

PLANT & PEST ADVISORY

FRUIT EDITION \$1.50

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Reaching Consumers or Clients?

Jhilson Ortiz, Senior Program Coordinator - Agriculture

A well-formulated question always brings a useful/good answer.

A consumer is different from a customer or client because even as clients of the business, they are the end consumer.

Based on this concept, local, regional and national organizations support and sponsor **direct marketing** initiatives among farmers and retailers, and among farmers and consumers.

So, whom should you reach, consumers or clients?

That, basically depends on how costly is it to put your product in place ready for sale and consumption.

Consumers and direct consumer retailers are expecting you to deliver a good product at a good price, in any given place. When dealing with this group, make sure you are able to position the highest *quantity* of product per *volumetric* transportation cost at the shortest *distance*. Those in plain language means, please, fill the truck and deliver it to one place.

As a farmer, you'll discover it is easier to just sell your products at the closest farmer market or your own roadside farm.

But, what if those two are not profitable possibilities? Then, look for production and commercialization partnerships with your fellow farmer. Working under this "cooperative effort" plan requires lots of work and agreement to reach objectives, but it is worth the time and effort.

With the help of like-minded farmers, you will be able to jump the transportation gap a little longer by lowering transportation costs, enhance your offering power by increasing your offer size, and maybe even improve your product portfolio mix if your partner has other quality items.

Good luck with your trade and don't forget to keep open the communication channel with your buyer. □

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Weather and Apple Thinning in 2007

Win Cowgill, Agricultural Agent and Wes Autio, Ph.D., Pomologist, UMASS

Here are some thoughts I gleaned from Dr. Rich Marini at the IFTA PGR workshop in February 2006 at Hershey, PA

- How much light do you really need to get fruit set
You need 50% full sun to get good fruit set
- Big fruit won't come off at 14mm if it is cool; large fruit respond more to warm temperatures
- Cool days at thinning time tend to be in low light
- 2 days before thinning if temperatures are cool= poor thinning
- More thinning if temperatures before and application warm (75°F)
- Conditions for under-thinning = high light +low temp especially if average fruit diameter is 14 mm
- Conditions for over-thinning = low light + high temperatures
- Warm = 75°F

Late Window Thinning

Many growers have fruit that is approaching 12-15 mm. Most thinners will work on fruit up to 15MM if applied in warm temperatures, mid 70's would be ideal. Two days of warm before, during and after application would be ideal.

Most thinning materials become much less effective after fruit reaches 15mm or larger size.

What does the above mean to you, the grower? If you have not adequately thinned by this size, 15MM, and you have had some warm sunny weather and know the fruit is going to stay on, you then have one last window to apply from 18-25 mm. Ethephon is your best option for thinning in this time frame. We consider this an emergency last ditch effort to get the fruit off with PGR's and avoid hand thinning.

Ethephon for Late Thinning. Ethephon has been effective for many apple growers as a late rescue treatment for thinning in the 15-25MM window. Ethephon is marketed by Micro Flo Company as Ethephon 2 and also by Bayer Crop Science as Ethrel® brand Ethephon. Ethephon is a synthesized natural hormone of apples that has many uses including apple thinning.

Ethephon is rate dependant and sensitive to temperature at both the time of application and for several days following application. The rate depends on both the timing of the application and the variety. It is labeled on apple for thinning at 1.5 to 8 pints per acre. Our New Jersey experience follows those of other mid-Atlantic states in that Ethephon or Ethrel is the only material we can count on as a late rescue

Mechanical Blossom Thinners

Jerome L. Frecon, Agricultural Agent

The Penn State Ag Innovations team, who spoke at our South Jersey Fruit Meeting on February 27, has purchased a mechanical blossom thinner. It is a Darwin from Germany and they have been testing it in cooperating growers' perpendicular and quad V peach orchards and in the organic Gold rush block at FREC. Please check out: <http://aginnovations.myphotoalbum.com>. Katy Lesser, the project leader, with Dr. Tara Baugher at Penn State Cooperative Extension in Adams County have posted photos of the machine in operation at two grower sites and the Organic Apple Orchard at the Penn State Fruit Research and Extension Center in Biglerville.

This innovations project is so critical because it tackles the issue of labor reception by using mechanical pruning, thinning and harvesting aids. □

treatment for thinning in the 20-25MM window. It is rate dependent with certain cultivars being more sensitive. Rates range from 0.5 pint 100 gallons up to 1.5 pint per 100 gallons.

Rates of Ethephon from Dr. Beyers work in VA for use at 20-25mm

Maximum rate of 300gal TRV dilute even if trees are larger.

Rome	0.4pt/100gal dilute TRV
Golden Delicious	0.5pt/100 dilute TRV
Spur Red Delicious	1.5pt/100gal dilute TRV
York	1.5pt/100gal dilute TRV
Gala	0.75pt/100gal

Dr. Wes Autio has done 3 years of research on the following cultivars with Ethrel @20-25mm

McIntosh	200-300 ppm (2/3-1 pint/100) TRV dilute
Macoun	200-300 ppm 2/3-1 pint/100) TRV dilute (limited experience)

My experience with Fuji is that it is similar to Red Delicious 1-1.5pt/100gal dilute TRV

Note the following:

- Ethephon can defruit trees especially if temperatures warm to mid 80's or higher.
- Response may be less than ideal
- Return bloom enhanced ~ 30-50%

Please call me and discuss if you have any questions; talking it through is a good approach. □

North Jersey Fruit Update- As I See It

Win Cowgill, Agricultural Agent

In North Jersey we have had an excellent apple bloom with two weeks of warm sunny weather, lots of wild bees working, and a good set where I have looked.

Most growers have applied petal fall thinners. Fruit is 5-8 MM at the Rutgers Snyder Farm and Sevin XLR was applied last night to all apple blocks with varieties ranging from petal fall to 8MM. Warm temperatures today will provide a good initial thinning response. As the cold front moves through tomorrow-cool temperatures will prevail the rest of the week. The next thinning window will be with warmer temperatures on Saturday.

Be sure to see the meeting announcement for our Thinning Clinic next Tuesday, May 22 at the Rutgers Snyder Farm.

Be cautious of **fireblight** infection with late bloom (rat tail bloom). The following is today's message from Michael J. Fargione, Extension Educator at Cornell in the Hudson Valley Regional Fruit Program

Fire blight

Temperatures Tuesday will reach the mid to upper 80's. Consequently, there will be the danger of fire blight infections Tuesday and Wednesday if wetting occurs in blocks of apples and pears with open bloom. Fire blight infections are predicted to be possible when the Maryblyt computer model's EIP value exceeds 100. Using forecast day and night temperatures for Highland, predicted EIP values are 145 for Tuesday and 158 for Wednesday. Rain showers are possible Tuesday evening and during the day on Wednesday. Growers should consider applying strep to high-risk blocks that are still in bloom if wetting takes place on either of these days. Strep applied on or before Sunday will not be adequate to protect flowers that opened after that application. Late blooming varieties, and varieties that produce flowers on one-year wood (i.e. Gala) may still have sufficient open blossoms for significant losses if infections take place. ☐

Fruit IPM

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

Peach

✓ **Oriental Fruit Moth (OFM): Oriental Fruit Moth (OFM):** According to Skybit degree day accumulations, spray dates for the first generation are as follows, revised since last week:

County / Region	OFM Spray Timings	
	1 st Spray Date	2 nd Spray Date
Gloucester – Southern	past	5/13-5/14
Monmouth – Central	past	5/16/-5/17
Hunterdon - Northern	5/10-12	5/21-5/23

Trap captures should bottom out sometime in the next two weeks in southern counties. Growers employing mating disruption should place ties or start sprayable pheromone prior to the first emergence of 2nd generation adults. According to calculations done at RAREC (from Dr. Shearer), second flight adults usually start about 700 DD±77 from the initial biofix. Therefore you should be safe in targeting a date equivalent to 650DD from biofix for having the pheromone applied. According to our projections, this would be around 5/28-29 in southern counties, about 6/4-6 in central counties, and about 6/8-10 in northern counties.

✓ **Tarnished Plant Bugs (TPB):** Overall catfacing pressure is low, however adults and nymphs can usually be found in weedy groundcovers by now. Insecticides should also target these insects, and groundcover should be managed to minimize TPB populations. Clover and other weedy groundcovers are an invitation for TPB injury, and therefore require increased insecticide use.

✓ **Plum Curculio (PC):** Adults are very active and fresh injury can be found. While initial petal fall through shuck off sprays are very important for this insect, adult activity may not end until sometime in June in southern and central counties.

✓ **Green Peach Aphid (GPA):** Most orchard blocks have populations that are still below treatment levels. In general, aphid pressure has been very low this spring.

✓ **Bacterial Spot:** Fruit at this stage is very susceptible to bacterial spot. This is an important time for control. Coppers or Terramycin should be applied anytime wet and windy weather is expected.

✓ **Lesser Peachtree Borer:** Adults are starting to emerge. Any growers who are using mating disruption for this insect, and who have not already placed dispensers in the orchard, should be placing dispensers now.

Apple

✓ **Codling Moth (CM):** Timing for the first of 2 sprays for the 1st generation is set at 250DD₅₀. This timing is on or about 5/26 in southern counties, and again around 6/12-13 (550DD). This timing is for standard insecticides only. The insect growth regulators (IGR's) – Intrepid, Esteem, and Rimon, should be applied at 150DD and again at 450DD. In southern counties 150DD is on or about 5/20. Populations are variable, but have reached 40 moths per trap northern counties.

CM Spray Timings – Assail, Avaunt, Calypso, Carbamates, OP's,

County / Region	Pyrethroids	
	1 st Spray Date (250DD)	2 nd Spray Date (550DD)
Gloucester – Southern	5/26	about 6/12-13
Monmouth – Central	5/26-27	about 6/13-14
Hunterdon - Northern	5/30-31	about 6/16-18

SEE IPM ON PAGE 4

✓ **White Apple Leafhopper (WALH), and Potato Leafhopper (PLH):** WALH can be found in some apple blocks. Potato leafhoppers have not been seen yet, but usually start showing up about late May to early June. A threshold of 3 nymphs per leaf should be used to determine the need for treatment. However, if fireblight is present in your orchard potato leafhoppers should be kept to a minimum, since they are suspected of transmitting the disease.

✓ **Aphids (Spirea and Apple Aphids, and Rosy Apple Aphids):** Apple aphids are just now moving into orchards. A threshold of 50% terminals infested should be used to determine the need for treatment. If predators are present with some colonies, treatment can be delayed unless populations are very high.

✓ **Spotted Tentiform Leafminer (STLM):** Very few leafminers have been seen to date. We generally do not want to treat at this time unless the mine count exceeds .5 mines per leaf.

✓ **European Apple Sawfly (EAS):** Injury can be seen throughout the state where this insect is present.

✓ **Plum Curculio (PC):** Please see peach section. In northern counties, any grower who has not applied a petal fall spray in apples should do so as soon as possible. Of the neonicotinoid compounds on apples, only Actara and Calypso are effective for PC. See table below. Avaunt is also effective. Of course the standard OPs can also be used and are cheaper, unless you are also treating for aphids or leafminer, in which case a neonicotinoid *plus* an OP can be very expensive. (See Chloronicotinyl Insecticides Summary on page 5.)

✓ **Tufted Apple Budmoth (TABM):** Biofix points have been reached in all areas of the state for this pest. In southern counties, the first alternate middle spray will

be due on 6/3-6/5, or 6/6-6/8 if using a complete spray – standard insecticides. If using Intrepid, then make a full/every middle application any time between 6/5 and 6/12. More next week for central and northern counties. This same timing would also apply to peaches.

✓ **European Red Mite (ERM):** In some cases, growers may not have used oil, may have had very high overwintering red mite egg populations, or be starting off the year with a pyrethroid program. All these scenarios make petal fall to first cover a good time to apply the miticides Apollo or Savey. The sighting of new eggs on Monday (Shearer), reinforces the recommendation for this timing where needed. Where used, these materials should be included in a rotation program for mite resistance management. The newer miticide Envidor should also work well at this timing.

✓ **Apple Scab:** Scab has been found in very few blocks to date. Primary scab season usually extends into mid June. Overall, most orchards are very clean. Cedar apple rust infections are still possible. Therefore if strobilurins are used, they should be combined with an effective rust material.

✓ **Fireblight:** There are a few blocks where fireblight has been noted in southern counties. Overall this has not been a year for fireblight, although infections can still occur.

Blueberry

✓ **Leafrollers and Other Leps (Except Gypsy Moth):** A few green fruitworm and spanworm larvae are still being found in beating tray samples. About 9% of our samples show larvae in trays, and the levels are well below a treatment threshold.

✓ **Gypsy Moth Larvae:** Gypsy moth larvae are very common, especially in fields with wooded borders. Larvae

SEE BLUEBERRY ON PAGE 5

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
First Apple Scab Infection Period	April 05 +/- 18 Days	April 17
Pink Peach	April 10 +/- 9 Days	April 12
Tight Cluster Red Delicious	April 08 +/- 10 Days	April 22
Oriental Fruit Moth Biofix	April 08 +/- 10 Days	April 22
First Blossom Blight Infection (Brown Rot)	April 10 +/- 05 Days	Not yet observed
Green Peach Aphid in Beating Trays	April 15 +/- 14 Days	April 30
Petal Fall Peach	April 16 +/- 14 Days	May 1
Oriental Fruit Moth - 175 DD	April 19 +/- 12 Days	May 2
Apple Scab leaf lesions observed	April 28 +/- 07 Days	May 7
Shuck Split Peach	April 29 +/- 07 Days	May 7
Plum Curculio Injury	May 05 +/- 16 Days	May 8
CM Biofix	May 14 +/- 16 Days	May 9
TABM Biofix	May 04 +/- 10 Days	May 10
GAA colonies	May 05 +/- 17 Days	May 14
Oriental Fruit Moth - 375 DD	May 10 +/- 10 Days	May 14
Rusty Spot symptoms observed	May 12 +/- 10 days	Not yet observed
OEM Flaggging observed	May 15 +/- 04 Days	Not yet observed
Bact. Spot Leaf Symptoms observed	May 15 +/- 21 Days	Not yet observed
CM 1 st generation 150 DD target	May 18 +/- 04 Days	Not yet observed

were present in 90% of the samples taken over the past week, with 1/3 of samples easily above treatment levels. Larvae have molted and are in the third instar stage. Thus we are beyond the use of any B.t. material. Injury is present in many locations but the severity varies from occasional leaf and/or flower feeding to several flower clusters per bush killed. The dead flower clusters are easily seen when scouting, but if lower populations are present tray sampling is an efficient method of early detection. Untreated populations are now feeding on blossom clusters and newly set fruit. New plantings are particularly susceptible, since the larvae can cause significant injury in a short time. Since Bt's are out, and we are still in bloom, Confirm is the material of choice. While the Confirm label lists a 4-8 oz/A rate for gypsy moth control (young larvae - 1st through 3rd instars), higher rates are permitted on the crop for other pests – 16 oz/A for cranberry fruitworm. This product MUST BE EATEN to be effective, so coverage should be made as thoroughly, and with as much water as possible. The product works by causing a premature molt. Feeding should stop in 24 hours, but actual larval death may take several days. We have seen this take 6-7 days this past week. At least 80% control has been accomplished with Confirm at the 8oz rate (airblast application), and better results were seen with higher rates. Since gypsy moth larvae can continually blow in from the surrounding woods, a “treatment threshold” is a “moving target”. If in doubt, check your fields, and if you think you have a problem, and bees are still in the field, DO NOT delay treatment until bees are removed.

✓ **Thrips:** About 50% of samples have been positive for thrips. Although this is an increase since the previous week, the levels are still low, with less than 1% flower infestation being the highest seen.

✓ **Plum Curculio (PC):** Beating tray samples for adults over the last 7 days have resulted in more frequent captures since the previous week. About 13% of samples have been positive with 3/bush being the highest level seen. The difficult part about managing this insect is that it appears while bees are still present, and there are no recommended controls at that time. The easier part about PC management is that it usually appears in the same fields or parts of fields each season – usually early maturing varieties near woods or hedgerows. These hot spots should receive attention as soon as bees are removed since PC can work quickly.

✓ **Mummy Berry:** The first shoot strike was seen on 5/9 in Burlington County (Bluecrop). This has been the only infection seen so far in a very non-mummy year.

✓ **Aphids:** The first aphid colonies were seen on 5/14 in Atlantic Co. with 4% of terminals infested at that location. Aphid populations will start to build over the next several weeks, and become a key pest during that time.

✓ **Cranberry Fruitworm (CBFW):** The first CBFW adults were captured this past week. Trap numbers are very low, but should increase rapidly over the next couple of weeks. This insect is a key target in the first post pollination sprays, but is usually not treated for until Memorial Day or shortly after. Trap counts taken over the next couple of weeks should help refine timing.

SEE TRRAP COUNTS ON PAGE 7

Chloronicotinyl Insecticides - Summary

Compound	Pests Controlled									REI	PHI (Days)	Max Amt/Season
	AA,SA, RAA	STLM	PP	PC	CM	LH	AM	EASF	OFM			
Actara	X	X	X	X		X		X		12 hr	14-35	8 oz
Assail	X	X	X		X	X				12 hr	7	4 appl.
Calypso	X	X	X	X	X	X	X	X	X	12 hr	30	16 oz
Provado	X	X	X			X				12 hr	7	see label

Use no more than 3 consecutive applications. All materials are toxic to bees. Do not use when bees are in the orchard.

Use rates will vary depending on the insect being targeted.

Insects: AA=apple aphid, SA=spirea aphid, RAA=rosy apple aphid, STLM=spotted tentiform leafminer, PP=pear psylla, CM=codling moth, LH=leafhoppers, AM=apple maggot, EASF=European apple sawfly, OFM=Oriental fruit moth.

Some scale suppression from Provado and Calypso.

Wine Grape Twilight Meeting

Wednesday, May 30, 2007 6:15 P.M.
Auburn Road Vineyards and Winery
119 Sharptown Auburn Road
Pilesgrove, NJ 08098

Scott and Julianne Donnini, Dave Davis, Shannon Kilpatrick, and two other partners own and manage Auburn Road Vineyards and Winery. Currently 6.5 acres of grapes are planted with the newest varieties. A new winery is under construction. A walking tour of the vineyard will be conducted with the following program:

- 6:15 P.M. Welcome and Remarks by Scott and Julianne Donnini, Dave Davis, Shannon Kilpatrick, and Jerry Frecon, Agricultural Agent Rutgers Cooperative Extension of Gloucester County.
- 6:30 P.M. Canopy Management of Various *Vitis vinifera* and other cultivars by Dr. Dan Ward, Specialist in Pomology, Rutgers Cooperative Extension.
- 6:50 P.M. Grape Insect Management Update by Dr. Peter Shearer, Specialist in Fruit Entomology, Rutgers Cooperative Extension.
- 7:10 P.M. Grape Weed Control by Dr. Brad Majek, Specialist in Weed Science, Rutgers Cooperative Extension.
- 7:30 P.M. Bird and Geese Management by Jack Rabin, Director – Director - Farm Services, Rutgers New Jersey Agricultural Experiment Station.
- 7:50 P.M. Diagnosis and Control of Grape Diseases by Dr. Peter Oudemans, Associate Professor in Plant Pathology, Rutgers New Jersey Agricultural Experiment Station, Marrucci Center for Blueberry and Cranberry Research.
- 8:10 P.M. What being in the AVA means to Winegrowers by Jack Rabin.
- 8:30 P.M. Review Worker Protection Standards by Jerome L. Frecon Agricultural Agent, Rutgers Cooperative Extension of Gloucester County.

9:00. Adjourn

NJ PESTICIDE APPLICATOR CATEGORY AND CORE UNITS WILL BE:

CORE =1 and PP2, 1A, and 10 = 3

This meeting is not accessible to the physically challenged. If assistance it needed, please contact Jerome L. Frecon at 856 307-6450. Ext 1 prior to the meeting.



Canopy management and shoot thinning at Auburn Road Vineyards and Winery



6.5 acres of wine grapes at Auburn Road Vineyards and Winery

Apple Thinning Workshop and Meeting

Date-May 22-Tuesday

Time-6-8:00pm

**Location- Rutgers Snyder Farm
140 Locust Grove Rd., Pittstown, NJ,
Hunterdon County**

Program

Thinning Updates and Observations- Win Cowgill-
Area Fruit Agent

Tour Plots as needed at Snyder Farm

Hands on Discussion on all Aspects of Thinning
with PGS

Bring Your Questions

RSVP- Diana Boesch -908-788-1339 RCE of Hunter-
don County

Calendar of Events

May 22, 2007 – 6:00 p.m. – Twilight Fruit Meeting, Wm. Schober Sons Farm, Buck Road, Rte 553, Monroeville, NJ. Contact: Jerome L. Frecon, 856-307-6450 Ext 1.

May 22, 2007 - 2nd North Jersey Twilight Fruit Meeting, Location to be announced; Focus on Apple Thinning with PGRs and Crop Load Management. Contact Win Cowgill, RCE of Hunterdon County 908-788-1344.

May 24, 2007 – 6:15 p.m. – Twilight Fruit Meeting, Atlantic Blueberry Co., Weymouth Road, Hammonton, NJ. Contact: Gary Pavlis 609-625-0056.

May 30, 2007 – 6:15 p.m. – Twilight Wine Grape Meeting, Auburn Road Vineyards, 119 Sharptown Road, Pilesgrove, NJ. Contact: Jerome L. Frecon, 856-307-6450 Ext. 1.

June 26, 2007 – 5:15 p.m. – Twilight Tree Fruit & Wine Grape Meeting, Tour and Picnic. Rutgers Agricultural Research and Extension Center, 121 Northville Road, Bridgeton, NJ. Contact: Jerome L. Frecon, 856-307-6450 Ext. 1.

Trap Counts

Tree Fruit Southern Counties

Week End	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
4/28/07	175	0			23		44	0	0	0
5/5/07	101	0	1		56		49	0	0	
5/12/07	83	0	1		26		30	0	0	

Tree Fruit Northern Counties

Week End	STLM	TABM-A	CM	AM	DWB	OFM-P	TABM-P	LPTB	PTB
4/28/07	1120					0		0	0
5/5/07	834	0	0			2.3	0		
5/12/07	729.0	0	0.2			38.6	0		

Blueberry

Atlantic County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
4/21/07		30.9				
4/28/07		82.7				
5/5/07		48.9				
5/12/07	0.01	9.02				

Burlington County

Week End	CBFW	RBLR	OBLR	SNLH	OR BEET	BBM
4/21/07		8.1				
4/28/07		44.4				
5/5/07		43.0				
5/12/07	0.04	13.79				

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Rutgers School of Environmental
and Biological Sciences
ASB II, 57 US Hwy. 1
New Brunswick, N.J. 08901

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PLANT & PEST ADVISORY

FRUIT EDITION - CONTRIBUTORS

Rutgers Cooperative Extension (RCE) Specialists and Program Associate

George Hamilton, Ph.D., Pest Management
Norman Lalancette, Ph.D., Plant Pathology
Bradley A. Majek, Ph.D., Weed Science
Peter Oudemans, Ph.D., Small Fruit Plant Pathology
Cesar Rodriguez-Saona, Ph.D., Cranberry/Blueberry Entomology
Peter W. Shearer, Ph.D., Entomology
Daniel Ward, Ph.D., Pomology
Gail Lokaj, Program Associate in Pomology

Rutgers NJAES

Joseph Goffreda, Ph.D., Breeding

RCE Agricultural Agents and Program Associates

Atlantic County, Gary C. Pavlis, Ph.D. (609-625-0056)
Gloucester County, Jerome L. Frecon (856-307-6450)
Hunterdon County, Winfred P. Cowgill, Jr. (908-788-1338)
Morris County, Peter J. Nitzsche (973-285-8300)
Passaic, Elaine F. Barbour, Agric. Assistant (973-305-5740)
Warren County, William H. Tietjen (908-475-6505)
Fruit IPM, Dean Polk (609-758-7311)
Atanas Atanassov, Ph.D., Program Associate (908-788-1338)
Gene Rizio, Program Associate (856-566-2900)
David Schmitt, Program Associate (856-307-6450)

Newsletter Production

Jack Rabin, Associate Director for Farm Services, NJAES
Cindy Rovins, Agricultural Communications Editor

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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