**LITERATURE SURVEY**

1. **Crop Protection**

**Crop protection is the science and practice of managing**[**plant diseases**](https://en.wikipedia.org/wiki/Plant_diseases)**,**[**weeds**](https://en.wikipedia.org/wiki/Weed)**, and other**[**pests**](https://en.wikipedia.org/wiki/Pest_(organism))**(both vertebrate and invertebrate) that damage crops and forestry. Crops include field crops (**[**maize**](https://en.wikipedia.org/wiki/Maize)**,**[**wheat**](https://en.wikipedia.org/wiki/Wheat)**,**[**rice**](https://en.wikipedia.org/wiki/Rice)**, etc.), vegetable crops (**[**potatoes**](https://en.wikipedia.org/wiki/Potatoes)**, cabbages, etc.), and fruits. The crops in the field are exposed to many factors. The crop plants may be damaged by insects, birds, rodents, bacteria, etc. Crop protection encompasses:**

* **All practical aspects of pest, disease, and weed control, including the following topics:**
* **Control of animal pests of world crops.**
* **Control of diseases of crop plants caused by microorganisms.**
* **Control of weeds and integrated management.**
* **Economic considerations.**

**2 IOT based smart crop protection system using arduino:**

Author: G.Naveena balaji,V.Nandhini,S.Mithra

**Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds, and fire 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 and fire. This is a arduino Uno based system using microcontroller. This system uses a motion sensor to detect wild animals approaching near the field. In such a case the sensor signals the microcontroller to take action. The microcontroller now sounds an alarm to woo the animals away from the field as well as sends SMS to the farmer and makes call, so that farmer may know about the issue and come to the spot in case the animals don’t turn away by the alarm. This is a arduino Uno based system using microcontroller. This system uses a motion sensor to detect wild animals approaching near the field sensor to. In such a case the sensor signals the microcontroller to take action.**

3 **IoT-Based Smart Crop Field Monitoring and Protection System from Heavy Rainfall:**

Author: G. Dhanalakshmi, M. Anil & P. Madhavi

**This paper proposes an IoT-based intelligent and secured crop field monitoring framework and also Raspberry Pi architecture is included to prevent the crop fields from heavy rainfall. The proposed overall design is made up of various sensors that are coupled to the raspberry pi. Further, the proposed raspberry pi architecture gets linked to the private cloud. The private cloud provides data storage, which can be examined at any moment by the user. The sound, temperature, and moisture sensors are implemented to collect data that differs from one plant to another. In addition to the sensors, if the moisture limit is reached or the temperature rises, the siphon, which commences the flow of liquids via tubes will be blocked. Nevertheless, the proposed framework has also coordinated the downpour sensor, soil dampness sensor, temperature and pressure sensor for checking the temperature, and soil status along with the raspberry pi and Internet of Things [IoT] architecture. Downpour sensor recognizes the downpour and based on that the dc engine works and shields the downpour caused by heavy rainfall and cautions all the people surrounding the crop field with an alert.**

**4 Smart Crop Protection System from Wild Animals Using IoT**

Author: Priyanka Deotale; Prasad Lokulwar

**Crops in the farms are many times devastated by the wild as well as domestic animals and low productivity of crops is one of the reasons for this. It is not possible to stay 24 hours in the farm to sentinel the crops. So to surmount this issue an automated perspicacious crop aegis system is proposed utilizing Internet of Things (IOT). The system consists of esp8266 (nodeMCU), soil moisture sensor, dihydrogen monoxide sensor, GPRS and GSM module, servo motor, dihydrogen monoxide pump, etc. to obtain the required output. As soon as any kineticism is detected the system will engender an alarm to be taken and the lights will glow up implemented at every corner of the farm. This will not harm any animal and the crops will stay forfended.**

**5 IOT in agriculture crop protection and power generation**

Author: Anjana,sowmya

**Agriculture is that the science and artwork of cultivating plants. Agriculture performs most important position inside the economic development of our us of a and this can be the first occupation from a few years. So as to extent the productivity of the crops and to attenuate the expenses of agricultural practices we adopt smart agriculture techniques using IOT. The sensors are placed at different locations with in the farm, by which the parameters are controlled using remote or through internet services and by interfacing the sensors operations are performed with microcontroller. India is that the second most populated country. Power generation and supply is typically an unlimited problem. This mainly addresses power generation and rain water harvesting as an influenced generation method using energy together with crop protection**