

Review on Motorized Scarecrow Bird Animal Repellent

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Abstract- This project is designed to design and build a solar-powered smart fence that uses renewable energy to prevent birds and other pests from damaging crops. The solar-powered smart scarecrow is equipped with many sensors and devices such as sound sensors, cameras, and speakers to detect and scare away birds and animals approaching or reaching the crops. The railing is powered by a solar panel that charges the battery and powers various sensors and devices. V Scarecrows are used to scare away birds and animals to save crops in the fields. A farmer placed a scarecrow in the middle of his field to protect his crops from birds and animals. When the bird flies or enters the field, we see that the scarecrow does not move or work in any way.

Index Terms- PIR Sensor, Flapping mechanism, Buzzer.

I. INTRODUCTION

According to this report, birds are known to play an important role in the fertilization process, causing insect and rodent problems and can also cause crop losses by eliminating them. Financial loss. The degree of damage to crops depends on factors such as the density of birds in the vicinity, the total area under the crops, the size of the plant in the area, the season and the physiological conditions of the birds. Advanced technology that detects and scares away birds and other animals that could damage crops. It is equipped with solar panels that convert sunlight into electricity and store it in batteries. The energy produced by the battery powers the scarecrow's sound sensors and other electronics that detect birds and animals and activate the scarecrow's deterrent mechanism. When noise is detected in the environment, the controller monitors the signal and triggers an action. When the DC motor is energized and rotated, the entire arm mechanism also rotates.

The machine allows vertical movement of the arm in a human like movement pattern to mimic human presence. Moreover, the controller will also work on the speaker module to make sound, so that the birds and animals near the field will also be scared. That is why this system has introduced a daily sun guard to protect the farm from birds and animals.

II. LITERATURE REVIEW

Agriculture is the basis of the world's food supply and ensuring crops are protected from pests and other animals is crucial. Birds are a pest that can cause serious damage to crops, and for centuries traditional pesticides have been used

to prevent birds from killing crops. But regular scarecrows have some limitations, including the fact that birds can attack or ignore them. In recent years, smart solar fencing has become a better and more sustainable solution to protect crops from birds and other animals. Smart Solar Scarecrow uses technology to detect and scare away birds and other animals that could damage crops. It is equipped with solar panels that convert sunlight into electricity and store it in batteries. The energy produced by the battery powers the scarecrow's sound sensors and other electronics that detect birds and animals and activate the scarecrow's deterrent mechanism. This article will provide an in-depth introduction to the Smart Solar Railing, including its design, functionality, benefits and limitations. He will also discuss the potential impact of these smart solar guards on permaculture and the environment. Smart Solar Railing Design Smart Solar Railings are generally designed to resemble traditional guardrails but are equipped with additional electronic devices such as electronic devices, speakers, flashlights and pumps. The body of the guardrail is usually made of durable materials such as PVC or fiberglass to protect the outdoors. Electrical equipment is built into the body of the railing, and the top of the railing is equipped with a solar panel that uses sunlight to generate electricity. The sound sensor is the most important part of the smart sun railing. They form the scarecrow's deterrent mechanism by catching birds and other animals. The sensors can detect movement from several meters away and are designed to prevent false alarms from wind or other non-animal sources. Depending on the target species, the sensor can be set to different levels. Talking words and flashing lights are used to scare birds and animals. When the sound sensor detects movement, the speaker emits a loud sound that can scare birds and animals. Bright lights are also effective at distracting birds, especially at night. Sprinklers can be a great deterrent to

some animals, especially water-loving animals. Smart sun guards are usually mounted on poles or stands and can be adjusted to different heights depending on the type of crop to be protected. The railing can be placed in the direction of the sun to ensure that the solar panel receives maximum sunlight during the day. Smart Solar Scarecrow Function Smart Solar Scarecrow is designed to catch and scare away birds and other animals that may damage products. and sprinklers.

The functionality of the railing can be adjusted depending on the type. For example, some models can be designed to produce special sounds that may be more effective at stopping some birds. Smart solar guards are generally designed to operate during the day and turn off at night. Some models may have spare batteries or chargers to keep them running longer. Farmers often use smart solar powered automatic sun fencing to protect crops from birds and animals in the field. Smart Scarecrow helps farmers protect crops by scaring away birds and animals.

Automatic smart scarecrow from animals to crops provides 24-hour security for bird and animal crops. It works both day and night. Automatic smart railing is equipped with sensors, moving arms and alarms. We found that the smart scarecrow did not move when birds were in the area. Approach the bird with the help of the PIR sensor, move its hand up and down with the help of the flapping mechanism and start making sounds with the help of the buzzer.

III. CONCLUSION

All in all, the Smart Solar Scarecrow represents a significant step forward in environmentally friendly and efficient plant protection. It offers a humane and sustainable alternative to traditional guardrails by utilizing advanced sensors, technology and solar energy. Its accuracy, efficiency and robust technology have proven effective in protecting livestock and reducing crop losses. Although more research and development is needed, solar panels are showing great success in promoting permaculture and increasing yields. Therefore, it is likely to become the most popular tool for farmers who want to protect their crops in an environmentally friendly and efficient way.

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