

Title Production of konjac glucomannan antimicrobial film for extending shelf life of fresh cut tomato

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Citation Book of Abstracts, Southeast Asia Symposium Quality and Safety of Fresh and Fresh Cut Produce Greater Mekong Subregion Conference on Postharvest Quality Management in Chains, August 3-5, 2009, Radisson Hotel, Bangkok, Thailand.

Keyword Konjac glucomannan (KG); fresh cut; antimicrobial

Abstract

Konjac glucomannan (KG) is polysaccharide which is able to fabricate to form edible film. The applications of KG film have attracted a lot of attention for using in minimization of postharvest losses due to its low water vapour permission rate (WVPR) and good strength. In this study, KG was mixed with antimicrobial agent, clove oil, and then was fabricated to the film. Film properties such as tensile strength (TS), % elongation (%E) and WVPR were determined. Tensile Strength and % elongation of KG film with clove oil were lower than those from KG film without clove oil. As well as WVPR of KG film with clove oil was also lower than the film without clove oil which reveals that it has better ability to prevent water vapour. In addition, When placing a sheet of antimicrobial KG film (4 x 3 cm) in to plastic container that contain fresh sliced tomato It was found the film with clove oil can extend shelf life of sliced tomato at least 23 days while a controlled set of sliced tomato had a shelf life only 11 days.