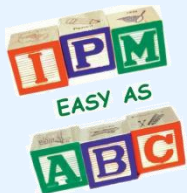




Rabbit Management

Nebraska Extension



The Cottontail Rabbit

- ❖ Shorter ears than jackrabbits
- ❖ White cotton-like tail
- ❖ Weigh 2-3 pounds
- ❖ Reddish color patch between shoulders



Photo: University of Nebraska–Lincoln



Black-tailed Jackrabbit



Photo: USDA-APHIS

- ❖ Long ears
- ❖ Has tail that is black on top but white below
- ❖ Weighs 3-7 pounds
- ❖ Can feed in small groups in the late afternoon or evening



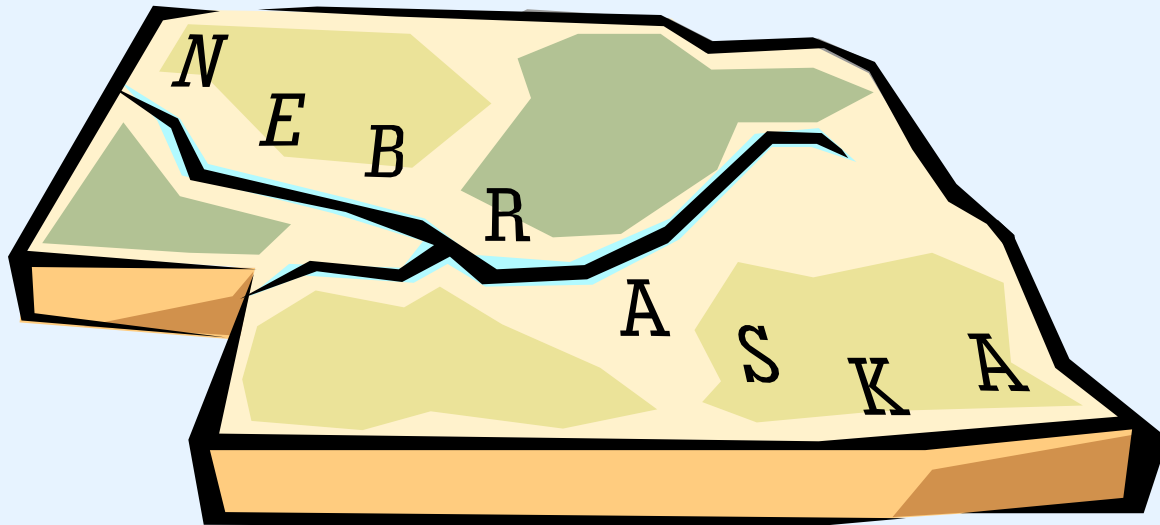
White-Tailed Jackrabbit

- ❖ Long ears
- ❖ White tail
- ❖ Weighs 5-10 pounds
- ❖ Tends to be solitary and active at night



Distribution

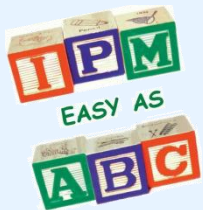
- ❖ Cottontails occur throughout most of Nebraska
- ❖ Jackrabbits— have suffered serious population declines in recent decades. Hunting is prohibited east of U.S. Highway 81.



Cottontail Rabbit Biology

❖ Cottontails:

- Have 3-5 young per litter
- Have 2-3 litters/year
- Raise naked, helpless young in fur-lined cup-shaped nests called forms
- Eat vegetation within 2 weeks of birth
- Leave nest in 5 weeks



Cottontail Rabbit Biology

❖ Lifespan

- Most cottontails live only 1 year
- Only 1 out of 100 live for 3 years

❖ Home Range

- About 10 acres

❖ Diet

- Garden vegetables
- Flowers
- Shrubs
- Stems and leaves



Jackrabbit Biology

❖ Jackrabbits:

- Have 3-5 young per litter
- Have up to 4 litters/year
- Give birth to young capable of running in cupped depressions called forms
- Eat vegetation within 10 days of birth
- Leave nest in 3-4 months
- Also known as "Hares"



Jackrabbit Biology

❖ Lifespan

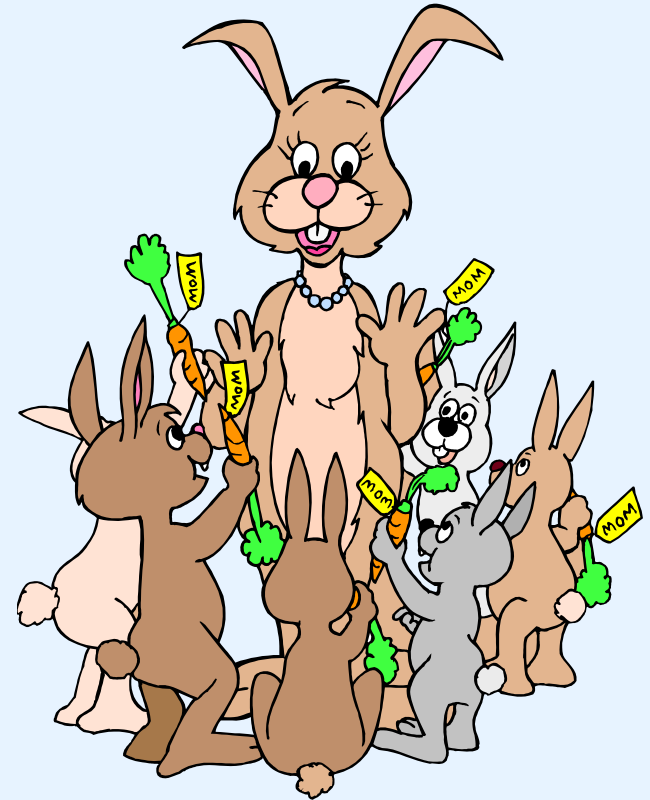
- Less than 2 years

❖ Home Range

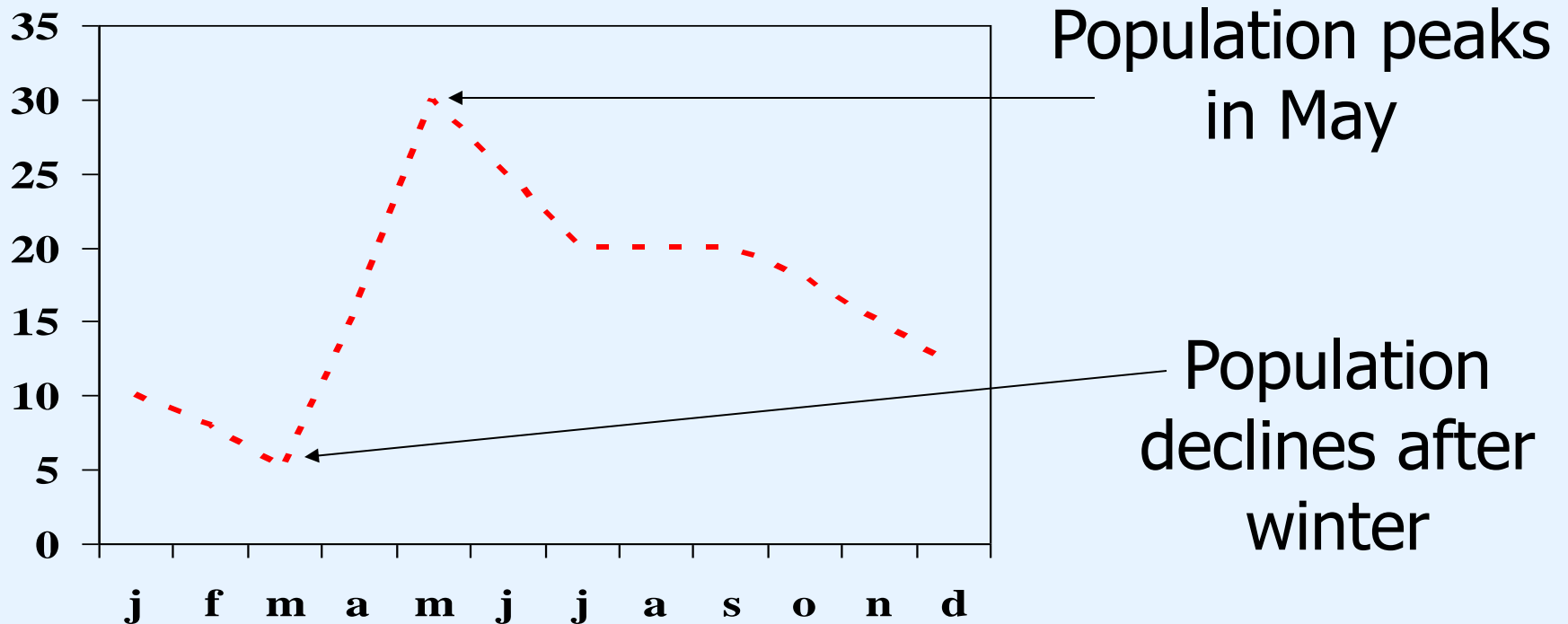
- About 50 acres

❖ Diet

- Grasses
- Shrubs
- Stems and leaves
- Alfalfa



Rabbit Survival Through the Year



Drawing: University of Nebraska-Lincoln



Rabbit Tracks

- ❖ Front feet are placed one behind the other
- ❖ Hind feet are placed closer to side by side

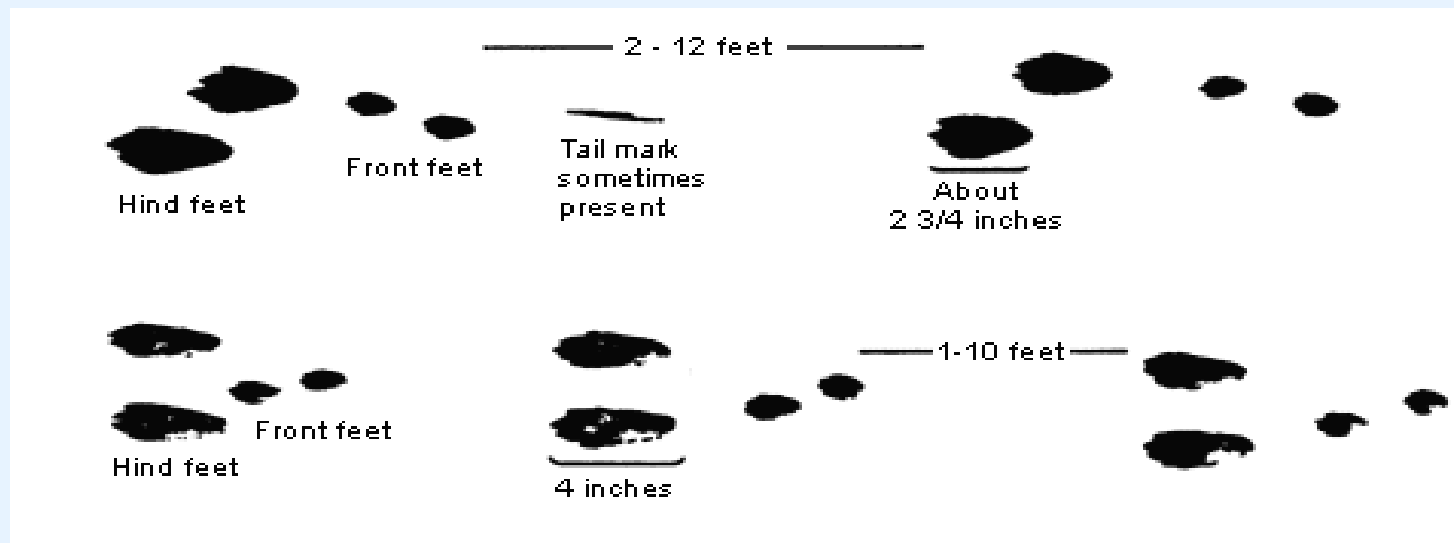


Image: University of Nebraska–Lincoln



Tree Squirrel Tracks

- ❖ Front feet are placed side by side
- ❖ Tracks will show splayed toes and no hair prints (their soles are bare)
- ❖ Tracks may also encircle or meet tree trunks



Photo: University of Nebraska–Lincoln



Rabbit Droppings

- ❖ Difficult to identify species with droppings alone
- ❖ Cottontail droppings are usually round but can be shriveled or wrinkled
- ❖ Jackrabbit droppings are often flatter

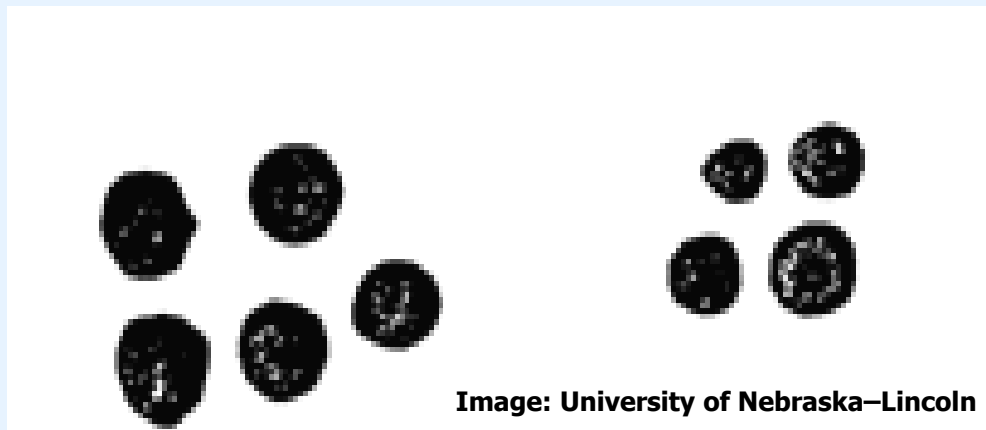
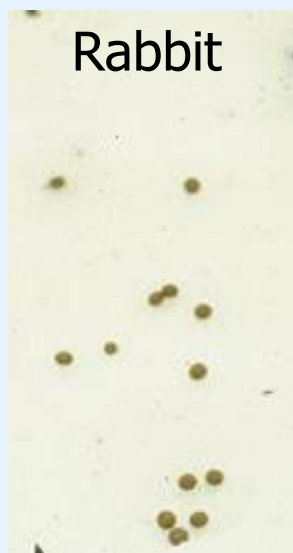


Image: University of Nebraska–Lincoln



Deer Droppings vs. Rabbit Droppings

- ❖ Deer droppings usually appear in groups
- ❖ Deer droppings more numerous than rabbit droppings
- ❖ Deer pellets are angular while rabbit pellets are spherical



Look for deer tracks too!

Photo: University of Nebraska–Lincoln



Photo: University of Nebraska–Lincoln

Rabbit Gnawing

❖ Rabbits gnaw the bark of young woody stems during winter and spring



Photos: University of Nebraska–Lincoln

❖ Rabbits leave $\frac{1}{4}$ inch tooth marks on small branches



Rabbit Clipping vs. Deer Clipping



- ❖ Rabbits clip twigs cleanly at a 45 degree angle
- ❖ Rabbits typically clip within 2 feet of ground



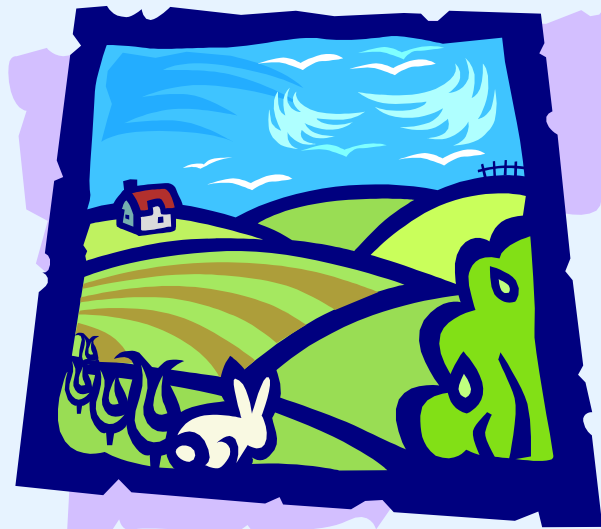
- ❖ Deer leave ragged edges
- ❖ Deer can browse as high as 6 feet off the ground

Photos: University of Nebraska–Lincoln



Learn to Tolerate Some Damage

- ❖ Particularly on shrubs not prized for buds, flowers, or fruit
- ❖ Most shrubs respond well to browsing, but repeated yearly damage may dramatically reduce plant vigor



Wildlife Integrated Pest Management

Habitat Modification



Control Methods

Timing and Monitoring



Habitat Modification

Some trees may be less browsed by rabbits than others



❖ Trees

- Cypress
- Hackberry
- Magnolia
- Oak
- Redbud
- Spruce



Habitat Modification

Some shrubs may be less browsed by rabbits than others

❖ Shrubs

- Barberry
- Cinquefoil
- Cotoneaster
- Lilac
- Sage
- Viburnum

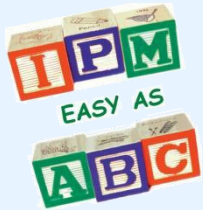


Remove Rabbit Harborage

- ❖ Clean up brush piles
- ❖ Mow tall grass
- ❖ Prune low-growing shrubs
- ❖ Store lumber off the ground
- ❖ Block rabbit access below porches and sheds



Photo: University of Nebraska-Lincoln



Protect Individual Trees

- ❖ Use plastics and other materials that are durable and will expand with the plant's growth
- ❖ Make tree wraps or fences at least 30" to 36" high
- ❖ Use mesh < 1 $\frac{1}{2}$ "



Fencing is Very Effective

Use fence with $< 1\frac{1}{2}$ " mesh

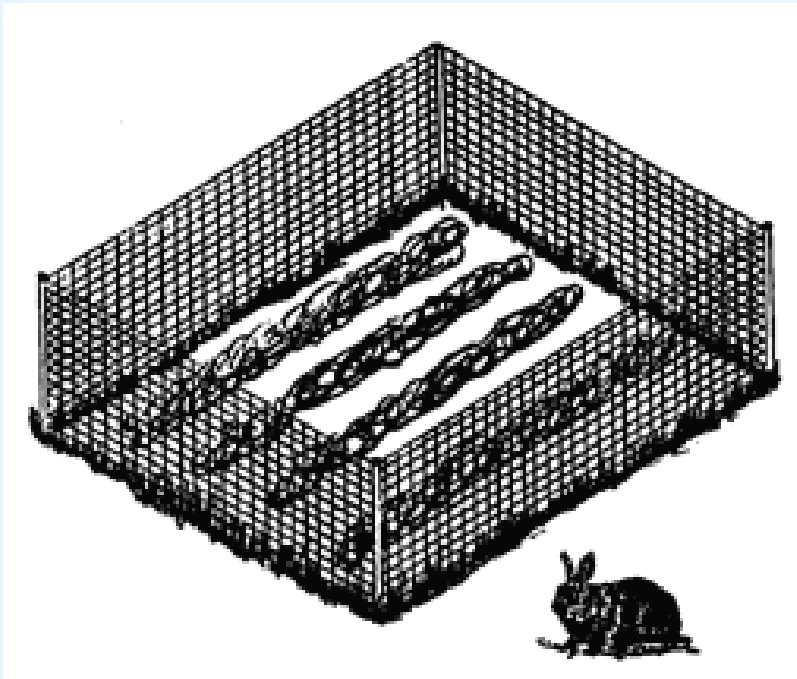


Image: University of Nebraska–Lincoln

❖ Cottontails

- 16" minimum height
- Bury mesh 2-3"

❖ Jackrabbits

- 36" minimum height
- Bury mesh 6"



Account for Snowfall!

- ❖ Protect those ornamentals during winter!
- ❖ Make fences high and strong enough to accommodate heavy snowfall

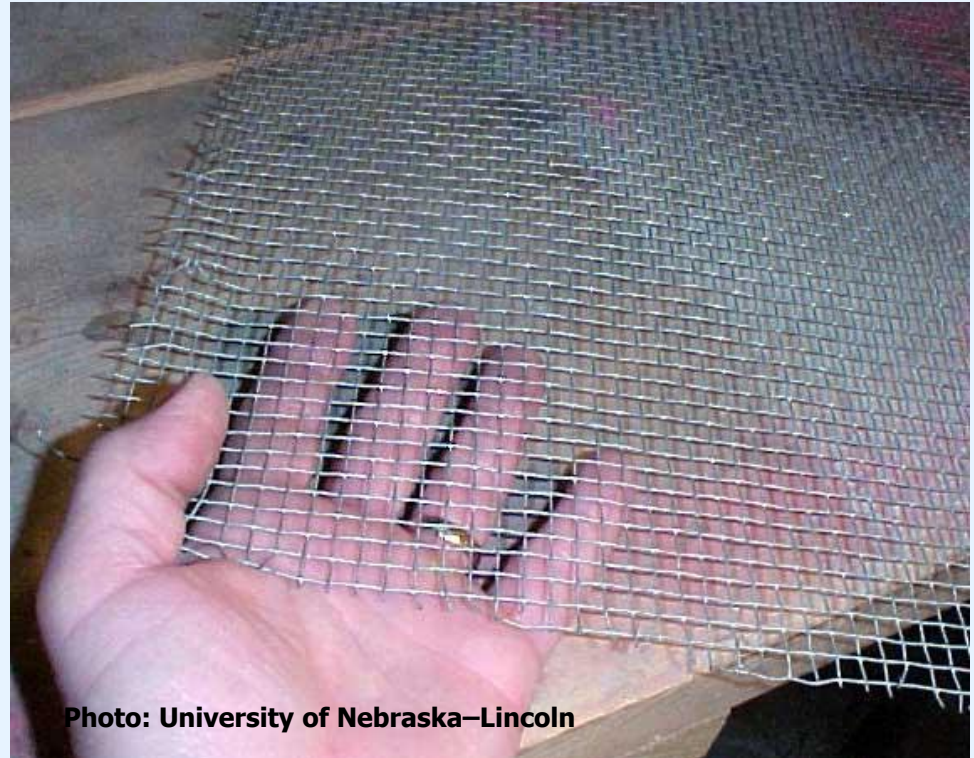


Snow can permit a rabbit to jump the fence



Fencing Material

- ❖ Hardware cloth is expensive but durable
- ❖ Poultry wire is inexpensive but not as durable
- ❖ Both types of fencing materials are effective



Supplement Existing Fences



- ❖ Add poultry netting to the lower two feet of an existing wire fence
- ❖ Bury netting 2-3 inches into the ground



Frightening Devices

Often provide only limited relief from the damage

❖ Visual

- Scarecrows
- Human effigies

❖ Audible

- Pyrotechnics
- Shooting overhead

❖ Physical

- Motion-activated water sprays



Photo: University of Nebraska–Lincoln



Limitations of Frightening Devices

- ❖ Rabbits quickly habituate to them
- ❖ Ultrasonic devices have **not** been proven effective as frighteners

Avoid Ultrasonic Devices

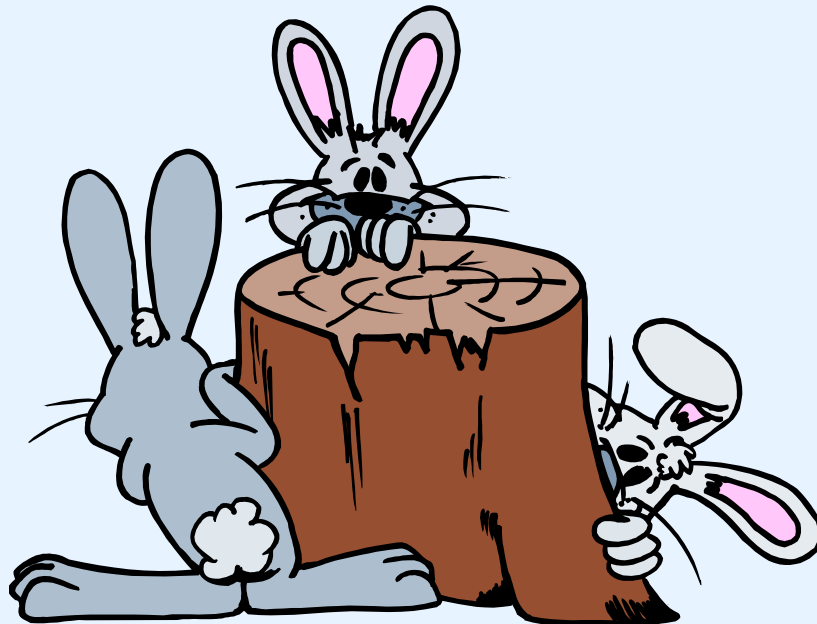


Photo: University of Nebraska–Lincoln



Repellents

- ❖ Invoke a pain or fear response
- ❖ Most are short-lived in their effect
- ❖ May need to be re-applied after sprinkler irrigation, rain, or new growth



Repellents that Induce Pain

- ❖ Capsaicin or hot pepper extract (Scoot™, Shotgun™; Deer-off™, Bulb guard™)
- ❖ Ammonium or potassium salts of fatty acids (Hinder™, Grant's, M-pede™)
- ❖ Denatonium saccharide (RoPel™), a bittering agent





Repellents that Induce Fear

Taste repellents tend to work better than area repellents

- ❖ Eggs (Big Game Repellent TM, Deer-Away TM, Get Away TM)
- ❖ Thiram fungicide (Spotrete TM)
- ❖ Bone meal, blood meal (Repel TM)
- ❖ Predator urine or feces (Shake-Away TM)
- ❖ Garlic (Plant Pro-tec,)



Apply Repellents Correctly

- ❖ Follow the label's instructions carefully
- ❖ Several deer repellents also are listed for rabbits
- ❖ Most rabbit repellents are not registered for use on plants destined for human consumption
- ❖ Some can be applied to perimeter areas or to the soil



Extending Rabbit Repellent Effectiveness

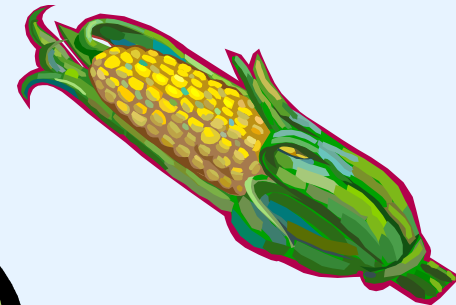
❖ Some repellents can be enhanced in their longevity and/or effectiveness by mixing them with other products, such as

- Roplex™
- VaporGuard™
- Wiltpruf™.



Trapping

- ❖ Traps must be at least 7" X 7" at the door
- ❖ Work best during winter/early spring
- ❖ Good cold-weather baits include cabbage, ear corn, dried apple, and dried alfalfa or clover, rabbit urine is a reported attractant



Cage/Box Trapping



Photo: University of Nebraska-Lincoln

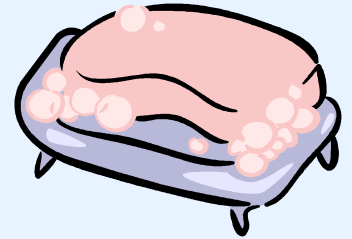
Some believe that box traps (solid walls) have a higher catch rate for rabbits.

- ❖ Traps can be set near natural borders that attract and funnel rabbits to the trap
- ❖ Place traps under shade in shrubbery where possible





Trap Safety



- ❖ Wear leather gloves when handling cages
- ❖ Use only traps in good working order
- ❖ Keep children and pets away from traps
- ❖ Wash hands after handling traps



Trapping

- ❖ Traps must be checked daily (including weekends and holidays!)
- ❖ Rabbits must be released on-site or euthanized
- ❖ Translocation beyond 100 yards is illegal in Nebraska



Trapping

Traps may lure other wildlife, such as skunks, instead of the desired rabbits. Learn how to handle a trapped skunk **BEFORE** setting a cage trap!



Trapping

❖ Handling trapped skunks

- **Prevent** skunk captures by closing trap before sunset and resetting in the morning; skunks are nocturnal
- If a skunk is captured, release it carefully.
 - ✓ Gravity door trap--Use a long pole while remaining a distance away to turn the trap upside down, causing the door to open as a result of gravity.
 - ✓ Spring door trap--Approach and cover the cage with blankets before releasing the door and moving quietly away



Shooting

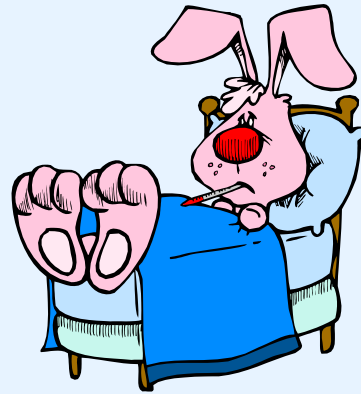
- ❖ Cottontails and jackrabbits are game species in Nebraska
- ❖ Rabbit hunting is allowed in rural areas during the fall and winter with a small game hunting permit
- ❖ Check local regulations before discharging a firearm



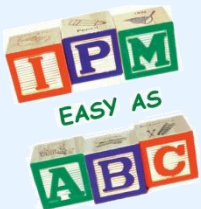
Photo: University of Nebraska–Lincoln



Tularemia

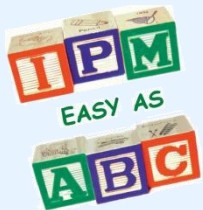


- ❖ Aka "Rabbit Fever"
- ❖ Bacterial disease transmitted to humans by wildlife, ticks, or biting insects
- ❖ It is rare in humans. About 30 cases have occurred in Nebraska over the last decade



Symptoms of Tularemia

- ❖ Sudden onset of high fever and chills
- ❖ Joint and muscle pain (lower back)
- ❖ Headache
- ❖ Swollen or slow-healing wounds
- ❖ Swollen lymph glands
- ❖ May persist for weeks or cause death
- ❖ White spots on liver of rabbit



Precautions Against Tularemia

❖ Use plastic gloves when handling traps or field dressing rabbits



❖ Use tick and mosquito repellents on self and pets



Photo: University of Nebraska–Lincoln



In Summary, Rabbit Management Includes:

- ❖ Landscaping or plant selection
- ❖ Exclusion with proper materials and construction
- ❖ Repellents applied often and generously
- ❖ Cage/box trapping judiciously



Additional Resources

❖ Internet Center for Wildlife Damage Management

➤ <http://icwdm.org>



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