ABSTRACT
THE STUDY PHYSICOCHEMICAL AND ORGANOLEPTIC CHARACTERISTIC OF INSTANT ARTIFICIAL RICE PROCESSED FROM HEAT – MODIFIED PURPLE SWEET POTATO FLOUR

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The main component of purple sweet potato flour is starch. This sweet potato starch, as other native starches has some disadvantages when applied in food products. One method to improve the starch characteristics is through physical modification using heat treatment. This study was proposed to determine the effect of different heating on the characteristics of purple sweet potato flour and its instant artificial rice. This experiment was arranged in a complete randomized block design with single factor and 4 replications. The treatment was heating time at 90°C for 0, 15, 30, 45, 60, and 75 minutes. The parameters observed were starch and amylose content of modified purple sweet potato flour. Other observations were the bulk density, water absorption index, water solubility index of raw artificial instant rice, and sensory properties of cooked instant artificial rice. The best cooked instant artificial rice was analyzed further for its dietary fiber, volatile components, hardness, the morphological structure using SEM, anthocyanin content and calor/energy value. The results showed that heat treatment for 30 minute applied on fresh purple sweet potatoes before they are precessed into flour gave the best instant rice characteristics. These characteristics were described as liked slightly, and contained 9.93 % moisture, 0.26 % ash, 2.65 % protein, 0.88 % fat, 179.09 cal /g, of 3.92 % dietary fiber, 411.67 g hardness and 32.81 mg/100 g of anthocyanin.

Keywords: artificial instant rice, SEM, modified flour, purple sweet potato