SO YOU THOUGHT YOU KNEW HOW TO DRIVE A STAPLE

SIMPLE STAPLING TECHNIQUES THAT WILL IMPROVE THE STRENGTH & INCREASE THE LONGEVITY OF HIGH TENSILE FENCES

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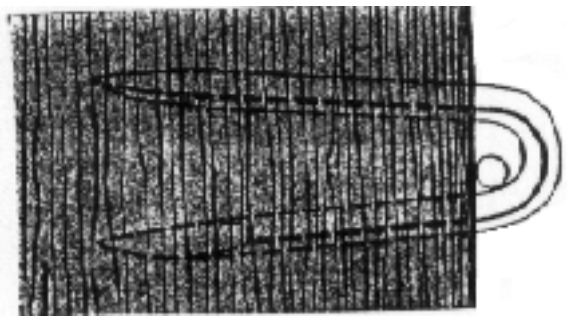
The tension on wires is much greater on high tensile fences than on conventional barbed or woven wire fencing. This can put a lot of stress on staples. If staples are the wrong size or driven incorrectly they can pull out and cause other problems.

Staples for high tensile fences should be longer than staples used for conventional barbed and woven wire fences. Use galvanized nine gauge staples 1-3/4 inches long. Tests conducted by U.S. Steel show that 1-3/4 inch staples hammered into wood posts have 50% more resistance to pull-out than 1-1/2 inch, 9 gauge staples driven into the same posts.

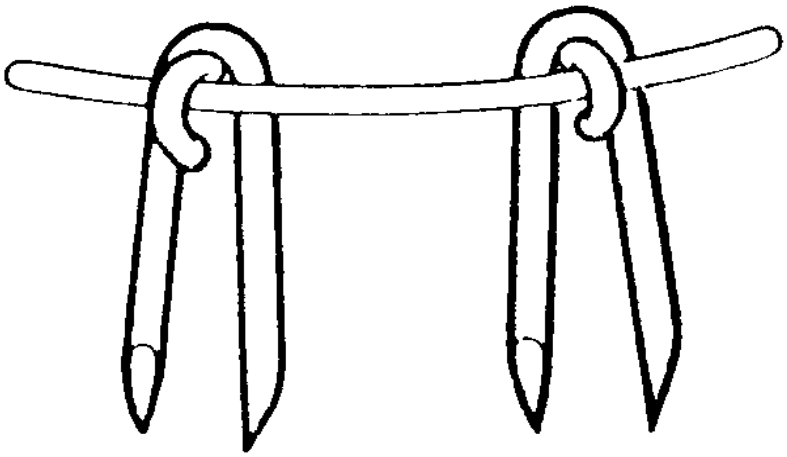
Figure 1. Do not drive staples all the way in posts.



Staples on high tensile fences should *never*be driven all the way in. Enough room must be left so that the wire can move freely . This way the strain from wire contraction during cold weather (or slack from expansion during hot weather) and strain from stock running into or leaning on the fence will be distributed over the entire fence. Driving staples all the way in increases friction and will result in shorter wire life. It also makes it difficult to tension wire uniformly on long runs, and results in fences less able to absorb heavy livestock pressure.

A lot of potential strain on staples can be avoided by setting posts in a straight line. If a post is slightly out of line, do not use the staple to pull the wire to the post. Instead, push the wire against the post *before* driving the staple.

Figure 2. Reduce friction on corners by slipping a staple over the driven staple between the wire and the post.

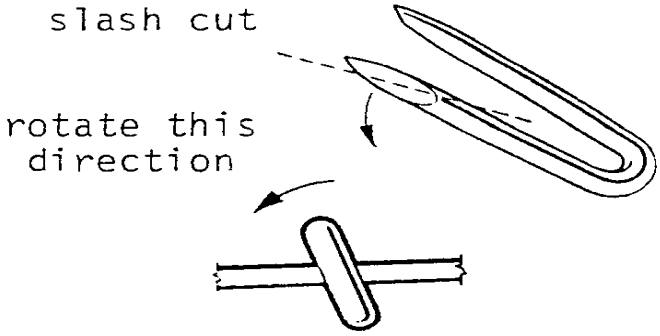


Wires should be strung on the outside of corners. The problem of friction from wires rubbing against posts can be avoided by slipping a staple over the driven staple between the wire and the post (Figure 2) .

Wire should be strung on the livestock side of perimeter fences. This way if livestock lean on the fence, it will not put strain on the staples.

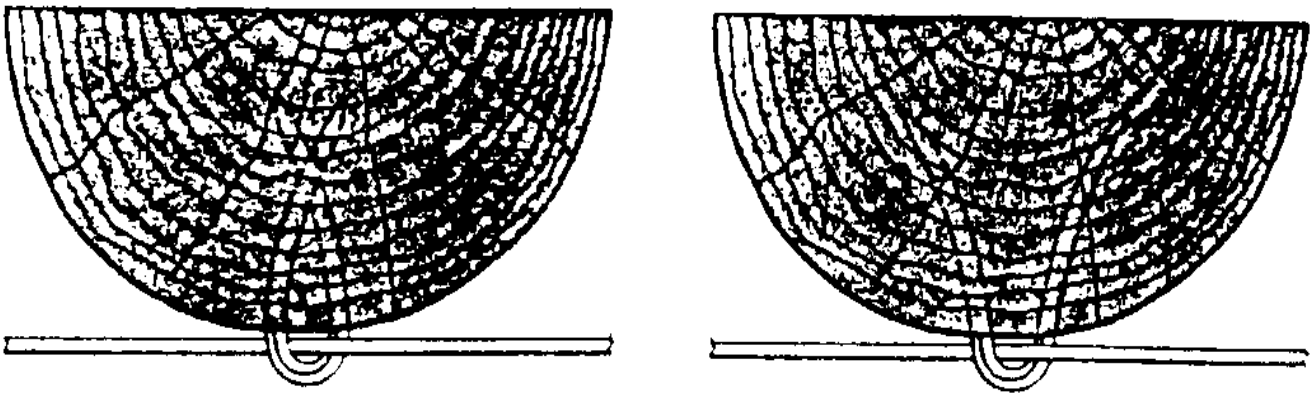
With the exception of curves or corners where wire is passing around the post, staples should not be driven vertically (with the staple points parallel to the grain of the post). This tends to separate the grain and reduces the staples holding power. Rotating staples 20 to 30 degrees off vertical can increase their holding power.

Figure 3. Rotate staples away from the slash cut surface.



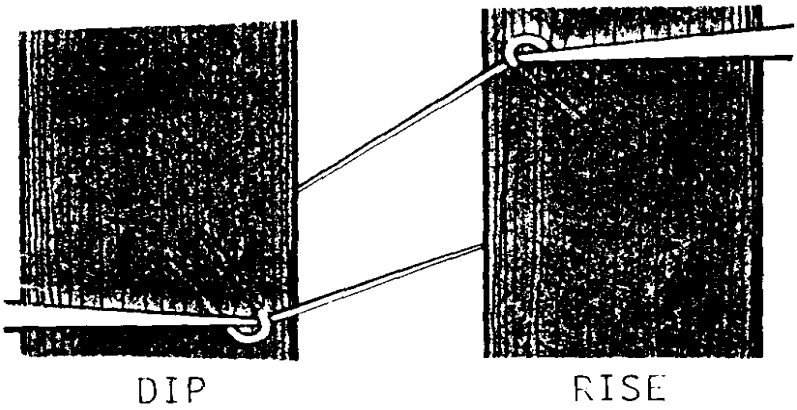
Most people are surprised to learn that the direction staples are rotated makes a big difference in the staples holding power. One side of each tip of a staple has a flat "slash cut" surface (figure 3). When a staple is hammered into a post, these slash cuts act as wedges and force legs to curve away from the flat surface.

Figure 4. Effect of staple rotation on resistance to pull out.



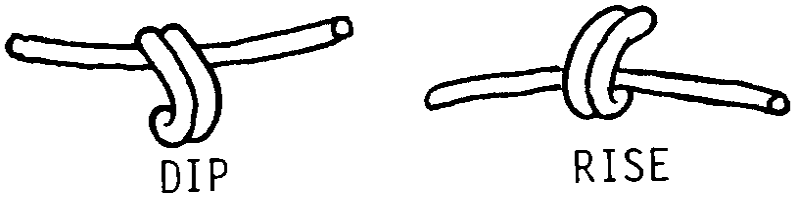
Rotating the staple toward the slash cut will cause the legs of the staple to converge in the post (figure 4). Rotating the staple away from the slash cut will cause the legs to curve outward. These staples will have about 40% more resistance to pull-out than staples with legs curving in. **ROTATE STAPLES AWAY FROM THE SLASH CUT** (figure 3).

Figure 5. Stapling technique for slight dips and rises



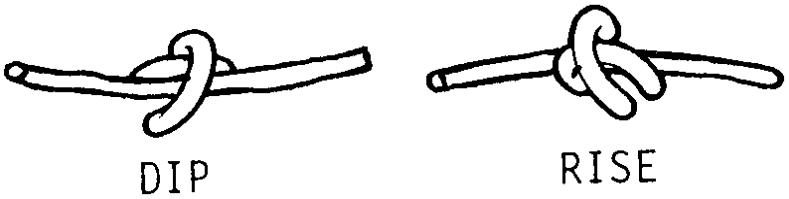
Wire on posts in low spots will put upward strain on staples. Wire on postson high areas will put downward strain on staples. A few simple techniques can increase the amount of up or down strain a staple can handle. For minor dips, drive staples in at an upward angle (Figure 5). For rises, drive staples in at a downward angle.

Figure 6. Double stapling technique for severe dips and rises



Steeper rises and dips may require double stapling. There are two basic double stapling techniques. The first method consists of driving two staples side by side at an upward angle for dip posts or downward angle for rise posts (figure 6).

Figure 7. Double stapling technique for severe dips and rises



The second method consists of driving a staple parallel to the wire. On dip posts the staple is driven above the wire so that the wire pushes up on the staple. A second staple is then driven over both the wire and first staple (figure 7). The procedure is identical for rise posts except the first staple is driven below the fence wire.

These simple techniques don't require any extra time and will result in stronger, longer lasting fences that require less maintenance.

ALL FIGURES FROM : "*HOW TO BUILD FENCES WITH USS MAX-TEN 200 HIGH-TENSILE FENCE WIRE*," UNITED STATES STEEL, 1980.

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