Chemical and physical properties of sago starch from tradition and machine method

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Abstract: Sago palm (*Metroxylon spp.*) is one of the few tropical crops which can tolerate wet growing conditions including peat swamps. Sago starch accumulates at the pith core of the stem in the sago palm. Sago starch has been used for cooking of various types of dishes, such as cookies. Sago starch also used as textile, paper and plywood adhesives and as stabilizer in the pharmaceutical industry. There are two ways to isolate sago starch. The traditional method that takes longer time than using a machine method. In this study, the objective was proposed to investigate chemical compositions were moisture, protein, fat and ash content and some physicochemical properties which were gelatinization profiles of sago starch. The results found that moisture, fat and ash content of sago starch from either two methods were not statistical differences. Sago starch traditional method showed protein content (0.25 %) and gelatinization temperature (69.65 °C) higher than machine method which content 0.16 % protein and 67.33 °C gelatinization temperature. Machine method required lower energy for gelatinization than traditional method. The SEM showed that starch granules have oval shape and size range between 23 and 48 μm from both methods.

Keywords: Sago starch, *Metroxylon spp.*, Chemical properties, Physical properties