

Daniel Schuppan, Landmark, Jamestown SA

Recommended Equipment

Energiser

A 2.5 to 3 Joule solar energiser is the minimum required for sheep and most strip grazing situations. This sized unit may seem excessive, but provides plenty of power to shock sheep, allows for any faults in the system such as green grass touching wires, and provides an electric field around the wire which can be detected by animals **before** they touch the wire.

Wire

Braided wire is used in preference to tape which flaps in the wind. Use the high quality braided wire with 9 strands of wire. It is more expensive, but will last longer and provides 6-7000 volts after 1km, compared to 5-600 volts with the cheap braided wire.

Posts

Steel treadins are most robust and sturdy and therefore recommended. Plastic treadins can break, and re-use is limited. Steel post (droppers) can be used with insulators. They are sturdy in sand, but are hard to shift if the fence is moved regularly. Posts also can be made out of steel rod with insulators.

Reels

Reel stands can be constructed on farm. Large reels are available which hold 1km of wire, but are heavy to wind up. Make sure reels are geared to reduce time required to wind wire up. The RAPPAs® system is excellent for quick wire winding using an ATV bike.

Battery

Deep cycle

Lightening diverter

Should be used if you want warranty

Earthing system

Use galvanised earth stake(s).

Connect fence earth wire to stake(s) as well as energiser. There should be no power detected at the earth stake. If more than 200 volts, put in another stake at least 3 m away. Keep installing stakes until < 200 volts detected.



Image 1: Fence setups

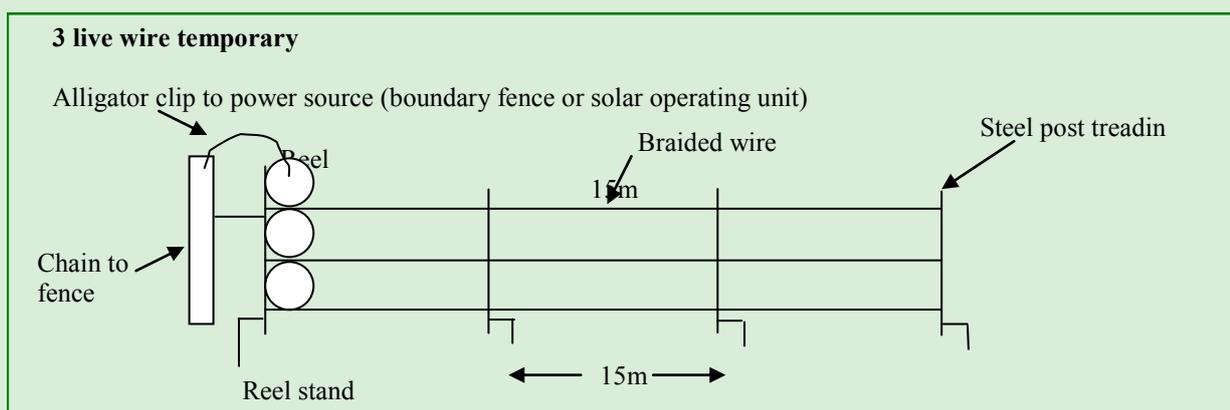
Tips

Setup

- Face solar panel north
- Put battery in an old esky to avoid temperature fluctuations and increase battery life
- Avoid green grass touching live wires and shorting out the system
- Set energiser up in middle of the electric fence system
- Use a tester to test fence for power

Wire height

- Spacing's on steel treadins are adequate, or they can be shifted as required (refer to image 1)
- Put live wires near nose height.
- For sheep put live on bottom at about 20-25 cm, with subsequent wires 15-20 cm above.



Number of wires

- 2-live wires is adequate in winter (green)
- An earth wire (+ 2 live) is required when there is no moisture in the soil. Put live on bottom (nose height).

Wire tension

- Do not over tension (hand tighten) as it will stretch the braided wire

Post spacing

- 15-20m is adequate depending on the topography

Joining wires

- Braided wire can be tied together
- Use insulated wire and clamps for other joining eg. earth and power source

Management

- For ease of management subdivide paddock at the start of the season, and leave fences up where possible, so stock can be rotated. Example, if using a simple 4 paddock rotation
- If moving fence along a paddock, install a single wire power source down one side of the paddock.

Stock movement

- Lift up the fence using a steel peg, then move stock under wire
- Move reel stand, or end of fence as a gate

Rappa ® System

- Costs approximately \$2,800 plus reels are \$80 each (2010 prices)
- Erects 1km of fence in less than 30min. Even faster to wind up and pull down.
- Requires special reels which only fit 500m of braided wire.



How power fencing works

Source: Gallagher Livestock Information Systems

An energizer supplies the fence with a SHORT, SHARP but HARMLESS shock along a properly constructed and insulated wire. When contact is made between the live wire and a good earth the circuit is completed and a MEMORABLE SHOCK is received.

A well constructed fence should:

- Be well insulated.
- Have all joints clamped.
- Be the correct height above the ground—nose level.
- Have correct wire tension—by hand.
- Have adequate conductivity for the length of fence.
- Have all live wires connected in parallel at both ends of the fence.

The performance of the fence depends upon:

- A powerful enough energizer
- An adequate earthing system—most problems are due to poor earthing.

Safety requirements

- Don't use power poles to support electric fence or lead - out wires. Never use power poles as an earth
- Electric fences bordering public walkways require regulation warning signs
- Be aware of telephone/fax line interference
- Never run two units together

