



## Fence

*Fencing controls movement or limits access*

*Lifespan of Practice: 20 years  
(Exception: Temporary Fence)*

**Tennessee Implementation  
Requirements No. TN-382**



### FENCE LAYOUT CONSIDERATIONS

- Permanent long paddocks.
- Fence the long direction.
- Parallel fences 430 ft. apart.
- Every 100 ft. of fence = 1.0 ac.
- Water placed in every other fence line.
- End pasture leads to corral.
- Unlimited paddocks with temporary electric polywire.

### FENCE TYPE – DETERMINING FACTORS

- Many types of materials can be used to construct a barrier, such as woven, barbed, or electric wire.
- Time and money are a consideration, for example a woven wire fence is more expensive but has lower maintenance than an electric high tensile fence.
- Strength or power needed in the fence will also depend on the amount of pressure placed on the fence. Crowding areas and areas grazed longer and lower will need a stronger fence. Where good grass is present less strength in the fence will be needed.

### TYPES OF FENCING

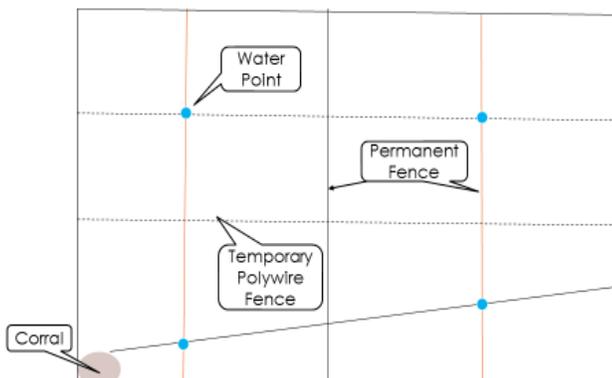
#### Woven Wire Fencing

Install H bracing and place line post on 14 ft. centers for standard woven wire and 25 ft. centers for high tensile woven wire. Pull assemblies are placed 660 ft. apart or less for standard woven wire and 1320 ft. for high tensile woven wire. Additional brace assemblies are needed if significant curves, dips or corners are encountered.

#### Barbed Wire Fencing

Minimum number of wires is 4 strands of 12.5 gauge galvanized or 15.5 gauge triple galvanized high tensile barbed wire. Wire shall be 18 in. or closer to the ground and a minimum of 38 in. high. Line post spacing shall be 14 ft. or less apart and wood post set in ground 24 in. or deeper, steel post driven to top of flange or deeper.

### Simple Pasture Layout



### **High Tensile Electric Fencing**

Only high tensile electric fence is approved for one and two wire fencing. No brace is required for one or two strand high tensile fence but the end post must be 6 in. diameter or larger and the post placed in the ground a minimum of depth the same as the height of the top wire. No barbed wire is allowed to be placed in association with high tensile electric fence. Use of tube wrap around and line insulators is discouraged. Wires may be tied with the exception of connections between wires that must be crimped or secured with a split bolt tightener or equivalent. Wire must be in ground or overhead at gates.

### **BRACING**

Bracing is the strength and life of a fence and is needed anytime more than two wires are used. The standard brace is an H Brace; however, an N Brace or Floating Brace are also acceptable. No notching of post is recommended. Brace pins or brackets are required. No landscape timbers are to be used in the fence.

### **SWITCHES**

Switches are recommended at all fence intersections. Grounding is very important. A minimum of 3 ground rods are needed placed 10 ft. apart and 6 ft. in the ground.

### **ENERGIZER**

- One joule per mile of fence is minimum.
- Two joule per mile with weed pressure.

### **STEPS IN BUILDING THE FENCE**

1. Plan the fence and stake it off; drive around it.
2. Ideal would be to use a temporary fence first.
3. Determine type and amount of posts and wire or boards to be used.
4. Determine corner post reinforcement needs.
5. Install brace posts.
6. Install one wire as a guide for line posts.
7. Place line post on rises and dips.
8. Tie off wire to brace in significant dips and corners great than 150 degree turn.
9. In turns, in lieu of bracing, you may use 5-6 in. post.
10. Install line posts.
11. Install gates or gaps.



Top wires are needed on all woven wire fences and placed a minimum of 2 in. below the top of the post to bring the height up to 42 in. total height. If high tensile electric is used, space a minimum of 6 in. above the woven wire.

Minimum size brace member is 4 in. and supported with brace pins or brackets. Placement of the brace member is a minimum of 3 ft. above ground and 2/3rds the height of the fence. Length of the brace member shall be a minimum of 6 ft. but ideally 1.5 x the height of the fence in ft.

Wrap wire all the way around the post.

End post a diameter of 6 in. minimum and 36 in. in ground or 30 in. in concrete. If top of post is cut off, seal with pitch. Although discouraged, trees may be used as end post. Connect wire to lag eye bolt or lag insulators.

Brace wire is placed at bottom of end post to the center of the brace member. Tension braces wire with a treated twist stick minimum of 1.5 in. diameter; leave the stick in place. Preferred tensioner is a strainer with sliding connector to tweak tension on each end of brace wire.

Line post can be: wood (4 in minimum), steel post, Plastic T post (1 in. cross section), Fiberglass (5/8 in. minimum), wood plastic composite (1 in. minimum). Although discouraged trees may be used for half of the line post with a 2 in. x 4 in. on the tree between the wire and the tree.



Steel post will be driven in ground to top of the flange or deeper; wood post shall be 24 in. or deeper in the ground. Most producers don't like steel post with electric fence due to potential for shorts.

## OPERATION AND MAINTENANCE

In case of an emergency, have repair materials readily available. Check the fence regularly to be sure it is in good repair and operating properly. Always check fences after major storm events.

## REFERENCES

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Holechek, J.L., R.D. Pieper, and C.H. Herbel. 2001. Range Management: Principles and Practices. Prentice Hall.

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Vallentine, J.F. 1971. Range Development and Improvement. Brigham Young University Press.

Landowner: \_\_\_\_\_ County: \_\_\_\_\_ Date: \_\_\_\_\_

Farm No.: \_\_\_\_\_ Tract No.: \_\_\_\_\_

Assisted By: \_\_\_\_\_

1. Goals and Objectives (e.g. Cross fence for prescribed rotational grazing 50 cows.):

2. Material List (i.e. type of material, length of fence, gates or gaps, post type and size):

3. Attachments:

- Plan Map and Soil Map
- Maps, drawings, and/or narratives detailing or identifying fence construction
- Estimate paddock size needed for desire rotation (See Cowboy Math table or Graze Tools.)
- Grazing Plan, if required. When cross fence is installed to facilitate prescribed grazing adjacent fields must meet prescribed grazing within one year.

4. Additional Notes:

Landowner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Conservation Planner: \_\_\_\_\_ Date: \_\_\_\_\_

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