

Title: Orchard Hill Farm/Orchard Spray Program

Project coordinator: Anton Elbers

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Participants:

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State(s): NH

SARE funds: \$1185

Matching Non-federal funds: \$1185

Project number: FNE01-370

Type: Farmer/Rancher Project

Region: Northeast

Report Year: 2001

Summary:

Orchard Hill Farm wanted to embark on a long-term, chemical-free orchard spray program to manage plum curculio. To accomplish this, they experimented with using kaolin clay and monitored its effectiveness combined with an orchard sanitation program.

Orchard Hill Farm conducted a detailed orchard sanitation project, laid compost beneath the trees, maintained a rock mulch at the base of the trees, placed wood mulch under 50% of the orchard and sprayed kaolin clay (Surround) in eight weekly sprays. The first six sprays were applied starting on May 9th and ending in late June. They were applied at a rate of 50 pounds of clay to 100 gallons of water. A two week break occurred in early July and then the final two applications were made in late July, ending July 25th. The last two applications were at 25 pounds of clay to 100 gallons of water.

Orchard Hill Farm had several findings from this project: 1. Due to an unusually wet, early spring, more applications of kaolin spray were necessary to maintain an effective barrier on the trees; 2. Trees over ten feet tall were difficult to coat effectively, necessitating the use of a handgun; 3. The spray was effective in reducing plum curculio damage equal to or below levels experienced in previous years when two applications of Imidan were used; 4. The kaolin was effective in deterring pear psylla on apples and very effective in preventing pear psylla

damage on the pears; 5. The coverage of kaolin is improved with a more defined pruned tree; 6. Initial customer response to the kaolin on the fruit was positive once the customer was educated about the light visible residue; and 7. Varietal choice of apples is extremely important in overcoming pest and disease problems.

Orchard Hill Farm found that using the kaolin spray was more costly for materials and in management time compared to using standard chemical controls. Part of this was because of the additional applications needed due to the heavy rains. Another potential increased cost may be from additional wear and tear on the equipment that is used to apply kaolin. They would like to compare their findings with someone who is using kaolin spray in a drier climate, where they believe there would be a difference in application rate and labor costs.

Orchard Hill Farm will continue to use kaolin spray because they believe the long-term costs of using harsher chemicals is greater than the short term costs of using kaolin. They also want to explore how the kaolin spray might be effective in preventing damage to apples from apple maggot, codling moth, and apple scab.