Effectiveness of submicron chitosan dispersions in controlling anthracnose and maintaining quality of dragon fruit

ABSTRACT

Conventional chitosan (CC) and submicron chitosan dispersions (SCD) were evaluated for the control of postharvest anthracnose and maintenance of quality of dragon fruit during storage at 10 ± 2 °C and 80 ± 5% RH for 28 days. All the chitosan treatments significantly reduced anthracnose symptoms, resulting in a reduction of disease development and thereby maintained the quality of fresh fruit for extended periods. SCD at 1.0% with 600 nm droplet size gave the best result in that it delayed the onset of disease and maintained the quality of dragon fruit for up to 28 days of storage. It can be concluded from the present investigation that SCD have potential to be used as an antifungal agent to control postharvest anthracnose and maintain quality of dragon fruit during storage.

Keyword: Antioxidant activity; Colletotrichum gloeosporioides; Postharvest quality; Respiration