An_Hand_Ep 256_240917

Electric Fencing for Horses and Livestock

Our topics for this week are electric fencing::

- **Advantages**
- **Components**
- **Maintenance required**

Advantages
Electric fences have been used since the 1930s and are suitable for all mammalian farm animals. Advantages include relative low expense, low maintenance, easily modified, little to no skin damage, deterrent to trespassers and predators, and portability useful in subdividing pastures and pasture management. Electric fencing is for enclosing pastures. It is dangerous for animals and handlers if used on small enclosures because of the increased risk of an animal touching it, becoming agitated, and having limited room to move away.

Components
Electric fence consists of a fence charger, conducting line (nine to 14 gauge smooth wire, rope with copper or steel strands, conducting tape, or conducting mesh), and insulators for posts. Insulators prevent a metal post or wet wooden post from shorting out the fence. Fiberglass and plastic fence posts may not need insulators.
Electric fences use very little electricity. Chargers (also called a controller or an energizer) are plug-in, battery, or solar powered. Plug-in chargers are more dependable and less expensive in the long-run than battery powered units. Solar powered chargers have the highest initial cost. Under some circumstances solar chargers are adequate, but solar chargers are not as powerful as AC chargers. For the safety of animals and humans, the charger should pulsate about once per second.

Chargers need to be grounded using six to eight foot steel or copper rods driven into the ground at least four feet, or however deep the constant moisture level is in the soil. Ground rods need to be at least 10 feet apart and connected by copper wire and at least 50 feet away from other ground rods or grounded metal objects. Otherwise, stray voltage problems may occur. Additional ground rods are needed every 3,000 ft. If lightning is common, additional ground rods should be placed at least every 150 ft to minimize damage to the fence and risk of electric strike reaching livestock. Because livestock have a horizontal posture with four legs on the ground, they are more likely to die from lightning strike than humans. Charger output is measured in pulses of joules. One joule will charge a strand of electric fence 6 miles. Because of their hair coats, animals are better insulated from electric shock than humans.

Ground wires will permit a charge delivered when the ground surface is dry. This is important in droughts when animals may be trying to feed under a fence after the pastures are depleted. One wire is used for temporary confinement to a grazing area, as in subdividing a pasture. One electric wire is also sufficient as a barrier on the animal containment side to reinforce otherwise weak non-electric fencing. One electric reinforcement wire may be ineffective during dry weather due to inadequate grounding.

Multiple wire fences should contain at least three wires with alternating hot (live) wire and ground wires. If four wires are used, the second wire should be the ground wire. If five wires are strung, the second and fourth wire should be grounds. Multiple wire electric fences can be effective for long distances, in dry areas, and can help control predators. Electric fences should be marked with public warnings every 200-250 feet. An electric wire six to eight inches off the ground can be helpful in stray dog control. At least 5,000 volts on the fence line is required to keep predators out. To deter horses, 2,000 to 3,000 volts are recommended. Ruminant livestock require 2,000 to 5,000 volts, and possibly more for bulls.

Maintenance Required

Grass and weeds underneath older electric fences should be kept trimmed to prevent shorting out the fence when wet. Modern low impedance models do not short out from contact with wet vegetation or cause fires during droughts as older models can. However, vegetation should also be regularly trimmed under newer electric fencing since if vegetation touches it some of the effectiveness of the fence will be drained.

If you have comments or you're interested in particular animal handling subjects, contact us at CBC@BetterAnimalHandling.com

Now let’s recap the key points to remember from today’s episode:

1. **Electric fencing is the most economical, effective, and humane pasture fencing for horses and most livestock.**
2. **The disadvantages of electric fencing are having a reliable source of electricity in all types of weather and keeping the fence line trimmed.**
3. **A live wire, ground line wire, and ground rods are needed to deliver a deterrent shock in dry weather.**

More information on animal handling can be found in my books, ***Animal Handling and Physical Restraint***, ***Concise Textbook of Small Animal Handling, and Concise Textbook of Large Animal Handling*** all published by CRC Press and available on Amazon and from many other fine book supply sources.

Additional information is provided at: www.betteranimalhandling.com . This website has more than 250 past podcasts with notes on handling of dogs, cats, other small mammals, birds, reptiles, horses, cattle, small ruminants, swine, and poultry.

Don't forget, serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.