counties (North Jersey). Growers managed this pest either through timing their sprays to the degree day model or using mating disruption. No trap catches or damage was found in the orchards utilizing mating disruption. The growers using mating disruption typically used the dual CM/OFM mating disruption both Trece or Isomate. Most growers timing their sprays to the degree day model had very little or no damage from this pest.

For codling moth in North Jersey our first-generation treatments occurred on June 1st and June 21st second generation treatments occurred on July 20th and August 2nd and a **3rd generation did occur** in early September, if growers had high trap counts, they treated on September 6th. *Note that growers using CM mating disruption did not have to treat for this third generation.*

Plum Curculio: This pest was difficult to control this season because we had a long bloom which led to more damage than usual.

Ambrosia Beetle: This pest seems to be becoming a more prevalent issue. Cowgill has warned of this pest for the past 3 years in North Jersey. Three growers in the program were confirmed to have significant tree loss due to this pest. More work should be done to monitor populations and manage this pest. Essential that Growers should be sure to reduce tree stress since this pest tends to attack weakened trees. An active scouting/trapping program will be started in 2024. Causes of weakened trees include winter injury, drought, too much water (not using raised beds) soil drainage issues.

Brown Marmorated Stinkbug: Trap catches for this pest were very low this season, only a few growers had trap catches significant enough to require insecticides. There was very little damage caused by this pest, when it did appear it was along the wooded edges of the orchard.

Oblique Banded Leafroller: Traps were set for this pest only on farms where damage to the leaves was seen during scouting practices. In previous years this pest has not been an issue, but it may be returning to orchards in our area. One codling moth trap had Obliques in it. Note that CM mating disruption does not control OBL (personal communication Peter Jenstch)

Peach Pests

Oriental Fruit Moth: A biofix was set for this pest on 4/10 for this year. Peach growers in the program managed this pest either through timing their sprays to the degree day model or using mating disruption. No trap catches or damage occurred at any of the farms using mating disruption this year. The farms using the degree day spray model had very little to no damage from this pest this year.

White Peach Scale: A few growers had some White Peach Scale damage in their later variety peaches this year. It is important to apply a dormant oil spray to manage this pest, this can sometimes prove to be challenging since it should not be applied within 48 hours of temperatures in the mid 30's or below. Typically we

Lesser Peach Tree Borer and Greater Peach Tree Borer: Growers should be using mating disruption for these pests now that we have lost Lorsban as a treatment option and that was our best control. These pests were not caught at any of the orchards utilizing mating disruption this year.