

IP-7 Vole Control

Key Points

- Voles will chew on or damage a wide variety of plants.
- Voles cause extensive damage to ornamental landscape by causing a girdling effect by gnawing the bark.
- Voles can be excluded from young trees by using a wire mesh ¼" or less to encircle the new plant. This mesh screen should be 12 inches above ground and 6" below the soil (18" total).
- Vole damage can be reduced by modifying their habitat or using baits with zinc phosphide.

About Voles

Voles, also known as meadow mice or field mice, damage a wide variety of plants by gnawing on roots, stems, trunks, leaves and seeds. Voles invade gardens, golf courses, orchards, agricultural fields, and landscaped areas. Voles belong to the genus *Microtus* and are found throughout North America. Nevada is home to two species of voles, the long-tailed vole (*Microtus longicaudus*), and the montane vole (*Microtus montanus*). The montane vole is the most common vole in gardens and landscaped areas in northern Nevada.

Voles are small, heavy bodied rodents with short legs and small, rounded ears. They have short tails, coarse dark brown to grayish brown fur, and vary in size from 4"-8" long. Voles do not hibernate and are active day and night, all year long. They are usually found in areas with a dense cover of vegetation. Voles will also utilize habitats created by humans, such as orchards, agricultural fields or landscapes.

Voles eat a wide variety of plants and they are also known to eat insects, snails as well as animal remains. Voles store seeds, rhizomes, tubers and bulbs in the fall. They eat the bark of trees and shrubs at all times of the year but damage is most severe in fall and winter when other sources of food dwindle. Voles leave non-uniform gnaw marks on the wood below the bark at various angle and in irregular patches.

Voles build numerous shallow, short burrows and make underground nests of grass, leaves and stems. They construct surface runways with many burrow entrances. Runways are 1"-2" in width and represent a system of routes by which they travel through a vegetated area. A single burrow system may be home to many voles. Voles have 1-5 litters per year, averaging 4 youngs per litter. Vole populations vary from year to year and generally peak every 2 to 5 years. Most damage to gardens and cultivated areas occurs during such times.

Voles can cause extensive damage to ornamental plantings, fruit trees and landscapes by gnawing away the bark all the way around the trunk or branch, causing girdling. Girdling often leads to the death of individual branches or entire plants. This damage typically occurs in fall and winter. Voles also ruin the appearance of golf courses and lawn areas with the construction of their runways.

Damage Prevention

Exclusion

Prevent vole damage to young trees by encircling individual trunks with a wire or metal barrier at least 12" high with mesh size of ¼" or less. Support the cylinders with stakes so that they cannot be pushed over or pressed against the trunk. Wire or metal barriers at least 1 foot high can be used to surround and protect garden areas. To prevent voles from digging under barriers, bury the bottom of the barrier 6 inches deep.

Habitat Modification

Habitat modification can reduce the potential for and severity of vole damage and is the most effective method of vole control. Voles prefer areas with dense vegetation; eliminate weeds, tall grass and litter around trees, lawns and cultivated areas to reduce food sources and protective cover. Selectively prune out branches of densely planted junipers and other ground covers to reduce their attractiveness as vole habitat. Removing cover makes it

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easier to detect the presence of voles and control them before populations get to damaging levels. In addition, keep mulches at least 3 inches away from tree trunks in fall and winter to prevent voles from sheltering in the mulch and feeding on the base of the tree. Clearing grassy areas and creating weed-free strips next to garden areas by weeding, cultivating, mowing or burning (where appropriate) will eliminate cover and establish buffer zones which voles may be reluctant to cross.

Repellents

Commercial repellents are available for protecting plants from voles. They should be applied before voles cause damage. Repellents utilizing capsaicin (the compound that causes the “heat” in chili) or thiram are registered as vole repellents. Repellents are often washed off by rain, irrigation sprinklers or dew and must be frequently reapplied.

Trapping

Wooden, snap-type mousetraps may be used to control small populations of voles. Place the trap perpendicular to a runway with the trigger end in the runway. Bait the trap with peanut butter and oatmeal, or slices of apple. Once a vole population is large, traps will not offer effective control. Voles are most successfully trapped in fall and late winter. Traps must be set in sufficient numbers to be effective; a dozen traps for a small garden is the minimum required. Examine traps on a daily basis and remove dead voles. Although voles pose no major health hazard, they are capable of carrying disease organisms such as plague and tularemia. Always wear rubber gloves when handling voles. To dispose of dead voles, place them in plastic bags in the trash.

Toxic Bait

Rodenticides are a short-term solution to damage by voles. Control methods should focus on habitat management. However, when voles become too numerous to control with habitat management, traps or cultural methods alone, toxic baits are another option. When toxic baits are used, you must follow product label directions carefully to ensure the safety of children, pets, and non-target animals.

Anti-coagulants are slow acting poisons that require multiple feedings over a 5-15 day period to be effective. They are the safest bait for use around homes and gardens. Anti-coagulant baits may be formulated as pellets, grains, or paraffin bait blocks. In Nevada, anticoagulant baits are available for purchase by homeowners. Because the voles must feed over a period of time for the bait to be effective, the bait must be available until the population is controlled. Place the bait in burrow openings.

Zinc phosphide is the most commonly used single-feeding toxicant for vole control. It is available as a grain bait or in pellet form; however, as a Restricted Use Material, it can only be purchased and applied by certified applicators. Zinc phosphide baits are attractive and lethal to birds. Care must be exercised to contain the baits to burrow openings to minimize this hazard. Zinc phosphide is fast-acting and usually kills voles within 12 hours. The poison does not accumulate in the tissue of dead voles and normally does not pose serious hazard to predators or scavengers who may feed on the poisoned rodents. However, predators that feed on the stomach contents of poisoned voles may be affected by the poison. Refer to the yellow page listings for a certified pest control applicator.

Natural Controls

Voies are an important food source for a variety of predators. However, because voles have such a high reproductive rate, predators alone may not control voles below damaging levels. Domestic cats may help to control voles in home gardens.

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