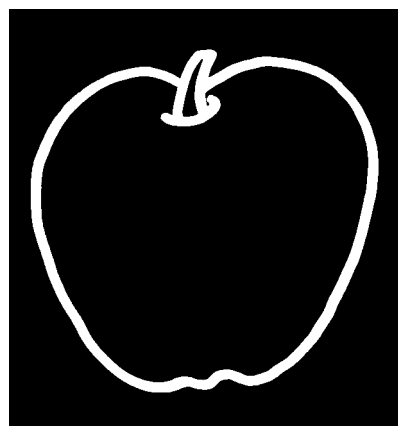


PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

JULY 24, 2007



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Summer Disease Control for Apple

Michael J. Fargione, Extension Educator, Cornell Cooperative Extension Hudson Valley Regional Fruit Program

Technical Editor's Note: this article is a compilation of info from Dr. Dan Cooley, UMASS-Amherst and Dr. Dave Rosenberger, Cornell; edited by Mike Fargione for his weekly radio address in the Hudson Valley NY Note: Northern NJ conditions are very similar to the NY Hudson Valley

Cornell Plant Pathologist Dr. Dave Rosenberger (Scaffold Fruit Journal, Volume 16, No 19, date 7-23-07), has indicated that complete control of summer diseases is feasible if fungicides are applied at the right time and under conditions that allow good spray coverage. However, the best fungicides will prove ineffective if they are not properly applied.

The primary reason for summer disease control failure is due to incomplete spray coverage. Failures can be expected when spraying in the wind, driving too fast, using low volumes of water per acre (less than 80 gal/A with conventional nozzles), or attempting to penetrate dense foliage or clustered fruit. Where summer diseases were problematic last year, growers should first evaluate their spray coverage to ensure that the fungicides are getting to the intended target.

The second most common problem is failure to re-spray trees during late August or early September if heavy rains wash off fungicides more than 25 days prior to harvest. With all the current rain, growers may wonder when to reapply fungicides to maintain summer disease control. Dr. Dan Cooley of U-Mass prepared the following table to explain the longevity of fungicides for summer disease control:

Table 1. Fungicides for management of sooty blotch and flyspeck. Protection is gone when either the days of protection or amount of rain necessary for wash off, whichever comes first, have been met. (Based on tests by D. Rosenberger)

Treatment (rate/100 gal.)	Days of protection	Rain (inches) to wash off
Topsin M 70WP or WSP (3 to 5 oz)		
+ Captan 50 WP (1 lb)	21	2
Flint 50 WDG (.67 to .8 oz)	21	2
Sovran 50 WG (1 to 1.6 oz)	21	2
Pristine (5 oz)	21	2
Captan 50 WP (2 lb)	14	2
Ziram 76 WP (1.5 lb)	14	2
Captan 50 WP (1 lb)	10	1.5
Ziram 76 WP (1 lb)	10	1.5

[Table reprinted from *Healthy Fruit* 15(13), 17 July 2007 with edits for NY conditions by Dave Rosenberger.]

<http://www.umass.edu/fruitadvisor/fruitsubscriptions.htm>

Managing Apple and Pear Harvest with ReTain® in 2007

Win Cowgill, Area Fruit Agent

New Jersey growers focus harvest management strategies for optimum fruit quality. Consumer demand, market, storage requirements and labor availability all influence harvest decisions. One tool that allows for increased flexibility in management decisions is the Retain® Plant Growth Regulator from Valent BioSciences.

Now is the time to consider planning for the use of Retain for early ripening cultivars; the first major one is Gala followed by Macs. Remember to apply at least 3-4 weeks before anticipated harvest.

Retain is a harvest management tool that slows the maturation process. It is an excellent stop drop material that can delay fruit maturity from 7-10 days and gives growers a longer picking window on many cultivars. Retain works by retarding the development of ethylene, the chemical that causes ripening. Retain will increase fruit firmness, decrease watercore and allow for longer cold storage. Retain may also indirectly enhance fruit size and color by allowing the fruit to remain on the tree longer.

Note #1 Gala strains: - the full rate of Retain may delay harvest too much to tap the wholesale window and even the half rate will delay maturity only slightly. *Consider using 1/2 rate of Retain on Gala at 3 weeks before anticipated harvest.*

For some growers it is a tradeoff for the absolute early market vs. the ability with Retain to hang the fruit a bit longer to get color and size. For the PYO market Retain is a wonderful tool on Gala and most other cultivars. At the Rutgers Snyder Farm we have used Retain for three years at one half rate on Gala cv. Treeco#2 without delaying the maturity excessively and gaining fruit firmness.

Note #2 – Macintosh- For Macs we are recommending going back to the traditional timing for Retain on Macs. Dr. Terence Robinson has suggested Hudson Valley growers apply Retain 4 weeks prior to the normal harvest date for Macintosh in 2006 based on research and observations last year. Macintosh is a high ethylene producing variety and as such does not always give the most consistent results with Macs. Our experience in NJ is that Retain reduces pre-harvest drop on Macintosh from 10-30%.

General Comments on Retain

The active ingredient is a naturally occurring product aminoethoxyvinylglycine (AVG), which is produced by fermentation. The fermentation process required to produce AVG is very difficult and very expensive. Because of this, Retain should only be used in high value blocks with large crops of unblemished fruit.

Fruit treated with Retain can be picked during the normal harvest period for enhanced retention of firmness in regular cold storage, or harvest may be delayed, allowing the fruit to continue to grow and develop red color for an extended time.

Research also indicates that stem-end split (SES) and internal ring crack (IRC) may be reduced on susceptible varieties, such as Gala and Fuji, with the use of Retain. Although these disorders will not be eliminated with its use, Retain reduces the stress fluctuations that are thought to cause these disorders.

Retain must be applied three to five weeks prior to anticipated harvest to be effective, therefore it is essential growers carefully project ripening dates of each individual block where they plan to use Retain this season.

Note #3 -Retain is less effective when applied to drought and heat stressed trees. Keep this in mind when deciding when to treat and which blocks to treat.

Important considerations to follow with Retain® applications in New Jersey

- Use the full rate of Retain® (1 pouch or 333 grams/ Acre of formulated product) with an organosilicon surfactant at 0.05% to 0.10 % (v/v).
- ONLY use one of the approved organosilicon surfactants such as: Silwet L77 at 6.5-13 fluid ounces per 100 gallons, or Sylguard 309 at 6.5-13 fluid ounces per 100 gallons. When high temperatures prevail, the lower rate of surfactant is recommended.
- **Apply 3-4 weeks before anticipated harvest, but has a 7 day PHI**
- Retain® should be applied with a sufficient amount of water to ensure thorough wetting of the fruit and foliage while avoiding spray run-off. 100 gallons per acre has been shown to be effective. Adjust water volume based on tree size and spacing. Do not apply with alternate row spraying.
- For optimum results apply during periods of slow drying weather conditions. No rainfall or irrigation should occur within six hours of Retain® application.
- **Do not apply Retain® to trees under stress. They may not respond to the benefits of Retain®.**
- Do not tank mix Retain® with other agricultural products.
- NAA may be used according to label directions after the use of Retain if very long drop control is desired, or fruit begin to loosen. Be aware that NAA may accelerate fruit maturation.
- The interaction ethephon products with Retain® is not well understood but research continues.

Note: New Stone Fruit Label for Retain. Retain has a full label for stone fruits (except cherry) in New Jersey for the 2007 growing season. Consult the 2007 Retain label for details. Retain has a 7 day PHI interval except for cherry. □

Fruit IPM

Dean Polk, Fruit IPM Agent and David Schmitt, Eugene Rizio, and Atanas Atanassov, Ph.D., Program Associates, Tree Fruit IPM

Peach

✓ **Brown Rot:** Low levels of rotting fruit have been found in a number of blocks throughout the state. The percentage of split pits in some early ripening blocks has been high, while some blocks of later varieties are exhibiting signs of damaged pits and internal bleeding around the pit. This can also be seen as a crease near the bottom of the fruit, and 'jelly' on the outside near the crease. This is not catfacing, but may be confused with catfacing insect damage. If high humidity accompanied by frequent wetting periods occur, then rot pressure could increase. Remember to start a good fungicide program in advance of final swell. The more favorable the rot conditions, then the earlier a pre-harvest fungicide program should begin. Given our present conditions, this means about 2 weeks prior to the first picking.

✓ **Oriental Fruit Moth (OFM):** Trap counts indicate a low pressure on most southern county farms, but higher populations in northern counties. The **second** of 2 (full) sprays is due at the end of the month in southern counties and slightly later in central counties. The **FIRST** of these applications is due in northern counties by the end of the month. See table below for more details.

OFM Treatment Timings – 3rd Brood, 2 Sprays/Generation		
County Area	Standard Insecticides	Intrepid
Southern	1 st past, 2 nd trt 7/30-8/1	1 st trt past, 2 nd 7/29-30
Central	1 st 7/21-25, 2 nd trt 8/2-4	1 st trt past, 2 nd 7/30-8/2
Northern	1 st 7/28-8/1, 2 nd trt about 8/11-13	1 st trt 7/26-28, 2 nd about 8/9-12

✓ **Tufted Apple Budmoth (TABM):** So far the pressure is fairly low as indicated by trap counts. However trap counts are increasing in some orchards. The 1st of four alternate middle sprays are due by the end of the month in southern counties. A 2nd application will be due about the beginning of the following week. See table below for timings, and the TFPG for materials. Every effort should be made to use adequate spray volume, since egg masses need to be covered, as well as emerging larvae. Larvae will spin down and find protected areas in which to feed shortly after emergence, and therefore are very difficult to reach with spray volumes concentrated below 80 to 100 gal/Ac. If using alternate middle sprays, do not stretch the spray interval, and apply insecticides no more than 7 days apart. Timings are updated in the following table and are approximate if over 7-10 days away:

TABM Treatment Timings – 2 nd Generation				
County Area	AM	EM	Intrepid - EM	Bt-EM
Southern	1 st 7/30-8/1	1 st about 8/3-5	1 st about 8/5-8	1 st about 8/5-8
Central	1 st about 8/2-5	1 st about 8/4-6	1 st about 8/6-9	1 st about 8/6-9
Northern	1 st about 8/10-12	1 st about 8/13-14	1 st about 8/15	1 st about 8/15

✓ **San Jose Scale (SJS):** Second generation scale crawlers are still active. Esteem (14 day PHI: peach) provided very good control where applied against first generation crawlers. Centaur (14 day PHI) and Diazinon 50W (21 Day PHI) are also labeled for scale control. If using Diazinon use the full labeled rate to also control OFM and plant bugs. As always, dilute spray volume is important for control. Captan and Diazinon combinations may result in phytotoxicity.

✓ **Japanese Beetle and Green June Beetles:** Japanese beetles are still present, mostly in central and northern orchards. Sevin 4F at 2 qts./Ac and Provado 6-8 oz/Ac have both worked satisfactorily.

Apple

✓ **Codling Moth (CM):** Most of the 2nd generation sprays have been completed for this pest. New information from around the country, suggests that some timing with some populations may have to be delayed. Given that most sprays for second generation have already been applied, and the fact that populations are very low, we should not experience problems on most farms. For the remainder of the season no further CM insecticides should be needed unless trap counts exceed 5 males per trap per week. The following chart updates timings outlined in last week's newsletter. Injury began to appear about ten days ago where sprays were missed.

Codling Moth 2 nd Brood Timing		
County Area	Standard Insecticides – Avaunt, Neonicotinoids, Carbamates, OP's, Pyrethroids	IGR's - Intrepid, Rimon
Southern	Past	Past
Central	1 st Past, 2 nd application 7/22-25	Past
Northern	1 st past, 2 nd application 7/29-8/1	1 st past, 2 nd application 7/25-27

SEE IPM ON PAGR 4

✓ **Diseases:** Sooty blotch and flyspeck, as well as the summer rots are all concerns, especially if the weather pattern turns wet or very humid. Make sure not to stretch spray intervals, especially on fresh market fruit. Be sure to use enough water to ensure good coverage, especially in dense canopies. If using contact materials such as captan and ziram for protection, renew coverage as soon as possible after 1" rain. More effective materials such as pristine or Sovran can sustain additional rainfall.

✓ **Tufted Apple Budmoth (TABM) and San Jose Scale (SJS):** See peach section above. Note that Esteem has a 45 day PHI for apple. Scale is present on the fruit in a few plantings in northern counties. Growers in northern counties with scale problems should be treating.

✓ **Old Insecticides and Preharvest Intervals:** There has been some confusion with regard to the use of some of the older OP and Carbamate materials with respect to PHI. Due to recent label changes with Imidan and Guthion, PHI's differ for U-Pick operations compared to non U-Pick. With Imidan, the changed re-entry (REI) for U-Pick operations is 14 days for apples and peaches. That in effect means that the normal 7 day PHI on apple is really 14 days for a U-Pick farm. For Guthion (Apples only), the PHI is 14 days, 21 days if the last application was over 2 lb/A, and 30 days for any U-Pick block.

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 over the past 5-10 years in Gloucester County. Events in northern New Jersey should occur 7-10 days later.

Pest Event or Growth Stage	Approximate Date	2007 Observed Date
CM 2nd gen 1150 DD target (IGR timing)	July 07+/- 04 days	July 7
CM 2nd gen 1250 DD target (Standard timing)	July 15 +/- 10 days	July 10
CM 2nd gen 1450 DD target (IGR timing)	July 18+/- 04 days	July 17
CM 2nd gen 1550 DD target (Standard timing)	July 21+/- 03 days	July 21
SJS Crawlers-second generation	July 21 +/- 05 days	July 10

Blueberry

✓ **Japanese Beetle Fruit Injury and Presence:** There has been no increase in activity since last week. Small numbers of beetles have been seen at only 3 sites and injury levels have been low with 0.5% fruit injury being the maximum seen. See last newsletter for insecticide options.

✓ **Aphids:** Aphid populations decreased again this past week, with only 30% of samples being positive and only 13% of samples over the 10% infestation level. This is no longer a key pest, with the possible exception of some Elliott fields.

✓ **Oriental Beetle:** This year's flight is winding down as indicated by trap counts. Most mating and egg laying has already occurred, and larvae (unless already treated) are in the ground. Most Admire applications should have already been applied. Any growers who wish to make this application need to do so this week before larvae get too large and are not susceptible to the Admire treatment.

✓ **Leafrollers and Other Leps:** Only 12% of samples have been positive for larvae, and only 2 samples showed any significant levels. Overall there is no significant leafroller worm activity.

✓ **Anthracnose:** Only one site had any visible field anthracnose. Most growers have said that this disease has rarely appeared on the packing line this year.

Trap Counts

Tree Fruit Southern Counties

Week End	STLM	TABM-A	CM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
6/16	1062	27	3	1	25	5	34	68	0
6/23	1297	13	4	4	22	3	14	62	0
6/30	1040	9	1	2	53	3	7	95	1
7/7	126	2	1	3	58	1	2	68	1
7/14	70	0	1	4	9	1	1	75	2
7/21	415	1	2	1	6	2	2	54	1

Tree Fruit Northern Counties

Week End	STLM	TABM-A	CM	DWB	OFM-P	TABM-P	LPTB	PTB	OBLR
6/16	711.9	25.0	1.9	2.5	1.6	28.0	16.9	0.6	
6/23	597.8	17.0	1.1	1.7	6.9	18.5	14.8	0.6	
6/30	408.3	11.3	0.4	0.2	7.8	9.3	18.5	1.9	
7/7	453.1	3.6	0.8	0.0	10.1	4.3	18.0	2.0	
7/14	635.7	0.9	0.2	1.2	6.9	1.0	21.8	1.9	0.0
7/21	513	0.5	0.9	0.0	6.5	0.8	13.8	1.4	0.5

SEE BLUEBERRY TRAP COUNTS ON PAGE 5

Location Selection - Farmers

Market Establishment

Part of the Farmers Market Establishment Guide

Jhilson Ortiz, Senior Program Coordinator - Agriculture

The first step in the farmers market establishment plan is the selection of a location for retail business. Well-chosen locations can make or break a retail business opportunity. A good location is important because it is the place where your goods should have *good prospective client exposure, low number of competitors and support from local government agencies.*

Good client exposure potential can be measured in the quantity of people transiting through your commercial area, people residing or working in the proximities and purchasing interest (the right consumer).

When choosing a location, do not assume your market will be successful because it is on a major highway. It is hard to get people to stop and shop if they do not have that on their travel plan. It is also important to consider time of the day, weather conditions and traffic patterns that contribute to the client's comfort level translated into purchasing interest.

A good location for a good group of consumers relies heavily on a combination of who those consumers are, what products you are offering, at what time, what cost and how many reasons they have to stop by and shop. Most consumers require previous knowledge of the market existence to decide to visit the marketplace. Hard to reach areas, confusing streets, unfavorable parking spots, and not visible sales stands are detrimental to market success. Consumers need to know you are there, what you offer and how to get there. When using road stands, use distance-assisting signs such as: "Farmers Market one mile ahead on the left".

When choosing a future market location, review how many and what kind of competitors are close to you. Their presence is not necessarily a bad thing; it all depends on the product, service and price differences between you and them and how you can use those differences to your advantage. Competitors can provide you with advantages, such as a greater number of clients shopping in the vicinity and most importantly, the right mixes of clients with the ideal needs (which you offer as well). □

Calendar of Events

July 26, 27, 28, 29, 2007 New Jersey Peach Festival, Gloucester County 4-H Fairgrounds, Rt. 77 (South), Mullica Hill, N.J. Grower reception on Friday evening July 27 at 7:00 p.m. Information available at:

<http://gloucester.rce.rutgers.edu/fairfest/>
or by contacting 856-307-6450.

August 21, 2007 – 2007 Succeeding with Cabernet Franc – 9:00 a.m. – 4:30 p.m. at Berks County Extension Office, 1238 County Welfare Road, Suite 110, Berks County Ag Center, Leesport, PA. This seminar offers insight into making the varietals which many believe will come to preeminent red wine in the Eastern US. More information will be posted on the web site shortly.

BLUEBERRY TRAP COUNTS FROM PAGE 4

Blueberry Atlantic County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
6/16	0.73	63.34	18.54	0.24	48.05	0.01
6/23	0.45	60.43	13.54	0.27	427.61	0.05
6/30	0.12	34.33	5.50	0.80	804.55	0.06
7/7	0.02	13.59	1.94	0.59	569.80	0.31
7/14	0.07	5.70	0.63	0.40	613.88	0.36
7/21	0.09	1.45	1.88	0.13	329.44	0.31

Burlington County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
6/16	1.42	7.92	26.86	6.91	54.00	0.16
6/23	0.61	19.50	7.86	4.29	359.44	0.38
6/30	0.10	16.68	2.25	2.25	838.00	0.05
7/7	0.31	3.04	1.79	0.76	605.00	0.24
7/14	0.00	0.75	1.21	0.68	628.50	0.36
7/21	0.00	0.00	1.93	0.41	128.89	0.79

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

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