

Kauffman's Orchard Twilight Tour Inspects Vertical Axis System

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BIRD IN HAND (Lancaster Co.) — Tuesday evening Ken Kauffman, Kauffman's Orchard, exhibited a row of Crimson Gala apples on M-9 stock trained on a vertical axis.

Though it looks like an ugly tree, according to Dr. Rob Crassweller, Penn state pomologist, "we're more interested in just growing fruiting wood."

And getting the main attached to the pole and the central leader up to the top wire as quickly as possible, noted Crassweller, can insure top productivity for the orchard.

Kauffman, orchard manager, and several Penn State representatives spoke Tuesday evening to about 75 growers and agri-industry representatives during the Lancaster/York Fruit Growers' Twilight Meeting at Kauffman's Orchard near Bird In Hand.

Kauffman's family orchard includes Ken, the third generation, and several fifth generation members. The family manages 120 acres of fruit, including 70 in apples, 35 in peaches, and the remaining in plums, pears, and cherries.

Kauffman provided a comparison of several training systems, including a trellis system installed in 1995 and two rows of a vertical axis system installed in 1996.

The 8 X 15 trellis includes 360 trees to an acre. The vertical axis is the best fruit.

To start, growers should obtain a feathered tree, or one with lots of branches, instead of a straight whip, Crassweller said.

Attach the main branch to the pole as soon as possible. The key is to "train" a tree right after planting to create one that will fruit well and hold up. Ties hold branches to the trellis wires running from pole to pole to keep the tree from twisting in the wind.

Crassweller also spoke about thinning chemicals and methods at the fruit meeting. An ideal time for thinning is when temperatures reach the mid-70s to 80s. This weekend could be a good time, with temperatures to be in the 70s and 80s through the region.

"This weekend the time is going to be ideal," said Crassweller. If temperatures are in the 60s, "you're not going to get the response," he said.

Kauffman also showed the group a concrete pesticide containment pad installed with the help of the Mill Creek Water Quality Project.

The pad is installed about 50 yards from a well water system. The idea of installing a pesticide containment pad "was appealing to us," said Kauffman, in light of orchard water quality concerns.

The simple design allows the containment area to hold 600 gallons of water. "We're concerned about the environment and our neighbors," said Kauffman. The cost of construction: in the range of \$3,000-\$3,500.

Dr. Jim Travis, Penn State fruit pathologist, noted that apple scab can overwinter in leaves that settle at the bottom of trees. "There's always a little bit of scab in an orchard," he said, holding a clump of leaves he picked up near a tree. Though the material will rot by midsummer, after a winter, much of the material remains intact.

Travis noted that, at the lab, he has samples from some orchards that show heightened m-system includes two rows at 5 1/2 x 14, 600 trees to an acre.

The trees, properly pruned, allow the Kauffman's to "look forward to a good crop," Kauffman said. This year Kauffman claimed it took an hour to trim the two rows. About 390 trees are on a vertical axis system.

Kauffman uses the system to "get early production and good production with minimum

input," he said.

The simple vertical axis concept involves taking two or three of the heaviest branches to the upper half of the tree. The central leader is trained occasionally to allow larger branching at the tree "top." The tree size can be controlled, leaving only the most vigorous wood to create turity of the spores as the warm weather increases.

Fire blight is always a concern, especially during a warm spring. But this cool spring has kept fire blight pressure very low. Cold conditions during the "wedding" period have shown no infections.

If blooms remain at the end of the branches, they can be infected with fireblight, especially if the temperatures hit 80, Travis noted. A commercial growth regulator is useful to actually control fire blight.

Powdery mildew can be a problem because of the state's mild winter, though there has been no substantial pressure, said Travis. Time of infection is bloom to petal fall at temperatures higher than 50 degrees.

Wet weather actually inhibits the mildew. But a dry, high humidity year could be the time for the infection to build up.

Greg Krawczyk, Penn State fruit entomologist, said that orchard managers must know what is in their orchard — what the insect pest is — before they can control it.

Using traps, growers can readily identify pests and come up with control solutions.

Now, growers should look to see if they have the green peach aphid. The pest is almost everywhere, Krawczyk said. "There is a high probability you have it in your orchard," he said.

Organophosphates are available to control pests such as the oriental fruit moth, certain aphids, and other pests.

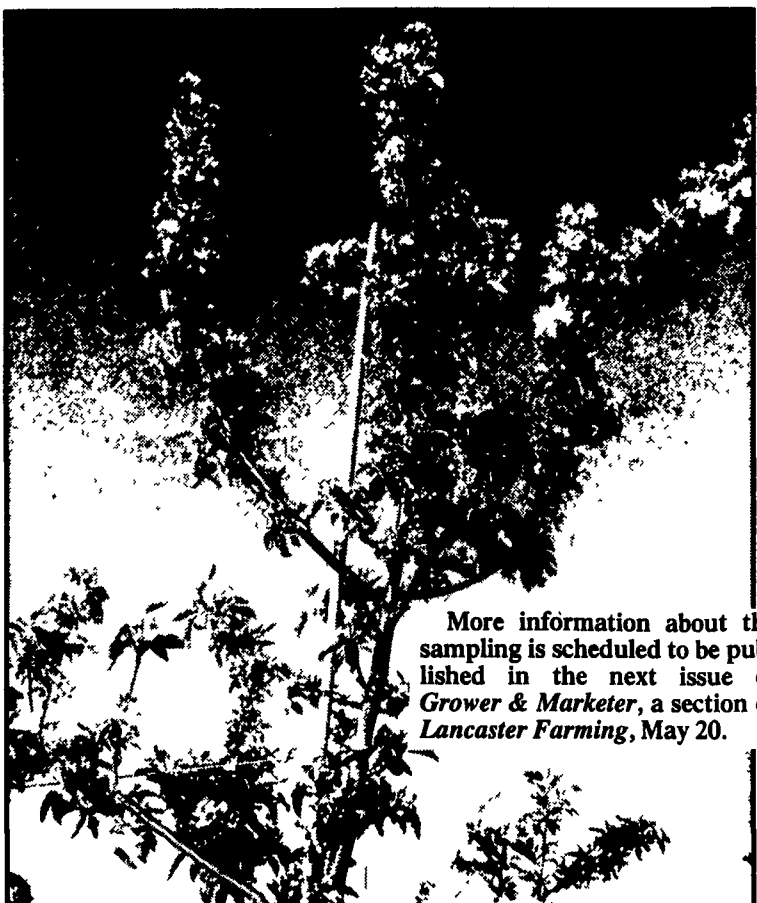
Jim Travis spoke about how testing is under way to control the plum pox virus (PPV). All stone fruit in the state, except cherries, is being sampled. A video detailing the PPV education and eradication effort was shown.



About 75 growers and agri-industry representatives toured Kauffman's Orchard near Bird In Hand Tuesday evening during the Lancaster/York Fruit Growers' Twilight Meeting. Presented were pest control strategies and an update on the plum pox virus. Photo by Andy Andrews



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More information about the sampling is scheduled to be published in the next issue of *Grower & Marketer*, a section of *Lancaster Farming*, May 20.

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