Thesis Title	Effects of Hydrocooling and Modified Atmosphere on Storage Quality and Shelf-life of Sweet Corn (*Zea mays.* var. *saccharata*)
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Abstract

Effects of hydrocooling and modified atmosphere on storage quality and shelf life of sweet corn (*Zea mays* var. *saccharata* cv. ATS-2) were studied. The experiment was divided into three trials. In the first experiment, the effect of hydrocooling temperature at 1, 5 and 25 °C (control) and the time intervals after harvested at 0, 4, 8 and 12 hours on quality of sweet corn were investigated. It was found that hydrocooled sweet corn at 1 °C after harvested at 0 and 4 hours losses sucrose content, respiration rate and fresh weight less than non-hydrocooled and hydrocooled at 5 °C after harvested at 8 and 12 hours. The second experiment was to study the effect of packaging type; PE and PP plastic bags with perforated and non-perforated and control on storage quality of sweet corn during storage at 1 and 5 °C. The results showed that sweet corn stored at 1 °C with non-perforated PE and PP bags could maintain a better quality than the sweet corn stored at 5 °C with other packages. Moreover, the sucrose content, respiration rate can be maintained up to 14 days of storage life. When the sweet corn was stored at 5 °C in non-perforated PE and PP bags, off-order was detected on the fourth day of storage. In the third experiment, study the effect of various types and thickness of plastic films, 15 and 25 μm LLDPE, 15 μm PVC and PVDC on shelf-life of sweet corn placed at 5±2 °C. Sweet corn wrapped with PVC and PVDC plastic films had shelf life of 6 days while wrapping with 15 and 25 μm LLDPE and control had shelf-life of 4, 4 and 2 days, respectively. The individually wrapped sweet corn with PVC and PVDC plastic films can delay the decreasing of sucrose

content and respiration rate better than wrapped sweet corn with LLDPE. But, the highest water loss was found when wrapped with PVC and PVDC plastic films.

Keywords : Hydrocooling / Linear Low Density Polyethylene (LLDPE) / Modified Atmosphere / Polyethylene (PE) / Polypropylene (PP) / Polyvinyl Chloride (PVC) / Polyvinyl Dichloride (PVDC) / Shelf-life / Sweet Corn