

WILDLIFE DAMAGE CONTROL IN VIRGINIA



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MOLES

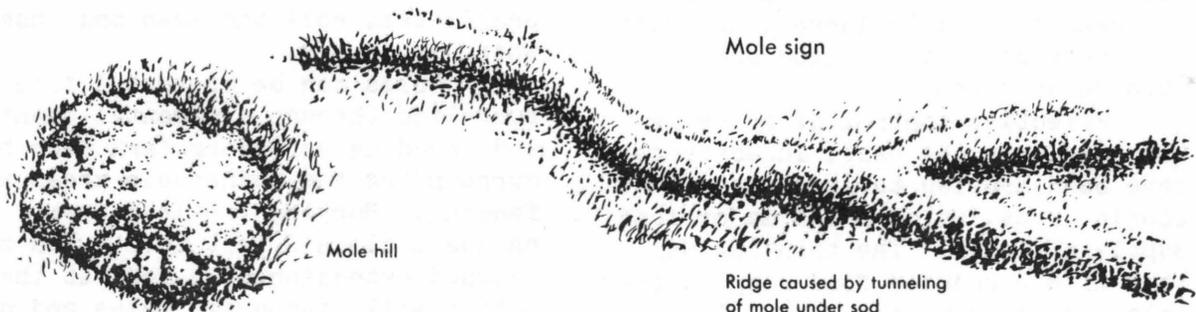
BIOLOGY AND ECOLOGY

Moles are small mammals that spend most of their lives underground. If it were not for their tunnels and mounds of pushed-up earth, they would go unnoticed by all but the most curious person. A typical population density would be 2 moles per acre of suitable habitat. Moles make their tunnels when the soil is damp. Using its enlarged, spade-like front feet and heavily developed muscles and skeleton, the common mole can dig 15 feet of tunnel near the surface in an hour. Moles have two types of tunnels. Feeding tunnels are just under the surface. Permanent tunnels and nests are below the frost line or 10 to 18 inches below ground level. Moles dig tunnels in lawns to feed on insect larvae and earthworms. Although moles do eat some plant roots, over 80% of their diet is worms and insect larvae. The common mole may eat half of

its body weight each day. Japanese beetle grubs are a favorite food. In the process of digging, moles loosen, mix, and aerate the soil.

In Virginia, there are three kinds of moles. The common mole (Scalopus aquaticus) is most abundant. Length is up to 9 inches including the almost naked tail. The fur is plush, and gray or brown. They mate in spring, and, after 4 to 6 weeks, 2 to 5 hairless young are born in an underground nest. After 1 month, the young fend for themselves. Except for mating season, moles are solitary.

The hairy-tailed mole (Parascalops breweri) is found in the Appalachian Mountains up to elevations of 3,000 feet. These moles are smaller than the common mole, have hairy tails and black fur. The life history of the hairy-tailed mole is similar to the common mole.



The least abundant mole in Virginia is the star-nosed mole (Condylura cristata). Restricted to damp, mucky ground, this mole has 22 fleshy, short, finger-like projections around the top of its nose. These assist in locating prey. The fur is jet black. The tail is up to 3 inches long, haired and typically swollen in the middle with stored fat. Unlike other moles, star-nosed moles occasionally forage above ground, and their tiny eyes are more functional than the skin-covered eyes of other moles.

MOLES AND PEOPLE

Moles are important animals in the natural world. Topsoil is aerated, loosened, and tilled by the digging and tunneling of moles. Moles eat larvae of Japanese beetles and other insects which, as adults, attack ornamental, flowering, vegetable, and fruit-producing plants. However, mole tunnels and hills are probably unwelcome in neat lawns, flower and vegetable gardens, and on golf courses.

CONTROLLING MOLE DAMAGE

Effective repellents or toxicants for killing moles are not available. Mole hills and tunnels are made when the ground is soft, which means that raking out the hills and reseeding with grass seed and using a lawn roller to press down the tunnels will work to reduce damage to lawns. If, however, the lawn is rich in worms and beetle larvae, the moles will persist in tunnelling and pushing up molehills.

Effective control of moles is not easy. In the past, insecticides have been applied to lawns to reduce beetle grubs, which are a major food supply of moles. The thinking was that with a reduced food supply, the moles would leave the area. In practice, the results from insecticide application have been inadequate because moles feed on a

variety of invertebrates and not just grubs. Furthermore, some of the insecticides that have been applied were toxic to other wildlife, such as songbirds. The remaining control option is to trap the moles.

Trapping is recommended for control in the spring. Harpoon and choker style traps are sold for trapping moles. Both traps kill moles quickly. Be sure to have the salesman at the hardware, garden, or farm supply store where you purchase the trap demonstrate safe setting and handling of the trap. Set the trigger mechanism to go off with the slightest upward movement (in other words, set a hair trigger). Place a wood chip or a small stick under the trigger to improve its action. The trigger should be tripped several times when the trap is in place to be sure the prongs penetrate fully. The key to successful trapping is to set the trap on a main runway. Some mole tunnels are used as main travel lands, but most mole tunnels are feeding tunnels. Feeding tunnels may be used just once. Setting a trap on feeding tunnels will not work. Locate main travel tunnels by stamping down all tunnels in the lawn. Place a bottle cap or other marker on the flattened places to help relocate them. By the next day the mole or moles using the lawn will push up the soil blocking their main travel tunnels. Stamp down the tunnel again and set the trap. If a mole is not trapped in three days and new tunnels appear in the lawn, repeat the process. Trap until there are no new tunnels produced. When the moles are eradicated, roll the lawn and reseed where necessary.

Moles can be prevented from tunneling through ornamental plantings and invading earthworm farm beds by surrounding the vulnerable areas with fencing. Burying 1/4-inch mesh hardware cloth 2 feet deep, with an outward extension of 1 foot at the bottom will discourage moles and pine voles. Be sure to leave 5 inches to 1 foot of fence above ground to prevent entry over the ground surface.

Prepared by

Peter T. Bromley, PhD
Extension Specialist, Wildlife, Virginia Tech

in cooperation with:

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