

Fencing FACTSHEET

ESTIMATING BEEF CATTLE FENCING COSTS

This factsheet outlines the materials and estimated construction costs to install fencing using barbed wire and high tensile smooth wire. Electric subdivision fencing is also covered. [BC Ministry of Agriculture, Food and Fisheries publications](#) are available for design and construction information which outline factors other than costs that should be used in choosing a fence design. *Note: Page 2 and 3 are meant to be read as one table.*

A number of fence designs are being used to fence cattle on BC ranches and rangelands. The six nonelectric and two electric fences discussed here account for the majority of wire fence designs. Wood rail fences are not covered.

Fences are priced for level terrain – rough terrain will increase costs of both materials and labour. All prices are FOB Kamloops as of November 2003. No right-of-way preparation costs or sales taxes are included.

Annual ownership costs are not included because of the difficulty in accurately establishing the two main costs: depreciation (depends on fence life that can vary widely) and maintenance (can vary widely due to the quality of construction, the fence use, climate, etc.). Note that although an electric fence has a low construction cost, its annual cost may be from one half to equal that of a nonelectric fence. It is important to consider both the installed costs listed here as well as the ongoing annual costs.

BRACE ASSEMBLES: Single span horizontal rail design – refer to Factsheets 307.220-1 and -2.

MATERIAL	NUMBER AND PRICE	NON-ELECTRIC FENCE	ELECTRIC FENCE
Horizontal rail		\$\$	\$\$
* 4" / 5" x 10 ft	1 @ 8.00	8.00	--
3" / 4" x 8 ft	1 @ 4.00	--	4.00
Posts			
4" / 5" x 8 ft	2 @ 7.00	14.00	--
3" / 4" x 7 ft	2 @ 2.75	--	5.50
Other			
3/8" x 8 inch rebar pin	2 @ 0.20/ft	0.27	0.27
htsw twitch wire	30 ft @ 0.022/ft	0.66	0.66
2 x 2 x 3 ft twitch stick	1 @ 0.30/ft	0.90	0.90
Staples	10 @ 0.018 ea	0.18	0.18
BRACE MATERIAL COST		\$24.00	\$11.50

*4" / 5" indicates a 4 to 5 inch diameter top on wooden posts.

NONELECTRIC FENCE COSTS

BARBED WIRE (BW) FENCES

barbed wire	@	\$0.04 per ft (\$52 per 1320 ft /80 lb roll)
line posts 3" / 4" x 7ft	@	\$3.25 ea when purchased in bundle of 110
staples 2" barbed	@	\$0.018 ea (1 per wire per post)
droppers	@	\$1.00 ea
braces	@	\$24.00 ea (from page 1)

fence type : 4/15 = barbed wire / 4 strands / 15 foot post spacing			
	BW 4 / 15	BW 5 / 20	BW 5 / 30
FENCE DESCRIPTION			
no. of wires	4	5	5
post spacing (feet)	15	20	30
brace spacing (feet)	660	660	660
dropper spacing (feet)	--	10	10
dropper/post spacing	--	1	2
MATERIALS COST PER 1320 FEET			
wire	\$211 (5280 ft)	\$264 (6600 ft)	\$264 (6600 ft)
posts	280 (86 posts)	208 (64)	140 (43)
staples	6 (344 staples)	6 (320)	4 (215)
droppers	--	66 (66)	88 (88)
brace materials (from page 1)	48 (2 braces)	48 (2)	48 (2)
tensioners	--	--	--
splices / tie offs	--	--	--
allowance for terrain variation	75	75	75
MATERIALS COST PER 1320 FEET	\$620	\$667	\$620
MATERIALS COST PER FOOT	\$0.47 per foot	\$0.50 per foot	\$0.47 per foot
MATERIALS COST PER METRE	\$1.55 per metre	\$1.65 per metre	\$1.55 per metre

ESTIMATED FULLY CONSTRUCTED COSTS

These costs include all labour, materials transport, etc but do not include any significant right-of-way preparation. Construction costs will vary depending on location, terrain, amount of fence construction, etc.

CONSTRUCTION COSTS PER FOOT (ASSUME <u>UP TO 2X</u> MATERIALS COST)	\$0.93 per foot	\$1.00 per foot	\$0.93 per foot
INSTALLED COST PER FOOT	\$1.40 per foot	\$1.50 per foot	\$1.40 per foot
INSTALLED COST PER METRE	\$4.60 per metre	\$4.90 per metre	\$4.60 per metre

Two rules-of-thumb for *estimating* barbed wire fence costs:

- 1. approx materials cost = 12 times wire cost (i.e., wire at \$0.04 per foot = \$0.48 per foot materials)**
- 2. approx installed cost = 3 times materials cost (i.e., materials at \$0.48 = \$1.44 per foot installed cost)**

HIGH TENSILE SMOOTH WIRE (HTSW) FENCES

htsw	@ \$0.021 per ft (\$82 per 3750 ft /100 lb roll)
line posts 3"/4" x 7 ft	@ \$3.25 ea
staples	@ \$0.018 ea (1 per wire per post)
droppers	@ \$1.00 ea
tensioners	@ \$4.00 ea (1 per wire)
tie off splices	@ \$0.50 ea (4 per wire)
braces	@ \$24.00 ea

*HTSW 4 / 20	HTSW 5 / 30	HTSW 6 / 40
4	5	6
20	30	40
1320	1320	1320
10	10	10
1	2	3

111 (5280 ft)	139 (6600 ft)	166 (7920 ft)
208 (64 posts)	140 (43)	104 (32)
5 (260 staples)	4 (215)	4 (192)
66 (66 droppers)	88 (88)	99 (99)
48 (1 brace)	24 (1)	24 (1)
16 (4 tensioners)	20 (5)	24 (6)
8 (16 splices)	10 (20)	12 (24)
50	50	50
\$512	\$475	\$483

\$0.39 per foot	\$0.36 per foot	\$0.37 per foot
\$1.28 per metre	\$1.18 per metre	\$1.21 per metre

\$0.76 per foot	\$0.72 per foot	\$0.73 per foot
\$1.15 per foot	\$1.08 per foot	\$1.10 per foot
\$3.75 per metre	\$3.55 per metre	\$3.60 per metre

Two rules-of-thumb for *estimating* high tensile smooth wire fence costs:

1. approx materials cost = 18 times wire cost (i.e., wire at \$0.02 per foot = \$0.36 per foot materials)
2. approx installed cost = 3 times materials cost (i.e., materials at \$0.36 = \$1.08 per foot installed cost)

ELECTRIC FENCE COSTS

The following two designs are suitable for subdivision of grazing areas. High tensile smooth wire is used.

The cost of the fence energizer and grounding system can vary from \$200 - \$600 or more and may be able to energize from 1 to 10 miles of fence depending on conditions. For this reason, the following cost estimates are given for the fence **excluding** the energizer and grounding system costs.

	E 2 / 50	E 3 / 75
FENCE DESCRIPTION		
no. of wires	2	3
*wires energized	1 or 2	2 or 3
post spacing (feet)	50	75
dropper spacing (feet)	25	37
dropper per post spacing	1	1
MATERIALS COST PER 1320 FEET		
wire @ 0.021 per ft.	55 (2640 ft)	83 (3960 ft)
posts @ 3.25 ea	81 (25)	52 (16)
line insulators @ 0.40 ea	10 (26)	14 (34)
tie off insulators @ 0.75 ea	4 (4)	6 (6)
droppers (poly pipe) @ 0.50 ea	13 (26)	9 (17)
braces (from page 1) @ 11.50 ea	23 (2)	23 (2)
tensioners @ 4.00 ea	8 (2)	12 (3)
allowance for terrain variation	21	21
MATERIALS TOTAL PER 1320 FEET	\$215	\$220
MATERIALS TOTAL PER FOOT	\$0.15 per foot	\$0.17 per foot
MATERIALS TOTAL PER METRE	\$0.48 per metre	\$0.55 per metre
INSTALLED COST PER FOOT	\$0.45 per foot***	\$0.50 per foot***
INSTALLED COSTS PER METRE	\$1.50 per metre***	\$1.65 per metre***

* Wires not energized to be grounded in dry conditions.

** Assume up to 2x materials cost - will vary depending on location, terrain, amount of fence construction, etc.

*** These costs do not include the cost of the energizer and grounding system.

Two rules-of-thumb for *estimating* electric high tensile smooth wire fence costs:

1. approx materials cost = 7½ times wire cost (i.e., wire at \$0.02 per foot = \$0.15 per foot materials)

2. approx installed cost = 3 times materials cost (i.e., materials at \$0.15 = \$0.45 per foot installed cost)

For further information on related topics, please visit our website

Resource Management Branch

www.agf.gov.bc.ca/resgmt

Linking to our

Publications and Conceptual Plans

FOR FURTHER INFORMATION CONTACT:

Lance Brown, Engineering Technologist

Phone: (250) 371-6064

Email: Lance.Brown@gems6.gov.bc.ca

RESOURCE MANAGEMENT BRANCH

Ministry of Agriculture, Food and Fisheries

1767 Angus Campbell Road

Abbotsford, BC V3G 2M3 Phone: (604) 556-3100