

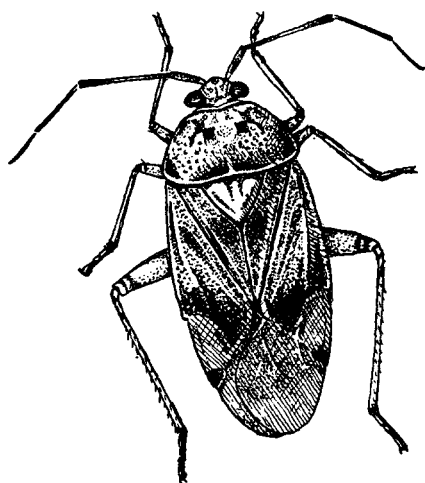
PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

JUNE 20, 2000

Fruit IPM

Dean Polk, Fruit IPM Agent



Peach

✓ **Oriental Fruit Moth:** The second adult flight is close to peak with trap counts reaching 100 moths per trap at some locations. Flagg can be seen on some trees, particularly 1 to 2 year old plantings that have not been completely protected. Any young planting that exhibits larval flagging serves as a population source for nearby older mature trees. Therefore plantings of all ages should be getting insecticide treatments at the present time. Where trap counts are less than 6-8 moths per trap, sprays may be stretched or insecticide deleted for this pest. As is usually the case, trap counts can vary greatly from farm to farm. We are spatially representing this concept with weekly pest maps of certain insects. These maps are taken from trap averages for that week on each farm site (54 locations for OFM). The data is entered into an Access™ database and linked to GIS software (Arcview) to make the maps. On the accompanying OFM map, light areas represent low insect pressure as can be seen in much of Cumberland and southern Hunterdon Counties.

✓ **Catfacing Insects - Tarnished Plant Bugs (TPB) and Stink Bugs (SB):** Insecticides that have targeted catfacing insects have reduced their populations. Where weeds are present and populations have remained untreated, populations are also high. As much as 28% fruit injury has been seen in northern counties where this was the case.

✓ **Bacterial Spot:** Additional bacterial spot was seen this past week and Monday. Fruit infections are present with up to 10% of the fruit infected. Infections are all on known sensitive varieties. With the repeated rains, growers should be willing to make extra applications of Tencop if needed. This material does not weather, so material applied just prior to an inch of rain on Sunday is no longer present on Monday and needs to be reapplied.

✓ **Brown Rot and Blossom Blight:** Old blossom blight is still sporulating on old blossoms and newly formed cankers. Do not use sulfur as your brown rot material when old blight is present. Use Captan and Captan combinations with SIs or other new materials as early fruit start to swell.

Apple

✓ **Tufted Apple Budmoth (TABM):** Although the flight has peaked, adults are still active. Egg masses which are close to hatch-

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ing were found both last week and during the past few days. Insecticides are still needed. These should be applied in central counties by the middle of this week, and in northern counties by the middle of this week and again early next week. One additional treatment may be warranted in southern counties where TABM is active. Like other insects, populations of TABM can also vary from farm to farm. See the accompanying pest map for TABM (46 farm sites), and note that the highest population pressure is around the Gloucester County area. Many other areas have low populations that do not merit special attention.

✓ **Oriental Fruit Moth (OFM):** OFM injury is present in apple plantings in both southern and northern counties. Apple growers should be aware that OFM might be present in apples, especially when near peaches.

✓ **Apple Aphids (green apple aphids and spirea aphids -GAA and SA) and Spotted Tentiform Leafminer (STLM):** These insects are being addressed together since they are both active and control measures can be combined for both of them. STLM adults are emerging and are close to the peak second generation flight (see trap counts). The first generation sap feeding miners are also starting to be seen. While mine levels have not reached treatment levels yet, aphids are also present that merit treatment. In some cases up to 98% of terminal shoots are infested with active colonies. In past newsletters we have listed various aphicides, but have reserved the use of

Provado for when other insects are also active. Since Provado is the best material for STLM control at this time of year, and is also an effective aphicide, use of this material is now suggested where aphids need treatment and STLM is also present.

Blueberry

✓ **Blueberry Maggot (BBM):** BBM adults are now being caught. The first catch on a commercial farm was recorded on 6/13 in Burlington County. Trap catches have been more common during the last several days.

✓ **Worms and General Lep. Larvae:** The number of larvae seen has decreased since last week. Larvae are present in only 6% of samples, with only one sample showing a population above treatment level.

✓ **Aphids:** Aphid populations are at about the same overall levels as last week. Some farm sites show up to 20 to 30% of terminals infested. This is a high level of aphids and should not be tolerated, given current control options.

✓ **Cranberry Fruitworm (CBFW):** Trap catches of adult moths have again decreased this week. Most larvae are now established in fruit or have been controlled. Sampling has shown that CBFW larvae are present in 18% of our samples, with live larvae being fairly common. Where present, injury levels average about 1% of fruit being infested.

✓ **Disease:** Anthracnose and Alternaria have both been found at low levels on early maturing fruit. Conditions have been favorable for both diseases.

Insect Trap Counts

South Jersey Tree Fruit

Week Ending	AM	CM	LPTB	OFM	PTB	STLM	TABM-A	TABM-P
5/19		6.77	78.75	21.98	0.00	256.25	34.04	53.06
5/19		5.9	45.0	6.1	0.2	106.2	37.9	40.5
6/2		2.54	53.92	6.44	1.62	256.05	39.24	59.14
6/9		5.24	54.16	7.82	6.94	736.94	36.64	42.80
6/16	0.00	3.93	52.13	20.89	3.87	1617.67	33.25	37.27

North Jersey Tree Fruit

Week Ending	AM	CM	LPTB	OFM	PTB	STLM	TABM-A	TABM-P
5/19		10.25		14.35		107.07	6.84	6.66
5/26		5.66	6.67	9.00	0.00	67.25	6.99	6.87
6/02		4.65	10.15	12.45	0.00	67.96	8.59	11.17
6/9		3.98	1.19	14.31	0.88	210.44	14.45	20.54
6/16	0.07	6.03	1.78	18.55	0.75	999.29	19.73	22.25

Blueberry

Atlantic County

Week Ending	RBLR	OBLR	CBFW	SNLH	BBM
5/19	0.85	1.81	2.98		
5/26	0.31	1.54	1.02		
6/2	2.54	3.27	0.67		
6/9	56.69	10.08	0.58	0.63	0.00
6/16	129.00	11.58	0.27	0.81	0.01

Burlington County

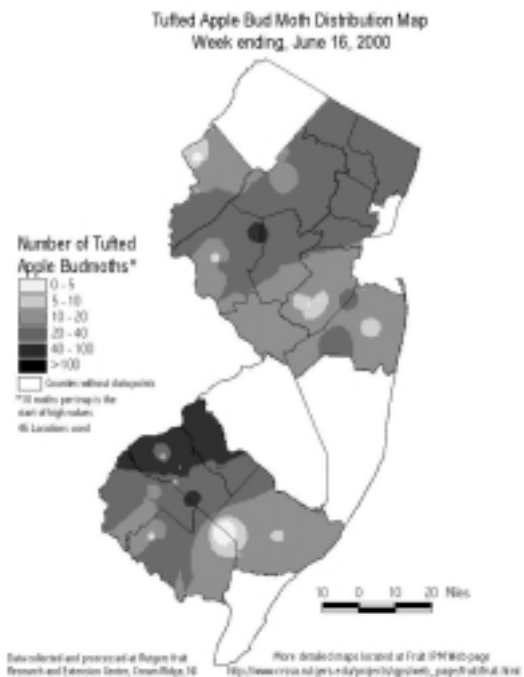
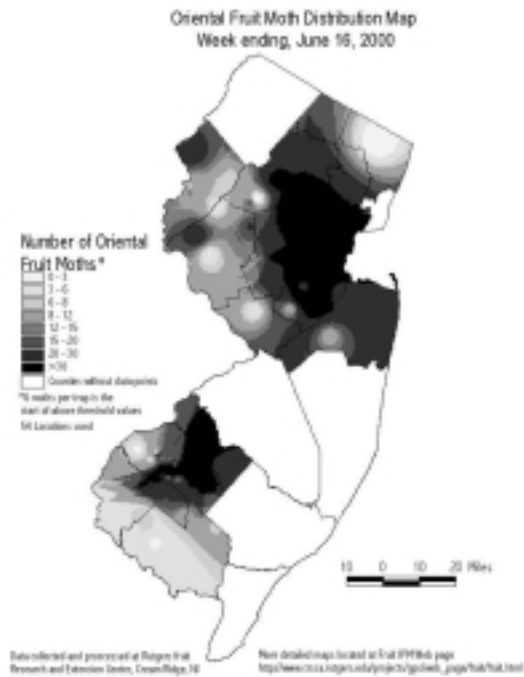
Week Ending	RBLR	OBLR	CBFW	SNLH	BBM	OB
5/19	0.56	3.00	0.56			
5/26	0.00	1.56	2.60			
6/2	0.00	2.33	4.10			
6/9	2.13	9.78	2.60	0.00	0.00	
6/16	42.38	8.67	1.50	6.83	0.31	248.33

SEE PEST DISTRIBUTION MAPS PAGE 3

Pest Distribution Maps

Week Ending 6/16/00

OFM, TABM



Prepare for Potential Heat Illnesses

Michelle Infante-Casella, Gloucester County Agricultural Agent

Heat stress is an issue for everyone who works outside during summer months. It is especially so for agricultural workers. You can try to prevent heat stress by dressing properly, keeping in good health, and drinking plenty of water. Wearing light colored clothing made of breathable materials like cotton and a brimmed hat will help shield your body from the hot sun. Working to keep physically fit, keeping your blood pressure under control, and maintaining your proper weight are all ways to help your body resist heat stress. You may want to provide yearly physicals for your employees to make sure they are physically fit and not at risk for heat related illnesses. Health officials recommend drinking at least 8 glasses of water per day. However, under high heat conditions it is important to replenish body fluids regularly by drinking more than eight glasses of water per day. Drink a lot of water before going to work, during breaks, and after work so you are less prone to heat stress. Additionally, increasing salt intake can also help to prevent heat stress. Salt tablets are available at many drug stores specifically for this reason. Ask a doctor or pharmacist for assistance. These latter suggestions are just some ways to reduce the risk of heat stress.

Although we try to avoid heat related illnesses, they can still occur. Preparing for a health related emergency is important to protect yourself and your workers. If a heat related illness occurs, follow these steps to assist the person:

- Move the person into a cool area or into the shade.
- Have someone call for medical assistance immediately (911).
- Remove the person's outer clothing (outer shirt, hat, etc.).
- Cool the person off with cool water by sponging or splashing the trunk, legs, arms, and hands. Placing cool packs under the armpits and groin area also helps since this is where major arteries are located.
- If the person is able, have them drink as much water as possible.
- Try to keep the person still until medical help arrives.

If the person was applying pesticides at the time the illness occurred, be sure to alert the emergency medical service technicians about the type of work being done and provide them with the pesticide label or MSDS information. Many heat stress symptoms are very similar to pesticide poisonings. Additionally, when you assist the person, wear gloves if you know that their outer clothing may be contaminated with pesticides.

Preparing for on-farm emergencies is very important for proper treatment. Take a few minutes to talk with your family and your workers about how to react to emergencies. You may think that this will not happen, but it can. A few minutes of preparation can save someone's life. □

What Does the Atmosphere Feed Your Crops?

Reprinted from Agri-Briefs Agronomic News Items, Summer 2000, No. 1, Potash & Phosphate Institute.

Our atmosphere is changing. Industrialized society has produced rising levels of carbon dioxide, ozone, and nitrogen oxides. Sulfur dioxide emissions may have stabilized, but considerable amounts are still transferred in the air, particularly in the northeast states.

What do these substances do to your crops? Do they help, or do they harm?

Carbon dioxide, worrisome for its role as a greenhouse gas, is the biggest source of nutrients for all plants. More than 90 percent of plant dry matter is made up of the carbon and oxygen it supplies. Numerous studies indicate that the elevated levels expected in the future are likely to stimulate plant productivity.

Ground level ozone, on the other hand, can hurt your crop. Near urban areas, crops frequently show symptoms of ozone injury. Increasing levels of carbon dioxide may not do much more than counterbalance the increasing levels of ozone.

Across the eastern Corn Belt, sulfur dioxide in the air can supply substantial amounts of the plant nutrient sulfur. Plant leaves can absorb it through their stomates as a gas or through their roots after rain washes it into the soil as sulfate. The soil does not hold sulfur well, though, and crops like alfalfa, which remove a lot of it, can still show deficiencies.

In some areas, sulfur dioxide may be concentrated enough to cause stress to plants. Recent research in India showed that nutrient-deficient soybeans were particularly susceptible, while those grown with balanced levels of nitrogen, phosphorous and potassium tolerated stress better. Potassium protects against ozone as well by increasing leaf levels of antioxidants such as ascorbic acid.

Nitrogen can be delivered through the air just like sulfur. Across most of the Corn Belt, 5 to 8 pounds per acre fall with the rain each year. Ammonia that volatilizes from livestock operations, manure storages, and fields can be absorbed as a gas by plant leaves. Leaves also rapidly take up oxides of nitrogen that are emitted from the soil. In fact, a recent study in Ontario found that turf fertilized with nitrogen took up nitrogen oxides faster than unfertilized turf.

In some areas near the ocean coasts, the rain delivers as much as 28 pounds of chloride per acre each year. Away from those areas, however, chloride deposition is negligible. Rainfall delivers only very small amounts of calcium, magnesium, potassium, and phosphorus – not enough to be significant to the nutrition of most crops.

Deposition varies greatly from one place to another and from year to year. The National Atmospheric Deposition Program, through its nationwide network of precipitation monitoring sites, provides useful maps showing the distribution of nutrients delivered by rain each year. Their website, <http://nadp.sws.uiuc.edu/>, gives full public access to the data.

Your nutrient management plan is not complete if it doesn't consider what comes from the air.

Submitted by Joseph Heckman, Ph.D., Soil Fertility. □

PPV National Survey Information for Week Ending, June 16, 2000 for NJ

Robert Balaam, Director, Division of Plant Industry, New Jersey Department of Agriculture

Field Sampling:

Sampling conducted by: NJ Department of Agriculture

0 Acres of propagative orchards surveyed.	0 Samples taken
131 Acres of commercial orchards surveyed.	917 Samples taken
0 Mother trees sampled.	0 Samples taken
0 Nursery properties surveyed.	0 Samples taken
2 Other (list): Coop. Ext. Variety Eval. Blocks	122 Samples taken

Laboratory Analysis:

Analysis conducted by: NJ Department of Agriculture

1039 Samples analyzed 1039 Negative Samples 0 Positive Samples

This report covers activities from June 9, 2000 through June 15, 2000.

Submitted by Jerome L. Frecon, Agricultural Agent □

Calendar of Events

(Date Correction) June 24-27, 2000
- IDFTA Summer Tour: Quebec Canada, Vermont, New York. Contact: Charles Ax at 570-837-1551, e-mail: attorney @ptdprolog.net or the IDFTA website at: <http://www.IDFTA.org>.

July 12, 2000 - Twilight Fruit Research Meeting, Rutgers Agricultural Research & Extension Center, Upper Deerfield Township, Northville Road, Bridgeton, N.J. Contact Jerry Frecon at 856-307-6450.

September 6, 2000, 6:00 P.M. - Fruit Variety Meeting and Showcase, Gloucester County Office of Government Services Auditorium, 1200 North Delsea Drive, Clayton, NJ. Contact Jerry Frecon at 856-307-6450.

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