Vole Damage & Control

Robert Bishop
Frederick County Master Gardener Program

Voles are rodents that look similar to mice, and they are often confused with other rodents like moles and shrews. Voles are herbivores and become a pest when their populations increase to the point when their feeding damages or kills plants. There is no single effective control for voles. The best strategy utilizes an approach known as integrated pest management (IPM). This approach incorporates cultural, biological, trapping, and chemical control methods together to achieve success.

Integrated pest management requires that the correct identification of the pest be done first. In Maryland there are two species of voles, the meadow vole, and the pine vole. Meadow voles are also called meadow or field mice. They are compact 4 ½ - 7 inches long, brown fur on their back with some black color mixed in and a dark grey underbelly, small round ears, and a short tail. Meadow voles live in grassy areas and construct complex surface runway systems in which to hide from predators. When infesting residential areas they construct their runways in mulched flower beds or in ground cover. I have found numerous runways on our office grounds this year after the snow melted. The following picture shows a typical meadow vole runway.

Meadow voles may dig burrows if ground cover is sparse. They can have from 5 - 10 litters of young annually each averaging about 5 babies per litter. This high reproductive rate makes it possible for populations to get out of control in a single year.

The pine vole or pine mouse spends most of its life underground in burrows from one inch to two feet below the surface. Usually the burrows are shallow with an opening of about 1 ½ inches in diameter. Pine voles are smaller than meadow voles, only about 4 - 5 inches long, with a shorter tail, smaller eyes, and a blunt nose. Pine voles are chestnut brown with no black markings. They produce fewer litters each year with only 3 - 4 babies on average. Often both species will share burrows and feed below the soil surface.

The following diagrams illustrate the differences between voles, moles, and shrews.

Voles are herbivores preferring to eat lush green vegetation and fruit during the growing season. They love to feed on hosta and other flowering perennials, strawberry plants, many vegetables, pine seedlings, boxwood and other dense low growing woody plants. The rest of the year they will feed on roots, stems, bark, and bulbs to survive. Voles can kill trees by girdling them, this feeding behavior removes the bark around the entire trunk at ground level. Woody plants are damaged or killed when voles feed on their roots. Typically this is noticed in the spring when large portions of the plants are found dead. The damage can be confused with winter kill, salt damage and other pests, when in fact voles were feeding on the roots.
Once you have identified there is a vole problem it is best to use a combination of the following 4 methods for control:

1. Cultural control- The goal of habitat reduction is to make your property as uninviting to voles as possible. Keep mulch depth at no more than 1 inch. Do not install landscape fabrics. Space plant material further apart than normal. Keep grassed areas around vegetable gardens mowed down low. Select shrubs with more upright growth habits than the spreading types. All the above suggestions increase the vole's exposure to predators by reducing the hiding places.

2. Biological control- Encourage predators, one of the best predators of voles is the domestic cat. A pet cat does not have to be starved to motivate it to hunt. A well fed cat will do the best job. Other predators are hawks, owls, and crows. In treeless areas birds can be attracted to man made perches where they can observe the area for voles. Set a post 8 - 10 feet above ground level, use a 2 - 3 foot long cross member set on top as the perch. Black snakes and King snakes are also predators of voles and should not be disturbed or killed.

3. Trapping - Use ordinary mouse traps. Bait trap with peanut butter or apple slices. Fall is the best time to use traps because food is becoming scarce. Set the traps at a right angle to the runway and in it as well or in the excavated area between burrows. Burying large coffee cans up to the top rim makes a pitfall traps. Set them in the runways so the voles will fall into the can as the move between areas. This type of trap catches the pest alive. Check and clean traps daily. If you are not catching any voles the traps are probably set in inactive runways, move them to another location.

4. Chemical control- The most effective poison baits are only available to licensed professionals, and only they can legally use them. If you desire to use this method of control, contact a professional pest control company. There are less effective poison baits available to the public, but they are not recommended for use by home owners because of the possible harm to non target species like domestic animals and children.

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