

There are six species of moles in North America, and three of these may occur in your yard (Eastern Mole, Hairy-tailed Mole, and Star-nosed Mole). Of these, the Eastern Mole (*Scalopus aquaticus*) is most common in Ohio. Moles are about the size of chipmunks (6-8 inches in length) and can weigh three to six ounces. Each year a mole can have one litter of two to six young, depending on the health of the female. Gestation lasts about five to six weeks, which means that you can expect litters anywhere from mid-April through May. Believe it or not, young moles have less than a 50% chance of surviving long enough to reproduce.

Moles are insectivores (they eat insects), and they may control some insect outbreaks. However, mole activity can also cause considerable damage to lawns. This damage is usually in the form of tunnels and/or mounds in lawn that can be unsightly, disturb root systems, and provide cover or travel lanes for other small mammals.



The Eastern mole is fossorial by nature spending the majority of its life below ground. Moles are about the size of chipmunks and reach sizes of 6-8 inches in length.

If you are like most homeowners, you are probably confused by all of the conflicting "advice" on mole control. You may believe that every rumor, home remedy, or control method is worth trying. A common example is when homeowners try to control lawn grubs and insects to reduce mole activity. However, this is often unsuccessful because the moles primary food source is earthworms. In fact, many chemicals and home remedies (including castor oil derivatives and grub controls) are not only ineffective when dealing with moles, but they allow the animals time to establish and become real problems. Moles can quickly colonize and spread through adjacent residential properties if not handled properly. Because they need a well-established tunnel network to survive, control will be more difficult the longer they are allowed to tunnel and become habituated.

On large properties mole activity may move from one part of the lawn to another. This movement is affected by climate and ground moisture. Moles will respond to changes in food supply as different insects become available in different places and at different times throughout the year. If disturbed, moles may temporarily leave an area but will usually return when you least expect it. Even without disturbance mole activity may last only a week or two in a particular area. This here-today, gone-tomorrow behavior is probably the root of most of the misconceptions that make some home remedies and pesticides appear credible.

## Habitat modification

Over-watering your lawn can bring soil invertebrates and moles closer to the ground surface, making tunnels more visible. Reducing the amount or frequency of watering may help temporarily. Reducing the amount of turf grass on your property will also reduce the visible signs of damage. In the long run, converting lawn to gardens, paths, hedgerows, or other more natural habitats can save you time and money as well as provide habitat for beneficial birds and butterflies.

## Scare tactics and repellents

Numerous home remedies have been used, but results are inconsistent and generally ineffective. Remedies such as pickle juice, broken glass, red pepper, razor blades, bleach, moth balls, raised branches, human hair balls, vibrators, ultrasonic devices, castor bean derivatives (Castor Oil), and explosives may relieve frustrations, but they have little value in controlling moles and may harm you or the environment. Furthermore, certain chemicals or explosives are illegal to use.

## Trapping

Trapping is the most effective and practical method of mole control. In general, trapping success is greatest in the spring and fall, especially after rain. In the summer and winter, moles are active in deep soil and more difficult to locate. Three types of mole traps are especially effective: harpoon, scissor-jaw, and choker loop. To ensure safe and humane deployment, be sure to follow printed instructions. Note: The instructions included with harpoon style traps will not provide for consistent results! The run must be collapsed and the trigger pan securely pressed into the run creating a blockage allowing the mole to trigger the trap when attempting to reopen the tunnel. Traps should be set in active surface burrows.



Moles are easily identified by their large paddle like front feet utilized for digging extensive tunnel systems. Because of their specialized bone and muscle structure moles are able to exert a lateral digging force of up to 32 times their body weight.



Pictured above are typical traps utilized in humane and effective mole control, including: harpoon, scissor-jaw, and choker loop style traps.

Active runs can be located by stepping down the run, marking the location, and checking to see if the tunnel is reopened within 24 to 48 hours. Permanent or deeper tunnels will be the most productive trap locations since these tunnels may be used several times daily. To identify main runways in a yard or area, look for constantly reopened tunnels that follow a generally straight line or that appear to connect two mounds or two feeding areas (branching tunnels). Main runways often will follow fencerows, walkways, foundations, or other manmade borders. Occasionally, main runways will occur along woody perimeters of a field or lawn. Meandering tunnels in the lawn are "probes" that are quickly constructed by moles and may not be reused. Locating traps in these probes may not be productive.

All things considered, moles are fascinating animals ...

- A 5 ounce mole will consume 45-50 lbs. of worms and insects each year.
- Moles can dig surface tunnels at approximately 18 feet/hour.
- Moles travel through existing tunnels at about 80 feet/minute.
- Moles contain twice as much blood and twice as much hemoglobin as other mammals of similar size. This allows moles to breathe more easily in underground environments with low oxygen.