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## PINE VOLE CONTROL SURVEYING

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I don't have an orchard of my own, but as a field representative for FMC Corp. Direct Sales Group, I have the responsibility to check for mice in many orchards and a chance to form an opinion as to what methods are working in our area and how a field representative can be of the most value.

In controlling mice there are several aids that can be of value:

A - Activity Stations are a must! Even after 25 years of searching for mouse runs its impossible to tell if the runs are active or the population was killed 2 weeks or several months ago without activity stations.

B - Hand tools to part the grass while looking for runs and to tip up bait stations can save a lot of time and back bending. The tool should be the right length and weight. This is the same as having a work counter the right height from the floor. Worker's efficiency can be greatly improved. (Several examples displayed).

C - Baiting stations, if properly placed, can provide a location where bait can be placed quickly and where the mice will find it. This brings the mice to one spot instead of you having to search for the runs. These can be put out before harvest and if possible should be placed over a run. If just tossed under the trees, those that do not show activity at the time of baiting should be moved to an active run.

Wood slabs or shingles make for excellent bait stations. Some of our growers are using old tires sliced in two the flat way. Garages are paying 10¢-20¢ per tire for the privilege of dumping these on a grower's farm. They are very durable, lie flat enough to run a brush hog over, and for some of the more toxic baits on the way, are heavy enough to deter a dog from lifting them up. (Figure 1)

There seems to be two principal reasons for failure to get control with Rozol bait:

1) Not getting enough applied. With a fairly heavy population it takes 10 lb. per acre. Since the mice have to eat it for a period of time, 1/2 the proper amount does not kill 1/2 the mice. Its the last 5 lb. that kills most of the mice.

This slide shows where 2 crews baited different parts of the same orchard. One crew applied 10 lb. per acre and according to the activity stations reduced the populations from 80% to 24%. The crew putting on too little material only reduced the population from 73% to 66%. Here again the activity stations were very helpful in determining what had been accomplished and what still had to be done! On a 35' X 35' spacing with 40 trees per acre, each tree requires 1/4 lb. of bait. This is

3/4 cup or 6 rounded tablespoons per tree. About all you can get in a breather hole is 2 rounded tablespoons. So it will be necessary to bait 3 places per tree, if no station is used.

2) The other reason for failure is lack of the proper manpower to do the job when it should be done.

This fall some of our customers did an excellent job against pine mice broadcasting 16-18 lb. per acre.

Slide - This farm reduced the population from 80% to 10% activity with one broadcast application of 16-18 lb. per acre. The adjoining blocks were hand baited and the population was reduced from 37% to 15% activity. Actually, the broadcast gave a better kill than the hand application. In broadcasting you can cover a lot of ground in a hurry. It requires at least 16-18 lb. per acre. At 10 lb. we had a failure. Also, you must have 3-4 days of clear warmish weather.

Rozol Spray got off to a very poor start. At first they apparently had formulation problems. Also, if it rains soon after application this reduces the effectiveness.

However, the best kill I have seen in recent years was where Rozol Spray was used at 1 pint per 100 gallons - 400 gallons per orchard acre, that is, covering 2/3 of the ground at the rate of 600 gallons per acre.

This slide shows a reduction from 67% to 4% in one orchard and from 80% to 0% in another. However, the next year we had a wet fall and the Rozol Spray only reduced the population from 64% to 42% activity.

Really it seems that hand baiting is the best in wet periods, whether using bait stations or searching for runs. Hand baiting places the bait where the mice can find it quickly and cache it before the rains ruin it.

To sum up, our scientists are working for better and more effective poisons. However, field representatives like us working closely with the grower on a farm by farm basis can be of great value to the individual grower through rapid assessment techniques and on the spot advice before and after treatment.

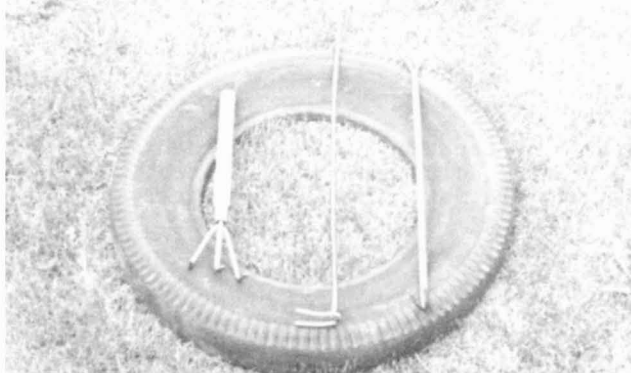


Figure 1. Old tires sliced in half placed in the tree row may provide an ideal bait placement site. Tools may provide improved bait placement efficiency.