Effect of water content on backscattering parameters

ABSTRACT

Water content is one of the parameters that used to determine fruit quality. In this study, the effect of water content on the changes of backscattering parameters was investigated. The experiment was conducted on 240 bananas which vary from ripening stages 2 to 4. About half of the samples were stored at 6°C to induce chilling injury symptoms while the other were stored at 13°C and used as a control samples. The water content values were measured destructively on each sample based on the wet basis method. The results were compared with backscattering data that acquired using backscattering imaging. Results indicated there were significant differences ($P<0.05$) on the water content values and backscattering parameters as ripening stages increased. Results also revealed there were significant differences on the collected data as chilling injury developed. Hence, backscattering imaging is potentially useful for determining water content values and textural properties of fresh produce.

Keyword: Water content; Backscattering; Imaging; Fruit quality; Fruit