University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Eastern Pine and Meadow Vole Symposia | Wildlife Damage Management, Internet Center for

3-3-1983

# 1982-83 TOXICANT VOLE CONTROL

Roger S. Young
*West Virginia University Experiment Farm*

Follow this and additional works at: http://digitalcommons.unl.edu/voles

Part of the Environmental Health and Protection Commons

Young, Roger S., "1982-83 TOXICANT VOLE CONTROL" (1983). *Eastern Pine and Meadow Vole Symposia*. Paper 179.
http://digitalcommons.unl.edu/voles/179

This Article is brought to you for free and open access by the Wildlife Damage Management, Internet Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Eastern Pine and Meadow Vole Symposia by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# 1982-83 TOXICANT VOLE CONTROL

Roger S. Young
WVU Experiment Farm
Kearneysville, WV 25430

## EXPERIMENT I

Experimental orchard containing 72 apple trees, cultivar 'Rome Beauty', per row planted 20 feet by 40 feet in 1952. Each row was treated as a unit with 16 to 22 monitoring stations consisting of roofing pads placed in the tree row in September 1980. Vole activity was measured using apples 5 to 6 cm in diameter with a small slice removed and placed in runway under pad and monitored 48 hours later. Activity ratings were based on the scale of 0 to 10, where 0 is no portion of apple consumed and 10 is all flesh and skin consumed.

The materials and activity stations have remained the same since September 1980. Rate usage of materials has varied. Treatments consisted of bait broadcast applications made on October 29, 1982 of ZP Rodent Bait AG (ZP), chlorophacinone (Rozol) and brodifacoum (Volid).

Climatic conditions at application (10/29/82) were 15.5 to 21.1°C, clear sky and no wind. A 0.3 cm rainfall was recorded as occurring in the 24 hour period prior to 8 AM on 11/4/82 and 2.31 cm on 11/5/82.

Table 1. Comparison of vole activity rating (0-10), pre-treatment (10/28/82) and post-treatment (3/11/83).

| | Activity Rating | |
|---|---|---|
| Treatment | Pre-Activity | Post-Activity |
| 1 ZP 5.3 kg/ha | 2.72 | 4.0 |
| 2 Volid 10.8 kg/ha | 5.26 | 3.84 |
| 3 No Toxicant | 4.0 | 5.8 |
| 4a Rozol 25.2 kg/ha | 3.33 | 1.11 |
| 4b Rozol 21.6 kg/ha | 5.00 | 7.90 |
| 5 ZP 17.3 kg/ha | 3.21 | 5.28 |
| 6 No Treatment | 4.75 | 5.00 |

## EXPERIMENT II

Comparison of method of application in orchard where normal yielding fruit crop was allowed to drop to the ground and not picked up.

Experimental entomological orchard containing 30 trees per row, cultivar 'Rome Beauty' and 'Golden Delicious' planted 1957. Trees currently 20 feet by 40 feet.

Material treatments were applied to same location as in 1982 but at different rates per acre. An attempt was made to have one active monitoring station per tree. Due to previous treatments, no treatment area had more than 80% trees infested with voles. Activity ratings were based upon the scale of 0 to 10, where 10 had the flesh and skin of apple completely consumed. Apples 5 to 6 cm diameter were placed under monitoring pads and monitored 48 hours later. Treatments were applied November 3, 9 or 12, 1982.

Climatological data: 0.30 cm rainfall 15 hours following treatments on 11/3/82, 2.31 cm rainfall ended at 5 PM 11/4/82, 0.79 cm November 11 and 2.97 cm 11/29/82. Temperatures and relative humidity during application periods: 22.5-23.3°C, relative humidity 68% on 11/3/82; temperature 15.5 to 16.5°C, relative humidity 55% on 11/9/82; temperature 21.1°C, relative humidity 65% on 11/12/82.

Table 2. Comparison of vole activity rating (0-10) pre-treatment (11/2/82), and post-treatment (3/11/83) from treatments applied November 3, 9 or 12, 1982.

| Treatment | Activity Rating | |
|---|---|---|
| | Pre-Treatment | Post-Treatment |
| Volid 11.7 kg/ha broadcast 11/3/82 | 6.06 | 4.55 |
| Volid 2.03 kg/ha under pad at monitoring station 11/9/82 | 8.0 | 4.91 |
| ZP 14.8 kg/ha broadcast 11/3/82 plus 8.6 kg/ha broadcast 11/9/82 | 7.46 | 2.46 |
| ZP 2.5 kg/ha under pad at monitoring station 11/9/82 | 8.0 | 1.21 |
| No Treatment | 6.54 | 6.63 |
| Rozol 18.3 kg/ha broadcast 11/3/82 | 6.81 | 5.33 |
| Rozol 7.1 kg/ha under pad at monitoring station 11/9/82 | 8.0 | 2.7 |
| No Treatment | 7.11 | 8.55 |
| Volid 7 kg/ha hand placement in runs, holes 11/12/82 | 5.84 | 2.96 |
| ZP 7 kg/ha hand placement in runs, holes 11/12/82 | 6.51 | 5.33 |
| Rozol 7 kg/ha hand placement in runs, holes 11/12/82 | 6.37 | 5.48 |
| No treatment | 6.85 | 9.21 |