A clear, cool evening following one of mid-Missouri’s spring thunderstorms leads you out of
the house and into the back yard for a stroll. It’s not long and you find yourself ankle deep in mud and water. You’ve just stepped into a mole run and then start to observe a network of heaved soil and sod that was not there the previous day. You have moles!

While most people have never seen a mole, they are well aware of the damage they cause to lawns and flowerbeds. Most individuals think moles feed primarily on the roots of plants and cause them to die. The truth is, a mole feeding on plant material is very limited. It’s the air pockets they create around roots and flower bulbs that cause them to dry out and die. Others will swear by a number of home remedies to control or repel moles. These include such things as human hair, Juicy Fruit gum, poison peanuts, mothballs, flooding tunnels with a garden hose and water (flooding tunnels creates a moist environment favorable for earthworms), a hose connected to a car’s exhaust and finally, pets (some dogs and/or cats can be effective).

The Eastern Mole’s (*Scalopus aquaticus*) range of distribution reaches all of the eastern United States to most of the mid-western states. The entire state of Missouri falls within its’ range.

A mole lives most of its’ life underground and are highly specialized animals for their subterranean way of life. The Eastern Mole is a small, sturdy animal, 5 ½ to 8 inches long, with a somewhat cylindrical body and elongated head. The Eastern Mole is grayish-brown on the back to pale or more brown on the belly. Their velvety fur often has a silvery sheen. Occasionally bright orange or cinnamon-yellow marking will occur. Their fleshy snout serves as a highly sensitive organ of touch and smell to seek out numerous food sources. Their tiny eyes are concealed in fur and covered by fused eyelids; sight is limited to distinguishing light from dark. The greatly enlarged front feet are normally held with the soles vertical and pointing outward. They possess well-developed claws that have a specialized bone attached to the wrist, which aids in digging.

Moles construct networks of tunnels in the soil surface. Many of these are built after rains when the mole is in search of new sources of food and are usually not re-used. Digging of surface tunnels normally proceeds at a rate of 1 foot per minute. They tend to feed and rest on two-hour cycles, 24 hours a day. Animal foods constitute about 85 percent of their diet. This includes
earthworms (their main source of water) and grubs primarily; however millipedes, centipedes, spiders, sow bugs, snails and slugs are taken in considerable amounts. Moles are insatiable eaters and can consume 70 to 80 percent of their body weight daily. Moles generally move up or down within the soil profile to follow food sources such as earthworms, which move with soil moisture. That is why we do not see much mole activity during a droughty summer, but with spring and fall rains, activity abounds.

Moles also create mounds (called molehills) of soil in the lawn by pushing up soil developing deeper, permanent tunnels and nesting cavities. Mating occurs in the spring with a single annual litter of 2 to 5 young being produced in March, April or the first week of May. High infestations consist of 2 to 3 moles per acre.

**Management or Control:**

There are products on the market that are available to homeowners and can be purchased at local nurseries or garden centers. Most of these tend to work as a repellant based on castor bean oil as the active ingredient. These products need to be sprayed at regular intervals to maintain a barrier that repels these small mammals to your neighbor. New products called "Kaput" Mole Control and "Moletox Gel Bait" are warfarin water-based gels flavored with earthworm scent and placed in the feeding runways made by the moles. It is best to locate the active runways as you would for trapping (see below) before placement of the bait.

Controlling earthworms is not recommended since they are considered a beneficial organism that aerates the soil and breaks down organic materials.

Poison peanuts are not very effective since we mentioned 85 percent of their diet consists of earthworms and insects. If you're willing to buy these produces, then I would suggest investing in two or three traps and there are several types available. Trapping is the most efficient means of controlling moles and anyone can be successful by following a few simple steps.

If you have a mole building mounds, there really isn't much you can do unless you catch them in the act and move quickly with a spade or shovel. Your success on these, however, is still very limited.
If you have the network of shallow runways used for feeding, then you can do some effective trapping. First, with a small stick or broom handle, poke holes in various runways over the entire network. Come back two hours later and inspect those holes. Find the tunnels with the holes plugged back up and this indicates to you which runways are active feeding tunnels at that time. These are the tunnels that you want to set your traps on. The main key in trapping is to locate the active runways.

Second, select a tunnel to set your trap. There are several types of traps to choose from and simply follow the instructions of the manufacturer to set the trap. The Nash trap (wire hoop type - C) and the Victor "Out O' Sight" trap (scissors type - A) do work, but seem to be more difficult to set. The Victor "Harpoon or Gig" type trap - (B) has been the most successful trap for us at the MU Turfgrass Research Center. To set, take your foot and push down a four-inch swath of the runway. Before setting the harpoon, push the trap into the soil with the gigs over the runway and move up and down several times to reduce the friction of the soil against the gigs. This will insure a quick and decisive thrust of the harpoon. While the trap is in the soil, pull the harpoon up and lock it in position with the trigger pan (flat plate) slightly touching the depressed runway. Your trap is set. Third, poke a hole in the runway on each side of the trap one foot away, then wait a couple hours or until you notice the trap has been sprung. Fourth, look at the holes on each side of the trap. If one hole is plugged with the trap sprung, then you more than likely caught the mole on that side. This is where you need to be prepared with a spade in hand to retrieve the trap. If both holes are plugged with the trap sprung, then the mole more than likely made it through the trap. Simply reset the trap on the same runway or over another active runway.

Control and trapping moles requires a little time and patience. Your success with controlling moles is dependent on locating active runways and the proper placement of a trap. Additional information on moles can be found in MU Guide #9440, "Controlling Nuisance Moles." The descriptive information on moles was found in "The Wild Mammals of Missouri" by Charles W. Schwartz and Elizabeth R. Schwartz.