Kategunya Rengsutthi 2009: Comparison of Jackfruit Seed Flour and Starch and Its Utilization in Chilli Sauce. Master of Science (Food Science), Major Field: Food Science, Department of Food Science and Technology. Thesis Advisor: Associate Professor Sanguansri Charoenrein, Ph.D.
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Jackfruit (*Artocarpus heterophyllus*) is a popular fruit crop that is widely grown in Thailand and other tropical areas. The perianth ripe fruit contains well yellow sweet bulbs and seeds (Tulyathan *et al.,* 2002). Seeds make up around 10-15% of total fruit weight (Bobbio *et al.,* 1978; Kumar *et al.,* 1988) which are eaten as a snack but are normally discarded. The objectives of this study were to find the percent yield of jackfruit seed flour (JFF) and jackfruit seed starch (JFS) and to compare the properties of JFF and JFS to corn starch (CS) and potato starch (PS). Moreover, possibility in using JFF and JFS as a thickener and stabilizer in chilli sauce was investigated. Our results showed that yield of JFF and JFS were 31.90% and 10.55% (wet basis) respectively. The chemical analysis result that protein, lipid, fiber and ash content of JFF more than other samples but carbohydrate content of JFF was less than other samples. JFF and JFS had high amylose (27.73 and 32.14% respectively) content. The granule size of JFS was similar to CS while the granule size of PS was bigger than other samples. Swelling power of JFF and JFS was similar to that of CS. RVA profile showed pasting temperature of JFF and JFS were similar to CS while PS found a lower pasting temperature than other samples. According to differential scanning calorimetry thermogram JFF and JFS required less energy for gelatinization than CS and PS. The X-Ray Diffraction patterns of JFF and JFS were similar to CS which belonged to A type starch while PS belonged to B type. The JFF gel appear as less resistant to syneresis after freezing and thawing. Scanning electron microscope image of freeze – thawed JFF gel showed spongy structure with larger pore size than other samples while PS gel was less syneresis than other gels. We used JFF, JFS and CS at level 1% as thickener and stabilizer in chilli sauce. The result showed that JFS gave highest consistency. The pH, total soluble solid (°brix), color of all samples were not significantly different. After storage for 4 weeks chilli sauce with JFS had highest consistency. Moreover, JFS gave less separated value than other samples while JFF gave separated value similar to that of CS. Hence, JFS is more suitable to used as a thickener and stabilizer in chilli sauce than JFF and CS.

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