Meadow Vole Damage

As winter snows melt, many readers will be walking through fields and across lawns. Unfortunately, many will find extensive surface runway systems with numerous burrow openings. Property owners may also find extensive girdling damage to orchards, ornamentals and tree plantings. The problem appears to be especially bad this spring since we had so many weeks of deep snow. The obvious questions today are; "What caused these problems?" and "How do we get rid of these unwelcome pests?"

Most likely the damage has been caused by meadow voles. Voles are often confused with field mice, but their appearance and habits are much different. Meadow voles are pudgy mouse to rat-sized rodents with blunt faces, small eyes, short ears, short legs and a short tail. Eight species of voles are widely distributed throughout the various ecosystems of Utah. Damage caused by these compact rodents with stocky bodies is easy to identify.

Most damage by meadow voles occurs during the winter as they eat and multiply under the snow. They are active throughout the day and night and do not hibernate. Reproductively active throughout the year, voles have 1 to 5 annual litters with 1 to 10 new voles per litter. Young are weaned by the time they are 21 days old, and females mature in 35 to 40 days. Uncontrolled, they multiply quickly and do significant damage. Evidence of excessive surface runways, following weeks of snow cover, is characteristic of excessive meadow vole populations.

Meadow voles can live in dense populations along ditch banks, rights-of-way, and near unmanaged waterways. Soil tillage is effective in reducing vole damage as it removes cover, destroys existing runway-burrow systems and kills some voles outright. Because of tillage, annual crops tend to have lower vole populations than perennial crops.

Cultural and habitat modification practices can also reduce the likelihood and severity of meadow vole damage. The elimination of weeds, ground cover and litter in and around crops, lawns, and cultivated areas reduce the capacity of these areas to support rodents. Mowing, spraying or grazing are cost effective ways to control vegetation. Mulch should be cleared 3 feet or more from the bases of trees.

Hardware cloth cylinders can exclude meadow voles from girdling seedlings and young trees. The mesh should be 1/4 inch or less in size and roughly 12 to 18 inches in height. It is wise to bury the bottom of the wire 6 inches below ground level to keep voles from burrowing under the cylinders. Another effective means is to put PVC pipe around the base of young trees. The pipe can be split with a saw and then be placed around young trees. It may be necessary to adjust the cylinders as trees grow. By all means, monitor plants closely and respond accordingly.

Poison grains or pellet formulations containing zinc-phosphide is the most commonly used toxicant for controlling meadow vole infestations. It can be broadcast at rates of 4 to 8 pounds per acre or placed by hand in runways and burrow openings. Certified applicators who are licensed in the vertebrate category may purchase the product in large quantities from the USDA Supply Depot in Pocatello (208-236-6920). Other baits that do not require a pesticide license are available on store shelves, but they are slower-acting and usually require multiple feedings.

Always carefully follow the instruction on the label.

Large population fluctuations are characteristic of meadow voles. Population levels generally peak every 2 to 5 years. Cache County had a significant problem in 2005, so we may be in for another peak about now. Land owners are encouraged to carefully monitor their property because large populations of meadow voles can economically impact anticipated crop yields. Often a control program may not appear to be justified in comparison to the damage being incurred. However, the “ounce of prevention” rule frequently applies in vertebrate pest control. Preventative control measures usually prove to be a bargain.