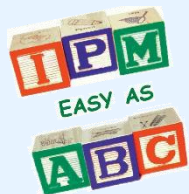


# Ground Invasion by Pocket Gophers

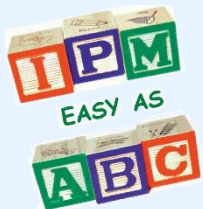
Nebraska Extension



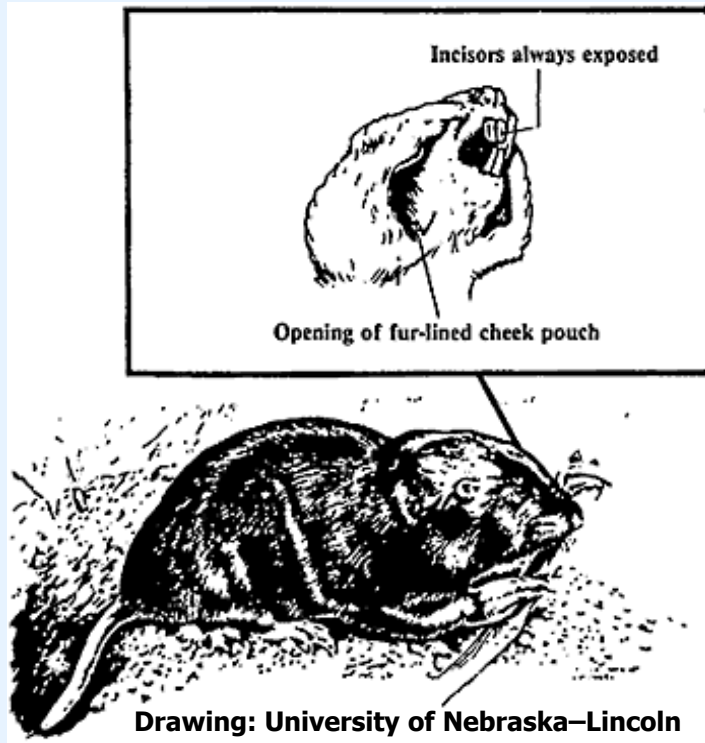
# Pocket Gophers



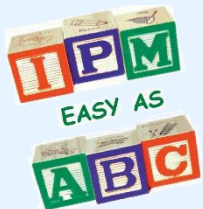
Photo: University of Nebraska–Lincoln



# The "Pocket" Gopher

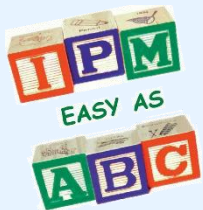


- ❖ On either side of the mouth lies a fur-lined pouch that is used to carry stems, leaves, and roots
- Some people misapply the word "gopher" to ground squirrels



# Pocket Gophers are rodents

- ❖ Up to 12 inches long and average  $\frac{1}{2}$  to  $\frac{3}{4}$  pound
- ❖ Nebraska has 2 main species
  - Plains (*Geomys bursarius*)-most of Nebraska
  - Mountain (*Thomomys talpoides*)-extreme NW and SW Nebraska



# Underground Bulldozers

- ❖ Pocket gophers have oversized front limbs and claws
- ❖ More than a ton of soil can be moved each year



Drawing: University of Nebraska–Lincoln



Photo: University of Nebraska–Lincoln

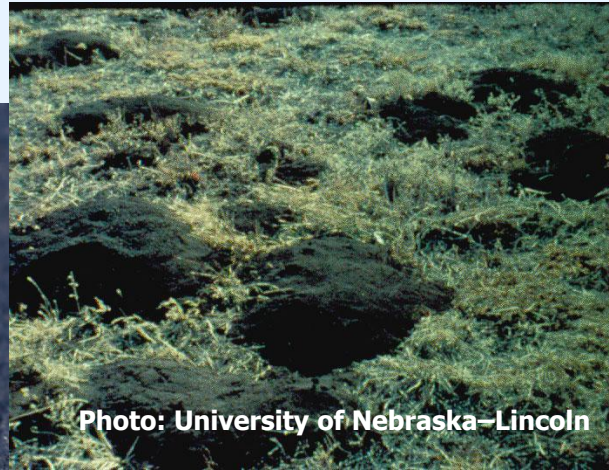
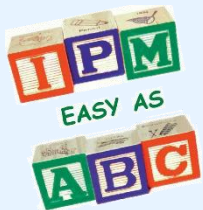
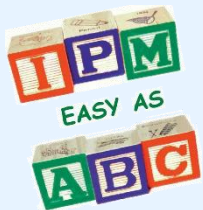


Photo: University of Nebraska–Lincoln



# Pocket Gopher Biology

- ❖ Solitary except for mating and raising young
- ❖ Mate 1/year
- ❖ Litter sizes 3-4 young/Spring
- ❖ Young disperse above ground in fall and usually at night



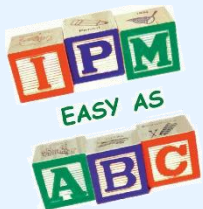
# Pocket Gopher Biology

## ❖ Senses

- Poor hearing and eyesight
- Highly developed sense of touch
- Fossorial-live underground

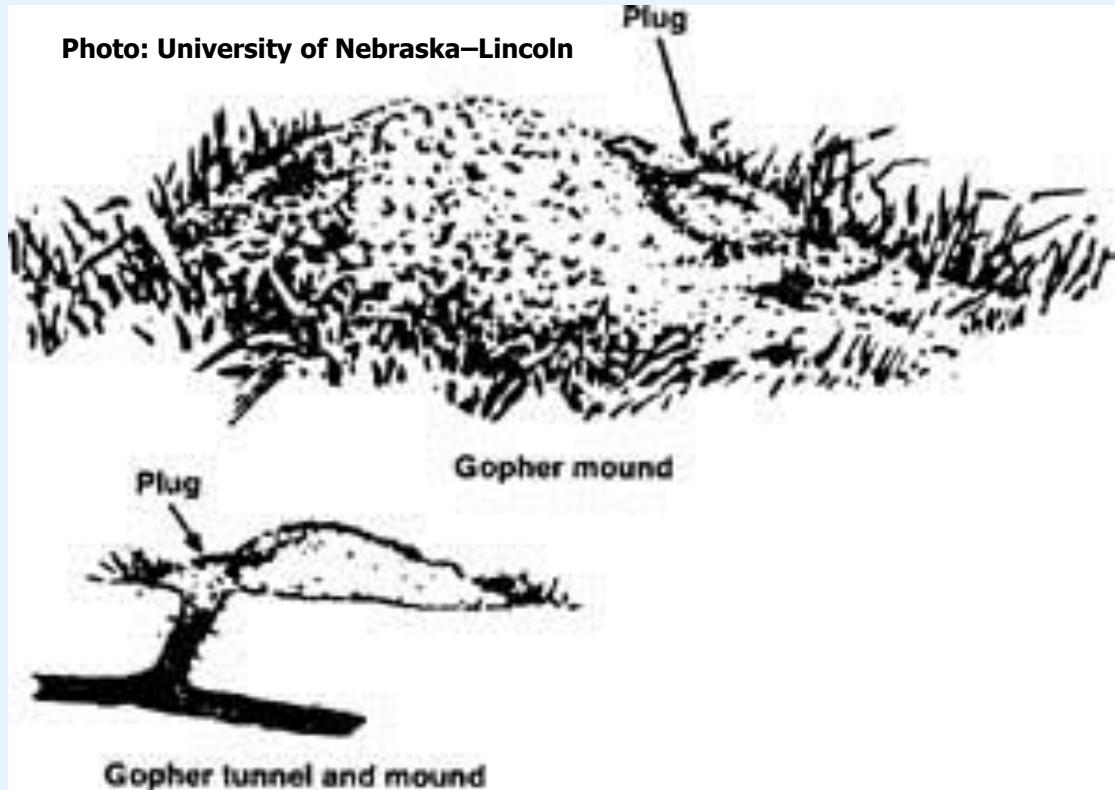
## ❖ Habitat

- Soil firm enough to maintain tunnels
- Avoids rocky soils and swampy soils

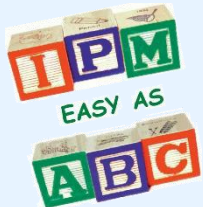


# ID of Pocket Gopher Mounds

Photo: University of Nebraska–Lincoln



**Pocket gophers create mounds 12-20 inches in diameter**





# Mole vs. Pocket Gopher Mounds

Mole Mound

Pocket Gopher Mound



Top Views

Courtesy of The University of California, Davis

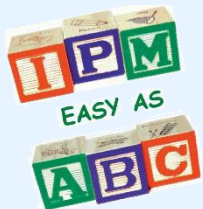
Mole Mound

Pocket Gopher Mound



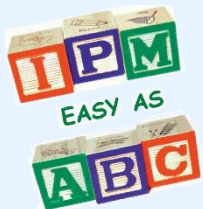
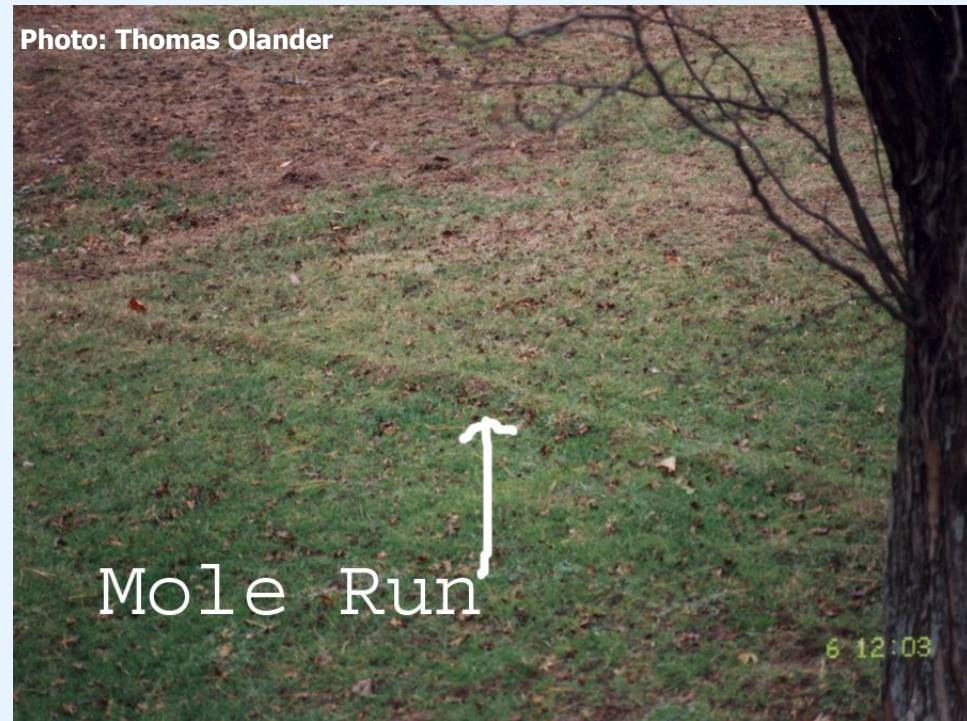
Side View

Courtesy of the University of California, Davis



# Only Moles Create Surface Runs

- ❖ Pocket gophers  
DON'T create  
runs
- ❖ Pocket gophers  
ONLY create  
mounds



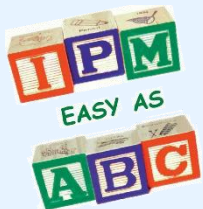
# Signs of Pocket Gophers

- ❖ Mounds of soil occur most often during early Spring and Fall
- ❖ Sizes of mounds are 10 to 20 inch in diameter

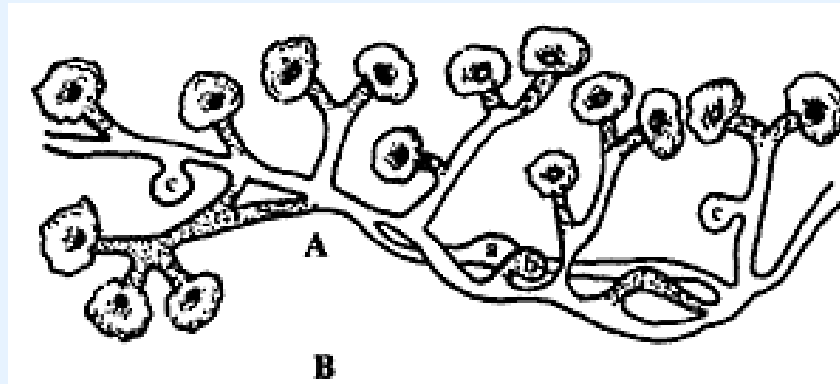


Photo: University of Nebraska–Lincoln

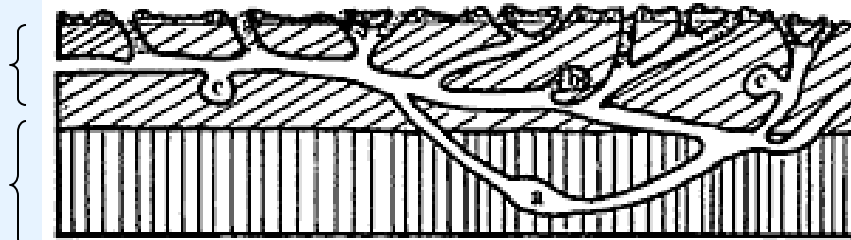
**One pocket gopher can build over 200 mounds in a year!**



# A Pocket Gopher has a complex underground system



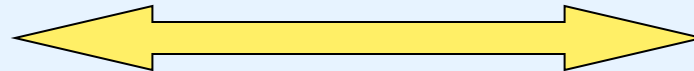
**Top View**



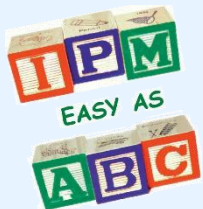
**Side View**

Root Zone  
Frost-free  
zone

Drawing: University of Nebraska

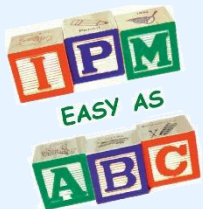


75 to 100 feet



# Winter Soil Casts

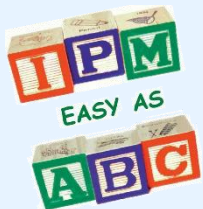
- ❖ Caused when a gopher excavates soil to the surface into snow tunnels
- ❖ This usually occurs under deep, long-lasting snow



# Damage to Lawns and Equipment

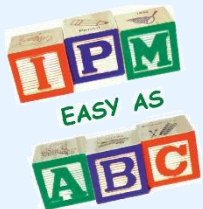


- ❖ Mounds cover grass
- ❖ Destroy plastic and rubber piping 2.8" in diameter or smaller



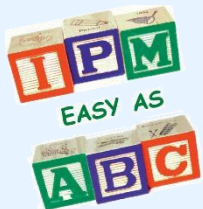
# Damage to Plants

- ❖ Underground roots up to 4 inches in diameter can be severed
- ❖ Girdling may occur at or below ground



# Excluding Pocket Gophers Around Flower Beds, Trees, or Shrubs

- ❖ Build an underground fence of  $\frac{1}{4}$  or  $\frac{1}{2}$  inch galvanized wire mesh
- ❖ Bury at least 18 inches



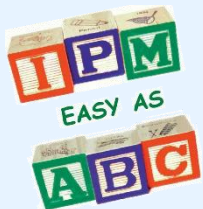


# Excluding Pocket Gophers Around Buried Utility Cables or Irrigation Tubes

- ❖ Trenches can be filled to surround the pipe with 6 inches of large gravel (> 1 inch diameter)
- ❖ Use conduit or pipe diameters > 2 7/8 inches

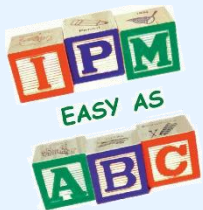


Photo: University of  
Nebraska-Lincoln



# Cultural Practices to Deter Gophers

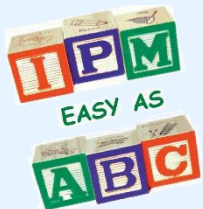
- ❖ Flooding often kills gophers or sometimes discourages them from digging
- ❖ Apply weed control to those species that produce large, attractive roots
  - Best if done for 2 straight years

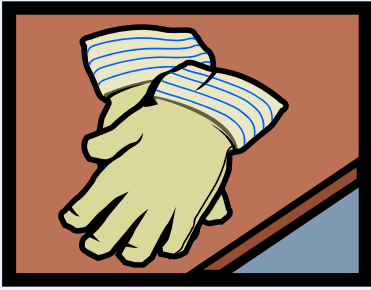


# Repellents for Gophers

❖ None

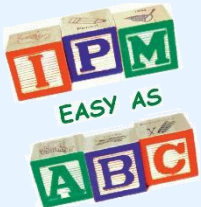
- Questionable effectiveness of predator odors, sonic devices, and botanicals





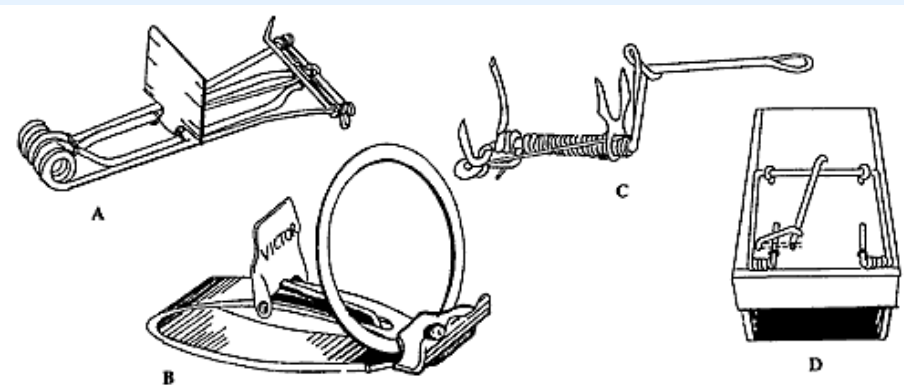
# Trapping Safety

- ❖ 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



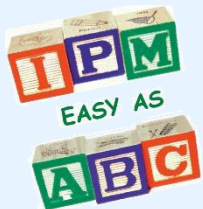
# Pocket Gopher Control Solutions

Drawing: University of Nebraska–Lincoln



Gopher traps: A. Macabee® type; B. Victor® Gopher Getter; C. Death-Klutch®-1; D. Box-type

- ❖ There are a wide variety of traps on the market
- ❖ Place them below mound in opened tunnel. They can then be left open or closed, depending on preference



# Setting Gopher Traps

- ❖ Look for the freshest mound
- ❖ Find the soil plug in it
- ❖ Now remove the soil with a trowel

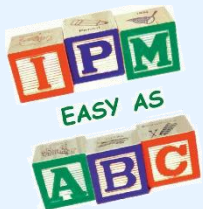
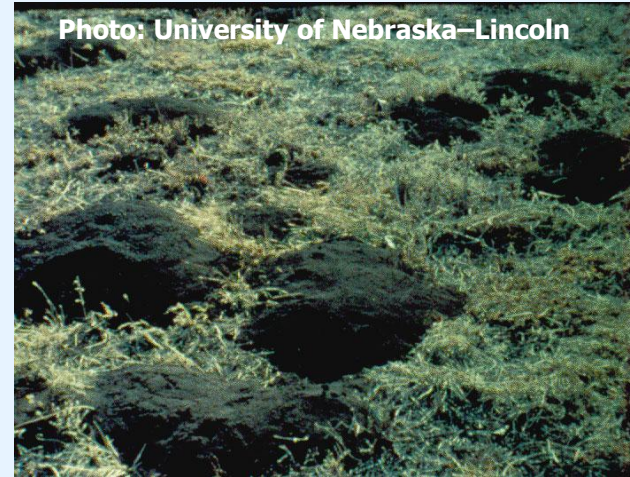
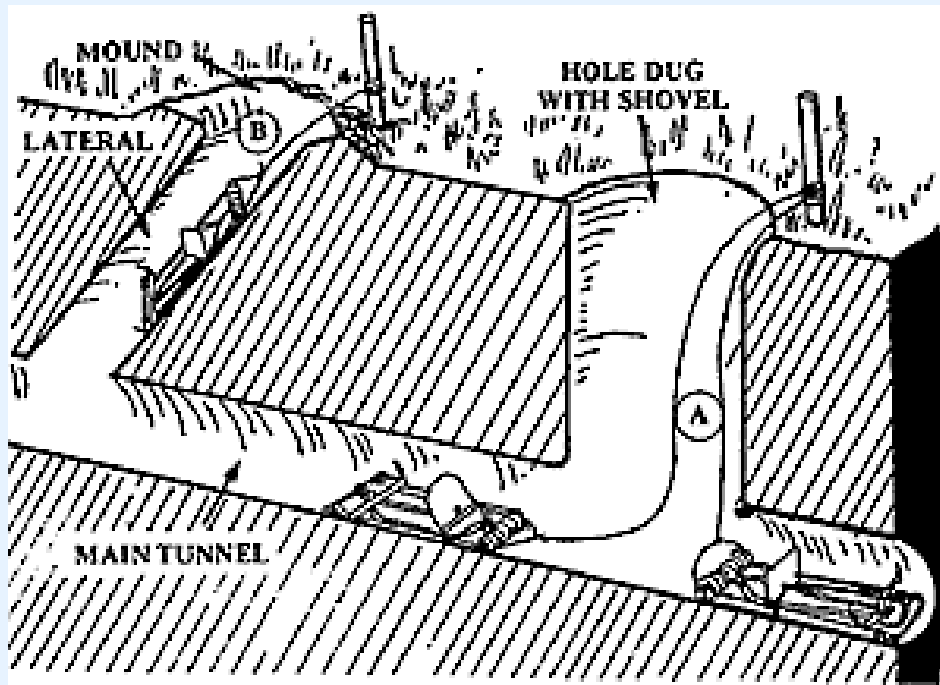


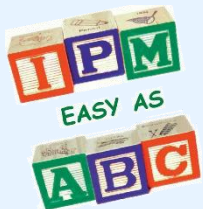
Photo: University of  
Nebraska-Lincoln

# Setting Gopher Traps



Drawing: University of Nebraska–Lincoln

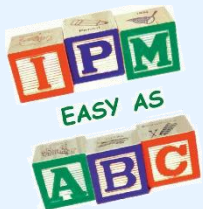
- ❖ Always place traps below ground
- ❖ Always wire-tie them to a stake
- ❖ You may use lure baits (carrots, fresh alfalfa) behind traps



# Pocket Gopher Control: Toxicants



- ❖ Follow Label Instructions
- ❖ THE LABEL IS THE LAW!



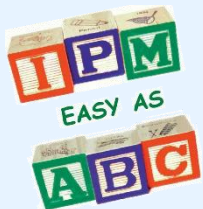


# Methods of Poisoning Pocket Gophers

❖ Alternative 1 —toxicants placed below mound in tunnel through hand baiting

OR

❖ Alternative 2 —fumigants placed below mound in tunnel



# Gopher Toxicant Types

- ❖ Anticoagulants, chlorophacinone (RoZol®) and diphacinone (Kaput-D)
- ❖ These multiple-dose toxicants require a greater amount of bait than zinc phosphide or strychnine

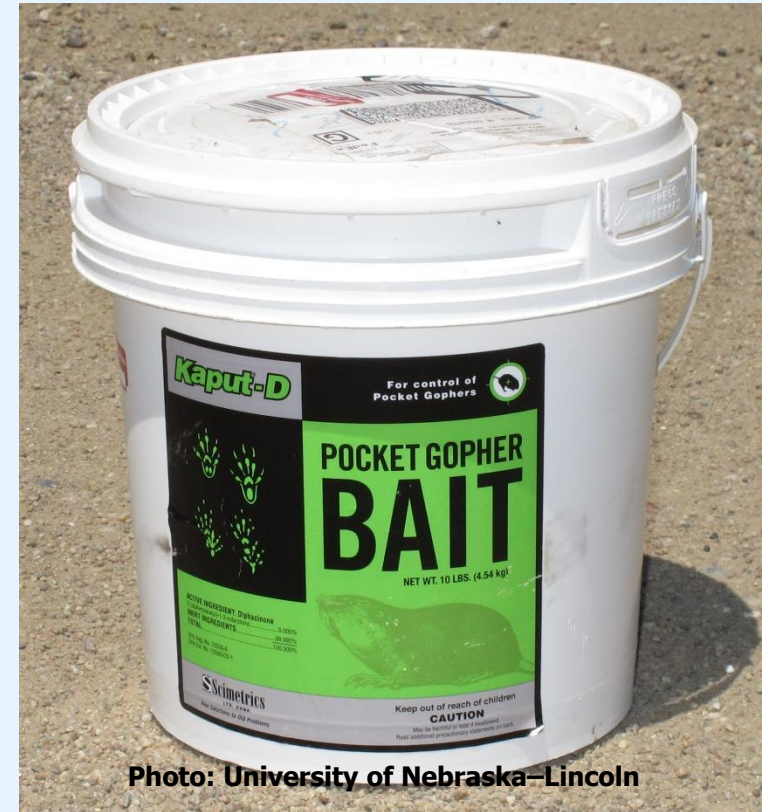
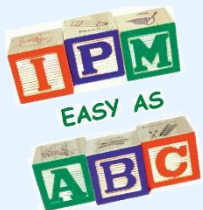


Photo: University of Nebraska–Lincoln

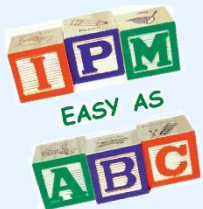


# Choosing Toxicants for Pocket Gophers

Photo: University of Nebraska–  
Lincoln



- ❖ Zinc phosphide has been shown to be slightly less effective than strychnine

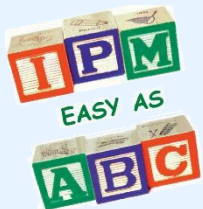


# Hand Baiting Tools

- ❖ Tools may include:
  - A probe to locate the mound plug
    - ✓ 12-inch No. 9 wire
    - ✓ Long-handle screwdriver
  - ❖ A garden trowel
  - ❖ A small funnel with tube extension to dispense bait
  - ❖ A flag to mark the mound



Photo: University of Nebraska–Lincoln

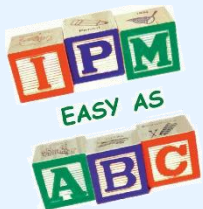


# Probes for Pocket Gophers

- ❖ Probes are rods used to help find gopher tunnels
- ❖ Probes can be simple homemade rods or professionally manufactured ones

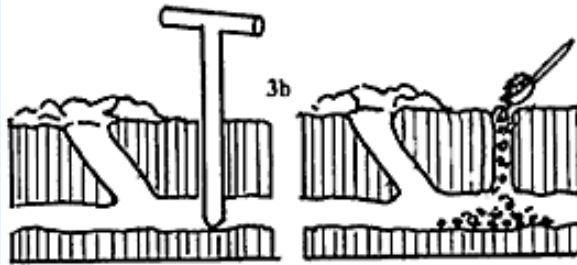
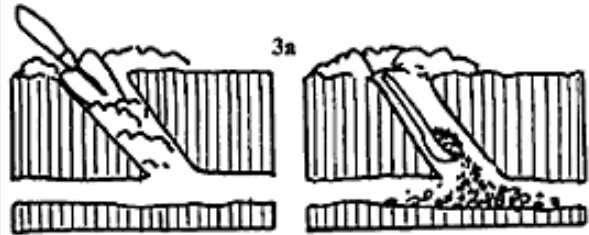


Photo: University of Nebraska–Lincoln



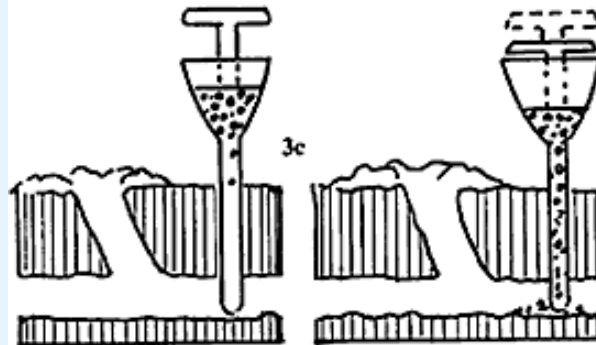
# Three Methods of Hand Baiting

Hand baiting through mound

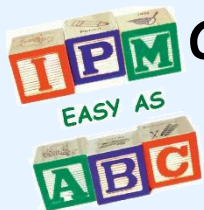


Probing and baiting

Use of probe with bait applicator



Drawing: University of Nebraska-Lincoln



# Fumigants

❖ Most effective when

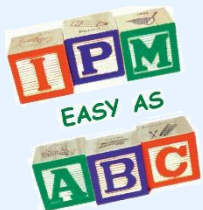
- Soil is moist
- Soil is a loam or clay
- Tunnel system is small (new)
- Treat deep tunnels

❖ Gophers may sense gas and push soil between it and them

❖ Retreating tunnels are often necessary



Photo: University of Nebraska–Lincoln



# Resources/Information

- ❖ Internet Center for Wildlife Damage Management

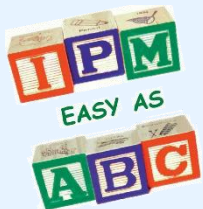
- <http://icwdm.org>

- ❖ Prevention and Control of Wildlife Damage

- <http://icwdm.org/handbook/index.htm#om>

- ❖ 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)





# Credits

## ❖ Content Specialists

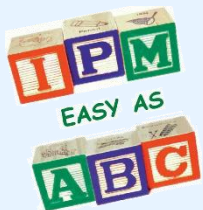
- Stephen M. Vantassel, Nebraska Extension
- Dennis Ferraro, Nebraska Extension
- Dallas Virchow, USDA-APHIS-Wildlife Services

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- Stephen M. Vantassel, Nebraska Extension



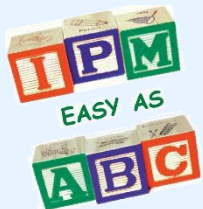
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