A Review on Arduino-Based Technology which Revolutionize Fruit Preservation by Optimizing The Shelf Life of Banana

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Abstract: *Fruit producers and distributors suffer large financial losses as a result of the serious issue of fruit spoiling during transit. Heat accumulation inside the storage container is one of the main reasons why fruit deteriorates, While being transported. In order to control field heat in terms of temperature and humidity monitoring and evaluate its impact on the fruit specimen's skin color, firmness, and bruising, this study was conducted to design and construct an Arduino-based field heat regulator for fruit storage and transportation. Innovative Preservation Techniques are required because Banana rotting during transportation causes significant financial losses for fruit growers and distributors. This paper describes the creation of an Arduino-based system that closely monitors and regulates the storage environment to maximize the shelf life of bananas.The system ensures ideal conditions for fruit preservation by monitoring and controlling temperature, humidity, and gas levels using cutting-edge technology. Remote data monitoring and realtime notifications improve the preservation procedure' efficacy. This technical advancement provides a sustainable, economical, and effective way to prolong the shelf life of bananas, which eventually helps to increase food security, decrease spoilage, and save money for growers and distributors. Following the analysis, it was discovered that the regulator was tested in a real transportation process and went through multiple revisions throughout product development.*

Keywords: Arduino, Regulator of Field Heat, Fruit Storage, Losses After Harvest, Monitoring of Temperature, Monitoring of Humidity, Non-Destructive Examination, The Internet of Things, or IoT, Intelligent Sensors, Storage and Transportation, Safety of Food, Technology for Preservation.