**Fence Energizers and Grounding Systems**

### -Fence Energizers: The bigger the better! If you can use a regular energizer instead of a solar one, you can get a more powerful energizer for less money. Regular energizers barely use any electricity. Each Joule uses 10 watts of electricity. So a 10 Joule charger uses 100 watts x 24 hours x 30 days = 72000/1000= 72 kwh x 0.12 cents = $8.64 per month or $51.84 for grazing season-6 months. Most regular energizers can also be run off a 12 volt battery as long as it’s out of rain and not freezing. A battery would have to be checked and charged or switched out every few days. Solar chargers are much less powerful and less efficient than a regular charger. This Patriot Energizer is powerful and relatively inexpensive: <https://www.wellscroft.com/shop-products-accessories/energizers/plug-in-energizers/patriot-pmx600>

### -Fence Tester, This Speedrite tester is pretty accurate and economical: <https://www.wellscroft.com/shop-products-accessories/energizers-accessories/voltage-testing/speedrite-dvm#product_tabs_description_contents>

### -Fence Alert: Attach this to your fence so that you can see from a window if the fence charge is off or low: <https://www.wellscroft.com/shop-products-accessories/energizers-accessories/voltage-testing/fence-alert-warning-light>

### -Grounding Systems:

###  -Make sure to use ONE 6’ ground rod per 2 Joules on the Energizer. So a 10 Joule Charger will need 5 ground rods!

###  -Remember to put ground field at least 25’ from a building and 75’ from a utility pole, underground pipes or tank. Test your ground, if there is more than 200 volts or .2kv, you need more grounding rods.

 -Do not mix metals, if you are using galvanized steel wire, use galvanized steel ground rods. Do not use copper unless you are using everything copper. Otherwise electroloysis will occur.

 -Use 10-12 gauge insulated wire from the charger to the first rod and between each grounding rod. Each rod needs to be 10 ft apart with insulated wire in between. Do not use household wires which are often not rated for high voltage. Use real ground rod clamps.

 -Consider adding a lightning diverter if you are in a high strike area.

 -Plug your charger into a surge protector.

