LITERATURE SURVEY ON THE SELECTED PROJECT & INFORMATION GATHERING

IoT Based Smart Crop Protection System for Agriculture

One of the biggest problems farmers faces in India is the attack on crops by wild animals in their fields. The damage from these attacks significantly and adversely affects the crop yield. In Seetharam Puram village of this district, which houses 300 families of farmers, attack by wild boars leads to sleepless nights. Farmers in this village use electrical fencing (though illegal in India) around the fields to keep away wild animals

But due to many accidents, which have caused the death of farmers as well as animals, this approach is not so appreciated by the farmers. As an alternative to electrical fencing, the farmers keep vigil at night to keep the wild animals away.

Existing solution:

They use flashlights toward them off. This is a very strenuous task, and the lack of sleep adversely affects the farmers' work during the daytime. The damage caused by the animals to the crops affects the total yield of the harvest immensely and the farmers have to suffer a loss in their income because of this. Hut Labs designed a solar-powered, IoT based intelligent system that can be used to prevent crop damage due to wild animals. The system implements IoT technology along with simple sensors.

Hardware requirements:

- Soil moisture sensor
- Temperature sensor (DHT-11)
- Relay
- Pump
- IoT (WI-FI module ESP8266)
- Power supply: 5V, 700mA Regulated power supply

Software tools required:

- Arduino IDE
- Thingspeak website

Technical papers:

G. Zhao et al.

Preparation and characterization of amino functionalized nano-composite material and its application for multi-residue analysis of pesticides in cabbage by gas chromatography–triple quadrupole mass spectrometry

J. Chromatograph. A

(2011)

L. Zhang et al.

Nanotechnology and nanomaterials: promise for improved tissue regeneration

Nano Today

(2009)

L. Zhang et al.

Nanomaterials in pollution trace detection and environmental improvement

Nano Today

(2010)

M.L. Zambrano-Zaragoza et al.

Optimization of Nano capsules preparation by the emulsion diffusion method for food applications

LWT-Food Sci. Technol.

(2011)

B. Yu et al.

Investigation of the photocatalytic degradation of organochlorine pesticides on a nano-TiO2 coated film

Talana

(2007)