



Leaf wetness sensors

Turning over a new leaf

Complexity



Price



Scale



Growing plants is a deceptively complex undertaking. Beyond soil nutrient and pH levels, other aspects of climate must be controlled to ensure that the plants have the best opportunity to grow.

Leaf wetness is a meteorological parameter that describes the amount of dew and precipitation left on surfaces. It is used for monitoring leaf moisture for agricultural purposes, such as fungus and disease control, for control of irrigation systems, and for detection of fog and dew conditions, and early detection of rainfall.

Leaf wetness sensors are an important tool for detecting these changes.

How

The way it works is simple: if the leaf canopy is wet, the sensor is wet; if the canopy is dry, the sensor is dry.

The leaf wetness sensor measures the dielectric constant of the top of the sensor. The dielectric constants of water and ice are higher than air, so the sensor can determine the presence or absence of wetness using this method. Measurements can be logged at user-defined intervals to determine the duration of wetness on the canopy.

The accurate measurement of the moisture content of the leaf surface can be used to monitor the trace moisture or ice crystal residue. The shape

of the sensor is simulated by the blade, which can simulate the characteristics of the leaf surface, so that it can reflect the situation of the leaf surface more accurately. By measuring the variation of the dielectric constant of the upper surface of the blade, the mist, water vapour and ice can be measured.

Because a leaf wetness sensor measures the dielectric constant, moisture does not need to bridge electrical traces for the sensor to detect moisture: the presence of water or ice anywhere on the sensor surface will be detected.

Why

Leaf wetness refers to the presence of free water on the canopy, and is caused by intercepted rainfall, dew, or guttation. The duration of the time period during which the leaves are wet is generally referred to as leaf wetness duration.

Leaf wetness is a concern for the development of disease and the dispersal of pathogens; leaf wetness duration is an important input (along with temperature) in many crop disease models which are used for determining the appropriate time for the use of preventative measures, such as fungicide application.

If fluctuations are detected by leaf wetness sensors, they can indicate problems with climate conditions in the area. Pathogens and fungi can grow on leaf surfaces, and these can damage and sometimes destroy plants.

Early detection is necessary for early intervention.

Water

Insects

Data



Benefits

Efficiency

Leaf wetness sensors save time and labour.

Rapid response

Integrated SMS alert systems keep you informed about what's happening on farm.

Cost effective

Leaf wetness sensors are inexpensive and easy to set up.

Getting started

1. Obtain leaf wetness sensors from reputable suppliers.
2. Install the sensors in key areas amongst crops.
3. Set up SMS alerts and monitor for moisture fluctuations.

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More Info

For more information on how you can deploy this technology on farm, give us a call or visit our website via the link below or QR code.



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