ABSTRACT

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UTILIZATION OF MANGO SEED STARCH (*Mangifera indica* L.) AS EDIBLE FILM AND ITS APPLICATION ON TOMATO (*Lycopersicon esculentum*)

(xiv + 63 pages: 21 figures, 6 tables, and 11 appendices)

Mango seed composed of high starch polysaccharide and can be used as a starch-based edible films or edible coating. This study was aimed to extract the starch from mango seed, determine the best starch concentrations that can produce edible film with good physical and mechanical characteristics, to determine the effect of edible coating on characteristics of tomato and to study the physicochemical changes on coated tomato during storage by measuring weight loss, pH, total titratable acidity, total soluble solid, and hardness of the tomatoes. The yield of mango seed starch extracted was 10.76±0.74% with 81.75±2.71 whiteness index. The starch content was 84.892±4.171% with 32.146±0.221% amylose content, and 52.746±4.195% amylopectin content. Concentrations of mango seed starch used were 2, 4, 6, 8, 10% and glycerol concentrations used was 3%. Edible film made by 6% starch produced good characteristics film and were applied as edible coating on tomatoes and stored at room (26-28°C) and low temperatures (5-8°C). Edible coatings and storage time affects weight loss at the room temperature and hardness of tomatoes. Total titratable acidity at room temperature storage and weight loss at low temperatures is influenced by the treatment of edible coating and storage time. Meanwhile, total titratable acidity at low temperature storage, pH, and total soluble solid at both temperature storage were only influenced by storage time.

Keywords : Edible coating, edible film, mango seed starch, tomato