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# IoT Enabled Greenhouse Plantation Monitoring

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**Abstract:** *The demand for food has been increasing over the past six decades with the global population increase. Scientists have been finding different ways to meet this demand, such as; green revolution and genetically modified crop methods. These involve an unnatural technique to increase the yield, such as chemical fertilizers, pesticides, and modified seeds; these might be beneficial in the short term but might slowly disturb the internal body mechanism. In recent years, consumers are becoming more concerned about their food intake and prefer food with no adulteration and harmful pesticides. This has brought in the hype for a subdivision of framing, organic farming, where organic fertilizers and pesticides are used to retain the quality and nutrition values of the crop bring harvested. In organic farming, the right crop must be chosen according to the soil type and climate. This reduces the chance of pre-harvest crop losses caused by the abiotic stress in the environment, such as the soil moisture, improper irrigation, climate, and temperature. Desired conditions are provided to the crop, we can reduce the pre-harvest loss up to 35%. This paper offers a practical approach to reduce this loss by predicting what crop can be planted according to the present soil conditions and climate to prevent pre-harvest losses. The model involves a temperature and humidity sensor, a soil moisture sensor, LDR, a gas sensor, IoT, lamp and a water pump under a greenhouse environment connected with the help of a development board, Arduino Uno , and machine learning techniques.*

**Keywords:** Sensors, Arduino Uno and IOT

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