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## VOLE DAMAGE AND ATTEMPTED CONTROL IN WEST VIRGINIA

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## VOLE DAMAGE AND ATTEMPTED CONTROL IN WEST VIRGINIA

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Meadow and pine vole damage is the number one problem in commercial orchards in the West Virginia area. At present apple powdery mildew is second but vole (hereafter referred to as mouse) damage is first.

Maintaining a uniform population of trees at a maximum potential, production level is extremely difficult. Mouse damage causes a constant state or reduced production and dwindling tree count per acre. This necessitates a never ending effort toward tree replacement and regrowth that never catches up to the production potential of the original planting.

The seriousness of the problem is increasing. Time was when apple trees were the favorite targets of these pests. Now they are becoming less discriminating and readily inflict serious damage to peach and plum trees as well.

Battling this pressure of losses is expensive and time consuming. This is apparent when you consider not only the cost of the tree replacement but the loss of production, the labor cost for treatment and the cost of the control material.

It has been our experience that the meadow mouse isn't as difficult to control as the pine mouse.

In the past we've tried many methods of control with less than dependable results.

Ground sprays of Endrin are no longer effective.

Baiting with Zinc Phosphide on apples and grains certainly isn't the answer. We've baited holes and runs, and under apple crates, roofing material mats and in plastic tunnels.

We've used trail builders that automatically bait the artificial trails. You will probably see pictures of this implement during the program. The mice seem to use these trails but we had difficulty in applying enough bait per acre and in holding the trail builder in hard ground.

The newer materials, Diphacinone and Chlorophacinone as both baits and sprays seem to be better than the older control materials but if a pine mouse population has established itself it is extremely difficult to eradicate.

We are presently endeavoring to maintain the following program.

Cultivate after growth has established itself in the spring or early summer with a Smitty tree hoe. You will undoubtedly see pictures of this implement also during the program.

Then later on in mid-summer control the cover regrowth with a tree row spray of herbicides.

Cultivate again in late season after harvest.

Place bait pads or plastic bait tunnels and bait in early winter several times.

Close mowing between the rows will be attempted during the season.

You can see that this is a rather extensive and expensive program. It is also less than completely effective although a reasonable trial has not as yet been experienced.

At present with this program, we are receiving girdling. This cold winter hasn't frozen them yet as our mouse population is rather high.

The grower definitely needs a less involved, more dependable and effective method of control. I am in hopes that newer and better materials are on the way. We will probably hear of some today. There are, however, other methods of control that perhaps haven't been explored or perfected.

Some suggestions that come to mind would be:

1. Heavier than air fumigants that would penetrate and dispense itself throughout the tunnel system. This one may be under investigation now.
2. Tree injections of systemics that would translocate to the root system of the tree rendering it either undesirable or lethal.
3. Irresistible attractants that would draw the pests from an area of several trees to a trap or to their destruction.
4. Sterilants that would stop any reproduction.
5. Lethal fungi or bacteria that would be destructive to the mouse alone such as we have for certain other pests.

Some of these may sound far-fetched or ridiculous. I'm certain, however, that there are other avenues to explore just as I'm certain that it is imperative that we find one.