Mole Management in Washington Backyards

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS146E

Introduction

Washington State is home to three species of moles, but only two, the Townsend's mole (Figure 1) and the Pacific mole (*Scapanus* spp.), cause serious damage to home landscapes in the state. While the "common" or eastern mole (*Scalopus* sp.), is also a pest, it is not found west of the Rocky Mountains.

Many homeowners mistakenly think moles are rodents—they are NOT! Moles belong to a different mammalian order, the Soricomorpha, which feed mostly on invertebrates. Damage to flower bulbs and roots in the garden or landscape, is often attributed to moles, but it is usually caused by voles. See *Vole Management in Home Backyards and Gardens* (Pehling 2013) for information on managing voles.

Moles are serious pests to lawns and gardens in western Washington, along with a few areas east of the Cascade Mountains. The damage caused by moles primarily comes from their tunneling and displacing of dirt. Besides the aesthetic damage to grassy areas, dirt mounds can smother small landscape plants. Tunnels can unearth plant roots, which dry out, or allow rodents (such as voles and mice) access to gnaw on them. Tunnels can also unearth shallow underground irrigation systems and cover sprinkler heads. In addition, tunnels and mounds can pose a hazard when walking around the home landscape.

Figure 1. Townsend's mole.

Young adults will leave the mother's territory in the spring and establish new tunnel systems nearby. This behavior can cause the size of the infested areas to grow over time. When combined with the nearly perfect environmental conditions found in western Washington—porous soil and well-watered gardens, lawns, and landscapes—managing these native mammals becomes very difficult. This publication will help home gardeners develop a multi-action plan to deal with moles in the home landscape.

Moles at a Glance

The Townsend's and Pacific moles range in size from 6 to 9 inches long, have very small eyes, no visible ears, huge front feet, and short, pink tails. The fur is velvety-black. They are rarely seen above ground. Moles are active year-round but are most noticeable and do the most damage during spring and fall.

Voles, which are burrowing rodents, are often mistaken for moles, but can be easily identified by their dark tails and small front feet. To identify various pest's tunnels, see *What's Tunneling in My Yard* (Pehling 2014).

Signs of Damage

- Moles damage lawns and landscapes by pushing up "mole hills" throughout their territories as they excavate tunnels (Figure 2).
- In soft soil, moles often make ridges instead of hills, by simply pushing the soil up and out of their way.
- Townsend's moles may sometimes feed on bulbs and sprouting seeds or damage them from their tunneling and dirt displacing habits.

Mole Habits

- Moles do NOT use their entire tunnel system on a regular basis, but rotate through different areas of activity.

Figure 2. A mole run.

- Moles are solitary animals, but where one territory ends, another may begin. The mole's boundaries are defined by scent marking, which is not obvious to humans. When a mole dies, another mole often takes over the tunnel system (Figure 3).

Figure 3. Mole territory.

- Territories cover an average area of 2/5 acre (about the size of a square that is 132 feet on each side), and can be any shape (such as long and narrow or circular). Tunnels are often located along sidewalks, fences, or in other non-compacted areas. Well-used old tunnels may not be visible above ground.
- Moles can live up to 3 years in the wild, and females give birth to an average of 3 to 4 young in April or May of each year (Figure 4). About four weeks after birth, the young moles will leave the nest to find its own territory.

Figure 4. Baby moles.

- Moles hunt worms and other soil invertebrates that fall into the tunnels, but will also take prey while digging.
- Some Townsend's moles do take a liking to bulbs, seeds, or grass roots, but in general, voles cause the most damage of this sort.

Management Options

1. Change Your Outlook

- Live and Let Live: Adopt a "Live and Let Live" approach. Consider whether you can just live with a mole in your landscape. Simply raking soil mounds flat or removing the displaced soil will keep the lawn looking good (Figure 5). If you just stomp on the mounds, the mole will push the soil back out. Moles do provide some pest control benefits by eating crane fly larvae, cutworms, and even some slugs.

Figure 5. Remove molehills.

2. Physical Methods

- Fencing: Fencing off your property is a difficult and labor-intensive way to manage moles, but it can be practical for very small lawns. Begin by digging a

ditch 18 to 24 inches deep and installing a vertical barrier of aluminum sheeting, or ¼ inch mesh galvanized hardware cloth (Figure 6). Bend the bottom few inches outward. If you are installing the barrier where it will not be a hazard, allow six inches to extend above the ground surface. Backfill the ditch. This will only keep moles out; it will not affect moles already inside the fence. Moles may occasionally tunnel underneath the barrier.

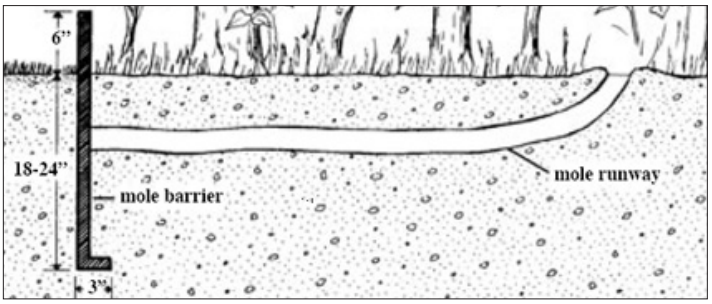

Figure 6. Mole Barrier. Source: Wildlife Services, Indiana Department of Natural Resources—Division of Fish & Wildlife, and Purdue Extension Entomology.

- Stomping: During peak mound building (usually spring and fall), stomp down all of the molehills. When you see the mole begin pushing soil back up, use a spade to quickly dig it up and kill it humanely. A sharp blow with the shovel will do the job.
- Flushing: Forcing moles above the ground is possible by pouring several large buckets of water down the active holes all at once. This method is not as effective in sandy soils because the water can drain away inside the tunnels without forcing the moles out. Flushing moles out of holes also requires the assistance of several people.

One method that is not an option is live-capture with the intent to release moles elsewhere. It is against the law in Washington to relocate wildlife off the property. Live-traps are seldom effective in capturing moles.

Figure 7. Mole bait.

3. Chemical Methods

- Baits: There are several zinc phosphide-based mole poisons (Figure 7) and several bromethalin-based "gummy worm" baits registered for home use. Results are inconsistent, and even when they do work it may take weeks of treatment to be effective. It is very important to follow all label directions when handling poisonous baits.
- Smoke bombs: These are sometimes effective in dense or water-saturated soils.
- Repellents: Castor oil repellents have shown efficacy on eastern moles, but repellents have not proven effective on western species.

4. Devices

- Traps: Live traps of various designs seldom work, and Washington voters outlawed the use of body-gripping or body-piercing mole traps in 2000 (see RCW 77.15, section 3). While the traps are legal to own, you may NOT use them to trap animals (Figure 8).

Figure 8. Mole traps that use a body-gripping or body-piercing mechanism are not legal to catch animals in Washington.

- Concussive devices: These devices use blank cartridges or explosive gasses, and are expensive, hazardous, and provide inconsistent results.
- Sonic or vibrating devices: These are generally ineffective. Moles may still be present even if no new mounds develop. Monitoring runs is necessary to prove a method or device is effective (see *Assessing Your Efforts* below).

5. Integrated Pest Management

- Rotate Methods: Use as many methods as possible to address the mole problem until you are satisfied. Continue monitoring your landscape as described in Assessing Your Efforts below. Even if you eliminate your moles, reinvasion is common.

Figure 9. Monitoring tunnels.

Assessing Your Efforts

- Monitor your landscape every day before beginning physical or chemical treatments (Figure 9).
- If you find evidence of moles, use a broomstick to punch several holes along the mole tunnel system and in mounds. Repeat the process for several days, and note which holes the moles have repaired.
- Apply your treatment of choice only where you see fresh mole activity.
- If you put in fencing and mounds or tunnels start appearing inside the enclosure, first check the fencing to see if it is damaged or incomplete. Then deal with the moles inside the fenced area before they become established.
- Continue assessing and monitoring the tunnel system after management strategies. Any mole activity indicates failure of the strategies.

Further Reading

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