

*January 22, 1999*

## **Tree Fruit Reports from the 1999 NYS Hort Show**

by Linda McCandless

**CAUTION:** This press release is rated TECHNICAL! Good for trade publications.

**ROCHESTER, NY:** In the darkened educational rooms at the 1999 New York State Horticultural Society's Annual Meeting and Trade Show held January 13-15 in Rochester, NY, Northeast tree fruit growers listened attentively as Cornell University extension educators (CCE) and researchers reported trials, tribulations, and successes in last season's test plots. Take-home messages on plant protection, cultural practices, and fruit handling were duly noted.

### **\* OBLIQUEBANDED LEAFROLLER CONTROL**

Entomologist Harvey Reissig, of the New York State Agricultural Experiment Station (NYSAES) in Geneva, NY, reported on control of the pesky obliquebanded leafroller (OBLR) that plagues the Northeast apple industry.

"OBLR was easy to control with new conventional insecticides such as Lannate, PENCAP-M, and Lorsban that had good contact and ingestion activity and a fairly long residual period of activity (10-14 days)," he said. "Excellent seasonal control was obtained by using only several well timed sprays throughout the season." Reissig reported it is becoming more difficult to control the OBLR with newer, IPM-compatible materials such as Confirm and Spinosad.

"The degree of control with these new materials is variable and depends upon the history of insecticide resistance in any particular orchard, the size of trees, and severity of leafroller infestation," he said. In many orchards, control of OBLR damage with these new materials may be no more effective than that obtained with standard insecticides.

Future research will be done to determine if using a long-term program of "soft insecticides" without spraying organophosphates can

decrease the severity of organophosphate resistance and allow natural enemies to build up to regulate populations of OBLR at lower levels so the potential for fruit damage is reduced in commercial orchards.

#### **\* TRAPPING & BEHAVIOR OF OBLR**

OBLR is one "horrendous herbivore," according to NYSAES entomologist Dan Waldstein, and the "scourge" of New York apple orchards. Scientists analyze a pest's strengths and weaknesses to maximize the efficacy of their control efforts. Waldstein reported on how degree days and trap catches relate to the timing of OBLR fruit damage; OBLR's preferences for foliage vs. fruit; OBLR mobility; the efficacy of traps and lures for monitoring OBLR in New York; and how long insecticide residues from airblast sprayer applications are effective in controlling OBLR.

#### **\* MITE MANAGEMENT & PHEROMONE DISPENSERS**

Entomologist Art Agnello, of the NYSAES, reported on mite management under the influence of pyrethroids. "Under conditions of low to moderate mite pressure, any of the commonly used acaricide treatments tested would provide acceptable mite control for the majority of the season, regardless of the cover spray regimen used," he said. "However, at slightly higher population pressures, the use of Asana in a seasonal program might tend to mitigate the efficacy and longevity of early season treatments, even using effective new acaricides such as Apollo, Savey and Agri-Mek." Also, summer pyrethroid use is capable of inducing outbreaks of other species, such as two spotted spider mite and apple rust mite.

Agnello also reported on new pheromone dispenser technology that confuses the mating behavior of OBLR. "In cases where OBLR populations are not very serious, the addition of a pheromone treatment to a standard pesticide spray program does not necessarily result in increased leafroller control. In contrast, in situations where there is relatively heavy OBLR pressure, a combination of pesticide sprays plus pheromone disruption might provide an advantage over pesticides alone in managing these leafrollers in commercial orchards," he said. Results were similar for pheromones applied as a micro encapsulated spray formulation, as a paraffin-base emulsion, and through an automatic micro sprayer system.

#### **\* NEW APPLE VARIETIES & CONSISTENCY**

Susan K. Brown, the horticultural scientist who directs the NYSAES apple breeding program, rolled her car on the way to the meeting,

arriving shaken but unscathed to deliver an overview on 22 newer apple varieties of commercial interest being tested in 28 trials in 20 states and provinces. "In making decisions about what apple varieties to plant, growers need to determine: 1) what quality can be obtained from the variety; 2) does that quality set it apart; and 3) is the quality consistent. Each variety also requires different inputs to produce consistent quality," she said.

#### **\* APOGEE FOR GROWTH CONTROL**

Apogee is a new growth regulator being developed by BASF Corp. for use on apple that will likely be registered for use by the 2000 season. Its primary horticultural effect is to reduce shoot growth. Terence Robinson, horticultural scientist with the NYSAES, reported that the product could be used to reduce the need for summer pruning by limiting shoot growth on vigorous cultivars like McIntosh. "In addition," he said, "Apogee has been shown by plant pathologists at Geneva to reduce the susceptibility to shoot fireblight." A secondary effect is that Apogee may increase fruit set, which is possibly an "unwanted side-effect" according to Robinson, who notes orchard managers usually need to reduce crop load to achieve proper fruit size. Apogee must be applied soon after petal fall to have a large effect on shoot growth. Application strategies and interactions with chemical thinners are being studied.

#### **\* MANAGING APPLE PLANTING SYSTEMS FOR EARLY AND HIGH YIELDS**

"Early yields of the highest quality fruit are essential for growers to be profitable in today's economy," reported Steve Hoying, of Cornell Cooperative Extension (CCE) and the Lake Ontario Fruit Team (LOFT). "To obtain these yields, growers must choose the best orchard sites available, plant only the best quality trees at the highest density suitable for the variety, rootstock and training scheme. After planting, growers must carefully manage these orchards, minimizing competition from weeds, preventing insects and disease damage, allowing appropriate crop loads, performing necessary tree training, and minimizing pruning."

#### **\* SI FUNGICIDES**

David Rosenberger, plant pathologist and director of Cornell University's Hudson Valley Lab, reported on sterol-inhibitor (SI) fungicides known to have some plant growth regulator (PGR) effects on apples. "The economic importance of these PGR effects was evaluated in a four-year trial where two SI fungicides were compared

with other fungicides by continually treating the same trees with the same fungicides," he said. "PGR effects of SI fungicides included shorter stems, smaller cluster leaves and a very slight reduction in fruit length." However, SI fungicides did not affect total crop or fruit number per tree, individual fruit size, or gross returns per acre. In a second one-year trial on mature Empire trees, PGR effects of SI fungicides were also insignificant.

#### **\* THE USDA FIRE BLIGHT GRANT**

Herb Aldwinckle, NYSAES plant pathologist, reported on new developments in fire blight research. In 1997, '98 and '99, Cornell received a special grant from USDA-CSREES. Funds are divided equally between Michigan State University and Cornell, and each university now receives \$232,693.

"The research at Cornell is a blend of basic and applied research. It ranges from fundamental studies on the genes that allow the bacteria to attack apple, through development and experimental trials of new resistant rootstock and varieties and new control materials, to trials in growers' orchards," said Aldwinckle. Exciting new genes for resistance are emerging from the basic research: some have already been transferred to apple, and others will be in the future, he said.

#### **\* FIRE BLIGHT INFECTION: WHAT WE KNOW**

NYSAES plant pathologist Jay Norelli says fire blight can kill dwarf apple trees by girdling susceptible rootstocks or interstems, especially M.9 and M.26. "These infections can originate by internal movement of bacteria from infection in the scion and through infected root suckers," he said. Movement of bacteria to the rootstock can occur rapidly, in 3-6 weeks, depending on the variety. Norelli also reported on the efficacy of pruning to prevent rootstock infection. "Economic analysis conducted with Alison DeMaree, of CCE, indicated that pruning out fire blight infections was cost effective," said Norelli.

#### **\* BACTERIAL CANKER IN STONE FRUIT**

"Although *Pseudomonas* is an important cause of cankers, particularly on young cherry trees, the fungus *Cytospora* is the primary pathogen that causes large perennial cankers in the orchards," reported Thomas Burr, plant pathologist with the NYSAES. "Control relies on yearly removal of cankers, trunk applications of white latex paint, and copper sprays at appropriate times." To reduce *Cytospora* infections, pruning should be done when winter injury is not likely to occur.

## \* SWEET CHERRIES FOR NEW YORKERS

Robert Andersen, of the NYSAES Hort Science department, reported that sweet cherries in New York have the potential to be a significant profit center for growers. Recent advances in the development of new varieties, rootstocks and the control of physiological fruit cracking suggest that growers can now become more consistent producers of high quality sweet cherries.

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**Contact:** Linda McCandless, Communications Services

**Telephone:** (315) 787-2417

**e-mail:** [llm3@cornell.edu](mailto:llm3@cornell.edu)

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