

Pre indication of disease on plants in farms with Protective suggestions

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Abstract Now a day's farmers are face various difficulties. Those difficulties are mentioned below. damages of crop, Viruses, bacteria and fungi that infect plants do not usually cause infection in humans. Plant diseases are well known to reduce the food available to humans by ultimately interfering with crop yields. This can result in inadequate food to humans or lead to starvation and death in the worst cases.so we a device to reduce their worry that a sensor which indicate the diseases of plant. Which sense light, humidity,temperature, moisture,if there is diffence it wiil indicate and show protective suggestion on display and send message on mobile.

Keywords- sensor, dieses, crop, farmer.

I. INTRODUCTION

Now days farmers have many problems in farming due climatic conditions

Like over rainfall , fog , snow, hail, flooding .

Due to this unbalance climatic conditions many disease fall on crop which causes damages of crop

Disease like Bacteria, fungi, nematodes, mycoplasmas, viruses and viroids are the living agents that cause plant diseases

So to avoid this farmer apply pesticides on crop, but quantity of crop is reduced and farmer are facing various economical problem .

To avoid this situation we prepare device which identify the dieses before they fall on crop .

In this device we use different sensor like light sensor , humidity sensor, moisture sensor , temperature sensor ,etc .this sensor sence climatic conditions and give to ardino .

In ardino particular data is stored this data compared with other data . And then after disease display on 16x2 display.

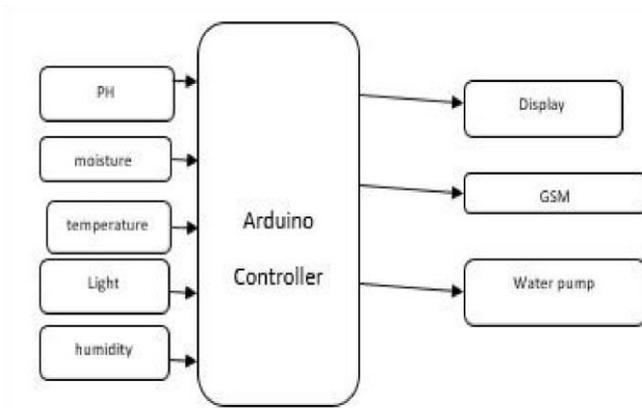
Then we know the disease which will be fall on crop so we can avoid loss of crop , money and also time .Thai device is very helpful to us .

Most plant diseases are caused by fungi, bacteria, and viruses. Although the term *disease* is usually used only for the destruction of live plants, the action of **dry rot** and the rotting of harvested crops in storage or transport is similar to the rots of growing plants; both are caused by bacteria and fungi. Any environmental factor that favors the growth of parasites or disease transmitters or that is unfavorable to the growth of the plants will lead to increases in the likelihood of

infection and the amount of destruction caused by parasitic disease. Parasitic diseases are spread by dissemination of the agent itself (bacteria and viruses) or of the reproductive structures (the spores of fungi). Wind, rain, insects, humans, and other animals may provide the means for dissemination.

I. PROPOSED METHODOLOGY

a) *Block diagram:*



A. PH sensor:

A pH sensor is used to measure the activity in soil based solutions, indicating its acidity or alkalinity expressed as hydrogen-ion as pH. The pH meter measures the difference in electrical potential between a pH electrode and a reference electrode, and so the pH meter is sometimes referred to as a "pH meter". The difference in electrical potential relates to the acidity or pH of the solution. The pH meter is used in many applications ranging from laboratory experimentation to quality control.

B. Moisture sensor:

The Soil Moisture Sensor uses capacitance to measure dielectric permittivity of the surrounding medium. In soil, permittivity is a function of the water content in soil. The sensor creates a voltage proportional to the dielectric permittivity, and therefore the water content of the soil. The sensor averages the water content over the entire length of the sensor.

C. Temperature sensor:

Temperature is the most often-measured environmental quantity. This might be expected since most physical, electronic, chemical, mechanical, and biological systems are affected by temperature. Certain chemical reactions, biological processes, and even electronic circuits perform best within limited temperature ranges.

D. Light sensor:

The light sensor circuit is a simple electrical circuit, which can be used to control the (switch on and off) electrical load appliances like lights, fans, coolers, air conditioners, street lights, etc., automatically. By using this light sensor circuit, we can eliminate manual switching as the loads can be controlled automatically based on the daylight intensity. Hence, we can describe it as an automatic light sensor.

E. Humidity Sensor:

A humidity sensor (or hygrometer) senses, measures and reports both moisture and air temperature. Relative humidity becomes an important factor when looking for comfort. A sample humidity sensor. Humidity sensors work by detecting changes that alter electrical currents or temperature in the air.

F. Arduino:

Arduino Uno is a microcontroller board based on the ATmega328P (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button.

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output activating a motor, turning on an LED, publishing something online.

G. Display:

Display is used to display disease on plant and it will show the prevention on it.

H. Water pump:

Water pump is used to pour water.

II. MOTIVATION

- Save energy
- Save money
- To avoid damages of crop
- To increase financial condition of farmers
- To provide protection to crops from viruses, bacteria, and fungi etc.

III. APPLICATION

- It is used in farms to protect plants from disease like bacteria, fungi, and viruses.
- This device senses climatic conditions and then compares with Arduino data and disease display.

IV. FUTURE SCOPE

This device can be modified by including automatic spraying of pesticides.

V. CONCLUSION

Hence, this device is capable of detecting different climatic conditions and diseases that fall on crops, and as a result, it protects the crop from damages and disease. It also helps farmers for the increment of production, it will grow financial condition, and also give healthy crops.

VI. REFERENCE

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