

Fence Design and Construction must meet or exceed this minimum criteria

*Only new material is acceptable.

Table 1. Criteria for Selecting Fence Type and Height in Pastures

Animal to Control ²	Type of Fence ³	Average Top wire Height, inches ¹	
		Interior Cross Fence	Boundary Fence
Cattle	Barbed wire 4 strand	46	46
	Barbed wire 3 strand	38	Not Acceptable
	Smooth 4 strand (high tensile, non energized)	44	46
	Smooth 6 strand (high tensile, non energized)	44	46
	Smooth 3 strand (Energized)	38	Not Acceptable
	Smooth 2 strand (Energized)	38	Not Acceptable
	Smooth 1 strand (Energized), Temporary only	34	Not Acceptable
	Woven wire w/ 1 strand barbed wire	38	46
Board	44	48	
Goats and Sheep⁴	Woven wire	38	46
	Barbed wire 5 strand	38	38
	Smooth wire 3 strand (Energized)	26	Not Acceptable
	Smooth, 5 strand (high tensile, non-energized)	38	38
	Board (3 plank)	38	38
Horses	Board (3 plank)	48	48
	Woven	48	46
	Barbed wire 4 strand Not Recommended	48	46
	Smooth wire 3 strand (energized)	38	Not Acceptable
	Smooth wire 4 strand (energized)	44	46
	Smooth, 6 Strand (high tensile, non energized)	44	46

¹Top strand height should not vary more than one inch.

²For combinations of livestock, use the minimum height for the largest animal to be controlled.

³Fence type must be compatible with all of the animals to be controlled.

⁴A 1.5-joule energizer with a 50-mi. capacity is recommended for wool sheep.

Table 2. Criteria for Selecting and Installing Post and Brace Material for All Types of Wire Fence

Member	Wood and Synthetic Posts and Brace Members		Steel Posts and Brace Members	
	Top Diameter, inches	Minimum Length, feet ¹	Pipe Diameter, inches	Minimum Length, feet
Corner Post	5 ½	8	4	8
End Post	5 ½	8	4	8
Gate Post	5 ½	8	4	8
Brace Post	5 ½	8	4	8
Line Post	3	6 ½	2	6 ½
Horizontal Brace Member	3	6 ½	2	6 ½
Fiberglass Line Post (energized fences only)	1	6 ½		
Insultimber Line Post (energized fences only)	1 ½	6 ½		

¹Minimum post length listed is for a 4-strand barbed wire fence. Minimum length for posts for other fence types needs to allow the post to extend a minimum of 2 inches above the top of the fencing material used.

Table 3. Minimum Post Installation Depth for Various Soil Types

Post	Sandy/Loamy Soil, inches	Muck Soil, inches	Rocky Soil, inches
Corner Post	42	48	42
End Post	42	48	42
Gate Post	42	48	42
Brace Post	42	48	42
Line Post	24	42	18
Line Post (energized fence only)	18	18	18

Table 4. Post and Wire Spacing

Animal to Control	Type of Fence	Maximum Post Spacing		Recommended wire placement, inches from ground
		with Stays ¹ ----- Feet -----	w/o Stays --	
Cattle	Barbed wire 4 strand	30	16	16, 26, 36, 46
	Barbed wire 3 strand	30	16	16, 26, 38
	Smooth 4 strand (high tensile, non energized)	100	NA ²	16, 26, 36, 46
	Smooth 6 strand (high tensile, non energized)	100	NA	6, 14, 22, 30, 38, 46
	Smooth 3 strand (energized)	150	100	12, 22, 38
	Smooth 2 strand (energized)	150	100	17-24, 38
	Woven wire w/ 2 strand barbed wire	NA	20	32, 36, 46
Goats and Sheep*	Woven wire (height to top wire)	NA	20	32
	Barbed wire 4 strand	30	16	10, 16, 24, 32
	Barbed wire 5 strand	30	16	6, 14, 22, 30, 38
	Smooth wire 2 strand (energized)*	150	75	8-10, 20-26
	Smooth wire 3 strand (energized)*	150	75	6, 14, 26
	Smooth, 5 strand (high tensile, non-energized)	150t	50	5, 10, 17, 27, 38
Horses	Woven wire w/ 2 strand barbed wire	NA	20	49, 52
	Barbed wire 4 strand	30	16	16, 26, 36, 46
	Smooth wire 3 strand (energized)	150	100	17, 27, 38
	Smooth wire 4 strand (energized)	150	100	17, 27, 37, 46
	Smooth, 6 Strand (high tensile, non energized)	100	NA	6, 14, 22, 30, 38, 46
Hogs	Woven wire w/ 1 barbed wire at bottom	NA	20	4, 30
	Smooth wire 3 strand (energized)	150	75	6, 12, 18 to 20
	Smooth wire 4 strand (energized)	150	75	6, 12, 18, 30
Deer and/or other large wild animals	Woven wire (height to top wire) Use to contain or exclude wildlife.	NA	20	96
	Smooth, 6 Strand (high tensile, non-energized) Use only to exclude wildlife.	60	16	8, 10, 10, 10, 10, 10

¹Use stays in all permanent, barbed and smooth wire fences when the distance between posts exceeds 16 feet. Stay placement and material need to meet the criteria in Table 5.

²Not applicable.

Table 5. Number of Stays¹ Required and Recommended Placement²

Post spacing	Required Number of Stays	Notes
0 to 16 feet	0	No stays required, 1 stay recommended when post spacing exceeds 15 feet.
0 to 22 feet	1	Evenly spaced between posts
0 to 30 feet	2	Evenly spaced between posts
> 30 feet	As Needed	Do not exceed 15 feet distance between stays or posts and stays.

¹Wooden stays may be used providing they have a minimum diameter of 1-½ inches. All wire stays need to be constructed of galvanized material.

²Install stays so they swing free of the ground and allow the fence to sway when touched by animals.

Braces are required at all corners, gates, and definite angles or changes in elevation in the fence line (15 degrees or more). See Table 6 for brace type and spacing. Horizontal H-brace assemblies are recommended for all permanent fence installations. Alternative braces may be used in place of H brace assemblies provided they are designed and constructed to meet or exceed the strength of a single or double H brace.

Table 6. Brace Selection and Spacing

Fence Type	Distance Between End Posts (feet)	End Brace Type	Inline Brace Required	Inline Brace Type
Smooth, Barbed Wire, and Suspension	0 – 660	Single H	No	Single H ¹
	0 – 1320	Double H	Yes	Single H
	> 1320	Double H	Yes	Single H
Woven Wire	0 – 660	Single H	No	Single H ¹

¹Not required but may be needed if there are significant changes in elevation or angles (15 degrees or more).

Table 7. Board Fence Material Criteria and Post Spacing and Board Height

Member	Min. Fence Height, feet	Post Type	Post Top Diameter, inches)	Post Length, feet	Post Placement Min. Depth, inch	Recom. Post Spacing, feet	Max. Post Spacing, feet	Board Height from Ground, inches
Corral¹								
Gate Post	5	Wood	6	8 ½	42"	6	8'	18, 32, 46, 60
Gate Post	5	Pipe	4	8 ½	42"	6	8'	18, 32, 46, 60
Line Post	5	Wood	5	8 ½	36"	6	8'	18, 32, 46, 60
Line Post	5	Pipe	4	8 ½	36"	6	8'	18, 32, 46, 60
Pasture²								
Gate Post	4	Wood	6	7 ½	42"	8	10'	12, 24, 36, 48
Gate Post	4	Pipe	4	7 ½	42"	8	10'	or
Line Post	4	Wood	4	6 ½	30"	8	10'	18, 33, 48
Line Post	4	Pipe	4	6 ½	30"	8	10'	

¹For corrals, boards need to be a minimum of 2-inch by 6-inch by 8-foot, 0.4 pcf CCA or equivalent on posts and boards paced a maximum of 12 inches apart.

²For pasture fence, boards need to be a minimum of 1-inch by 6-inch by 8-foot rough cut CCA treated plank (1"x6"x8') spaced a maximum of 12 inches apart.