

# Fencing Systems for Rotational Grazing



## Line Posts

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## The Line Posts

Once the ends and corners are put into place its time to put in the posts between them that keep wires off that ground and apart. As we talk line posts its important to note that high-tensile wire fences do not need to physically constrain animals. They are wires intended to reliably deliver a shock to animals in order to keep them where you want them. Other than the end and corner posts, the rest of the fence should be able to take a shock and spring back into place. This means that the posts can be flexible and the wires should never be fixed tightly to them.

To put on line posts there are basically four steps; lining them up, putting in posts that can handle changes in elevation and where there are long distances between ends and corners, setting distances between posts and installing them.

- Lining up the posts: There are a few different ways to line up fence posts. One of course is to have someone stand at the end of the fence and call out when posts are in line. It will definitely work but it does have its limitations the farther away you get from each other. The easiest way is to stretch one of the high tensile wires and use it as a guide. Simply temporarily mark a few spots along the fence so that when the wire is moved out of the way to put a post in it can be put back in place. Using a high-tensile wire that is slightly tightened will also help in the next step, deciding where to put posts that hold the fence down

when going through a low spot or up when going over a rise.

- Putting in posts that can handle a drastic change in elevation: When high-tensile wire fences are tightened up they can easily pull a post of the ground when going through a low spot or drive them in when going over a hill. In a low spot it is usually necessary to install a post with some kind of deadman as discussed previously. Since the post isn't being asked to provide much horizontal support a 4-inch top wood post will work just fine. Backfilling would be the same as described in section 2 on setting posts. At the top of a rise where there will be downward pressure, just using a 4-inch wooden post would be adequate

- The line posts: There are lots of different options for line posts in high-tensile electric fences. Each has its own advantages and disadvantages in both installation and maintenance. It is also common to use the different types of posts on the same fence depending on what the post is being asked to do. We'll only go through a few of the more common ones.

Wood: There is nothing wrong with wood for line posts .Their big advantage is they are reliable and strong. Their downside of course is their purchase and installation cost. Most treated wood posts aren't very good insulators so that means the additional expense of using insulators to the hot wires. But if the

posts are available, reasonably priced and you have a post driver available, wood can be a good choice. Another possible option is to use a wood post in combination with other types of line posts as shown in Figure 1.



Figure 1. Wooden Posts

- *Eucalyptus*: Eucalyptus is a very dense wood that resists decay (Figure 2). The importers of these posts claim that they have good electrical insulating value but there is no research to support this claim, especially in areas of high rainfall. They are relatively expensive and they can be broken.



Figure 2 Insultimber

Steel: Steel T-posts will definitely work but they have some major disadvantages. The first being the

cost. Although the post itself might be even be free they aren't cheap to install because all of the wires need to be insulated. Because its steel its an excellent conductor and shorting out is real problem. If you are going to use a steel T-post make sure to use an insulator that can be securely fastened to the fence

Fiberglass: Fiberglass posts are one of the most popular types of posts used for line posts in high-tensile electric fences. A few of their disadvantages are cost, availability and splintering with age. From a cost standpoint the better quality fiberglass posts can cost more than a 3-4 inch top wood post and definitely more than a steel t-post. But when you consider they are self-insulating, what you spend on the post you might make up for in saving on insulator costs. As far as availability goes, not all fence suppliers handle the same kind of posts, and even those that do always continue to market them. The splintering is caused by the fiberglass's susceptibility to UV light. Over time fiberglass posts can breakdown and loss some of their strength. They can also start to splinter, which makes them tough to work with, and the breakdown in the fibers can cause them to carry small amount of electricity, reducing their insulating value. Good quality fiberglass posts are treated to resist breakdown. Below are just a few of the fiberglass posts that are commonly available:

- Coated fiberglass with predrilled holes: Figure 3 shows a fiberglass post that is UV stabilized and has a protective coating put on it so it

doesn't splinter over time. The predrilled holes allow using long cotter pins attach the wires at a variety of different heights and spacings. The posts that are shown are about a half-inch in diameter and will provide good lateral strength.



Figure 3 Fiberglass post

- Coated fiberglass with spring clips: Figure 4 show a fiberglass post that is similar to the previous fiberglass post but rather than having the pre-drilled holes and cotter key method of attaching the wire it uses a spring steel clip that can be slid up and down the post. The advantage to this system is the post doesn't need a bunch holes drilled in it but the disadvantage is it the clip is difficult to work with both putting it on the post and installing the wire. The springs also have a tendency to loosen up over time and even rust.



Figure 4 Fiberglass post with clip

- Sucker Rod: Sucker rod posts are fiberglass posts that are a byproduct of the oil drilling industry. Long fiberglass rods are joined together to pull drilling equipment out of the ground. When they've outlived their usefulness for the drillers they are very often cut up into lengths that can be used for fence post. Figure 5 shows a sucker rod that has had holes drilled into it for attaching the wires. The diameter of these post run anywhere from three quarters of an inch to an inch. Their number one drawback is they aren't UV stabilized so the do splinter and in moist conditions they can carry small amounts of electricity. They are strong and at times can be a good buy.

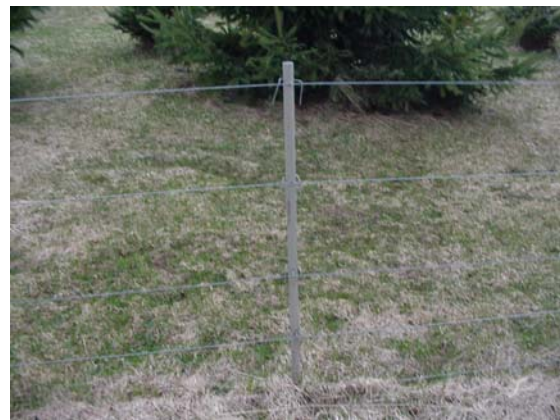


Figure 5 Sucker Rod

PVC: Another option is three quarter or one inch, schedule 40 PVC plumbing or conduit pipe. Figure 6 shows a three quarter inch schedule 40 PVC pipe with a cap on it to keep the rain out and hole/cotter key combination for fastening the wires. This particular post is not UV stabilized but it has been in use for 5 years even through cold Wisconsin winters. They are fairly flexible and

are excellent insulators. They are probably the least expensive option available. The downside of course would be their strength so they may not be a good option in places where there would be a lot of horizontal forces placed on them. They are best used with more expensive sturdier line posts.



Figure 6 PVC post

- Post distances: The space between line posts on a high-tensile electric fence really depends on the individual situation. Traditional physical barrier fences, such as woven or barbed wire, usually have the posts set about every rod, 16.5 feet. In these fences the posts are constantly being called on to hold the fence up. In high-tensile electric fences the fences are intended to be more flexible and with the high tensile strength of the wires, as long as the wires don't sag too much between posts, distance isn't as important. Post spacing can run anywhere from 50 to 100 feet, and even farther if set posts are used in combination with droppers.

- Line post combinations and droppers: All of the posts that have been mentioned have their advantages and disadvantages so creating fences that have a combination of posts makes a great deal of sense. Placing sturdy and more expensive posts at critical places and then putting less expensive, more flexible posts in between can not only reduce the cost of the fence, it can actually increase the life because the fence is more flexible and capable of absorbing different forces. Another very common concept is the dropper, which is a post that actually sits on the ground and just to keep the wires at the desired height and distances apart. Fixed post and dropper combinations can be very cost effective.