

## Fencing Options for Predator Control

### INTRODUCTION

Fencing is one preventive measure available to producers in combating livestock predation. This factsheet explores options for keeping coyotes out of pastures most of the time, and for new fencing, as well as a comparison of three fencing options.

When determining which fencing system is most suitable, consider the level of predation (dollar value of loss), cost of the fence, expected life of the fence and degree of protection afforded. Each livestock operation will weigh these factors differently and develop a system most appropriate for the farm location.

### ELECTRIC FENCES

Electric fencing can be an important component of any predator control program. Perimeter fences must be at least 5 strands, alternating live and ground wires. Anything less is not effective in deterring coyote predation, especially if predation has already occurred on that farm.

Spacing of wires is also important. Make sure the lower 3 wires are 15 cm (6 in.) apart to ensure that coyotes come in contact with both live and ground wires when attempting to pass through the fence. Wires in the top part of the fence can be further apart to increase the total height of the fence.

Regular maintenance is essential if electric fences are to be effective in deterring coyote entry. Excessive vegetation growth, fallen tree limbs and old fence wire cause voltage drain from the fence. These need to be continually removed to maintain adequate shocking power.

In areas where electric fencing is used extensively, farmers have found that it becomes less effective over time. One theory is that with the increased exposure to the fences, coyotes have learned to get through them, either through jumping over or running through even though they receive a shock.

Coyotes are very intelligent, opportunistic predators. Their hunting behaviour is partly learned and partly genetic.<sup>[1]</sup> In other words, those that have learned to kill livestock will continue to do so throughout their lifetime.

If absolutely no entry by coyotes is permissible, then the number of wires must be increased accordingly. Studies in Alberta suggest that when economics are weighted against livestock predation, 9-strand electric fences provide sufficient protection. Absolute predator-proof fencing, although possible, is very cost prohibitive. One example of such a fence is 13 strands of alternating electric and ground wires, supported by line posts every 6.70 m (22 ft), with support stays every 3.35 m (11 ft).

---

To remain effective and provide adequate shocking power during dry weather conditions, electric fences must have a proper grounding system installed. For effective shocking power (animals receive a shock when they touch the fence) to be maintained, current must be able to pass through the animal to the ground wires and back to the ground terminal of the energizer to complete the electrical circuit. This is achieved by connecting all ground wires to each other. Additional ground rods are required as the total length of fence increases.

Properly built high-tensile electric fences have an expected life performance of 30 years. Energizers of good quality and design can be expected to last at least 15 years.

### **NET-WIRE FENCES**

Net-wire fences in good repair will deter many coyotes from entering pastures, especially those where vertical wires are no more than 15 cm (6 in.) apart and horizontal wires are spaced 5–10 cm (2–4 in.) apart in the bottom portion of the fence. Higher fences (greater than 1.7 m (5.6 ft)) may discourage coyotes from jumping over. Climbing is possible since coyotes are very adept at adjusting to changes in their environment.

Although more expensive to install than high-tensile electric fences, net-wire fences have their advantages and should be considered for perimeter or boundary fences. When predation occurs in pastures enclosed with this type of fencing, it is often easier to discover how and where the coyotes entered, since the fence restricts entry to gateways or low spots under the fence. This can also improve predator removal efforts since entry points are easier to determine than with electric fenced pastures.

One variation of the net-wire fencing that some producers may consider is deer fencing. It offers the same type of protection as that described above but offers greater protection from jumping and climbing by coyotes. Its major drawback is the cost involved in purchasing wire rolls. Cost for posts is also substantially higher since posts need to be longer and larger than for conventional fence.

High-tensile wire should be considered when purchasing net-wire fencing. This reduces the stretch and sag common with conventional net-wire fences. It also allows greater distance between line posts, thereby reducing the total cost of the fence. Producers should consider a minimum wire size of 12.5 gauge and Class 3 galvanizing for longer fence life.

Expected life performance for conventional net-wire fences is 15–20 years, and 30+ for high-tensile, Class 3 galvanized net-wire fence.

### **ELECTRIC NET FENCING**

This type of fencing combines traits of net-wire and electric fencing, providing a formidable mental and physical barrier in a portable format suitable for temporary or semi-permanent fencing of pastures. Several versions are available; all of them use electroplastic horizontal wires. Vertical stays range from electroplastic to rigid poly struts. Different heights are also available, it should be noted that coyotes can still jump the electric net fencing once they have adapted to it. Electric net fencing is mainly used for sheep or goat operations, however there are versions for poultry available as well.

Expected life performance is around 5–7 years, compared to about 20 for net-wire and 30+ for high-tensile fences. Where it is most likely to be effective is providing protection when livestock are grazing hay aftermath, crop residues or on rented land that is not fenced. The cost and short life make it difficult to recommend extensive use of this product. Its suitability must be determined on an individual basis.

Table 1 shows an example comparison between cost and life expectancy for three fence types used to reduce coyote entry into pastures.

**Table 1.** Example comparison of cost and life expectancy for three fence types used to reduce coyote entry into pastures  
**Note:** The use of imperial measurement for fence sizes represents the standard used in the industry.

Items for 40 Rods of Fence in a Straight Run (No Corners)	Electric Fence (7-wire)	Net-Wire (High-Tensile) Fence	Electric Net Fencing	Your Price (from local farm stores)
<b>A. Wire</b>				
2 rolls, 20 rods long (1 rod = 16.5 ft (5 m)), of 1047-6-12.5-gauge HT woven wire fence at \$173.00 each		\$346.00		
3 rolls of 12.5-gauge, smooth, high-tensile wire at \$60.00 per 2,000-ft (610-m) roll	\$180.00			
4 rolls, 165-ft (50-m) long, 39.5 in. high, at \$140.00 each			\$560.00	
1 roll of 10-lb brace wire at \$13.00	\$13.00	\$13.00		
<b>B. Posts</b>				
35 posts, 4 in. x 8 ft, at \$7.75 each (20 ft (6.1 m) apart, plus part of brace assembly)		\$255.75		
20 posts, 4 in. x 8 ft, at \$7.75 each (approx. 33 ft (2 rods) (10 m) apart, plus part of brace assembly)	\$155.00			
4 brace posts, 6 in. x 8 ft, at \$10.50 each	\$42.00	\$42.00		
<b>C. Staples — galvanized</b>				
11 lb of 2-in. staples at \$2.00 per lb		\$22.00		
6 lb of 2-in. staples at \$2.00 per lb	\$12.00			
<b>D. Insulators</b>				
4 bags of line post insulators at \$10.00 per bag of 25	\$38.00			
2 packages of end insulators at \$3.00 per bag of 4 (4 live wires with insulators, 3 wires with staples)	\$6.00			
<b>E. Wire Tighteners and Handle</b>				
7 inline tighteners at \$4.00 each	\$28.00			
1 tightener handle at \$18.00	\$18.00			
<b>F. Ground Rods</b>				
3 galvanized steel rods, ¾ in. x 8 ft long, at \$20.00	\$60.00		\$60.00	
<b>Sub-total</b>	\$552.00	\$678.75	\$620.00	
Life expectancy (LE)	30+ years	30 years	5 years	
Cost per year (subtotal/life expectancy)	\$18.40	\$22.63	\$124.00	
<b>G. Energizer Assume LE 15 yr</b>				
Various makes and models with various electrical outputs at \$200–\$1,200 each	\$600.00 \$40/yr		\$600.00 \$40/yr	

## REFERENCE

1. Parker, G. 1995. *Eastern Coyote, The Story of Its Success*. Nimbus Publishing.

This factsheet was originally authored by Anita O'Brien, former Sheep and Goat Specialist with OMAFRA, and updated by Jillian Craig, Small Ruminant Specialist, OMAFRA, Lindsay.

Published by the Ontario Ministry of Agriculture,  
 Food and Rural Affairs  
 © Queen's Printer for Ontario, 2020  
 ISSN 1198-712X  
 Également disponible en français (Fiche technique 20-032)

**Agricultural Information Contact Centre:**  
 1-877-424-1300  
 1-855-696-2811 (TTY)  
**E-mail:** ag.info.omafra@ontario.ca  
**ontario.ca/omafra**