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PINE VOLE ACTIVITY RESULTS FOR 1979-1980
TOXICANT APPLICATIONS

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The toxicants were placed in an apple orchard consisting of 'Rome' and 'Golden Delicious' trees planted in 1954 at a distance of 20 by 20 feet and thinned to 20 by 40 feet in 1972. Pine voles have been for several years the dominant vole infesting the orchard and have caused an 8% tree loss. Vole activity sites were selected at 30 trees per treatment. Bait applications of brodifacoum (Volak) and chlorophacinone (Rozol) were made by hand placement under roofing pads at one activity site per tree. A treatment was included using the "Mouse-ateria", as the bait station for comparison with the roofing pad bait station. An attempt was made to place the open end of the "Mouse-ateria" at one active vole site per tree. One packet of the Volak bait was placed in each "Mouse-ateria". Pre-baiting vole activity ratings were made December 5-6, 1979. Amount of apple eaten was used as the criterion indicator for activity. Activity rating was based upon the scale of 0 to 10, where 0 = no portion of apple eaten, 3 = less than 50% of flesh eaten, 5 = 50 to 80% of flesh eaten, 8 = 100% of flesh eaten, and 10 = flesh and skin completely consumed. Post-baiting observations of bait consumption was made December 17, 1979. Post-bait activity rating, using apple as the indicator, was made June 3, 1980.

The following bait treatments were applied December 11, 1979:

1. Chlorophacinone 11.2 kg/ha (10 lb/A) or 75 gms/tree.
2. Brodifacoum 50 gram packet per tree (7.4 kg/ha or 6.6 lb/A).
3. Brodifacoum loose bait 50 gms/tree.
4. Brodifacoum 50 gm packet placed in mouse-ateria bait station, 1 per tree.
5. Control - no toxicant.

Table 1. Percent of sites having bait completely removed from placement site one week following bait placement.

<u>Material</u>	<u>Percent of sites having bait completely removed</u>
Chlorophacinone (Rozol)	40
Brodifacoum (Volak) packets	27
Brodifacoum (Volak) loose	70
Brodifacoum (Volak) packets in mouse-ateria	0

The Volak packeted bait at 15% of the pad site locations had been covered with dirt and a new vole trail established around the packet. Only 10% of the packets placed in the "Mouse-ateria" had been opened.

Table 2. Effectiveness of vole toxicants six months following treatment application.

<u>Treatment</u>	<u>Pre-treatment 12-6-79</u>	<u>Post-treatment 6-3-80</u>	<u>Percent Reduction</u>
Chlorophacinone (Rozol)	7.34	4.99	23.5
Brodifacoum (Volak) packet	7.81	5.38	24.3
Brodifacoum (Volak) loose	8.06	4.57	34.9
Brodifacoum (Volak) packet in mouse-ateria	7.94	6.76	11.8
Control - no Toxicant	7.44	7.37	0.7

The packeted Volak placed in the "Mouse-ateria" was still untouched at 89% of the sites when vole activity ratings were made six months following treatment application. Even though activity was present under the roofing pad, some of the Volak packeted bait under the site pad remained unopened through the six month period between the time of application and the June 3, 1980 post-treatment vole activity ratings.