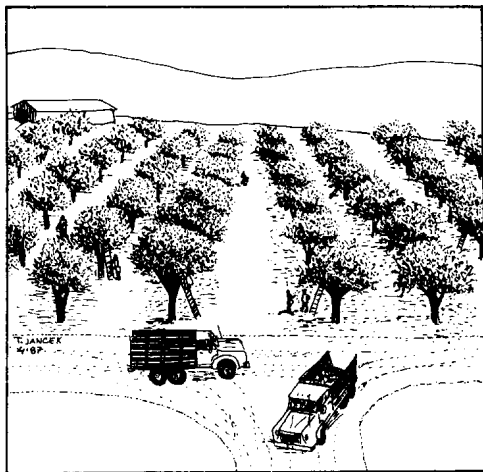


# PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

AUGUST 19, 1997



## Brown Rot: The Final Preharvest Spray

*Norman Lalancette, Specialist in Tree Fruit Pathology*

The two- to three-week period prior to harvest is the critical period for controlling brown rot on peach and nectarine. As the fruit ripen they become highly susceptible to infection by the brown rot pathogen, *Monilinia fructicola*. When environmental conditions are favorable, this pathogenic fungus can easily rot mature fruit within two to three days of infection.

### ◆ The Preharvest Challenge

Typically, two fungicide sprays are applied during the preharvest period to control brown rot development. These sprays should keep fruit healthy and disease-free. However, adequate control with these sprays is dependent on fruit remaining physically intact.

Any fruit wounding or injury, whether from insects, twig punctures, or split pits provides an ideal site for the brown rot fungus to initiate rot. In these situations, the pathogen doesn't even have to penetrate the fruit cuticle; it has free, immediate access to all the water and nutrients needed. These situations push even the best systemic fungicides to their limit.

### ◆ The Final Spray

Injured fruit that become rotted are, of course, lost to production. But much more importantly they produce massive amounts of inoculum. A single, rotting fruit will produce hundreds of thousands of spores of *Monilinia fructicola*. Hypothetically, this single fruit could produce enough inoculum to infect every fruit in an orchard.

Given the above situation, the final fungicide application prior to harvest is absolutely critical to maintaining clean fruit during the harvest process. A multi-year, multi-location summarization of 34 university experiments allowed comparison of fungicide efficacy for this final spray (*Horticultural News* Vol. 77, No. 2, New Jersey State Horticultural Society). In these studies, sprays were applied just prior to harvest and then the fruit were removed and inoculated with spores of *Monilinia fructicola*. Rot was assessed at two to ten days after harvest.

The three most effective fungicides were Indar, Rovral, and Orbit. Under the heavy disease pressure created by the artificial inoculations, Indar provided on average 81% control, while Rovral and Orbit yielded 77% control. Commercial control is likely to be much better since inoculum levels would not be as high as in the tests.

Since Indar and Orbit both have 0 PHI's, they can be used right up to harvest as the final spray. However, Rovral can no longer be used for this spray since it's label was changed last year to a 7-day PHI. □

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## Iron Chlorosis on Blueberries

Gary C. Pavlis, Ph.D., Agricultural Agent

*This article was reproduced from the July 17, 1997 issue of the Rutgers Cooperative Extension Blueberry Bulletin - Volume XIII, No. 14.*

When the symptoms of iron chlorosis occur, the blueberry plants are sending the grower a message. Yes, the plants are deficient in iron due to an elevated pH. However, iron is just the first deficiency that shows up. When the pH is high, the blueberry plant has a harder time taking up all nutrients and water. So iron chlorosis is an early warning sign which can be fixed by a couple of foliar sprays of iron chelate and lowering the pH with sulfur. Remember if you have iron chlorosis, the plant growth is being stunted and this will reduce yield the following year. Powdered sulfur is the fastest acting, about 1-2 months to bring the pH all the way down to the 4.5 - 4.8 range. Pelleted sulfur is much slower, sometimes 6 months. This form is easier to apply, however too slow if the plants are deficient. This is a good formulation for a late fall application when a new planting is going in next spring. Lastly, never use aluminum sulfate. Blueberries don't like aluminum.

So, if you see new leaves with green veins and the rest is yellow, get a pH test of your soil. Here is a quick chart to determine the amount of sulfur to use to lower the pH.

The following amounts of sulfur are recommended per acre to reduce the soil pH one-half unit (Ex. 5.0-4.5):

<u>Loamy</u>	<u>Sandy</u>	<u>Loam</u>	<u>Silt</u>
<u>Sand</u>	<u>Loam</u>		<u>Loam</u>
<b>196</b>	<b>305</b>	<b>435</b>	<b>609</b>

## Market Prices and Conditions for Peaches and Nectarines

Jerome L. Frecon, Agricultural Agent

Current wholesale market prices according to the Southeastern peach report on August 15, 1997 at the Point of First Sale (FOB) are \$8.00 to \$9.00 per 25 pound boxes of US No. #1 Extra, 2 1/2 inch and up of various yellow fleshed varieties. According to reporters in the Market News Service the low price represents grower/packer prices while the higher figure represents a seller figure other than the grower. Smaller peaches are substantially lower while larger peaches are only slightly higher. At a price of 32 to 36 cents per pound some growers may not be covering the cost of production and marketing. Fortunately those New Jersey growers with white peaches (mostly White Lady) are averaging \$14.00 per box or 56 cents per pound while nectarines (Summer Beaut and Sunglo) are bringing \$14.00 to \$15.00 per 25 pound box.

While it is difficult to determine what the future market will be, there is cause for optimism based on current shipments of peaches from major producing states. According to the August 14, 1997 Market News Service report on peach shipments through August 9, 1997, 13,956 carlots of peaches have already been shipped in the U.S. compared to 13,681 carlots for the entire 1996 season. As of August 9, 1997 the biggest peach producing state - California - has shipped 10,451 carlots while last year through August 10, 8,859 carlots had been shipped. As of August 10 last year both South Carolina and Georgia had shipped practically no peaches while this year they have shipped 1,591 and 1,558 carlots respectively. Georgia is virtually done shipping peaches, and South Carolina shipments have been slowly declining in the last ten days. California projections were for a smaller crop in 1997. Less peaches should be available in the next six weeks than last year during the same period.

New Jersey shipments in 1997 are somewhat behind 1996. According to Joe Tarpine of the Market News Service in Bridgeton, New Jersey has shipped 339,000 1/2 bushel boxes in 1997 to over 485,000 shipped last year at this date. The New Jersey crop is lighter than 1996.

California nectarine shipments in 1997 are also ahead of 1996. New Jersey nectarine shipments are similar to 1996 but the New Jersey nectarine crop is larger in 1997 than 1996.

From the standpoint of supply movement, New Jersey is in a favorable position to see demand and prices strengthen. There is also the competition from Michigan, the Appalachian states and Ontario, Canada for sales in the next 6 weeks. □

# Price Look Up (PLU) Stickers

*Jerome L. Frecon, Agricultural Agent*

Many grower/packers are wrestling with the question of whether they should be putting PLU stickers on their fruit. While some retailers are demanding it as a pre-condition of buying fruit, everyone recognizes it is an additional cost that isn't recouped based on current selling prices. Most packing houses are not equipped with the necessary equipment to sticker fruit cost-effectively, and many packers are philosophically opposed to the practice. They see it as unnecessary and a terrific burden to operating their packing lines.

Retailers argue that PLU stickers enable cashiers to charge the correct price for produce by looking up the code without having to identify the product. By simply entering the number, the produce is automatically priced. Retailers also emphasize that by having a coding system, a wider variety of produce including peaches will be offered for sale, increasing demand at the wholesale level. Pricing may be more specific and hopefully increase sales of different sized fruit.

Some packer/shippers also feel that individual stickering of fruit with their own trademarked or private label stickers will help promote their product at the retail level.

A novel idea was recently passed to me by Dave Wilson Nursery of Hickman, California, a world leader in the development of new peach and nectarine varieties. They have developed their own trademarked sticker called "Zee Sweet" for all of their non-acid nectarines or low acid peaches. As they promote these varieties any grower can get a trademark license with the PLU codes to use these stickers. The idea is that a premium price will be received for varieties that qualify for this low acid sticker. Peach varieties grown in New Jersey that qualify include: White Lady, Sugar Lady, Snow Giant, and Sugar Giant.

Information on this program, sources of stickering equipment and stickers including the codes for peaches and nectarines, are available from the RCE of Gloucester County office. A reasonably priced air powered stickering machine was demonstrated at Mt. Pleasant Orchards in June. Information on this machine is also available.

Consider all of the following factors before stickering fruit:

- 1) Is stickering a prerequisite for a sale of your product and can it be done cost effectively?
- 2) If you must sticker, will you have to do all sizes or can it be done on just the fruit sold at premium prices?
- 3) If you sticker fruit in a bulk package do you have to sticker all fruit, or can you get by with just stickering 40 to 50% of the fruit?
- 4) If you have to sticker, why not rent a machine before you invest in the purchase of a unit. This may give you a better idea of what modifications you must make in the future.
- 5) Carefully consider the cost of buying or renting a few hand held units on the grading belt versus the larger investment of in-line automated units.
- 6) Is your brand name important to the consumer? Consider this before ordering generic stickers.
- 7) Will you be able to sticker fruit cost effectively or should you be working with a larger packer who can cost effectively do it for you?

## Fruit Meeting Calendar

**August 26, 1997** - Open House - Fruit Variety Showcase, Adams County Nursery, Aspers, PA  
Contact: Michelle or Kristi (717) 677-8105

**August 27, 1997** - Horticultural Research Twilight Meeting, Rutgers Snyder Research and Extension Farm, Pittstown, NJ  
Contact: Pete Nitzsche (201) 285-8300, Win Cowgill (908) 788-1339 or William Tietjen (908) 475-6505

**Sept. 11, 1997** - Variety Showcase and Open House, Rutgers Fruit Research and Extension Center, 283 Route 539, Cream Ridge, NJ  
Contact: Dr. Joseph Goffreda (609) 758-731, Ext. 10.

**January 20 - 22, 1998** - 1998 New Jersey Vegetable Growers Annual Meeting, Atlantic City, NJ

**January 28 - 30, 1998** - 1998 Tri-State Horticultural Meeting, Hershey, PA

# Fruit IPM

Dean Polk, Agricultural Agent

## ◆ Peach

✓ **Oriental Fruit Moth (OFM):** Trap captures of adult moths indicate that insecticides need to be continued for this pest. There is little change in pest pressure since last week.

✓ **Tufted Apple Budmoth (TABM):** Adult activity is at similar levels as recorded last week. Most TABM populations in southern counties will be at 60 to 70% egg hatch (second Confirm application in apples) from 8/21 to 8/23. Treatments of Lannate or pyrethroids should be applied at 2605 (3<sup>rd</sup> half spray) and again at 2795 DD (4<sup>th</sup> half spray). The 3<sup>rd</sup> spray was due in southern counties this past weekend, with the 4<sup>th</sup> half spray due on 8/25 to 8/26. The second half spray was due in Princeton on 8/18. With the 3<sup>rd</sup> spray due around 8/26. The second half spray is due in Hunterdon County around 8/24, and the first treatment in Warren County on 8/20. Depending on the product used, insecticides should be applied up to 7 to 14 days pre-harvest. [Lannate LV @2-3pt/A or 90SP @.75-1 lb/A (1.5 pt of LV roughly equals the same amount of active ingredient as .5 lb of 90SP), or the synthetic pyrethroids (after mites are controlled): Ambush @6.4 - 10 oz/A (7 day PHI), or Asana @4.8 - 8 oz/A (14 day PHI)]. TABM damage was seen at low levels in northern counties this past week. This pest has not been a problem in northern counties. Therefore, growers may wish to continue with O.P. programs (Guthion or Imidan) in these areas.

✓ **Brown rot:** Brown is all too common in many blocks in southern counties. Autumn glo blocks are especially hard hit. Much of the rot is on split pits and fruit with heavy bacterial spot infections. S.I. fungicides (and/or Rovral or Ronilan) plus Captan are essential on all varieties from now on. Be aware of preharvest intervals and re-entry times for Captan and other products. Growers in northern counties where peaches are slightly further behind, should follow the same program. Most blocks in northern counties consist of mixed varieties, so that infected earlier ripening fruit can easily spread inoculum to later ripening fruit.

✓ **Mites:** Several blocks in southern counties still have straggling red mite populations. A number of farms in northern counties have two spotted mite

populations at up to 10 to 12 mites per leaf. Be aware that Vendex has a PHI of 14 days, while Apollo has a PHI of 21 days. A population of 10-12 mites per leaf will not harm the trees, but may give pickers a difficult time.

## ◆ Apple

✓ **Tufted apple budmoth (TABM):** Populations in southern counties will be at 60 to 70% egg hatch from 8/21 to 8/23. This is the timing for the second full spray of Confirm. If using other products, please see the peach discussion above.

✓ **Codling moth (CM):** Trap counts increased up to 36 to 41 adults per trap on some farms in northern counties, and a couple of southern sites this past week. This represents very high pest pressure. Trap counts of this nature have been associated with infested fruit during past seasons. Weekly treatments of insecticides at increased rates may be needed on these farms.

✓ **Spotted tentiform leafminer (STLM):** Sap feeding larvae are present on trees in southern and central counties. In some cases the total mine count exceeds 3 to 4 mines per leaf, but sap feeders represent only 1 to 2 mines per leaf. This ratio can be maintained for several weeks as long as adults are laying eggs. Repeated applications of Lannate for general insect or TABM control, will also control emerging leafminers and suppress the overall mine count.

## ◆ Blueberry

✓ **Sharpnosed leafhopper (SNLH):** Trap captures of adult leafhoppers indicate that the second generation is under way and moving into cultivated fields. There is little change in activity since last week.

✓ **Blueberry maggot:** Trap captures of adult flies have actually increased some in Atlantic County. Some commercial sites show more than 1 fly per trap. Sprays should be maintained for any berries not yet harvested.

### Tree Fruit Pest Degree Day Accumulations Since 1<sup>st</sup> Catch - 8/18/97

Site	Biofix/1 <sup>st</sup> Catch Date & DD - TABM		Biofix/1 <sup>st</sup> Catch Date & DD - CM	
Hammonton - At. Co.	5/2	2590	5/9	2010
Hardingville - Glou. Co.	4/30	2621	4/30	2077
Bridgeton - Cumb. Co.	5/1	2637	5/2	2079
Princeton - Mercer Co.	5/12	2417	5/5	1952
Oldwick - Hunt. Co.	5/17	2287	5/16	1820
Hackettstown - War. Co.	5/22	2187	5/9	1836
<b>Spray target after biofix/1<sup>st</sup> catch</b>	<b>Alt Mid Appl. at 490, 625, 763, 898 (1<sup>st</sup> brood), and 2228, 2415, 2605, 2795 (2<sup>nd</sup> brood)</b>		<b>250 DD plus 2 weeks later (1<sup>st</sup> generation), 1250-1300 DD plus 2-3 weeks later (2<sup>nd</sup> generation)</b>	

◆ **Trap Averages**

**South Jersey Tree Fruit**

Week Ending	RBLR	STLM	TBM-A	CM	AM	OFM	TBM-P	LPTB	PTB
6/6	0.0	96	34.1	1.9	—	5.8	40.0	30.2	0.2
6/13	0.1	390	32.6	2.2	—	2.6	44.4	21.4	0.04
6/20	3.1	1036	58.0	4.9	—	5.4	74.3	19.9	0.5
6/27	26.9	1169	52.2	3.7	—	13.8	69.9	31.1	0.4
7/4	47.4	1517	45.9	1.9	.11	11.1	53.1	32.7	1.5
7/11	37.4	1507	19.8	1.4	.04	9.9	21.4	24.7	3.3
7/18	27.0	1108	7.1	2.0	.08	7.0	7.5	21.1	5.9
7/25	6.9	985	32.3	6.3	.52	14.0	31.9	14.1	3.4
8/1	1.3	1029	46.9	5.9	.46	16.5	37.8	10.7	3.6
8/8	5.9	1649	35.6	6.7	.34	14.3	40.0	8.6	5.5
8/15	12.4	1539	31.6	4.9	.52	12.0	32.5	0.1	0.1

**North Jersey Tree Fruit**

Week Ending	RBLR	STLM	TBM-A	CM	AM	OFM	TBM-P	LPTB	PTB
6/6	0.3	26	3.0	3.1	—	4.8	2.3	5.3	0.6
6/13	0.05	268	8.4	3.5	—	4.2	6.8	21.6	1.5
6/20	0.1	374	21.1	5.5	0.0	2.5	19.2	22.3	1.5
6/27	5.2	658	19.1	5.1	0.0	2.1	14.5	17.4	1.0
7/4	1187	552	43.5	5.3	0.0	2.1	6.4	2.0	12.2
7/11	16.9	1330	13.9	1.9	0.0	3.0	5.8	0.8	1.0
7/18	7.2	528	5.8	0.9	0.0	1.9	1.8	2.8	0.7
7/25	3.5	480	0.2	0.8	.03	0.6	1.3	1.9	0.1
8/1	2.7	915	1.4	2.7	.06	2.1	0.9	2.7	1.0
8/8	3.1	897	1.9	4.9	.05	1.7	1.1	1.4	0.8

**Blueberry**

Atlantic Co.

Week Ending	RBLR	OBLR	CBFW	SNLH	BBM
6/6	0	3.1	8.1	—	—
6/13	0.2	8.3	2.2	0.0	0.0
6/20	35.1	14.0	0.6	0.5	0.0
6/27	105	13.4	0.6	1.8	.02
7/4	97	3.4	0	1.5	.04
7/11	95	1.6	.04	0.8	0.2
7/18	39.1	0.6	0.0	0.3	.14
7/25	15.5	0.4	.07	0.4	.03
8/1	27.4	0.3	0.0	0.2	0.2
8/8	70	2.7	0.0	0.1	0.2
8/15	80.4	1.1	0.0	1.2	0.7

Burlington Co.

Week Ending	RBLR	OBLR	CBFW	SNLH	BBM
6/6	0	0.4	2.9	—	—
6/13	0.8	6.1	2.2	1.5	0.0
6/20	4.0	12.8	0.8	2.6	0.0
6/27	36	6.5	1.1	2.9	0.3
7/4	47	1.8	.06	1.2	0.0
7/11	71	2.1	0.4	1.4	0.0
7/18	31.3	0.4	0.0	0.7	0.0
7/25	6.6	0.3	0.0	.13	0.0
8/1	1.6	0.5	0.0	0.3	0.3
8/8	12.5	1.4	0.0	3.2	0.0
8/15	15.1	0.9	0.0	2.0	0.1

Wild Sites

Week Ending	At.Co. SNLH	Burl.Co. SNLH	At.Co. BBM	Burl.Co. BBM
6/27	—	8.7	—	0.0
7/4	13	14.7	0.0	11.0
7/11	8.0	9.6	0.0	4.6
7/18	6.0	11.2	0.0	27.0
7/25	0.0	4.0	0.0	20.4
8/1	0.0	1.5	0.0	34.3
8/8	2.0	4.5	0.0	4.4
8/15	1.0	0.0	0.0	4.5

*The Annual*  
**Cream Ridge Twilight Fruit Meeting  
and Breeding/Variety Showcase**

Thursday, September 11, 1997

**Registration begins at 3:30 p.m.; tours start promptly at 4:00 p.m.**  
**Rutgers Fruit Research and Extension Center; 283 Route 539**  
**Cream Ridge, NJ**

**Audience:** Commercial Tree and Small Fruit Growers, but all are invited as Rutgers Cooperative Extension provides information and educational services to all without regard to sex, age, race, color, national origin, or handicap.

- Includes:**
- ❖ Small and Tree Fruit Research Plot Tours
  - ❖ Small and Tree Fruit Breeding/Variety Showcase
  - ❖ Weed, Disease, and Insect Diagnostics
  - ❖ **"Jersey Fresh"** Direct Marketing Update
  - ❖ Twilight Update with Question and Answer Period
  - ❖ Pesticide Recertification Credits
  - ❖ Commercial Trade Exhibits
  - ❖ Dinner Provided

**Directions:** Take Exit 7A off the New Jersey Turnpike to I-195 East. Take the 2nd Allentown exit off I-195 (Route 539 South). Follow 539 South 6-7 miles. You will pass the Cream Ridge Golf Course - we are about 2 miles past that on the right - look for the Rutgers Fruit Research & Extension sign.

Please RSVP by September 4, 1997 (necessary for dinner arrangements). If you have any questions, comments, or suggestions, and to RSVP, please contact:

Dr. Joseph A. Fiola, Program Coordinator  
Rutgers Fruit Research and Extension Center  
283 Rt. 539, Cream Ridge, NJ 08514  
609-758-7311 (FAX: 609-758-7085)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Number attending (for dinner): \_\_\_\_\_

# Horticultural Research Twilight Meeting

August 27, 1997

6:00-8:30 pm (rain or shine)

Rutgers Snyder Research and Extension Farm, Pittstown, NJ

❖ Participate in informal tours and discussions of the following research projects:

**Vegetable**      Fresh market tomato cultivar trial  
                      Fresh market tomato fertilization trial  
                      Tomato disease forecasting trial  
                      Cole crop cultivar trial  
                      Specialty potato cultivar trial

**Fruit**             Peach cultivar trial  
                      Apple cultivar trial

❖ Recent Developments in Pesticide Application Technology by Dr. John Grande, Director, Rutgers Snyder Research and Extension Farm

❖ Participate in a discussion of small scale postharvest grading and handling of fresh market tomatoes, and recirculation tanks on pesticide sprayers.

**For more information contact:** Peter Nitzsche (201) 285-8300  
    Win Cowgill (908) 788-1339  
    William Tietjen (908) 475-6505

DIRECTIONS TO SNYDER RESEARCH AND EXTENSION FARM (908) 730-9419

**From North** - Take I-78 to Exit 15. Turn left 9 South) at bottom of ramp (Rt. 513/Pittstown Rd). Go 4 miles into Pittstown - Do not turn on Rt. 513 or 579. Stay right for 1.5 mile on Pittstown Rd. (Rt. 615). Turn left on Locust Grove Rd. Farm on left.

**From South** (Trenton Area) - Take Rt. 202 & 31 North to Flemington traffic circle. Take Rt. 12 West at circle. Go 8 miles to Pittstown Road (airport sign). Turn North (right), and go 3.5 miles to Locust Grove Road. Turn right. Farm on left.

## Weather Summary for the Week Ending 8 a.m. Monday 8/18/97

WEATHER STATIONS	RAINFALL			TEMPERATURE			GDD BASE50		MON %FC	
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT		
BELVIDERE BRIDGE	1.63	20.33	-2.04	94	54	74.	4	1803	-145	99
CANOE BROOK	.64	21.75	-1.75	96	59	77.	6	2164	209	70
CHARLOTTEBURG	3.16	22.84	-.88	92	54	73.	5	1702	161	100
FLEMINGTON	.49	21.56	-1.12	94	58	75.	4	1872	-133	77
LONG VALLEY	1.40	22.50	-1.95	90	55	73.	5	1665	-69	90
NEWTON	1.57	18.78	-3.09	90	54	72.	3	1563	-216	87
FREEHOLD	missing									
LONG BRANCH	.69	19.67	-2.56	95	67	77.	5	2059	0	55
NEW BRUNSWICK	.38	27.44	5.23	95	61	77.	4	2072	-151	74
PEMBERTON	1.64	20.74	-1.75	98	71	82.	9	2359	177	75
TOMS RIVER	.70	19.18	-3.61	95	65	78.	7	2098	53	50
TRENTON	.87	22.74	1.60	96	60	76.	2	2051	-275	70
CAPE MAY CRT HSE	.10	16.05	-3.62	98	63	78.	4	2184	-18	28
DOWNSTOWN	.22	17.62	-3.18	98	60	78.	5	2189	-143	40
GLASSBORO	1.69	21.99	.23	95	67	79.	5	2343	34	70
HAMMONTON	.98	19.68	-2.11	97	60	78.	4	2172	-140	61
POMONA	.59	22.04	2.06	98	65	79.	7	2190	34	53
SEABROOK	.07	18.94	-1.02	99	67	80.	6	2341	-3	27
ATLANTIC CTY MAIA	.28	19.18	.03	97	71	79.	6	2196	118	36
WOODSTOWN	.00	17.98	-3.69	100	60	80	NA	2363	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week	226 (Ending 08/11/97)									
This Week	266 (Ending 08/18/97)									