

# Fencing FACTSHEET



Order No. 307.252-2  
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## ELK EXCLUSION USING ELECTRIC FENCING

This factsheet outlines the use of electric fencing to exclude elk in low to medium pressure areas such as crop land. Refer to Factsheet No 307.252-1 entitled *Deer Exclusion Fencing for Orchards and Vineyards using Woven Wire* for information on using woven-wire fencing to exclude elk in high pressure areas.

Thanks to East Kootenay ranchers Harlan Bradford, Jordy Thibeault and Bob Marcer for sharing their electric elk fence designs and experiences and demonstrating that electric fencing is effective in fencing elk out of hay fields.

### INTRODUCTION

Elk damage to crop land and feed storage yards is a very serious problem in BC, especially in areas such as the Peace River, East Kootenays and recently the McBride valley. Two basic fence types can be used.

### WOVEN WIRE ELK FENCE

This is a physical barrier that can be very effective but is the more expensive option. It is best suited to high-pressure areas such as feed storage yards.

### ELECTRIC ELK FENCE

This is a psychological barrier which is low cost but may not be 100% effective in high elk pressure areas such as feed storage yards.

Electric fences have proven successful around large areas such as crop fields. There are definite cost advantages when fencing large areas that usually have low to medium elk pressure.

### FENCE HEIGHT EXTENSIONS

Height extensions can be used on existing fence posts or on new fences to reduce post costs.

Extensions may be used successfully if :

- extensions are adequately sized
- connection to the existing post is adequate
- existing posts have been set deep enough (up to 1/3 of new fence height in ground); depth may be insufficient for an extended height fence

### TYPICAL ELECTRIC ELK FENCE DESIGN

A typical electric fence design for elk exclusion using high tensile smooth wire (htsw) is described as follows.

#### 6 FOOT ELECTRIC ELK FENCE

Total Height:	6 feet
No of Strands:	10 (optional 8 to 11), spaced at 5 / <b>5</b> / 5 / <b>5</b> / 6 / <b>6</b> / 10 / <b>10</b> / 10 / 10
Electrified:	lines # 2, 4, 6, 8 (in bold above)
Line Posts:	minimum: 3 to 4 inch by 8 feet optional: 4 to 5 inch by 8 feet spaced at an average 40 feet
Brace Design:	single span; horizontal rail (H brace) spaced maximum of 1320 feet apart
Braces Posts:	1 @ 4 to 5 inch by 10 feet 1 @ 4 to 5 inch by 7 feet
Brace Rail:	1 @ 4 to 5 inch by 10 feet

### FENCE EFFECTIVENESS

Fencing out elk driven by hunger is quite different from fencing commercial livestock. The other options the elk may have for food, such as unfenced neighbouring fields, will affect how they will pressure a fence. For locations with high elk pressure (such as feed storage yards) consider using woven wire fences. Refer to Factsheet 307.252-1 entitled *Deer Exclusion Fencing for Orchards and Vineyards using Woven Wire*.

## INSTALLING HTSW

The following points are important when installing high tensile smooth wire:

- place the wires on the elk side of the line posts
- join htsw wire using a knot or splice according to Factsheet 307.131-1 entitled *Splices for High Tensile smooth Fencing Wire* .
- tension htsw to approximately 150 pounds tension
- **DO NOT** drive the staples “home” on the grounded wires on line posts - the wire should be free to move
- for maximum pull-out resistance, rotate staples so as to cross the grain of the post (reducing post splitting) and to ensure the two legs of the staple spread out and away from each other.

## FENCE LINE POSTS

The following is recommended:

**Line Post** - minimum: 3 to 4 inch by 8 feet long

- optional: 4 to 5 inch by 8 feet long

- "3 to 4 inch" means the post diameter range
- use pressure treated posts
- set line posts in ground 2 feet minimum
- space according to the terrain: up to 40 feet apart average; up to 50 feet apart in level terrain



Figure 1 Typical Elk Line Fence Showing Line Post, Wire and Insulators

## FENCE BRACE ASSEMBLIES

Braces are the foundation and anchor of a good fence. Using good construction practices will ensure a long fence life. Figure 3 is a drawing showing a 'modified 'H' end brace. Note the following:

- set brace posts in ground 3 to 3 1/2 feet minimum
- the horizontal rail is not notched into the driven posts, but is connected using 3/8 inch rebar into pre-drilled holes
- rail height is approximately 3/4 of fence height
- braces are set at a maximum of 1320 feet apart
- use inline braces if no corners are needed

**End Braces:** tie post: 4 to 5 inch by 10 feet long; brace post: 4 to 5 inch by 7 feet long; both set 3 to 3 1/2 feet; horizontal rail: 4 to 5 inch by 10 feet long.

This modified 'H' brace is sufficient for most conditions for the low tension of electric wires. In poor soils (sandy, wet, etc.), use a double-span brace assembly with three driven posts and two rails with the wire tie-off on the centre post.

**Inline Braces:** Use an end brace (for runs greater than 1320 feet) with brace wires in both directions.

**Corner Braces:** For 90° corners, use a brace of three driven posts and two rails. (Optional if the wires are being tied off – build two separate end braces of 4 driven posts and 2 rails).



Figure 2 Typical 'Modified H' End Brace for Electric Elk Fence



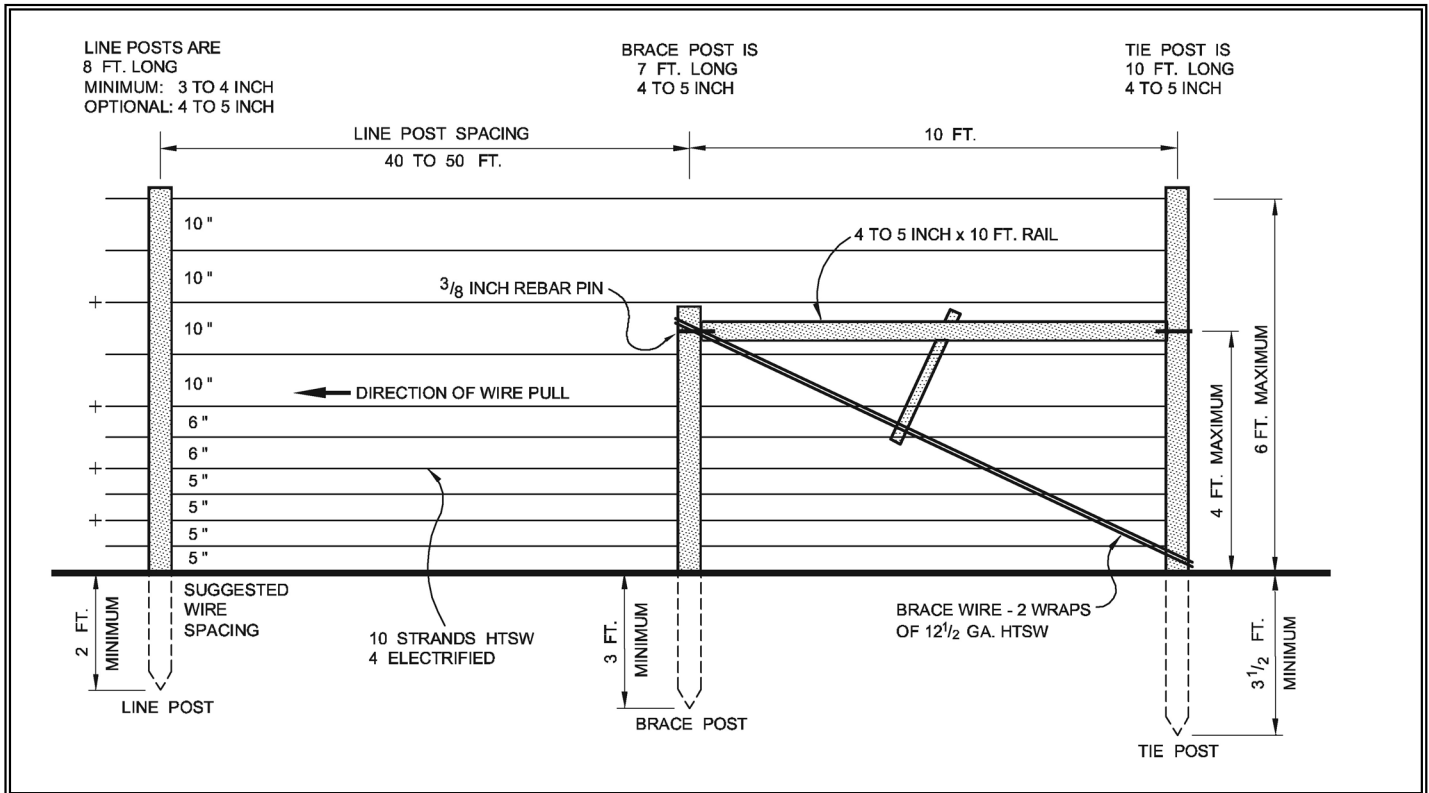


Figure 3 Typical Line Fence and 'Modified H' End Brace Design for Electric Elk Fence



Figure 4 New Cropland with New Electric Elk Fence in East Kootenays

## FENCE ENERGIZERS

Refer to Factsheet 307.310-1 entitled *Electric Fence Controllers* for details on energizers (electric fence controllers).

### FOR FURTHER INFORMATION CONTACT

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