

# PLANT & PEST ADVISORY

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## Apogee® for New Jersey Apple Production

*Win Cowgill, Agricultural Agent, Jon Cements, Extension Tree Fruit Specialist, UMASS, and Jeremy Compton, North Jersey Tree Fruit Technician*

**A**pogee® (BASF Corp.) is a new Plant Growth Regulator (PGR) for fireblight suppression and vegetative growth control of apples. The chemical ingredient, prohexadione calcium, blocks the synthesis of active gibberellins, the plant hormone that in part regulates shoot growth. Vegetative growth suppression with Apogee typically lasts for 2-5 weeks per application during the current growing season. Apogee does not affect vegetative growth the following year.

Apogee is a unique production management tool labeled for use on apples. It reduces vegetative growth allowing a balance between canopy development and fruit production.

Apogee provides many beneficial effects including:

- Vegetative growth control
- Reduced need for summer and dormant pruning
- Improved light penetration into the tree canopy
- Improved color of red varieties because of better light penetration into the canopy
- Reduced incidence and severity of fire blight of shoots (shoot blight). This decrease in susceptibility will not become effective until about 10 days after application.

Timing and rates are important considerations with Apogee application (as with any other pesticide or PGR!). First, you need to consider the amount of vigor in your orchard – high vigor will require higher rates to do the job. For timing, the most important application is the first – it must be made when terminals are 1-3 inches long, no later. Subsequent applications are made at 10- to 14-day intervals depending on the vigor of the orchard. For moderate vigor orchards, 3 or 4 more applications are sufficient, whereas in high vigor or ‘crop loss’ orchards, up to 6 or 7 more applications may be necessary to adequately control growth.

Apogee may be an effective tool to help you reduce production costs *if* you can reduce pruning bills and increase packout via better color and pest control. But, you must get effective vegetative growth

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control to realize these benefits. Therefore, careful application and analysis of block-by-block cost/benefit must be followed to achieve the desired results with Apogee.

In a trial conducted at the Rutgers Snyder Farm during the 1999 growing season, Apogee was applied to 10 year old Freedom on M 26. Freedom is a highly vigorous variety that had light fruit load. In this trial, three applications of Apogee were applied at the 6 oz/100 rate. The applications proved effective, and Apogee treatments significantly reduced season-long vegetative shoot growth. Apogee provided significant reduction in pruning time, when measured the following winter.

Controlling vegetative growth with Apogee will reduce the incidence and severity of fire blight infection of shoots and leaves. Apogee does not have direct antibiotic activity against the fire blight bacteria (*Erwinia amylovora*), but Apogee can decrease host susceptibility. Apogee applications are not effective for suppression of blossom blight. For maximum reduction in fire blight susceptibility, Apogee should be applied at least 10 days before the occurrence of weather conditions favorable for shoot and leaf infections.

Apogee reduces the susceptibility of apple shoot tips to fire blight and should be used as one component of a comprehensive IPM strategy for control of fire blight. This decrease in susceptibility will not become effective until about 10 days after application.

**Tree-Row Volume (TRV):** Using Apogee as part of a management program significantly reduces the tree row volume. Spray guides typically recommend using the tree row volume to determine the correct pesticide application rates.

The active ingredient in Apogee is calcium based, and therefore hard water should be buffered for Apogee applications. Other calcium products (i.e. Calcium chloride, calcium nitrate) should also be avoided when applying Apogee. A final caution: applying high rates of Apogee may allow for increased fruit retention by the tree, and therefore June Drop will be reduced. Although this may be a beneficial side effect of the product, growers should be aware of this response when making crop load adjustment decisions.

### Important Notes

- Use a standard non-ionic spray adjuvant to improve leaf coverage and performance consistency. Follow the manufacturer's rate recommendations.
- Hard Water- if your water is high in calcium carbonate the water may need to be conditioned. Add one pound of ammonium sulfate (AMS) for every pound of Apogee. Use high-quality, spraygrade AMS to avoid plugging nozzles. Research at the Rutgers Snyder Farm in 2000 also indicated the water conditioning products Quest and Choice could also be used effec-

tively to modify the water hardness and improve the efficacy of Apogee. In our trial at the Snyder Farm, the addition of water conditioners AMS, Choice and Quest significantly enhanced the effectiveness of Apogee in reducing total shoot growth. The efficacy of Apogee can be greatly enhanced with the addition of water conditioning agents in high calcium hardness conditions.

- **Gibberellic acids:** When gibberellic acid sprays such as Accel Plant Growth Regulator, ProVide Plant Growth Regulator, Promalin, etc., are applied in the same season as Apogee to thin, reduce cracking, reduce russetting or to increase typiness, a loss in efficacy may occur in the Apogee and/or the gibberellic spray.

- **Thinning:** Applying Apogee may cause a tree to retain more fruit. Therefore, thinning programs may have to be more aggressive when using Apogee.

Make sure to consult the label for additional information on rates, precautions and mixing instructions. Growers should consider having their water tested for hardness (calcium carbonate) prior to the spraying season to determine the need for a conditioning agent. □

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## USDA Farm Service Agency Taking Applications

*Revised from University of Massachusetts Healthy Fruit Newsletter Vol. 9, 2001 by University of Massachusetts Fruit Team*

Your local Farm Services Agency office has begun accepting applications for the 'Special Apple Loan Assistance Program,' however, the anticipated 'Apple Market Loss Program' application process is on indefinite hold. Sign-up was to have begun January 18, then was postponed to February 1. According to FSA they are still awaiting for sign-up details on the program from USDA. In fact, the US Apple Association ([www.usapple.org](http://www.usapple.org)) sent a letter to new Agricultural Secretary Ann Veneman urging her immediate "assistance in providing our nation's beleaguered apple growers with the \$100 million in market loss assistance promised to them by Congress." FSA also says sign-up details for the 'Apple Quality Loss Program for 1999/2000 Crop' are not available yet either. Although it's very likely application packages for both these delayed programs will be received by FSA offices in the near future, and funding is not in jeopardy, it might pay to contact your congressional representatives to convey your urgency in receiving the assistance.

*Submitted by Jerome L. Frecon, Agricultural Agent* □

## Plum Pox Virus

*Reprinted from Penn State Cooperative Extension, Plum Pox Web Page [http://sharka.cas.psu.edu/new/ppv\\_traced\\_niagara.htm](http://sharka.cas.psu.edu/new/ppv_traced_niagara.htm)*

### Plum Pox Traced to Niagara Nursery

After months of exhaustive research, the source of a plum pox virus outbreak in Ontario has been traced to a nursery in Niagara-on-the-Lake, according to officials from the Canadian Food Inspection Agency (CFIA).

Ontario Tender Fruit Producers Marketing Board Manager, Adrian Huisman, confirmed the outbreak's link to the nursery on Friday, 29 Dec. 2000. Budwood from 2 good clingstone peach varieties in the nursery was used for propagation of trees which were subsequently distributed across Ontario. Most of the 12,000 to 13,000 affected trees, including 8,000 from one grower in Niagara-on-the-Lake were removed last summer and fall to stem the outbreak.

Most of the affected trees were from Niagara, but some trees were found near Port Dover and Chatham (in Ontario) and 4 in Nova Scotia. Most of those removals involved only a few trees, said Len Troup, marketing board chair. Approximately 80 growers forced to remove and destroy their trees were anticipating possible compensation. Troup said federal and provincial agriculture departments have a confidential report on the matter prepared by a private firm in Guelph, ON, which will include recommendations proposed by CFIA. The marketing board has endorsed an action plan to ensure that the virus is wiped out in Niagara within 3 years. The plan includes continual removal of infected trees, elimination of blocks of trees with high infection rates, and allowing affected areas to remain fallow until the following spring. Huisman said the stone-fruit industry has also asked the CFIA to continue sampling orchards to locate any remaining infected trees.

*Submitted by Jerome L. Frecon, Agricultural Agent* □

## Plum Pox Survey Continues in 2001

The New Jersey Department of Agriculture (NJDA) Division of Plant Industry will again be conducting a Plum Pox survey in 2001. This survey will include peach and plum orchard blocks that were not surveyed in 2000.

As many of you know this very serious virus was first identified on peach samples brought to New Jersey by an Adams County, PA grower. This triggered an investigation on his farm that confirmed the identification. Because this was the first identification of this virus in North America, immediate plans were made to survey neighboring orchards with the hope that the disease had not spread too far. Unfortunately, it was identified in other neighboring orchards. A national plan was developed under the direction of the USDA-APHIS PEQ Unit to identify the spread of the disease and establish steps to eradicate it. A national survey was kicked off in the spring of 2000 with New Jersey as a participant. Under the direction of the NJDA Director of Plant Industry, this survey began in April. Regular reports and a year-end report were published in this newsletter. Fortunately, Plum Pox was not identified on any trees sampled through the survey in 2000. However, not all blocks were surveyed, either because there was not enough time to complete known blocks or because all peach and plum growers had not been identified or would not participate in the survey. Plans are to identify these blocks and to complete much of the survey in 2001. This survey will be discussed at spring fruit meetings. Any grower who has not participated should contact the NJDA at 609-292-5441 or email Robert Balaam at [agpbala@ag.state.nj.us](mailto:agpbala@ag.state.nj.us).

*Submitted by Jerome L. Frecon, Agricultural Agent* □

## Evening Fruit Meeting

Tuesday, April 3, 2001

7:15 p.m.

Donio Farms Packing House  
Third Street, Hammonton, NJ

- 7:15 p.m. Postharvest Results on Tree Fruit Pests by Gene Rizio, Fruit IPM Program Associate, Rutgers Cooperative Extension
- 7:30 p.m. Peach Thinning and Peach Tree Propagation by Dr. Robert Belding, Specialist in Pomology, Rutgers Cooperative Extension
- 7:45 p.m. Early Season Insect Control and Update on 2001 Tree Fruit Production Guide Spray Schedule by Dr. Peter Shearer, Specialist in Fruit Entomology, Rutgers Cooperative Extension
- 8:00 p.m. Early Season Disease Control Update by Dr. Norman Lalancette, Specialist in Tree Fruit Pathology, Rutgers Cooperative Extension
- 8:15 p.m. Pest Monitoring for Insects/Mating Disruption by Dean Polk, Statewide Fruit IPM Agent Rutgers Cooperative Extension
- 8:30 p.m. Crop Conditions, Program Announcements, and Fertilizer Recommendations by Jerome L. Frecon, Agricultural Agent, Rutgers Cooperative Extension
- 8:45 p.m. Early Season Weed Control Suggestions by Dr. Bradley Majek, Specialist in Weed Science, Rutgers Cooperative Extension

9:05 p.m. Adjourn

NJDEP PESTICIDE APPLICATOR UNITS:

1A – 3 Units

3A – 3 Units

PP2 – 3 Units

This location is not totally accessible to the physically impaired. Special arrangements can be made by calling Jerry Frecon at 856 307-6450 1-day prior to the meeting.

## Evening Fruit Meeting

Wednesday, April 11, 2001

7:30 p.m.

Gloucester County Office of  
Government Services  
1200 North Delsea Drive, Clayton, NJ

- 7:30 p.m. What we're seeing and what we expect to see in 2001 by Dave Schmitt, Fruit IPM Program Associate, Rutgers Cooperative Extension
- 7:45 p.m. Comments of Peach Thinning and Propagation of Fruit Trees by Dr. Robert Belding, Specialist in Pomology, Rutgers Cooperative Extension
- 8:00 p.m. Early Season Insect Control and Changes in 2001 & Tree Fruit Production Guide Spray Insect Spray Schedule by Dr. Peter Shearer, Specialist in Fruit Entomology, Rutgers Cooperative Extension
- 8:15 p.m. Early Season Disease Control Update by Dr. Norman Lalancette, Specialist in Tree Fruit Pathology, Rutgers Cooperative Extension
- 8:30 p.m. Pest Monitoring for Insects/Mating Disruption by Dean Polk, Statewide Fruit IPM Agent, Rutgers Cooperative Extension
- 8:45 p.m. Crop Conditions, Program Announcements and Fruit Tree Fertilizer Suggestions by Jerome L. Frecon, Agricultural Agent, Rutgers Cooperative Extension
- 9:00 p.m. Early Season Weed Control Suggestions by Dr. Bradley Majek, Specialist in Weed Science, Rutgers Cooperative Extension

9:20 p.m. Adjourn Meeting

NJDEP PESTICIDE APPLICATOR UNITS:

1A – 3 Units

3A – 3 Units

PP2 – 3 Units

This location is accessible to the physically impaired. For further information contact Jerry Frecon at Rutgers Cooperative Extension of Gloucester County at 856-307-6450.

# Calendar of Events

April 3, 2001 at 7:00 p.m. -  
 Evening Fruit Meeting, Donio  
 Farms Packing Facility, Third  
 Street, Hammonton, NJ.  
 Contact: Jerry Frecon at  
 Rutgers Cooperative Extension  
 of Gloucester County at 856-  
 307-6450.

April 11, 2001 at 7:15 p.m. -  
 Evening Fruit Meeting,  
 Gloucester County Office of  
 Government Services Bldg,  
 1200 N. Delsea Drive, Clayton,  
 NJ. Contact: Jerry Frecon at  
 856-307-6450.

April 17, 2001 at 7:00 p.m. -  
 Evening Fruit Meeting, Donio  
 Farms Packing Facility, Third  
 Street, Hammonton, NJ.  
 Contact Jerry Frecon at 856-  
 307-6450.

April 24, 2001 at 7:15 p.m. -  
 Evening Fruit Meeting,  
 Gloucester County Office of  
 Government Services Bldg,  
 1200 N. Delsea Drive, Clayton,  
 NJ. Contact Jerry Frecon at  
 856-307-6450.

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