Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 03, Issue: 03 (MAY-JUNE, 2023)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Solar Based Electric Farm Fence

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Abstract
This adaptability of solar power farm fencing to showing the performance of an eco-friendly producing electricity applicable to protecting farm from various unruly animals etc.easy to cover large area with self term of solar energy.

Keywords: Solarenergy, electric current, fence, animal farmer.

Introduction
India is a farmers' country. Farming plays a major role in the economic growth of india. But farmers have many problems. There should be some solution for their problem of destroying crops by animals. They can use another way to manage it but solar farm fences are the best choice to protect farmhouses ,farmland,horticulture cultivation etc.
Solar farm fences work well to protect farm boundaries having electric power.these control the animal by giving them to stay away from the fence.electric power given by solar system. The availability of electricity to provide electric current in the fence.

How do solar fences work?
Solar fence consists of an electrically charged metal frame or fence wire the high voltage electric current generated using the sunlight is allowed to pass long the protected farms perimeter when an object. Or an intruder touches the fence electric current passes through the objector the intruder giving a shock this debilitates the intruder thus acts as an effective deterrent preventing predator thieves and other from trespassing into the protected area.

Working Principle
The solar energy is converted to electrical energy by photo-voltaic. (PV) cells this energy is stored in batteries during the day time in order to utilized whenever required.

Component of a solar fencing system
- Battery
- Charge control unit (CCV)
- Energizer
- Fence voltage alarm
- Photo-voltaic module

Advantages of using solar farm fencing
1. It helps the user to save some money.
2. It provides flawless operation.
3. It helps the user to reduce the carbon foot print.
4. Smart fencing calls for zero maintenance.

5. It protects large farm area with own power generating ability.

Some extra points regarding solar based farm fences

1. Lower cost: Electric fencing requires less set-up and material than conventional fences (barbed or woven wire). Animals are less likely to damage the electric fence as they usually don't touch it more than once which reduces maintenance. It is important to invest in quality components for fewer maintenance problems and greater fence life-expectancy, increasing value for money.
2. Ease of construction: Relatively simple and easy to build, electric fences can be installed quickly and with minimum tools, saving time and money.
3. Flexibility: Wire spacing and fence design can be modified to control a variety of animals.
4. Long life: Electric fences can last a long time – up to 40 years– when built with quality components and material.
5. Assurance of protection: The traditional fencing do not assure 100% protection of the fenced area from wild animals and monkeys, while solar power fencing assures maximum protection.
6. Performance in winter and rainy season: When designed appropriately keeping in mind about winters and monsoon days, solar fencing will perform effectively during all seasons. The success of the solar panel will purely depend on the design because the design is going to be implemented as the final solution. Whether it is monsoon or rainy season does not matter if the location has ambient light. The fencing the system may not work properly when snow accumulates on the ground. In such area it is recommended to construct the fencing on a brick wall or a 1-2 feet fence is constructed with wire mesh fencing. However, this will increase the cost of fencing. Alternatively, if there is no During the snow season the power in the fencing may be shut-off. If required, additional power source from AC current can be provided during design itself to ensure seamless operation of the system.
7. Effectiveness during night and alert system: Solar fences, whether operated day or night, run on batteries, where the battery gets charged by the solar panel. In case of 24 hrs fence operation, battery and solar panel are appropriately sized. An alarm unit accompanies the system for any intruder detection.
    1. It is expensive and requires more finance.
    2. It is vulnerable to power outages and may lead to loss of life.
    3. It can pose a real danger for livestock's.

Conclusion

The information presented in this paper shows important of farm fencing and promote use eco-friendly energery.

References

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