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**IOT BASED CROP PROTECTION – Literature Survey**

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# IoT Based Automated Crop Protection System

**Authors:** N S Gogul Dev; K S Sreenesh; P K Binu

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Low productivity of crops is one of the main problems faced by the farmers in our country. This can be because of two main reasons. Crops destroyed by wild animals and because of bad weather condition. This paper provides a solution to the destruction of crops by animals. This system will provide a complete technical solution using the Internet of things (IOT) to the farmers to prevent their crops from wild animals and provide information to the farmers to maximize their production. Animals are detected using PIR sensors and cameras where animals are identified using TensorFlow image processing Techniques. Raspberry PI is used as the processing unit of the system and sound buzzers are used to emit the ultrasound frequencies.

## IOT Based Crop Protection System against Birds and Wild Animal Attacks

## Authors: P.Navaneetha1 , R.Ramiya Devi2 , S.Vennila3 , P.Manikandan4 , Dr.S.Saravanan5

## Published Date : April 2020

## The main aim of our project is to protect the crops from damage caused by animal as well as divert the animal without any harm. Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds etc. This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it. So here we propose automatic crop protection system from animals. Animal detection system is designed to detect the presence of animal and offer a warning. In this project we used PIR and ultrasonic sensors to detect the movement of the animal and send signal to the controller. It diverts the animal by producing sound and signal further, this signal is transmitted to GSM and which gives an alert to farmers and forest department immediately.

# IOT Based Crop Protection System

**Authors :** S. Karthika; Kalyana Rangan V; Aditya K; Anand Anil Kumar; D. Selvakumar

**Published Date :**08-10 July 2021

The effect of insects in farmland has been very high in certain areas. The climatic changes even add to the woes of a farmer. Widespread adoption of chemical pesticides has resulted in unprecedented crop yields. The agriculture pest monitoring device is a moving bot or a line following bot which monitors the amount of pest in farmland. The image that is captured using camera module is processed using convolution neural network involving processes like image acquisition, preprocessing, gray scale conversion blurring, max pooling and using ReLU for faster training of dataset. It calculates and sends the amount of pest present in a particular crop and suggest the amount of pesticide to be sprayed.

# 4.Analysis of Crop Protection Techniques Involving IoT

**Authors** : Prakriti Bhardwaj, Ranjan Verma, Parul Kalra & Deepti Mehrotra

**Published Date :** 22 June 2021

The protection of crops is very important for the improved quality of agricultural production. It plays an important role in mankind and the environment. It is significant to protect the crops from pests and plant diseases that harm the crops. Proper and accurate information about the plant/crop and soil while growing can make the crop healthy and also prevent from serious harm that may occur in the future, by using pesticides and other prevention techniques. Yield and crop production can be escalated by implementing optimum methods. With the advancement of science and technology, the growing work in this domain using sensors and other IoT equipment will be a boon for the society and environment. This research paper focuses to explore different IoT-based techniques that are available or are being researched upon for protection of crops. The paper presents an IOT-based anti-noise technique that on the protection of plants by using several techniques that bring out the best possible results in crop protection.

# 5. Automatic Irrigation and Crop Protection System Based on IoT

**Authors** :  [M. Raja](https://link.springer.com/chapter/10.1007/978-981-19-2177-3_35#auth-M_-Raja),  [N. M. Nithish](https://link.springer.com/chapter/10.1007/978-981-19-2177-3_35#auth-N__M_-Nithish), , [B. Saravana Shankar](https://link.springer.com/chapter/10.1007/978-981-19-2177-3_35#auth-B_-Saravana_Shankar)  & [D.Sadhurwanth](javascript:;)

**Published Date :** 02 August 2022

Farming is one of the backbones of our Indian economy. India is primarily an agricultural country. It plays an important role in the development of our nation. This project proposes an automatic irrigation, and it maintains the moisture content present in the soil by automatic irrigation system. This setup uses a capacitive soil moisture sensor v1.2 that measures the exact amount of soil moisture. It monitors soil properties such as temperature, humidity, soil moisture, and motor status. These parameters are measured using a soil moisture sensor, a DHT11 sensor, and also the crop is damaged by the animals that are to be protected. The crop protection system is used to control the outbreak of the animals that enter the field. We use the alarm voice system to run the animals that are detected using the motion detection sensor which is controlled by a Node MCU that acts both as a microprocessor and as a server. It is possible to remotely control many farm operations from any parts of the world through IoT