

Sensor for detecting fruit ripening (ethylene gas) and droughting

Kavinkumar B, Anusuya J, Allwin G B, Ragul A S, Sanjay V M, Dhanya Dharshini S

Abstract:

The proposed sensor design offers several advantages over existing sensors for detecting fruit ripening and drought stress. First, it is a low-cost and simple design that can be easily integrated into existing agricultural systems. Second, the ethylene gas-sensitive layer is highly selective to ethylene gas, which reduces the chances of false positives from other gases. Third, the humidity sensor can detect changes in humidity levels that can indicate drought stress in plants, which is a critical factor in agriculture. Finally, the microcontroller unit provides real-time analysis and can be programmed to send alerts to farmers when fruit ripening or drought stress levels reach critical levels.

The sensor's applications in fruit ripening monitoring can improve the fruit's quality and reduce the amount of waste produced during post-harvest storage and transportation. Accurately detecting fruit ripening can also help farmers optimize their harvesting schedules, reduce labor costs, and increase profits.

The proposed sensor has the potential to revolutionize agricultural practices by providing farmers with real-time data on fruit ripening and drought stress levels. This data can be used to optimize crop management practices, reduce waste, and increase profits. The sensor's low cost and simplicity make it accessible to small-scale farmers who may not have access to advanced agricultural technologies. Overall, the proposed sensor has significant potential to improve agricultural practices and promote sustainable farming practices.