ABSTRACT

EVALUATION OF PRECIPITATION PROCESS CONDITIONS TOWARDS THE PHYSICOCHEMICAL PROPERTIES OF ITTARA TAPIOCA

By

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One method to improve the characteristics of starch is by means of a starch modification. Modifications may occur due to spontaneous fermentation by microorganism which hidrolyze the starch, degrade the amylose and amylopectin, destroy the structure and integrity of the starch granules, causing changes in the characteristics of tapioca produced by ITTARA. The processing of tapioca cottage industry (ITTARA) is still using simple mechanical technology, so that the processing takes place in a relatively longer time, especially in the precipitation stage which aims to separate the starch from the water. Precipitation is one of the stages of cassava processing into starch in ITTARA which lasts for 15 to 24 hours so as allow microorganisms to grow and live on starch deposition and conduct the spontaneous fermentation. The purpose of this research is to determine the effect of precipitation time on the tapioca physicochemical properties of ITTARA PD Semangat Jaya at every level of tapioca quality.

The experiment was non factorial and arranged in acomplete randomized block design with 3 replications. Single factor being tested in the form of a precipitation time ie 0, 10, 15, 20 and 25 hours. Observations were made on three types quality of tapioca ITTARA PD Semangat Jaya namely tapioca quality I, II and III. Parameters measured were the filtrate pH, flour pH, whiteness, moisture content, ash content, starch, amylase and amylopectin contents. The data were analyzed for their homogeneity and additivity using with Barlett's Test and Tuckeytest. The they were analyzed using ANOVA, and further tested by BNT test (Beda Nyata Terkecil). The form of starch granules observed visually with a microscope, amilograf characteristic by using Brabender viscoamylograf, and whiteness by using whitness meter which analyzed descriptively. The results showed no effect

of precipitation time of tapioca starch slurry on flour pH, water content and degree of white of tapioca ITTARA but long precipitation lowers the pH of the filtrate, starch content, amylose contentof tapioca ITTARA at any level of quality. Long precipitation increases the ash content, change the shape and size of ITTARA tapioca granules at every level of quality observed.

Keywords: precipitation,spontaneous fermentation, modified starch, ITTARA tapioca