Ground Invasion by Moles

Nebraska Extension
Moles

Drawing: University of Nebraska–Lincoln

Photo: University of Nebraska–Lincoln

Photo: Steve Hahus, All Wild About Kentucky’s Environment.
Eastern Mole

- Short, velvet fur
- Black, gray, or brown
- 4-7 inches long
- Short tail
- Very small eyes and ears
- Long naked snout
- Wide mitt like front paws
- Large claws in front only
- Small pointed teeth
The Eastern Mole

- **Life Style**
  - Tolerate low oxygen levels
  - Fossorial—live underground

- **Habitat**
  - Prefer moist, loose soil
  - Prefer less disturbed areas

- **Reproduction**
  - Once/year (May–June)
  - 2-5 young in deep nest

Photo: University of Nebraska–Lincoln
The Eastern Mole

- Feeding
  - Insectivorous
  - 70% Earthworms
  - Consume 45-50 lbs annually

- Foraging
  - 50 - 75 ft of surface tunnels per day
  - Moist, shaded areas

- Movement
  - Travel 80 ft per minute in burrows
  - Males - 3A   Females - 0.66A
Mole Signs and Damage

- **Burrowing**
  - Runs: Moles push up sod just under the surface; tear turf roots
  - Mounds: Made when moles go deep, round and conical about 8” across and 6” high. Cover and smother grass
  - Nests: In deep burrows 18-24” below the surface

Drawing: University of Nebraska–Lincoln
Mole Damage Identification

- Mole Mounds
  - Caused by moles digging deep tunnels
  - They literally carry the dirt to the surface

Drawing: University of Nebraska–Lincoln
Mole vs. Gopher Mounds

Mole Mound  Pocket Gopher Mound

Top Views

Mole Mound  Pocket Gopher Mound

Side View

Courtesy of the University of California, Davis
Mole Damage Identification

- **Runs**
  - **Travel Runs**
    - ✓ Long
    - ✓ Straight
    - ✓ Connect feeding areas and living areas
  - **Feeding**
    - ✓ Short
    - ✓ Crooked

Photo: Thomas Olander
Mole Management

- Habitat Modification
  - Change the ground cover (crawling ivy, mulch etc.) so that mole activity isn’t visible
  - Reduction of grubs MAY work if the soil lacks sufficient number of other invertebrates such as worms and ants
Mole Management

- Habitat Modification
  - Install rocks, gravel, packed clay barriers: 24” deep
  - Install fences or metal barriers: 24” into grade

Photo: University of Nebraska–Lincoln
Frightening Devices

- Ultrasound and thumpers
  - No conclusive evidence they work
Mole Management

**Repellents**

- Odorous repellents, such as castor oil, must be applied often and watered in properly.
- Vibration devices must be very strong and only cover a small area.

**Limitations:** Efficacy of castor oil is disputed.
Trapping Safety

- Wear appropriate safety equipment, such as gloves, when handling traps and animals
- Avoid setting traps in areas with high human/pet traffic
- Check traps daily. Don’t set them if you can’t check them the next day
Mole Management

- Traps
  - Many types of lethal mole traps
  - Use on surface runs that are active and reappear
  - Walk over all runs
  - Place traps on runs the mole has reopened
  - “Test fire” harpoon traps in non-sandy soils
  - Trapping can be very labor intensive
  - Extreme care must be taken when using traps
Mole Control: Lethal

- **Trapping:** All the traps work
  - Trapping is extremely effective
  - Pesticide free

Drawing: University of Nebraska–Lincoln
Mole Trapping Principles

- Use 3 or more traps/Acre
- Surface tunnels
  - Set the long (3ft or more) straight tunnels
  - Set the new tunnels
- Boils
  - Dig to the horizontal tunnel
  - Set the new boils
Mole Trapping: Surface Runs

- **Harpoon**
  - Find the run
  - Make sure trap legs don’t invade the tunnel
  - Depress only enough tunnel for the trigger
  - Pre-form the time holes
  - Set trap so tines are NOT above the soil
  - Cover with 5 gal. bucket
Mole Control Trapping

Boils

- Scissor trap
  - Dig to the horizontal tunnel
  - Place jaws to straddle the tunnel
  - Create barrier or install “woody”
  - “Test fire” trap
  - Reset and back fill trap, and flag it

Drawings: Tom Schmidt
Mole Control: Toxicants

- Follow Label Instructions
- THE LABEL IS THE LAW!
Mole Control: Toxics

**Toxicants: Fumigants**

- **Two types:**
  - Smoke or sulphur cartridges
  - Phosphine gas pellets (Restricted Use Pesticide)

- Fumigants have the challenge of having to get the toxic gas through the mole’s extensive tunnel system. Best used in deep tunnels, not surface tunnels.
Mole Control: Toxicants

- **Toxicants: Baits**
  - Remember, moles feed on LIVE earthworms, so grain based baits will NOT work!
  - The bait must smell and feel like an earthworm to the mole
Mole Control: Toxicants

- Toxicants: Baits
  - Baits must be placed in the active surface burrows
  - The burrows must be closed after the bait is introduced
  - Always read and follow all label directions
Mole Management

“Wannabes”

- Many products have been tested by universities and found to be non-effective in controlling moles; better to use proven methods

- Miscellaneous home remedies
  - Pinwheels/windmills
  - Animal scat
  - Birth control pills
  - Chewing gum
  - Used cat litter
  - Kerosene
  - Ultrasonics
Resources/Information

- Internet Center for Wildlife Damage Management
  - [http://icwdm.org](http://icwdm.org)

- Prevention and Control of Wildlife Damage

- Local Extension/Pesticide Safety Education Program Office
  - Learn more about becoming a Licensed Pesticide Applicator. Only necessary for Restricted Use Pesticides (Wildlife Damage Control Category 14)
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