Smart Plant Monitoring System: A Review of Approaches for Monitoring Condition of Plants

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Abstract: *Agriculture has gone through tremendous change due to the application of IoT technologies which has enabled the creation of smart plant monitoring systems. These types of systems deploy a number of IoT based sensors and systems to measure in real time the most relevant of the variables affecting the health of plants including the soil moisture content, temperature and humidity as well as the light received by the plants. By incorporating IoT systems with data analytics as well as cloud computing, such systems are effective in providing real insights on farming activities which optimizes resource use while improving the productivity of crops. This paper analyzes the concepts and techniques, operationalization and case studies of IoT based smart plant monitoring systems with the emphasis on remote control functions such as active disease monitoring and self irrigation systems. These system, however, have disadvantages as well towards the overall effectiveness of such systems on the reduction of cost and time to perform target operations due to deployment costs, data security measures and constraints in areas remote from cities or towns. This review outlines the present status, advantages and constraints of the plant monitoring systems enabled by IoT technology and outlines guidelines for further examination and engineering in green farming.*

Keywords: Agriculture, Plant monitoring, IoT, sensors, real time data

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