

The slide features five light purple circles. Three are solid and two are hollow. The hollow circles are positioned behind the 'V' and 'M' of the title. The solid circles are positioned behind the 'o' and 'e' of 'Moles', and behind the 'e' of 'Voles'.

# Voles & Moles

They can be controlled

# Voles AKA Meadow Mice

- Scientific Name  
Subfamily Arvicolinae



# Voles: Most wanted List

The title is centered at the top of the slide. It is flanked by five circles: a solid light purple circle on the far left, an outlined light purple circle, a solid light purple circle, an outlined light purple circle, and a solid light purple circle on the far right.

- Meadow Vole
  - Above ground
  - Active day or night but prefer dusk/dawn
  - 1-17 litters/yr 1-7 young
  - Explosive population
  - Prefers fields
- Pine Vole
  - Below ground
  - Active day or night
  - 1-4 litters/yr 1-5 young
  - Steady population
  - Prefers woods

# Vole Damage Identification

- Trails in grass
  - Sometimes the trails have so much traffic the grass is worn all the way through to the dirt.



# Voles Damage Identification

- Dime Sized Holes



# Voles: Damage Identification

- Vole Hole



# Vole Damage Identification

- Subnivean “Under the Snow” Clues



# Vole Damage Control~Non-Lethal

- Habitat Modification
  - Remove Ground Cover: voles don't like exposure to potential predators
    - Weeds
    - Crawling ivy/vines
    - Till soil to impact tunneling.
    - Avoid using landscape fabrics

# Vole Control: Non-Lethal

- **Habitat Modification**
  - **Remove Food Sources**
    - **Eliminate or modify bird feeders**
    - **Modification ideas**
      - **Single seed**
      - **Recapture Feeders**  
eg. Tidy Diner
    - **Stop squirrels: It can be done!!!!**



# Vole Control Non-Lethal

- Habitat Modification
  - Exclusion
    - Fence Gardens
      - 12 inches high
      - ¼ inch weave
      - 6-10 inches in-ground
      - weed free barrier too.
- Source: Univ. of CA Davis
- No endorsement of any commercial product is implied here.
- <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7439.htm>



# Vole Control: Non-Lethal

- Habitat Modification
  - Use plastic tubes or cartons to protect young plants.
    - Insert below ground 3"
    - Above avg. snow height
    - Check often to ensure barrier hasn't been breached

## Source: Univ. of CA Davis

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# Vole Control: Non-lethal

- Don't waste your time.
- If you have faith in the chemical industry then you can look at
  - Fox urine: very weak if any help
  - Casoron see article at <http://wildlifedamage.unl.edu/handbook/Chapters/pdf/6ewdcsalatti.pdf>
  - Ultrasound: most animals can't hear it any better than we can.

# Vole Damage Control~ Lethal

- Trapping
  - Snap traps
    - Use plenty
    - Cover or place inside pipes/tubes
    - Bait-Peanut-butter etc.
  - Multiple-catch Traps
    - Place snap traps inside.



# Vole: Lethal Control



- **Trapping Techniques**
  - **Trap aggressively. 2 traps won't cut it.**
  - **Place snap-traps so trigger is in the trail.**
  - **Place snap-traps inside larger containers to prevent non-targets.**
  - **Baits: peanut butter, oatmeal, molasses,**
  - **Place snap-traps inside Multi-catch**
  - **Always use rubber gloves when handling traps and carcasses.**

# Voles: Lethal Control



- **Other Techniques:**

- **Poison baits: Use anticoagulants (mult.feed) or Zinc Phosphide (acute feed) etc.**
  - **Usually only necessary on large plots of land eg. Acres.**
  - **May require pest control permit**
  - **Broadcast/meadow vole; place/pine vole**
- **Fumigants:**
  - **Don't bother: hard to push smoke through a tunnel.**

# Moles

- Scientific Name Family: Talpidae
- Behavior
  - Subterranean (most of their lives underground)
  - Diet
    - Insects: plants are secondary
    - Distribution
      - 2-3 moles per acre
  - Can dig 100 ft per day



# Mole Species

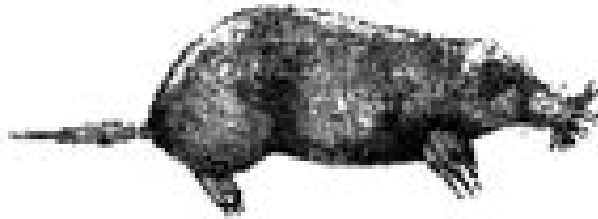


## **Eastern Mole**

**Scalopus aquaticus**

**Well drained soil**

<http://www.ext.vt.edu/pubs/wildlife/420-201/420-201.html>

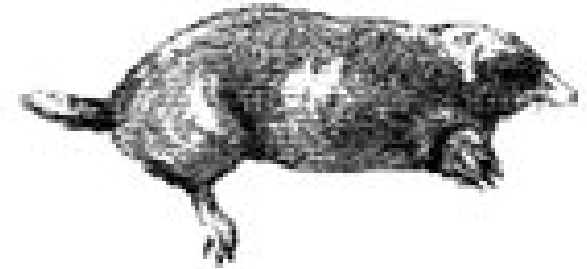


## **Star-Nosed Mole**

**Condylura cristata**

**Wet soil and water**

**Irregular tunnels**



## **Hairy-Tailed Mole**

**Parascalopus breweri**

**Well drained soil**

**Will feed above ground**

# Mole Damage Identification

- Boils
  - Caused by moles digging deep tunnels.
  - They literally carry the dirt to the surface.



# Mole Damage Identification

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





# Mole Control: Non-lethal

## ■ **Repellents**

- **Castor Oil: Sold under various names such as Mole Med, Mole Out etc.**
- **Ultrasound: Don't bother**
- **Thumpers/Windmills: Don't bother**
- **Moth Balls: just use it for moths**

# Mole Control: Habitat Modification

- **Stupid Ideas that will work:**
  - **Pave over lawn**
  - **Pour enough toxic chemicals in your yard to kill every insect/worm in the soil.**



# Mole Control: Lethal/Non-lethal

- **Fumigants: Don't bother (see voles)**
- **Crushed glass**
- **Juicy Fruit Gum**
- **Dog Hair/ Cat Hair/Human Hair**

# Mole Control: Lethal

- Poison Bait: Kaput
- Locate fresh main underground runway
- Inject 1/2 ounce of Kaput Mole Gel Bait, at 6 different locations in the same tunnel, approx. 25 ft apart.



# Mole Control: Lethal

- **Trapping: The Environmental Solution**
  - **All the traps work**
  - **Trapping is extremely effective**
  - **Poison free**
  - **Legal unless you live in Massachusetts**  
(banned by voters in 1996)

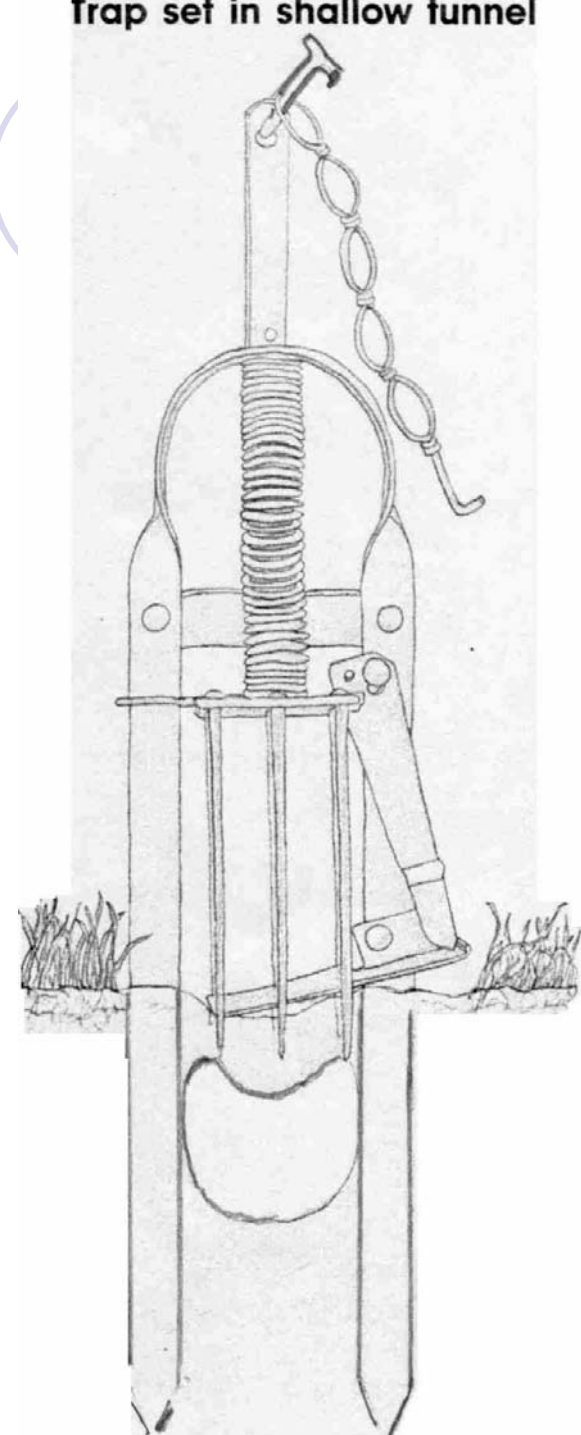


# Mole Control Trapping Principles

- **Use more than one trap**
- **Surface Tunnels:**
  - **Set the long straight tunnels**
  - **Set the new tunnels**
- **Boils**
  - **Dig to the tunnel**
  - **Set the new boils**

# Mole Trapping: Surface Runs

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



# Mole Control Trapping Boils

- Scissor Trap
  - Dig to the travel tunnel
  - Place jaws to straddle the tunnel
  - Create barrier or install woody
  - Test fire trap
  - Reset and back fill trap.

