

Basics to the Perimeter

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When we start the thought process for installing new perimeter fencing there is a lot more to consider than where the boundary markers are located. Pencils and graph paper are two important tools for fence building. Once the fence is installed it's a little late to move a gate. Equipment and livestock movement can be really easy if gates and corners are in the correct place and installed properly.

GETTING STARTED: 4 Things to Remember

1. Consult State and Local Laws: **When it comes to fencing property lines, it is often helpful to consult state and local laws.** These may vary between counties as to whose responsibility the fence construction and maintenance falls to as well as where the fence should be located. Some ordinances even provide the definition for a legal fence. When property lines are shared by more than one landowner, it can get complicated. For example, if one side of your property was once all agricultural land and is now a subdivision with multiple owners that do not own livestock, it is not always easy to decide who the cost of the fence falls to or what kind of fence is constructed. A privacy fence for a backyard is not very feasible for livestock.
2. Maintenance: **Once you have a layout and design, consider your ability to maintain the fence.** No matter what type of fence, remember it is a piece of equipment that must be maintained. It is a good idea to prepare a good, clean, right of way for the fence to be constructed so it can be checked and maintained. Fence maintenance is critical to keeping happy neighbors.
3. Location of Utilities: Something else you might consider is the location of utilities to be marked before you start.
4. Future Needs: **There are a lot of different options to consider when selecting a fence that will serve your needs, not only today, but for future endeavors.** Just because you have a certain type of animal

today doesn't mean that animal will be the same kind ten years from now. Think about what the future could hold for your operation and fence accordingly.

TYPES OF FENCE:

Three different kinds of fence and options within those kinds:

Electric Fence

High tensile, electric consists of a 12.5 gauge high tensile wire that is electrified. This means we need good insulators, a high power energizer that will overcome loads on the fence, and a good ground system. There is no industry standard on selection of energizers, but most companies have good guidelines and good installation recommendations. Keep the wires close enough together to prevent stock from getting their heads between the wires. For sheep and goats, a width of six inches between wires is recommended.

Barbed wire

Barbed wire is economical for large animals and can be effective on most all livestock. However to accommodate sheep and goats, the number of strands and distance between posts often drives the price above the cost of other types of fences.

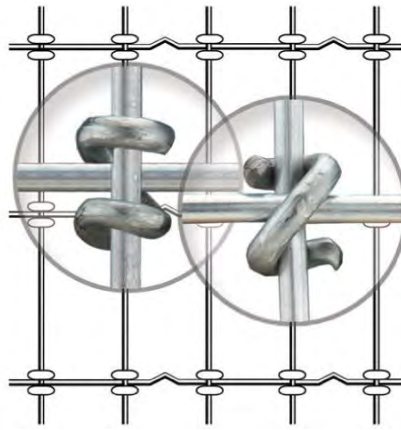
Woven Wire

Woven wire is the most all around effective fence for the money and works for all species. Within the woven wire family there are three common styles of fabric and each have their own pros and cons.

- **Hinge joint** is the most common style found in the market today. It is called hinge joint because of the way the horizontal and vertical wires are wrapped around each other every time they cross forming what works like a hinge. This allows the horizontal wires to be pressed down allowing the fence to have



Hinge joint woven wire.



Stiff stay knot woven wire.



Fixed knot woven wire.

an accordian effect.

- **Stiff stay** has wires that are attached differently than hinge joint. The vertical wires are one solid piece of wire and when they cross the horizontal wires, a separate piece of wire forms an “s” type knot. The solid vertical wire makes the fabric stand more erect and withstand more pressure from stock.
- **Fixed knot** has solid vertical wires that are attached to horizontal wires with a separate piece of wire that looks like a knot. The fixed knots should take over 200 psi to move, therefore creating the most durable and long lasting of any woven wire fabric.

CLASSIFICATIONS AND COATINGS:

When choosing any style of fence, we need to look at some wire classifications that deal with strength, or high tensile versus low tensile. Low tensile, or low carbon, will be the least expensive upfront cost, but low tensile will stretch up to 11 percent and has very little memory. Therefore, when stock pressure the fence, it will bag or sag between posts and stay wherever the animal pushes it. High tensile wire on the other hand has about one percent stretch and is more like a spring in the fact that it has memory and returns to its original length keeping the fence tight. High tensile is about one and one half times as strong as low tensile for the same gauge wire.

Coating of the wire is crucial for the life of the fence. Most agricultural wire is zinc coated or galvanized. You will typically see two coating levels on agriculture wire, class I and class III. As you would suspect, class III has three times the coating of class I and it will be approximately three times as long before red rust or oxidation will appear. Class III costs a little more than class I, but life expectancy well outweighs the cost. So, high tensile class III fixed knot is the strongest, longest lasting of the woven wire products. Along the same lines, class III staples are also a good idea on your wood post.

UNDERSTANDING THE LABELS:

When shopping for woven wire, you will see all kinds of numbers on labels. What do they mean? Here is an example of a wire tag and what the numbers stand for:

949-6-330

- 9-number of line wires
- 49-height of fabric
- 6-distance between vertical wires
- 330-Number of feet in the roll

All of these numbers can vary depending on what you want to accomplish with your fence. In high pressure areas, you may want to have a 1348-3-200 which will give more line wires with vertical wires only three inches apart which is great for lambs and predators.

POST SPACING:

Post spacing will vary depending on what type of fence you choose. Line posts for low tensile hinge joint and barbed wire fences should be no more than ten feet apart with braces every 330 feet. Line posts for high tensile electric fences can go as far as 30 feet depending on lay of land with braces as far as 2000 feet. Line posts for high tensile fixed knot fences should be 20 feet if the land allows with braces every 1320 feet. Buying the most inexpensive roll of wire may cause you to use more posts. Remember, fence is about cost per foot and should last 30 years.

BRACING:

The most important part of any fence is the bracing. It is the foundation of your fence. If it fails, the fence fails. It’s all about the design. We don’t need utility poles set in concrete for an effective brace. Six inch posts that are at least three feet in the ground are sufficient if the brace is built correctly. The key is the brace rail. It should be two and one half times as long as the fence is tall. Example: A four foot tall fence should have a ten foot brace rail and it should be placed in the top one third of the fence. Remember, on landscape timbers, it is best not to notch your post.

Driven posts are 1.5 times as strong as set post. Brace wires should be high tensile class III. 12.5 gauge brace wire is stronger than nine gauge and stretches less.

SUMMARY:

In closing, remember planning is critical. You are building a system, not just purchasing a roll of wire. Look at your entire operation and choose a fence that will maximize not only your current plans, but will accommodate changes in the future. Ask questions and utilize your resources. There are several good sources online for construction and at your local NRCS office.

Buddy Rowlett, has a lifetime of involvement in agriculture and 20+ years of experience in the fencing industry.