

Fencing Systems for Rotational Grazing



Setting Posts

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Setting posts for the ends and corners

In high tensile wire fences all of the tension is on the ends and corners. Not only do you need posts that can handle that tension, they need to stay in the ground to do their job. High tensile wire fences can often take quite a hit but something has to give and many times it's the ends and the corners that show the stress. In this publication we'll cover a few steps to help make sure the foundation of the fence stays where it's put.

What kinds of tools are needed for digging holes?

Tools that are tough to do without are a hand posthole digger and a shovel. They aren't fancy but they are functional. If its easy digging these two tools will work fine but if you have more than a couple of holes to dig, locating some kind of motorized auger can make the job easier. Another nice tool is the pry bar that can be used for moving rocks and tamping in the dirt around the posts.

When should the soil that comes out of hole not go back in?

One of the most common mistakes in setting a post is using native material and rocks to backfill around it. Not all soil types are good for holding in fence posts. Even if you know the general soil type for the area you're going to fence in you'll usually have

to dig a few holes to find out what you have to work with.

If the soil type you're working with is sand, sandy loam, gravel or a combination of all three, backfilling with the native material will work just fine. But if its silt or clay, with or without rocks, it will be difficult to keep the post in the ground. Once the soil is disturbed and it loses its structure it will be difficult to have it set up around a post that has both vertical and horizontal forces constantly being put on it. Unlike a driven post, where the post is driven down through the soil and the soil and rocks are forced downward actually helping hold the post in the ground with a dug post the freezing and thawing action of silt and clay type soils can actually push a post out of the ground. Rocks that are put back in the hole can actually act as levers to help push the post out of the ground.

If you're working with silt or clay soils the best thing to do is to bring in some sand and gravel to be used for backfilling such as that used for making cement. It is usually easy to get these kinds of materials at reasonable prices.

How far should a post be put in the ground?

Whether dug or driven, the deeper you can get a post in the ground the better. For a standard livestock fence that only needs to be between 40 – 48 inches high it would be great if posts could be buried 4 feet in the

ground allowing plenty of soil to hold the post in the ground. That depth usually gets the bottom of the post below the frost line in most northern climates, which means less chance of heaving when the frost comes out in the spring.

What if you can't get the post in 40-48 inches?

Unfortunately it isn't always possible to get posts in as far needed to keep it from being pulled up. Even when you use backfill material that is easier to set up around a post and less likely to heave, there are a few methods that are commonly used to help anchor a post in the ground. One of the simplest methods is simply attaching something to the bottom of the post before putting it in the ground. One method is to nail a piece of wood to the bottom of the post. This device is often called a deadman and is shown in Figure 1.



Figure 1. Deadman post support

Another way of anchoring the post is with a combination of brace pins driven in the bottom of the post (Figure 2) and then adding cement to the bottom of the hole just enough to cover the pins. Although

wet cement is often used research has found that wetting a ready mix cement product is only slightly better than putting in a dry product and letting the natural moisture in the soil hydrate until it sets up.



Figure 2 Brace Pins

What's the best way to finish off the burying process?

Once the post is set in the hole where you want it and anchored with whatever device you've selected the final step is backfilling. Slowly fill up the hole and tamp in the backfill material as you go up. A tool such as a pry bar focuses more weight to a smaller area generating more compaction. It's common to use a shovel handle for tamping but the lighter weight and broad round end doesn't provide the compaction. Once the post is set give a good test to see if it's set properly. Unless the post is sitting in wet cement, it should be good and firm it will only loosen up once the fence building project continues on.

What about cementing in a post?

There are a few circumstances where it might be necessary to backfill entirely with cement, such as setting a gate post. Whatever the situation might be there are a few cautions. Avoid putting cement just at the top of the hole and if it is used as the only backfill around a post try to get the diameter at the bottom of the hole larger than the top. Having more cement at the top of a post hole can actually help heave post out of the ground. Also make sure good treated posts are used. Cement can trap moisture near the top of the post increasing the chances of it rotting out sooner than normal. Even galvanized steel posts that are buried in cement will tend to rust at the top of the hole because of moisture and cracking.

Now that we've gone through the process it's easy to see why professional fence contractors prefer to use post drivers; it definitely is faster. But if done properly, digging posts in can be just as good if not better because you know what is below ground level.