



## A Deer Fence to Protect Chestnut Trees *Construction Methods*

Gregory R. Weaver  
Vice President of TN Chapter  
of  
The American Chestnut Foundation

Damage to chestnut trees by deer browsing is a serious issue for many growers of American chestnut trees. Methods to protect trees from deer include tall tree shelter (4 – 6 feet), wire cages, chemical deer repellants, electric fences, and deer exclusion fences. This article describes my technique for construction of a deer fence which protects my chestnut orchard in the Western Highland Rim region of Tennessee.

### **Deer Fence Supplies List:**

End and corner posts 6 X 6 X 10 ft treated lumber  
Horizontal brace beams 6 X 6 X 8 ft treated lumber  
Space posts 4 X 4 X 10 ft treated lumber (after every 4 metal T posts)  
Line posts 8 ft metal “T” posts (every 12 feet)  
PVC pips 1.5 inches X 2.5 feet (extends the height of metal posts)  
PVC pipe “T” 1.5 inches (supports top strand of barbed wire)  
9 gauge brace wire (160 foot rolls) for corners and ends  
32 inch balusters (to twist brace wire), treated lumber  
Fence: Tenax cintroflex 7 ft 7 inch X 330 feet ([www.gemplers.com](http://www.gemplers.com) item no. G51924).  
This is a lightweight polyethylene mesh fencing material.  
Cable ties 7 inch ([www.gemplers.com](http://www.gemplers.com), item no. G51352)  
Barbed wire 15.5 gauge Bekaert high tensile.  
Fence staples 1.5 inch  
Corner brace hardware, galvanized metal plates (supports brace beam, one at each end)  
Nails, no. 10 galvanized (to nail corner and end brace beam to plate)  
Metal fence post wires (attaches barbed wire to metal fence posts)  
Gate, 10 foot stockade  
Western red cedar 1 in X 6 in X 10 ft, 4 or 5 per gate (to build fence frame over gate)  
Gate latches ([www.codymercantile.com](http://www.codymercantile.com), item number 5982)  
Deck screws 1 5/8 inch and 3 inch (to attach cedar boards to gate)

Note: If you have access to 10 foot metal T posts, you would use those instead of the 8 ft posts and PVC pipe. A summary of the fencing specs and costs associated with the above supplies may be found in Table 1 at the end of this document.

### **Corners and Ends**

The corners and ends are double braced, i.e. three 6 X 6 X 10 ft posts set 2 ft into the ground with 2 horizontal beams 6 X 6



**Figure 1. Corner of fence.**

X 8 ft attached to the posts with brace plates. Put the top of the brace beams about 50 inches above the ground. Anchor with an angled double round of 9 gauge brace wire around each set of 2 posts, twisted into a cable with a baluster.

### Line Posts

The line posts are 8 foot metal “T” posts drive 1.5 feet into the ground. 6.5 feet remains above the ground. Space posts 12 feet apart. After every 4 metal posts, set a 4 X 4 X 10 foot wooden post to stabilize the fence. If there are cull trees in the fence row, these can substitute for fence posts.



**Figure 2. Greg Weaver stands with fence brace.**

### Barbed Wire

A total of four strands of barbed wire is used. Positioning the strands 6, 33, 60, and 91 inches above the ground will give satisfactory results. Be careful that the total height of the barbed wire fence does not exceed the height of deer fence material (7 ft 7 in). The deer fence will be attached to the barbed wire with plastic pull ties.

The barbed wire is used to support and anchor the deer fence, to increase its strength, and to aid in its installation. The wire also makes the top of the fence more visible to deer which may add to its deterrent effect.

Stretch the third strand (counting from the ground up) first at a height of about 60 inches above the ground. This strand also serves to support the PVC pipe fence post height extenders.

Fit a 2.5 ft X 1.5 in PVC pipe over each T post to serve as a height extender (Figure 3). Hammer it down until it touches the third strand of barbed wire. You may spray paint the PVC pipe black to improve aesthetics.



**Figure 3. Fence post extender.**

Attach the fourth (top) strand of barbed wire to the end post and unroll it. Thread the PVC 1.5 inch “T” connectors over the barbed wire, one for each post. This is tedious work, but it will later firmly support the wire. Fit the PVC T on top of the PVC pipe at each post and then stretch the barbed wire tight and staple at the wooden posts.

Unroll and stretch the bottom two strands of barbed wire, attaching them to the metal posts in the usual manner with wire attachers and to the wooden posts with fence staples.

If necessary, stretch an additional lower bottom strand to keep deer from going under the fence (e.g. at ground depressions).

### Deer Fence

Attach the deer fence to the end posts with fence staples as you would a metal woven wire fence. Unroll it to the next braced corner or end.

Hand pull the fence, hooking the mesh of the fence to the barbs on the barbed wire to temporarily hold it in place.

Hook the top first, letting a full row of mesh stick up above the barbed wire (to let you fudge the height if you need to). Then work down the fence, pulling it moderately tight by hand as you go. It will have some wrinkles in it, which should not affect the performance of the fence. (I tried using a woven wire fence stretcher at first. It was awkward to use on the tall fence and did not improve the installation.)

Staple the fence to the wooden posts. Attach it to the barbed wire with the plastic pull ties. Place the pull tabs about 2 – 3 feet apart top and bottom and space farther apart in the middle. The 7 inch ties will not go around the metal posts. Either attach the fence to the barbed wire next to the post or get some longer pull ties to attach it directly to the posts.

### Gates

For the gates, hang the gates in the usual manner from double braced 6 X 6 X 10 ft posts. Attach a 2 X 4 inch block to the gate receiving post to support the gate when it is closed. Also, put a concrete block to hold the weight of the free end of the gate when it is open. The gate will be heavy after installation of the deer fence and frame. Western red cedar is recommended because it is a light weight wood.

Sandwich the gate between 1 X 6 X 10 feet western red cedar boards oriented vertically on both ends (i.e. two boards at each end of the gate). Cut a generous length of deer fence and insert it between each set of upright boards.

Sandwich a 1 X 6 X 10 foot cedar board horizontally across the top to join the two sets of upright boards, hand pulling the deer fence tight.

Screw a second horizontally oriented cedar board flat against the first to bind and hold the top of the deer fence. Screw these boards and the vertical boards firmly together to hold the deer fence in place. Use spacer boards between the upright boards as necessary.

If the bottom of the gate is too high off the ground, place a cedar board under the bottom of the gate, attaching it to the bottom of the vertical end boards.

Attach the deer fencing material to the metal gate with plastic pull ties. Install the gate latch.

Disclaimer: The view and methods discussed in this article are solely those of the author and do not necessarily represent those of the American Chestnut Foundation, the vendors, nor the manufacturers of the products discussed.

Disclosure: The author has no consultative, commercial or financial relationship with the vendors or manufacturers of the products herein discussed.

Table 1. Summary of fencing specifics, supplies and associated costs.

Estimated area fenced 2.25-2.5 acres.

Length of periphery 1320 feet.

Estimated building time: 250 hours.

Height of fence: 8 feet.

<b>Supplies</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total Cost</b>	<b>Comments</b>
Fence polyethylene, deer deterrent	4	\$250.00	\$1,000.00	
Wooden Posts and Braces			\$1,521.00	
Metal T posts, 8 ft.		\$5.20	\$260.00	
PVC Pipe post height extenders			\$182.00	
Gates	4		\$360.00	
Cedar lumber for gate height extenders			\$206.00	
Connector hardware, staples screws, nails			\$90.00	
Barbed wire	3	\$35.00	\$105.00	
Gate latches	4	\$10.00	\$40.00	
Balusters to twist brace wire			\$35.00	
Brace wire	10	\$17.00	\$170.00	
Cable plastic pull ties	2	\$27.00	\$54.00	Quantity = box of 1000 cable ties
Tax (8% in TN)			\$321.84	
		<b>TOTAL</b>	<b>\$4,344.84</b>	