Abstract

Ripening is the process by which fruits attain their desirable flavour, quality, colour and other textural properties. Bananas are the most popular fruit in the world. India and Brazil are first and third largest banana producers for sale in local markets, that provide households with regular income throughout the year. Automatic control of environmental conditions is an important problem of banana ripening treatment. In this study, a capacitive sensing system was designed and developed. In this method banana fruit is placed in the capacitive sensor as a dielectric material and then the capacitance of sensor is measured. Experiments were carried out with 10 kHz to 10 MHz sinusoidal frequencies. A consistent decrease of $\varepsilon_r$ had occurred at 100 kHz and 1 MHz frequencies when banana had been ripened. A high correlation was
observed between ?b and ripening period at 100 kHz frequency. This system has the following characteristics: rapid response, simple operation, nondestructive measurement, and low cost. This method shows that for uniform size banana, as ripeness changes there is change in the capacitance.

References


Index Terms

Computer Science
Pattern Recognition

Keywords

Capacitive Sensor Ripeness