

**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 <sup>2</sup> | Type of Fence <sup>3</sup>                     | Average Top wire Height, inches <sup>1</sup> |                 |
|--------------------------------|--|--|-----------------|
|                                |  | 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              |
| Goats and Sheep <sup>4</sup>   | Board  | 44   | 48              |
|                                | 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              |
| Horses                         | Board (3 plank)                                | 38   | 38              |
|                                | Woven  | 48   | 46              |
|                                | Barbed wire 4 strand                           | Not Recommended                              | Not Recommended |
|                                | Smooth wire 3 strand (energized)               | 38   | Not Acceptable  |
|                                | Smooth wire 4 strand (energized)               | 44   | 46              |
|                                | Smooth, 6 Strand (high tensile, non energized) | 44   | 46              |

<sup>1</sup>Top strand height should not vary more than one inch.

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

<sup>3</sup>Fence type must be compatible with all of the animals to be controlled.

<sup>4</sup>A 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 <sup>1</sup> | 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                               |                               |                      |

<sup>1</sup>Minimum 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 <sup>1</sup><br>----- Feet ----- | w/o Stays<br>-- |  |
| <b>Cattle</b>                               | 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 <sup>2</sup> | 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                                     |
| <b>Goats and Sheep*</b>                     | 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                              |
| <b>Horses</b>                               | 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                          |
| <b>Hogs</b>                                 | 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                                  |
| <b>Deer and/or other large wild animals</b> | Woven wire (height to top wire)<br>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                          |

<sup>1</sup>Use 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.

<sup>2</sup>Not applicable.

**Table 5. Number of Stays<sup>1</sup> Required and Recommended Placement<sup>2</sup>**

| Post spacing  | Required Number of Stays | Notes  |
|---------------|--------------------------|--|
| 0 to 16 feet  | 0                        | No stays required  |
| 17 to 22 feet | 1                        | Evenly spaced between posts                                      |
| 23 to 30 feet | 2                        | Evenly spaced between posts                                      |
| > 30 feet     | As Needed                | Do not exceed 15 feet distance between stays or posts and stays. |

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

<sup>2</sup>Install 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 <sup>1</sup> |
|                                     | 660 – ≥1320                       | Double H       | Yes                   | Single H <sup>2</sup> |
| Woven Wire                          | 0 – 660                           | Single H       | No                    | Single H <sup>1</sup> |
|                                     | 660 – ≥1320                       | Double H       | Yes                   | Single H <sup>2</sup> |

<sup>1</sup>Required for any significant changes in elevation or angles of 15 degrees or more.

<sup>2</sup>Required at all 660-foot intervals and any significant changes in elevation or angles of 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 |
|----------------------------|-------------------------|-----------|----------------------------|-------------------|---------------------------------|---------------------------|-------------------------|----------------------------------|
| <b>Corral<sup>1</sup></b>  |                         |           |                            |                   |                                 |                           |                         |                                  |
| 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                   |
| <b>Pasture<sup>2</sup></b> |                         |           |                            |                   |                                 |                           |                         |                                  |
| 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'                     |                                  |

<sup>1</sup>For 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.

<sup>2</sup>For 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.