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Fencing Options in Predator Control

Fencing is one preventative measure available to producers in combating livestock predation. This Factsheet explores options intended to keep coyotes out of pastures most of the time, and where new fence is being considered.

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 of you will weigh these factors differently and develop a system most appropriate for your 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 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 extensively used, preliminary information suggests it has become less effective in keeping coyotes out. One theory is that with the increased use of electric fences, their novelty as a deterrent has worn off, and coyotes have learned to get through them.

Coyotes are very intelligent, opportunistic predators. Their hunting behaviour is partly learned and partly genetic (G. Parker, 1995). 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 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 22 ft, with support stays every 11 ft.

In order 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 fence is touched) to be maintained, current must be able to pass through the animal to the ground wires, 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 fences in good repair will deter many coyotes from entering pastures, especially those where vertical wires are no more than 6 in. apart and horizontal wires spaced 2-4 in. apart in the bottom portion of the fence. Higher fences (greater than 5 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. Typical

Table 1. Comparison of Cost & Life Expectancy for Three Fence Types Used to Reduce Coyote Entry into Sheep Pastures.

Items for 40 Rods of Fence in a straight run (no corners)		High Tensile Sheep Fence	7-Wire Electrified Fence	Electric Net Fencing
A. Wire	2 - 20 rod rolls 1047-6-12.5 gauge HT woven wire fence at \$173 each	\$346.00		
	3 rolls 12.5 gauge, smooth, high tensile at \$60 per (2000 ft) roll		\$180.00	
	4 - 165 ft. (50 m) rolls (39.5 in. high) at \$140 each			\$560.00
Brace wire	1 - 10 lb. Roll at \$13	\$13.00	\$13.00	
B. Posts	35 - 4 in. x 8 ft posts at \$7.75 each (20 ft apart, plus part of brace assembly)	\$255.75		
	20 - 4 in. x 8 ft posts at \$7.75 each (approx. 33 ft (2 rods) apart, plus part of brace assembly)		\$155.00	
Brace posts	4 - 6 in. x 8 ft posts at \$10.50 each	\$42.00	\$42.00	
C. Staples - galvanized	11 lbs - 2 in. staples at \$2 per lb	\$22.00		
	6 lbs. - 2 in. staples at \$2 per lb		\$12.00	
D. Insulators	4 bags of line post insulators at \$10 per bag of 25; 2 packages of end insulators at \$3 per bag of 4 (4 live wires with insulators, 3 wires with staples)		\$38.00 \$6.00	
E. Wire Tighteners and Handle	7 inline tighteners at \$4 each & 1 tightener handle at \$18		\$28.00 \$18.00	
F. Ground Rods	3 - 3/4 in. x 8 ft. long galvanized steel rods (3/8") at \$20.00 each		\$60.00	\$60.00
SUB TOTAL		\$678.75	\$552.00	\$620.00
LIFE EXPECTANCY (LE) - years		30 yrs	30+ yrs	5 yrs
COST PER YEAR (subtotal/life expectancy)		\$22.63	\$18.40	\$124.00
G. Energizer Assume LE of 15 yrs	Various makes and models with various electrical outputs at \$200 - \$1200 each		\$600.00 \$40/yr	\$600.00 \$40/yr

Prices as of February 2002

wire costs \$530 per 20 rod roll. Cost for posts is also substantially higher since posts need to be longer and larger than for conventional fence.

High tensile wire is now being used in making 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 years plus 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 for-

midable 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.

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.



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