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IoT Based Smart Farming Monitoring System for Bolting Reduction in Onion Farms

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Abstract: *Commercial commodities like onion, tomatoes, potatoes are very essential for our day-to-day life and living. India ranks second in onion production in the world, which acquires 6% of the market share in the total production of vegetables in India. Onions are the important spice commodities consumed in India almost everyday in every house. Unlike other vegetables, their requirement is daily essential in the kitchen, and therefore, availability in the market at reasonable prices for both producers as well consumers is highly essential. However, they are harvested twice or thrice a year. Unless stored for some time, daily supply, irrespective of the season is not possible. Therefore, storage of onion becomes more important for regular supply to consumers. But the stored onions in onion sheds are exposed to the hot, cold, and humid air. Due to continuous change in climate onions can rot easily. Once the rotting process is initiated it grows drastically and rapidly resulting in unexpected losses of up to 15% of the total production or more. So to avoid this we propose a hygiene monitoring and reporting system using IoT. Internet of Things plays a vital role in smart agriculture monitoring system. Smart farming is an emerging concept, because IoT sensors are capable of providing information about their fields. This system includes electronic circuitry which has been designed and developed to monitor and report. Gas sensors are used to sense the emitted gases. The main purpose of paper is to propose a grid system onion storage methodology which will help to reduce onion degradation due to temperature and humidity. When the onion starts rotting developed system informs the owner and provides a three-way alert which includes alarm, display, and SMS. Inbuilt wireless IoT transmission system enables preserving the record for analysis in the cloud*

Keywords: IoT

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