



Got Voles?

WE HAVE ANSWERS

Caleb Carter

Did you find what looks like little “paths” in your lawn or garden when the snow melted this spring? Have you noticed gnawing marks on trees and shrubs or root damage to ornamentals?

This damage might be by voles.

What’s a Vole?

Voles are small rodents, measuring 4 to 8 inches nose to tail, and varying from brown to gray in color. They are chubbier than mice with blunt faces, small eyes, often inconspicuous ears and a short, scantily haired tail. They are active year-round, feeding mainly on grasses and forbs. In the fall, they store seeds, tubers, bulbs, and rhizomes and supplement their diets with these along with bark and roots in winter.

Four species are common in Wyoming and found across a wide variety of ecosystems. Preferred areas have heavy groundcover of grasses, grass-like plants, and litter – such as lawns, meadows, orchards, windbreaks, and, occasionally, cultivated fields if populations are high.

Vole breeding capabilities can lead to periodic population

explosions, occurring every two to five years. Lifespans are typically two to 16 months, but they can breed year-round. Litters average three to six with a three-week gestation period, and females are mature in just over a month.

You Might have Voles if ...

Vole damage is often associated with 1- to 2-inch wide runways and tunnels in lawns or gardens and damage to root crops such as potatoes, carrots, beets, and turnips. Voles can also cause extensive damage to trees and ornamental plants by girdling.

Irregular patterns of gnaw marks at the tree base are about 1/8-inch wide, 3/8-inch long, and 1/16-inch deep. Gnawed stems may have a pointed tip.

Most damage occurs in winter. Young trees are preferred, but any age tree may be targeted when food is scarce. Damage increases with increasing populations. Voles at high densities can damage crops in cultivated fields, and their runways and tunnel systems can divert and disrupt irrigation causing levees and checks to fail.

Table 1. Common vole species in Wyoming and habitats

Vole species	Habitat
Prairie vole (<i>Microtus ochrogaster</i>)	Found along streams and irrigated lands across eastern Wyoming.
Meadow vole (<i>Microtus pennsylvanicus</i>)	Primarily in northern Wyoming, preferring wetter habitats including wet meadows and marshes.
Long-tailed vole (<i>Microtus longicaudus</i>)	Wide variety of habitats across Wyoming, including mountain meadows, sagebrush grasslands, forests, and stream banks. Has long tail, unlike other vole species.
Montane (or mountain) vole (<i>Microtus montanus</i>)	Found primarily in mountainous regions across western Wyoming, in mountain meadows and sagebrush grasslands, avoids forests.

Vole Patrol

There are several options for control including habitat management, exclusion, repellents, trapping, and poison baits. See table 2 page 24.

Habitat modification consists of removing cover such as weeds and tall grass by mowing, tillage, grazing, or herbicide application. This is the most successful and long-lasting control. Removing tall grass, weeds, and prunings from within and around windbreaks, crop fields, and lawns as well as within 2 feet of trees and shrubs will help reduce available habitat and damage. Rake, fertilize, and water areas in lawns damaged by runway or tunnel construction.

Exclusion is effective in small areas. Place ¼-inch mesh hardware cloth or 3-inch diameter Vexar plastic-mesh cylinders around seedlings and young trees. Bury 6 inches to keep voles from burrowing underneath and extend 18 inches above ground. This same method can also protect small vegetable and flower beds.

Repellents are another option, although little is known about their effectiveness at deterring vole damage and may only provide short-term protection. Repellents labeled for use in Wyoming include thiram (a fungicide), or capsaicin, the “hot” in chilis, as active ingredients. They are labeled to protect trees, shrubs, ornamentals, and some vegetable crops. Timing of application depends on the product so read and follow labels carefully. There are also products containing castor oil labeled for voles. Although the effectiveness is unknown, these products are labeled as safe around kids and pets. Some of these repellents will give plants a bad taste, so



Photo courtesy of Purdue Extension

Telltale signs of vole activity.

Table 2. Various control methods and their effectiveness

Control method	Effectiveness	Description
Habitat modification	Most effective	Eliminating ground cover reduces populations, soil cultivation destroys burrows and reduces cover
Exclusion	Effective in small areas	¼-inch mesh hardware cloth or 3-inch diameter Vexar plastic-mesh cylinders around seedlings and young trees
Frightening	not effective	
Repellents	Effectiveness uncertain	Thiram (also a fungicide) or capsaicin (the “hot” in chilis)
Toxicants	Short-term effectiveness	Zinc phosphide, anti-coagulants
Fumigants	Not effective	Burrows too shallow and complex
Trapping	Effective in small populations	Mouse snap traps placed in runways
Shooting	Not practical or effective	

Adapted from: **Prevention and Control of Wildlife Damage, 1994, University of Nebraska-Lincoln.**

Voles are active year-round, feeding mainly on grasses and forbs.

don't use on anything you may want to eat, i.e., vegetables, fruit.

Trapping can be successful controlling small populations in lawn areas. Place mouse snap traps perpendicular to runways, baiting with a peanut butter-oats mixture or apple slices. Fall or late winter is the best time to trap.

Poison baits include zinc phosphide and anti-coagulants and can be effective, although they tend to be short-term solutions compared to habitat modification. Zinc phosphide is available in pelleted or grain bait forms on oats or corn. It is typically a one-time application and most effective in fall. Anti-coagulants (registered in most states) are slow-acting, requiring continual feeding over one to two weeks. The toxic effects wear off and the animal recovers if feeding is interrupted.

Place baits by hand in tunnel openings to avoid poisoning ground-feeding birds, pets, etc. Anti-coagulants can also be placed in plastic tubes cut to 18- to 24-inch lengths to protect bait from moisture and from poisoning other animals.

Please read and follow labels carefully. Most pesticides mentioned here require an applicators license to purchase. Go to <http://uwyoextension.org/psepl/> for more information on obtaining a license.



RODENT REGIMEN

For more information about voles and other critters, see this related article from **Barnyards&Backyards**

<http://bit.ly/groundcritters>

Voles stand watch to see if Caleb Carter is in the vicinity. He is a University of Wyoming Extension educator based in Goshen County and serves southeast Wyoming. He specializes in crop systems and can be reached at (307) 532-2436 or ccarte13@uwyo.edu.