Pests:

Vole Management in Home Backyards and Gardens

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS094E

Description

Voles that inhabit home backyards and nearby areas belong to the genus *Microtus*. They are commonly found throughout North America and are often mistaken for other small rodents such as mice (because they physically resemble one another) or moles (because the words mole and vole sound so similar).

Although not a mouse, voles are sometimes called "meadow mice" based on their close resemblance. The two species most often responsible for vole-related backyard and garden damage in Washington are the Townsend's vole (west of the Cascade Mountains) and the Montane vole (east of the Cascade mountains).

These voles prefer succulent grasses, forbs, roots, and bulbs but will also readily feed on the bark and roots of woody plants during winter when other food sources are scarce.

Townsend's vole

Habitat

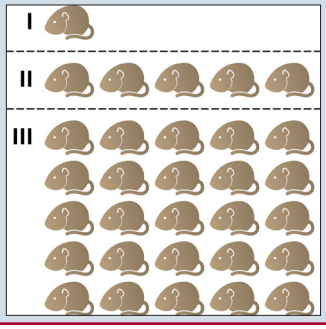
Lawns	Open grasslands
Gardens	Farms
Orchards	Meadows
Cropped areas	Young forested plantations

Montane vole

Habitat

Lawns	Open grasslands
Gardens	Farms
Orchards	Meadows
Cropped areas	Young forested plantations

Photo by Roger W. Barbour, courtesy of the Smithsonian's National Museum of Natural History



One pregnant female births an average of five female offspring in the first litter (28-day gestation). Those in turn can produce 25 more females, then populations jump to 125, then 625 and can end up at 3,125 females within 4.6 months, if none die.

Backyards and gardens that share borders with open grasslands, fields, and forests may experience high vole population pressures. There are periodic vole population explosions in these open areas, commonly occurring every 3 to 5 years, where populations may number more than 1,000 voles per acre. Irruptions such as these are usually followed by a population crash.

Symptoms and Damage

Voles will feed on a variety of garden vegetables and ornamental plants, both above and below ground. Tooth scars, as seen here, are generally 1/16 inch wide and appear in a crisscross pattern on the damaged woody plants. Herbaceous plants are cropped just above the soil surface.

Damage on fir Christmas tree.

Voles cut runways through grass, feeding on vegetation as they move. This damage is especially common in areas with extended snow cover.

Voles generally construct shallow burrow systems throughout their territories, although Montane voles are known to tunnel as deeply as 30 inches.

Tunnel entrances remain open unless they are also occupied by moles or gophers.

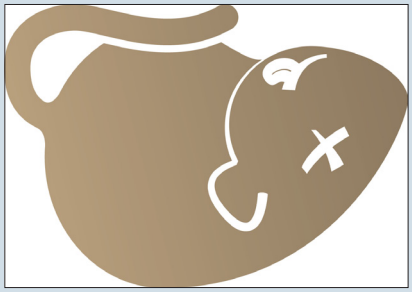
Tall grass is the primary food and safe harborage for these rodents, so grass must be kept mowed short around gardens and between trees subject to attack. Vegetation-free buffers of thinly-mulched (no more than 1 or 2 inches) soil around the perimeters of gardens and around trees and shrubs help reduce migration of new rodents. Avoid applying thick layers of organic mulch or weed-barrier cloth, which can encourage vole tunneling. Crushed rock is a suitable vole-resistant mulch in some situations. Reduce accumulations of thatch, which allow voles to hide from predators.

Damaged roots of semi-dwarf apple trees WWFRF Fruit Garden WSU Mount Vernon.

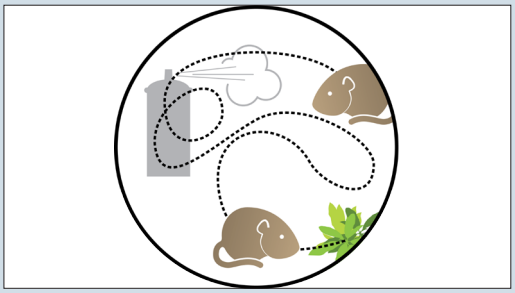
Management Options

Traps
Common mouse traps, baited with apple pieces or peanut butter, or used unbaited, are legal in Washington State. Traps should be set at right angles to vole runways and tunnels to manage small populations. Cover the traps to prevent harming birds. Use at least one trap per 100 sq. feet. For large backyards and gardens, it may take 80 or more traps per acre to effectively reduce the numbers of rodents. Check traps at least once a day and remove any captured voles. Carcasses should be buried.

Townsend's vole in mouse trap.

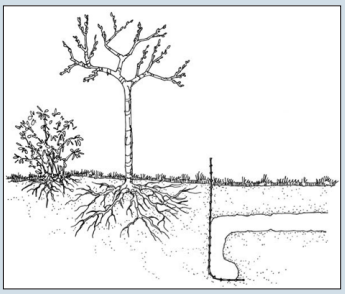


Rodenticides
There are no home-use rodenticides registered for voles in yards and gardens.



Repellents
Few data are available concerning the effectiveness of vole repellents to deter damage.

Homeowners who are willing to test repellents to see how well they perform under local conditions should use the highest label rates of products containing blood meal and/or castor oil.



Exclusion
Solid barriers or fences or cylinders of ¼ inch hardware cloth installed around gardens or individual plants can reduce root damage when vole populations are not extreme, but tunneling species may still gain access to vulnerable plants. The fence should be about 12 inches high and the bottom should be buried 6 to 10 inches in the ground. A vegetation-free, lightly-mulched barrier around the outside will increase effectiveness.

Credit: WDFW. Drawing by Jenifer Rees.

Biological
Creating habitat (nest boxes, roosts, and brush piles) for hawks, owls, and other predators is a nice gesture, but predators rarely keep vole populations below damaging levels. Predation simply cannot keep up with the breeding rate and predators seldom hunt in home gardens. Domestic cats often will kill large numbers of voles but also destroy other wildlife and don't provide adequate control.

Photo courtesy of Wikimedia Commons.

By carefully managing the habitat and dealing with voles BEFORE they reach damaging populations, gardeners can minimize damage to their gardens and landscapes.

Further Reading

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