

## **FENCING OPTIONS FOR WILDLIFE CONTROL**

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Since 1978 when Wellscroft Fence Systems started, wildlife pressure on crops has increased as much as tenfold in certain areas. This is due not only to the rise in deer population, but also to the urbanization that has caused increased pressure on open spaces for forage. In addition raccoons, woodchucks, rabbits and even coyotes have caused significant damage to both perennial and annual crops. Fences that were developed in the 1980's, such as the Penn State five-wire vertical electric deer fence, were very effective in the beginning but cannot withstand these new escalated pressures. Consequently, many initially effective fences have had to be retrofitted to accommodate new pressure. The following describes what Wellscroft believes are viable options for deterring and excluding wildlife in the northeast. When protecting perennials such as fruit trees in the winter, many considerations must be taken into account due to the ice and snow loads in this region. Below is an outline of twelve different types of anti-wildlife fence that we have used with growers and state agencies over the last thirty years. There are also many other non-fence techniques for dissuading wildlife which may be used in conjunction with fencing for even more effectiveness. These items include such things as chemical repellants, natural repellants, noisemakers, guard dogs and of course, hunting.

In choosing a wildlife fence for your crop protection, there are several questions one must ask. First, what is the type of wildlife to be excluded? Do you need both a psychological (electric) and/or physical (woven wire)? Second, is this a temporary or permanent fence? Does it need to be taken down annually or moved? Is it on rented land and for how long is the lease? Third, what is the degree of pressure? Are there other sources of food in the area for the wildlife? Fourth, what degree of exclusion as it relates to fence expense does the grower wish to achieve? Is 95% exclusion good enough or must it be 100%? What is the cost of the fence in relation to the value of the crop damage incurred? We have growers who are very happy with the effectiveness of a 40-cents-per-foot portable electric fence versus those who need a \$5.50-a-foot, 100% exclusion year round fence. Fifth, is the crop to be protected an annual or perennial? Does it need to be protected in the winter or are the nine growing months sufficient? A winter fence needs to be much more substantial due to snow, ice and the insulating properties of dry frozen ground when considering electric fence. Finally, are there aesthetic factors, which for some situations growers will need a fence that is pleasing to the eye and not too formidable?

The following reviews the options for both electric (psychological) and non-electric (physical) wildlife fences. Keep in mind that electric fences require more maintenance but have portability and economic advantages. The non-electric fence must be very strong as there is no deterrent to keep the critters from working the fence and trying to push through, under or over it. They have the advantage of requiring the least maintenance and being the most effective. Over the years, many studies have been done of these various options and there is no doubt that the eight-foot *Fixed Knot* hi-tensile fence is the **most effective and economical** in the long run for deer. However, it is unquestionably more labor intensive to erect. Many growers have said that they paid for the fence in the first two years in crop savings. Wellscroft has hundreds of these fence systems working in

the northeast and can supply you with names of growers near you who have experienced similar problems.

## **ELECTRIC FENCE OPTIONS FOR WILDLIFE CONTROL**

1. **1-3 tapes or ropes at 20", 40" and 60".**
  - Good only for annual vegetables, flowers, fruits, etc. (April-October in moist soil conditions.)
  - Easily taken down and moved for crop rotation or rented land. The ½" tape is easier to move; rope should be used in more semi-permanent situations.
  - Good for rented land.
  - Needs to be faithfully baited (aluminum foil pouch w/peanut butter inside or scent caps).
  - Note: lower wires may be added at 5" and 10" for raccoons, woodchucks, etc.
  - Least expensive - \$.30 to \$.60 per foot.
  - Longevity: 5-10 years.
2. **1-2 tapes or ropes in conjunction with 3-4 maxi-shock galvanized cables.**
  - Good for both annuals or perennials (not too effective in the winter, unless polarity is switched)
  - Needs to be baited (aluminum foil pouch with peanut butter inside or scent caps).
  - May be removed with more work than option #1
  - More conductive in situations of heavier vegetation.
  - More expensive - \$.50 to \$.90 per foot.
  - Longevity: 10-15 years.
3. **Three dimensional tape or rope fence**
  - Two fences 4' apart; one conductor at 30" on outside, two to three at 20" and 40-60" on inside.
  - Very effective but uses more wire, posts, land and is more difficult to maintain. Deer have a hard time jumping through this double fence.
  - To be used when option #1 starts to fail.
  - Needs to be baited.
  - More expensive - \$.40 to \$.80 per foot.
  - Longevity: 5-10 years.
4. **Electric netting**
  - Easy to install and remove; comes complete with posts every 12'. Available in 82' or 164' lengths; 20", 30", 42", 48", or 68" heights. Comes in white/black, or dark green.
  - Good for scenic, small areas. Homeowner gardens.
  - Vegetation needs to be maintained under the net.
  - Very easily moved.
  - Works well for woodchucks, raccoons, rabbits, pets.
  - May be set up positive/negative.
  - Not recommended for winter use.
  - More expensive - \$.55 to \$2.60 per foot.
  - Longevity: 10 years.

5. **Vertical High Tensile Electric Fence, 8-wire 6'**
  - Very permanent, not easily moved.
  - Good for low to medium deer pressure.
  - May be set up bipolar for winter or dry summer conditions.
  - Requires strong corners and ends.
  - Requires a visibility lane on the outside (6'-10').
  - Should be faithfully baited.
  - Cost effective in larger areas with straight runs, few gates.
  - Cost - \$1.00 to \$1.55 per foot.
  - Longevity – 20 years.
6. **Electrified offset wires for 91" Tenax type plastic anti-deer mesh**
  - Least visible for residential plantings and landscaping.
  - Easily installed; must be baited.
  - Less effective in winter.
  - May be subject to damage from ice and heavy snow.
  - Cost - \$1.20 to \$1.55 per foot.
  - Longevity – mesh – 10 years.
7. **2x4 Woven wire, 4-6' high with 1 electric top wire and 1 electric offset 12" up**
  - Very effective for small and large wildlife
  - Low maintenance
  - Year round protection
  - Cost- \$1.70 to \$2.90 per foot.
  - Longevity—25 years

#### **SIX RULES FOR AN EFFECTIVE ELECTRIC ANTI-WILDLIFE FENCE:**

1. While erecting fence, energize the wires at the end of every workday because the wildlife's first encounter with the fence is very important.
2. **Always keep the fence energized** and properly grounded.
3. Keep a clear lane on the outside of the fence so it is visible to the wildlife. It should be at least 6-feet from the edge of the woods.
4. Keep the vegetation off the fence line.
5. **Bait the fence** with scent caps or peanut butter wrapped in tinfoil and stapled around the fence wire, or smeared directly onto the tape.
6. Maintain the voltage (at least 3500 volts; use a fence tester). Use a Fence Alert

#### **NON ELECTRIC FENCE OPTIONS FOR WILDLIFE CONTROL**

8. **Smart Net-Anti-Deer fence 8' x 100' rolls**
  - Easy to install and move
  - Has its own polyester support line built in (post needed every 15-25')
  - Needs braced corners and must be stretched
  - Black net disappears
  - Cost - \$1.60 to \$2.40 per foot
  - Longevity—15 years

9. **91” Tenax – C-Flex anti-deer mesh**

- Least visible.
- Easily installed (post every 25’). Hangs on 8 g. polywire or 12 g. steel wire.
- Good for light pressure but may be penetrated if not electrified (see #6 above).
- Not good for small wildlife which will chew through it.
- Cost - \$1.10 to \$1.35 per foot.
- Longevity – 10 years.

10. **Woven Wire 2 x 4 6’ high**

- Good for small areas with light deer pressure and small critters
- Needs braced corners and must be stretched.
- Post every 15’.
- Cost - \$1.30 - \$2.25 per foot.
- Longevity – 20 years.

11. **Woven wire Fixed Knot 6’, 8’, or 10’ high**

*The most cost effective and permanent method in the long run for deer.*

- One-piece vertical resists snow and ice loads, deer penetration.
- Available in black as well as galvanized steel, 14 or 12 ½ gauge.
- Least amount of maintenance.
- Must be braced, recommend PT or locust posts, with wood, pipe or galvanized T-posts in between.
- Cost - \$2.25 - \$4.25 per foot.
- Longevity – 25-30 year fence minimum.

12. **Smart Net Overhead and Side Netting System for Birds**

- Fully protects crops from birds
- Extremely effective
- Pays for itself in the first year of crop savings
- Netting is permanently attached to side support wires and at the end of the growing season is pulled back and stored at one end.
- Netting is supported on lines of high tensile wire 8-9’ in the air.
- Cost – Approximately \$1900.00 per acre for top and side nets, posts and wire extra.
- Longevity—10 years

If the fence needs to deter both deer and smaller critters such as woodchucks, raccoons, rabbits, etc., an additional baited electrical offset wire is essential as those predators will just climb over or dig under a physical fence. In terms of aerial predation from birds, Wellscroft highly recommends the Smart Net System of overhead netting which is suspended on grid of high tensile wires nine feet in the air.

Note: All price estimates are per foot of materials except anti-bird netting and **do not include installation labor.**