

Keeping Your Crop In, and the Wildlife Out



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Resources: Slides & Links



<https://tiny.utk.edu/wildlifeout>

No Silver Bullets



Why is there a concern?

- Crop loss.
- Food Safety
 - Animals are reservoirs/sources of microbial pathogens that can be transmitted via produce to humans.

What's the Law?

Tennessee Code Annotated 70-4-115 states in part that, the **owner of lands**

- **may destroy any wild animals, wild birds, or wild fowl when such wild animals, wild birds, or wild fowl are destroying property upon such lands.**
- **before destroying any big game ...required to obtain a permit ...Big game is defined as deer, wild turkey and bear. ...Permit from the TWRA regional office in which the property is located**

What If I'm Not The Property Owner

If there is a farmland lease, then the farmer is the responsible party and control would be allowed.

Considerations

- If **live catching** you can only release animals on your own property. No movement of animals. Euthanizing the animal is permitted.
- Probably makes sense to document damage when killing animals {GAP}
- This doesn't remove existing restrictions such as type of traps that may be used.

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Birds That Can Be Dealt With

- Nonnative Invasive-House (English) Sparrow, European Starling, Rock Pigeon no restrictions.
- Black Vultures and Livestock TN Farm Bureau Statewide Permit
- Wild turkeys-considered “big game” more in a moment

Birds That Can Be Dealt With

Resident Canada Geese-Egg & Nest Depredation Order: March 1-June 30th

- You **Must** register to receive a permit
- You **Must** report # of nests destroyed by 10/31, even if 0

All Other Birds Can't Be Dealt With

Most all other birds have federal protection under Migratory Bird Treaty Act

- You can apply for Migratory Bird Depredation Permit

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Big Game Permits

- The animal can be taken to a Hunters for the Hungry location for donation to foodbanks or buried.
- Can't be put in your freezer or your neighbor's freezer.

Wild Hogs

- A destructive species
- **Contact TWRA** for exemption for spotlighting, over bait, and technical assistance on trapping.

How To Begin

1. Identify the Species Responsible
2. What Makes You're Property Attractive
3. Implement Methods of Control
4. Evaluate

1. Identify the Species Responsible



Coyotes

Photo by the University of Nebraska-Lincoln (UNL)

2. What Makes You're Property Attractive

- Food
- Cover
- Water

Don't go scorched earth and disregard all conservation practices such as riparian buffers.

2. What Makes You're Property Attractive

- Are there areas that deer commonly bed down in?
 - Could that area be bush hogged a couple of times a season?
- Are you surface dumping cull product somewhere on the farm? Is that attracting animals who then find your fields?
 - Could you bury culls or use a dumpster?

3. Implement Methods of Control

- Exclusion
- Behavior Modifications
- Population Control: Trapping, Killing, Hunting

Wisconsin Deer Jumping Data

- 2.4meter(~8 foot) height of fence deterred 100% of deer
- 7 foot 85% deterred
- 6 foot 14% deterred
- 5 foot 0% deterred

Diagram 2: Block ar

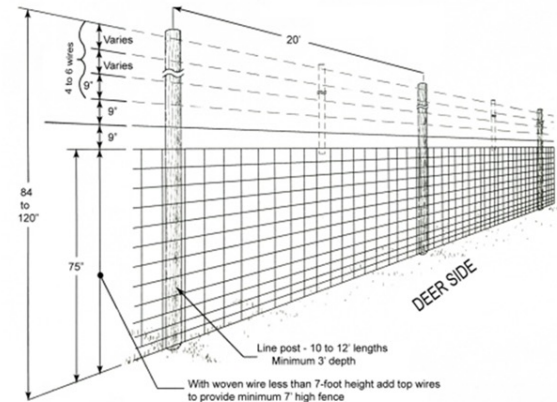


Diagram 3: High Tensile Woven and Smooth Wire Non-Electrical Deer Fence

Diagram 2: Block ar 3-D ELECTRIC DEER FENCE FOR YARDS AND GARDENS

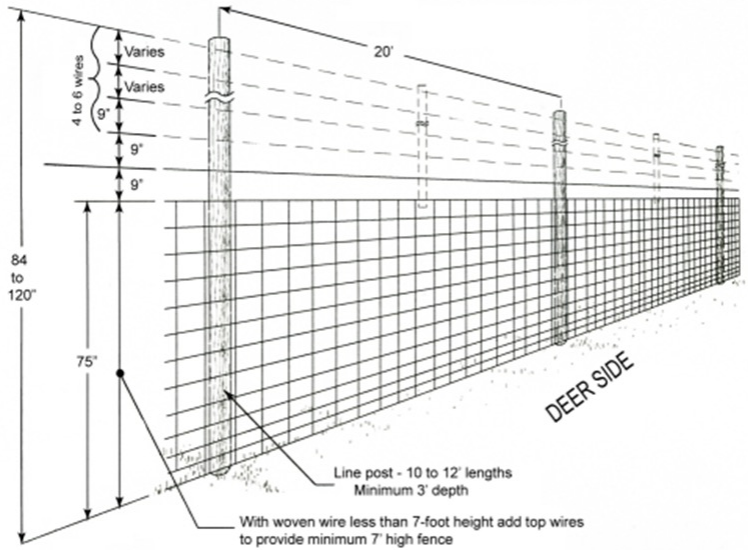


Diagram 3: High Tensile Woven and Smooth Wire Non-Electrical Deer Fence

Image from Rutgers

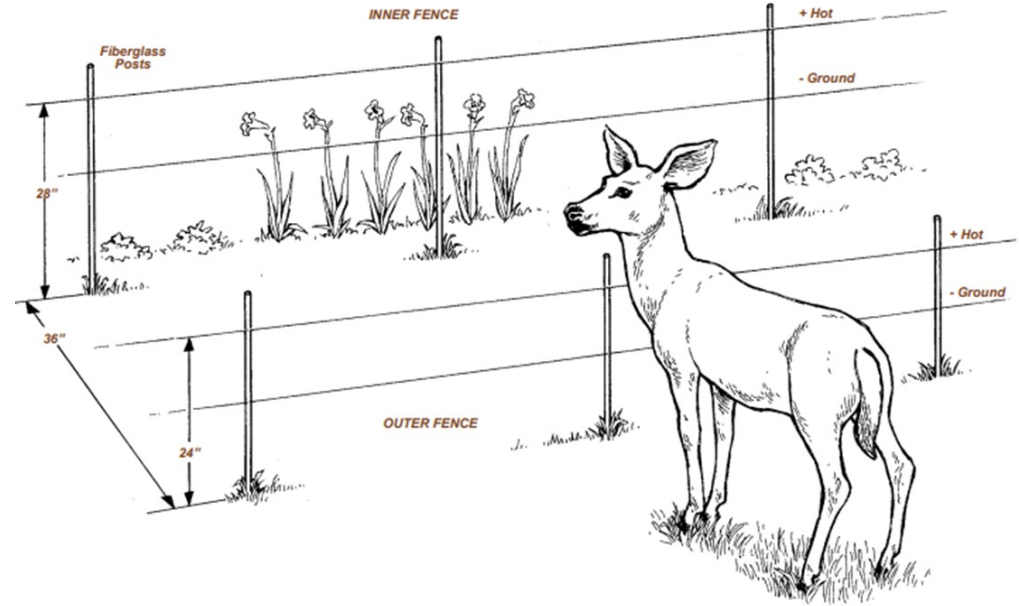


Image from A Landowner's Guide to Wildlife Friendly Fences.



Above: Deer deterring fenceline (Photo: Lynn Braband)

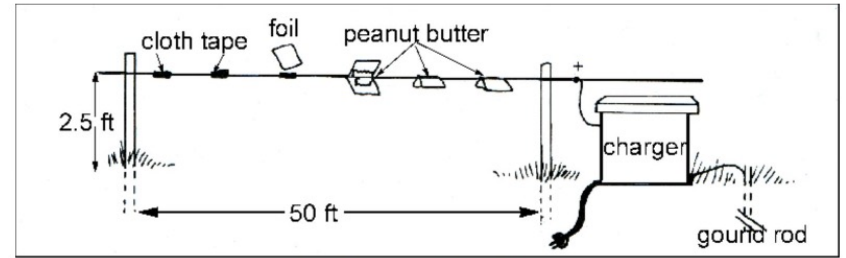


Figure 3. The peanut butter fence with foil flags.

Credit: Craven and Hygnstrom (1993), "Controlling Deer Damage in Wisconsin," University of Wisconsin Extension publication G30B3

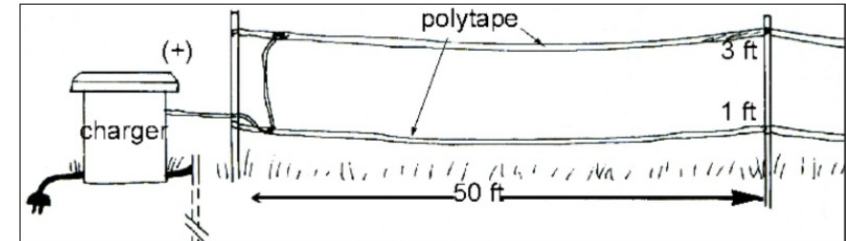


Figure 4. The polytape fence.

Credit: Craven and Hygnstrom (1993), "Controlling Deer Damage in Wisconsin," University of Wisconsin Extension publication G30B3

Non permanent electric fencing.

Deer Crawling and Squeezing through Gaps

- 10 inch gaps under fences
- 7.5 inch lateral gaps



Bird Nets

- Nets might fully enclose the plants or just be curtains.
- Obviously bird protection, but also other animals are excluded



UKY: Bird Netting Pictures and Ideas for Bramble and Blueberry Plantings



Bird Damage Prevention for Northern New England Fruit Growers

Other Exclusion?

- High Tunnels with additional screening or netting.
- Low Tunnels
- Floating Row Covers



SARE: High Tunnel Pest Exclusion System: A novel strategy for organic crop production in the South

Behavior Modification

- Harassment
 - Induce fear or stress in the animal
 - Prevent behavior rather than correct-don't allow animals to establish a pattern that is damaging
 - Many active methods: nonlethal shooting(paintball), solar powered lights, motion sensor sprinklers, loud noises-bird bangers/bottle rockets, air horns, propane cannons, mylar tape, mylar balloons, trained guard dogs

Behavior Modification

- Passive methods
 - Managing vegetation to make animals more exposed.
- Beware of Habituation
 - Use more than one technique
 - Move things around
 - Timing- seasonal: Limit some techniques to when damage would be most impactful.

Scare Devices

- Lose effective quickly 10-14 days. Implement only when they are needed
- Change methods and/or location of scare devices frequently.
- Combining tactics visual plus auditory methods works better than either alone.
- It is much easier to prevent a feeding problem than to stop it once a strong pattern of activity develops.

Raptor Perch Poles

“A perch pole is a tall, human-made structure that provides a perching and vantage point for predatory birds (raptors) where natural perches do not exist. Many species of raptors will hunt from these perches or simply use them to rest.”

12-20 ft. in height and vary in design



Behavior Modification

- Chemical Deterrents
 - Some options exist (olfactory or taste)-hot pepper, garlic, putrescent egg solids, predator urines, blood meal, Salts/fatty acids of ammonia, milorganite(biosolids)
 - Likely not practical on a commercial production scale; frequent reapplication

Depopulation

- Hunting during regulated seasons
 - Obvious site limits and legal restrictions
 - Want to encourage targeting of female animals
- Big Game permits
 - Not a way to fill your freezer
- Trapping and euthanizing

Depopulation

- Animals can and will move never a one and done
- If you're the best source of food, water, shelter in a given area, then you'll probably see the same species again even with aggressive efforts.

4. Evaluate & Adjust

- Are you getting a decrease in intrusions or damage?
- Are the methods of control acceptable in time or other resources required?
- What other options might be employed?
TWRA, other farmers, extension offices

Resources: Slides & Links



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Questions

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