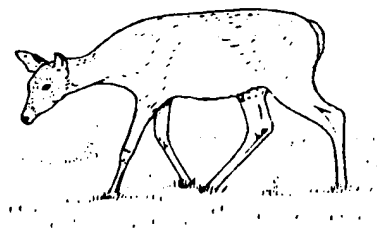


Deer and Agriculture In West Virginia



High Tensile Fencing for Deer Control

Publication No. 810

Various high tensile wire electric and non-electric fence designs can be effectively used to protect agricultural crops from white-tailed deer damage. The type of fence to use depends on location, terrain, vegetation and especially deer pressure. One type of fence may be effective in one location but not in another location. High tensile (HT) fencing is different from conventional wire fencing and special attention must be given to design, materials and construction methods. Frequent fence inspection and maintenance and vegetation control is also important to maximize fence effectiveness. Several fence designs are illustrated here with a brief discussion of each. More detailed design specifications and construction methods for each type are given in additional fact sheets.

The 6-wire vertical high tensile electric anti-deer fence (Figure 1) appears to be effective in controlling deer in most situations. This design is a modified version of the Penn State 5-wire 58-inch vertical fence with closer wire spacing. Vertical fences are generally simpler to construct and use less horizontal space than 2-dimensional fences. The wires are spaced so deer

cannot crawl through without getting an electrical shock. High voltage energizers with various capacities electrify short to very long runs of properly constructed and maintained fence. Hot and ground return wire sequence can be changed with a switching device to provide most effective shock for snow cover, tall grass or very dry situations. Vegetation should be controlled in a 12 to 18-inch strip under the fence with herbicides and for 5 to 8 feet on the deer side of fence by mowing to minimize voltage drop and provide an approach zone for deer. The 5 to 8-foot open strip should be left outside the entire fence perimeter so as deer approach they notice the fence, try to reason-it-out, which results in no entry. If the fence is built close to an old fence, a fencerow or trees, deer will be through the fence before sensing the hot wires. The clear area also provides deer a pathway around the fence. Oftentimes a distinct path a few feet from the fence is established soon after the fence is erected. Vegetative control along the fence also makes fence inspection easier.

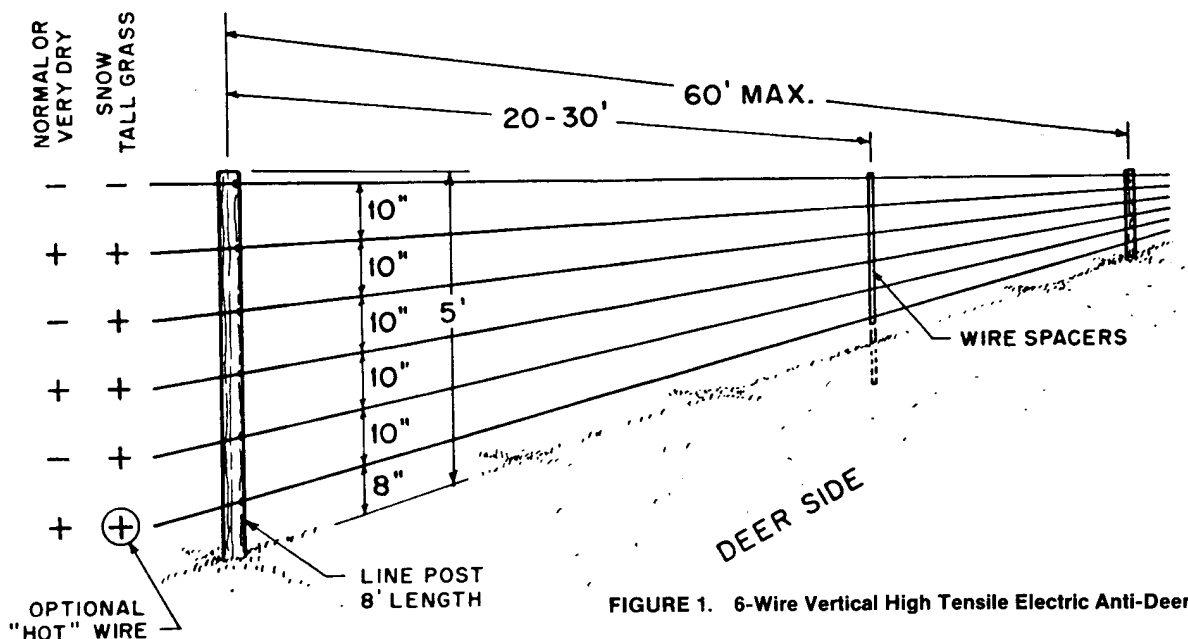


FIGURE 1. 6-Wire Vertical High Tensile Electric Anti-Deer Fence

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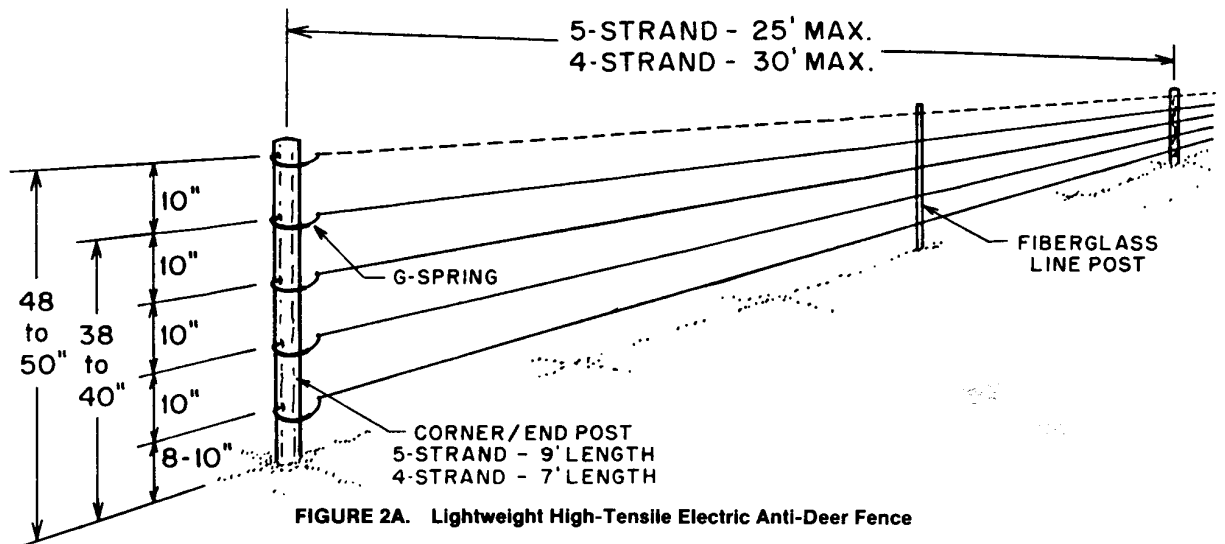


FIGURE 2A. Lightweight High-Tensile Electric Anti-Deer Fence

The 4 or 5-wire lightweight vertical high-tensile electric anti-deer fence (Figure 2), a modified version of the original intensive or controlled grazing fence system, has been effective for deer control in small acreage vineyard, evergreen seedling nursery, strawberries and home gardens. Single wooden end and corner posts without bracing are adequate because the 16-gauge high-tensile Class 3 zinc-galvanized smooth wires are only tensioned to 25-30 pounds. Fiberglass line posts with self-locking double-wedge clips of high quality plastic, stainless steel connector clips, or other type connectors that can be adjusted up and down keep the wires firmly spaced. Tube insulators are used

on wooden posts which are needed for directional change or steep rise locations. Spring-steel G-springs are used for wire tensioners and also serve as cut-off switches and gate hooks for each wire to create gateways which are integral to the fence. This lightweight wire is only suitable for fence designs specially tailored for it. Bottom wire height from the ground should be 8 to 10 inches with additional wires at 10 inch spacing. The 5-strand fence provides overall fence height of 48 to 50 inches and the 4-strand 38 to 40 inches. Because this fence is not a strong physical barrier, voltage level must always be 5000 to 8000 volts from a high-energy controller. Wooden end posts should be 4 to 5-inch diameter by 7 to 8-foot length set in ground 3 to 4 feet for the 4-strand fence. For the 5-strand fence 5-inch diameter posts, 8 to 9-foot length, set in ground 4 to 4½ feet should be used. This fence is easy to construct and lower in cost than other high-tensile deer fences but at this time is not recommended for large acreage or for remote locations.

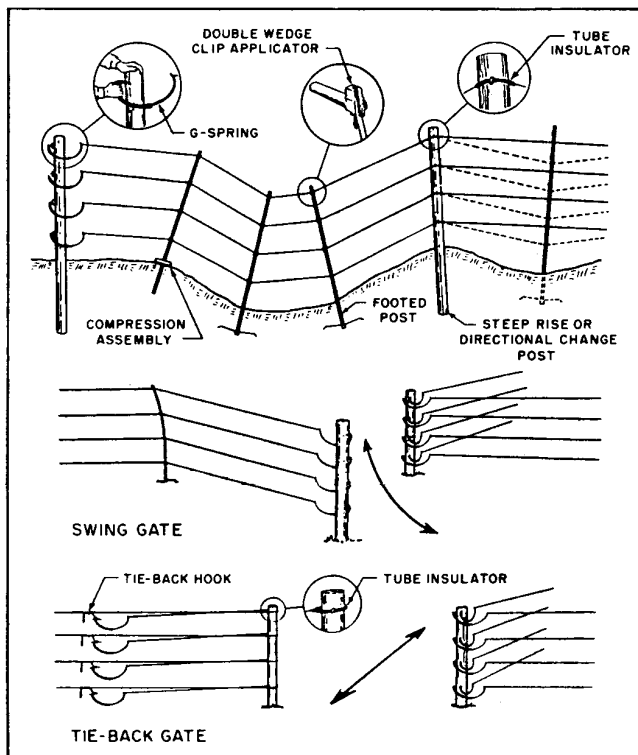


FIGURE 2B. Lightweight High-Tensile Electric Anti-Deer Fence Construction Methods

The 7-wire slanted high tensile electric anti-deer fence (Figure 3) is a 3-dimensional barrier built in a slanted outrigger design. The slanted fence has been effective in controlling deer damage in moderate to high deer pressure situations. All wires are spaced along the slanted rail at 12-inch intervals from ground (crop side) to a 48-inch height on the deer side. The rail is supported near the top on a driven post. This fence covers approximately 6 feet of horizontal space and presents a deer with a perplexing barrier as well as an electric shock upon impact. For additional small animal control, wires can be added between the ground and first and second wires. The slanted fence is more difficult to construct than the 6-wire vertical. As with the 2-dimensional fence, vegetation control by mowing is more difficult and chemical control more costly, thus a major disadvantage. Material cost is higher and construction labor cost considerably higher than the 6-wire vertical. The bottom wire may be optionally "hot" or disconnected for snow or tall grass situations.

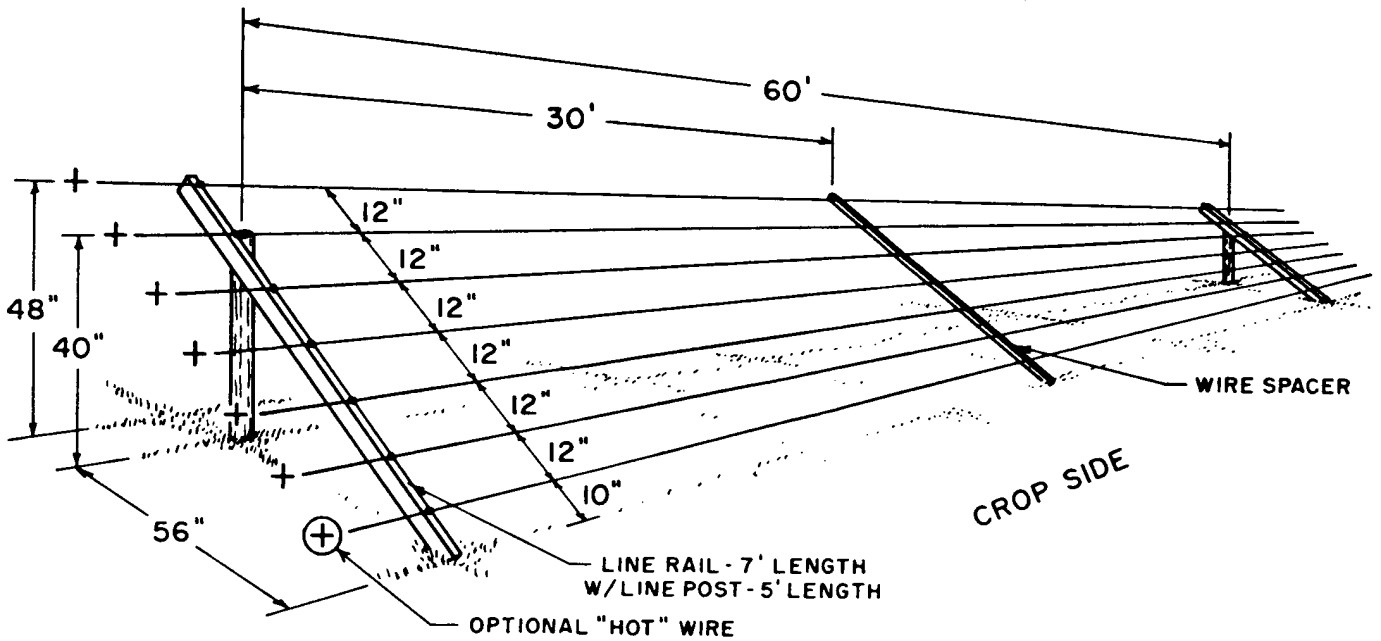


FIGURE 3. 7-Wire Slanted High Tensile Electric Anti-Deer Fence

The 5 wire slanted high tensile with wire mesh non-electric anti-deer fence (Figure 4) is a modified non-electric version of the 7-wire slanted electric fence. Line post spacings are 45 feet as compared to 60 feet on the 7-wire electric fence. A 4-foot section of wire mesh is attached with standard hog rings to the bottom and center wires. Two wires are eliminated, the top 2 wires remain the same and one wire located in the center of the mesh is used for support. Maintenance, material and labor costs are high. Effectiveness has not been extensively determined.

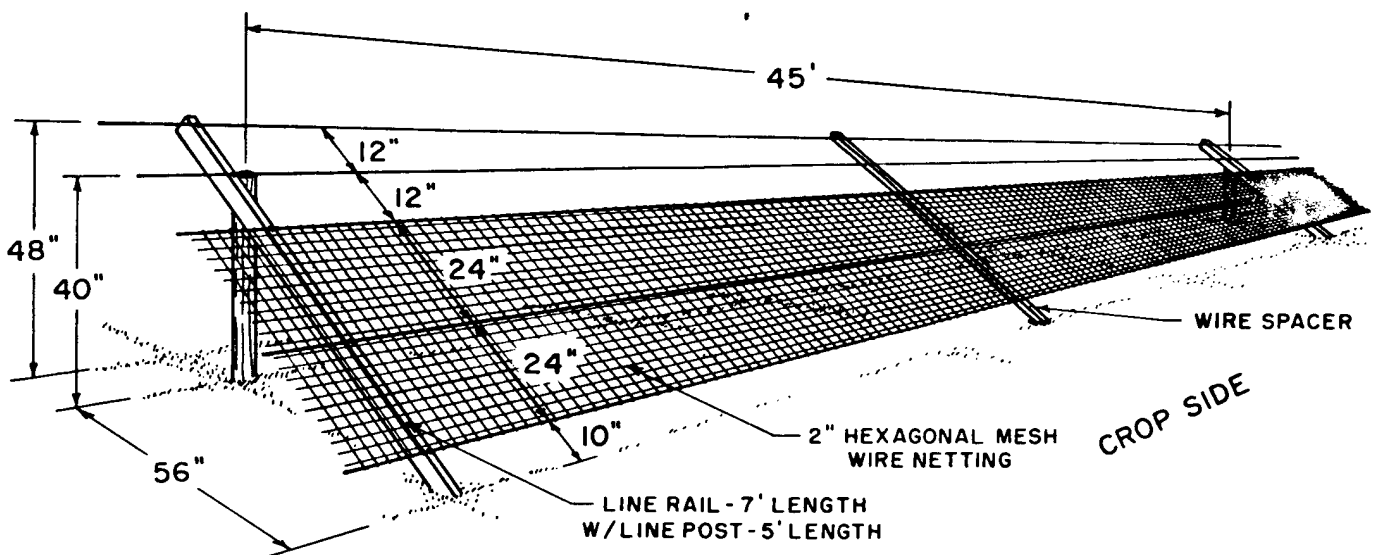


FIGURE 4. 5-Wire Slanted High Tensile with Wire Mesh Non-Electric Anti-Deer Fence

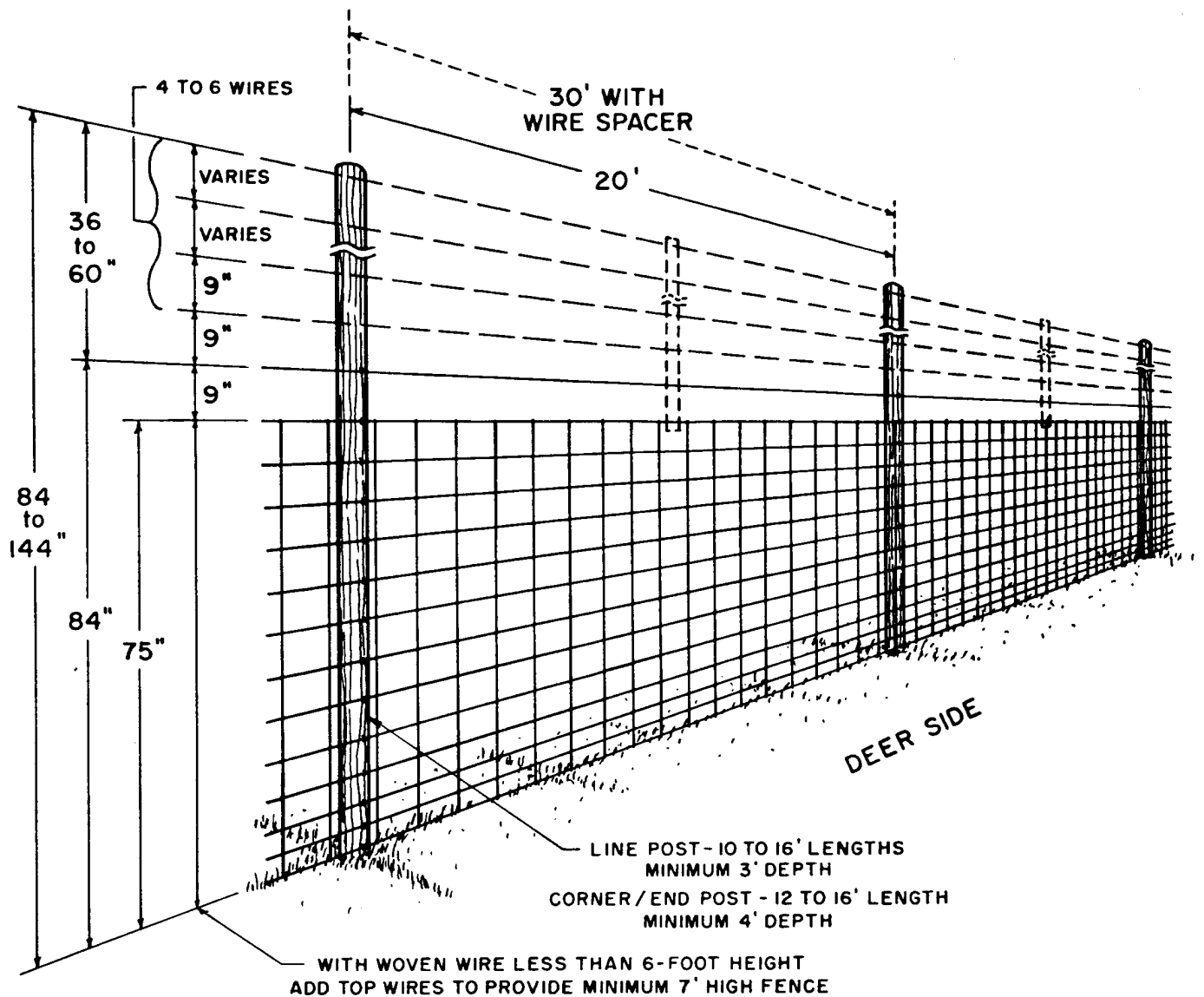


FIGURE 5. 7 to 12' High Tensile Woven and Smooth Wire Non-Electric Deer Fence

The 7 to 12-foot high tensile woven and smooth wire non-electric deer fence (Figure 5) is very effective and recommended for moderate to high deer pressure on moderate to large acreage. Woven wire fence with outrigger and barbed wire at top has been in use many years in the U.S. as deer fence for preserves, parks and game farms. High tensile woven wire fence, originally developed over 10 years ago in New Zealand for deer farming, is now being marketed in the U.S. Considered the ultimate in effective deer fencing, high tensile woven wire is available in 49 and 75-inch heights. A minimum of one strand of HT smooth wire is recommended on top the woven wire and total fence height should be no less than 84 inches for low to moderate deer pressure. Additional wires are added to provide up to a 12-foot high fence. As expected, cost is much higher than other types—both material and construction labor. However, less maintenance is required for this fence.

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