Electric Fence

Equipment to get started with this powerful tool in grazing management

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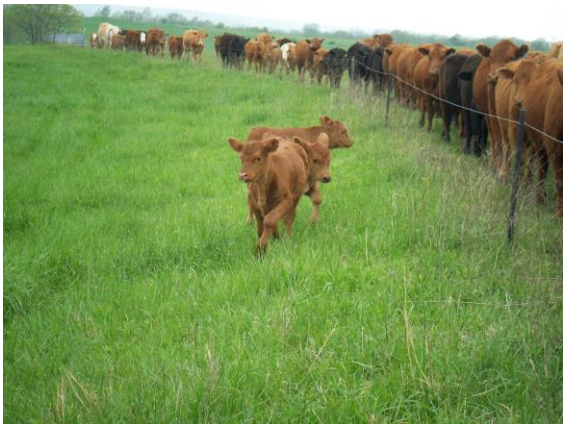
Rotational grazing with Electric Fence

Grazing management is crucial in maintaining a healthy herd and, more importantly, a healthy pasture. One of the best practices is rotating animals through pastures, allowing forage crops to regrow, maintaining yield and nutritive value, and ensuring the stand's longevity.
The concept of rotational grazing is moving animals through pastures based on the pasture's ability to supply nutrients and the animals' nutritional requirements. Increased grazing intensity occurs as large pastures are sectioned into smaller areas and animals graze. With the high costs of building permanent fencing, an option is to use temporary electric fencing.
The flexibility of quickly and easily moving a fence or creating new paddocks makes temporary electric fencing a powerful tool for producers in managing their animal's ability to graze. The following information covers the basic equipment required for setting up an electric fence on your property.

Equipment

Wire - Temporary electric fencing is built on one or two strands of electrified wire. There are two types of wire used polytape and polywire. They are composed of polyethylene or polypropylene fibers braided with metal filaments, which carry the shock. The fibers are crucial for the wire's strength and its visibility; very important, an animal won't respect the wire if it cannot see it. Polytape is best used when animal control is inadequate, as it has better visibility. Producers mainly use Polywire to subdivide pastures into paddocks, as polywire is easier to reel and move than polytape. Polywire and polytape come in different numbers of conductive strands, three, six, or nine. The amount of conductive strands influences how much voltage the wire conducts.

For the purpose of subdividing short distances in pastures, the six-strand with stainless steel conductors is enough to get the job done.
It is essential to have a good reel for your wires. Proper temporary fence reels are made to withstand harsh weather conditions, hold more than one spool, will prevent from breaking the metal filaments in the wire, and prevent the wire from getting tangled.



Posts - Several materials are used in temporary fencing posts—metal, plastic, and fiberglass. Plastic posts are recommended for fences that are moved regularly due to the ease of installation and removal. Plastic posts have treads to step into the ground and pre-molded loops allowing for a range of wire spacings.

Fiberglass posts are recommended when the fence will not be moved regularly. The wire is held in place by plastic insulators or wire clips that slide on the rods. Fiberglass posts take more time to install than plastic posts but are more affordable. Metal posts, such as rebar and t-posts, last the longest among fencing posts. Plastic insulators hold the wire in place. However, they are labor-intensive when installing and removing to change paddock size.

Energizers - Energizers are measured in volts. However, the voltage level only determines if the shock will or not be sent to the animal. Shock intensity is measured in joules, which is the combination of voltage, amperage, and shock duration. The effectiveness of the shock intensity will depend if the voltage is sufficient to deliver a shock.

Good fence energizers are low impedance and provide from 6,000 to 8,000 volts. A minimum of 5,000 volts are necessary to control large animals like cattle and horses. High-impedance energizers "leak" current easily, meaning that any grass or weed that comes in contact with the wire will drain power and can cause a fire with the heat buildup.

Power sources for energizers can be battery-operated, solar energy, or AC-powered, which produce higher amounts of joules. Battery and solar-operated energizers work very well and are recommended when a 120-volt power source is not available or in close proximity.

Grounding

Grounding is the main issue of electric fences not working correctly. An electric fence will only shock an animal if the circuit is complete. Proper grounding is necessary to complete the circuit and make the fence electrified. The circuit in temporary electric fences is composed of an electrified wire and a grounding rod; the energizer provides the voltage that travels from the wire to the animal, to the soil, down the grounding rod, and back up to the energizer. The animal does not feel a shock from the wire without proper grounding, resulting in animals that will not respect the wire.
The rule of thumb for reliable grounding is at least three 6-foot galvanized ground rods. Rods should be spaced from one another at a minimum of 10 feet and set 5 ½ feet deep.

Overview

Electric fence is a great tool that can be added to any grazing management scheme. Understanding how electricity works through the fence and how animals will interact with the fence is the first step. Remember when introducing animals for the first time to the electric fence, make sure it is "hot," very hot. Respect for the fence is learned the first time it is touched, and in time it will become more of a psychological barrier than an actual physical barrier. Through trial and error, this tool can adapt to any livestock operation and be used in a range of daily management tasks.

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