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| <b>Thesis</b>         | PROTEIN SEPARATION AND COMPARISON OF SOME<br>PHYSICOCHEMICAL PROPERTIES OF SWEET POTATO<br>STARCH |
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## **ABSTRACT**

Protein separation and comparison of some physicochemical properties of sweet potato starch that was extracted from three varieties of sweet potato flour (Mun-Torperk, Mun-Kai and Mun-Kaset) by using H<sub>2</sub>O and chemical solution (0.1N Na<sub>2</sub>CO<sub>3</sub> and 3.12 mM Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub>) were studied. Purified sweet potato starch from three varieties with H<sub>2</sub>O and 3.12 mM Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub>, the starch granules were not affected on surface damage. Comparison with others, H<sub>2</sub>O was lower cost, so it was suitable for extracted three varieties of sweet potato starch. Then comparison of some physicochemical properties of sweet potato starch and flour from each varieties were also done. The results showed that flours had significant lower water absorption index (WAI) and freeze thaw stability (FTS) than starches while starches had significant lower water solubility index (WSI) than flours. Starches (except Mun-Torperk) had lower shearing stability (SHS) than flours. Swelling power (SP) of flours and starches were closely. Study paste characteristics with Brabender Visco-amylograms, the amylograms showed that the gelatinization temperature of flour and starch from three varieties of sweet potato were in range 73.18-73.85 and 71.13-72.25 °C respectively. Peak viscosity of starches were significant higher but gel consistency were lower than flours. Breakdown of flours and starches were in range 281.50-518.75 and 3688.50-4487.50 BU respectively while setback value of flours and starches were in range 74.50-375.25 and 1218.00-1845.25 BU respectively.