

## Abstract

This research was aimed to study the effect of modified starch on Korat noodle. three different types of modified tapioca starch at the concentrations of 5%,10% and 15% w/w modified tapioca starch added to dried milling Chainat rice flour. There were acetylated starch (AC), succinate anhydride starch and octenyl succinic anhydride starch (OSA). Physicochemical properties of rice flour and modified starch have been studied. Pasting properties (RVA), moisture content, ash content, Amylose content, swelling power, and starch granule morphology were determined. The preliminary tests on Korat noodle were conducted. Effect of different ratio of flour : water on quality of noodle, sensory evaluation and appropriate amount of slurry for noodle production were evaluated. The addition of modified starch to the rice flour mill increased peak viscosity, final viscosity, setback and breakdown of the mixture. OSA gave highest peak viscosity of the mixed flour, followed by SA and AC, accordingly. Increased more concentration of modified starch also increased more all pasting properties except pasting temperatures which were slightly decreasing at higher concentrations. Amylose content of Chainat rice flour used in this study was 26.20%. The swelling power was 6.51 which was higher than AC and SA starch, but lower than OSA starch.

The effect of modified starch on quality of Korat noodle was studied. Cooked loss, rehydration ratio, color, %yield, thickness, sensory analysis, and texture analyzer were determined. From cooked loss properties of mixed rice flour with modified starch, they showed lower amount of loss of particle during cooking. While adding 15%OSA showed lowest cooked loss value. The addition of modified starch decreased thickness of cooked and dried noodle. This would cause by smaller size of particle (>100 mesh) of modified starch than used rice flour (80 mesh). Texture analysis showed the results that the addition of modified starch significantly increased elasticity of the noodle. OSA addition increased highest elasticity among all samples by showing longest strengthening distance while tensile. Sensory evaluation showed that higher concentrations of modified starch added to the noodle, higher liking score in preference. 15% OSA gave highest preference score of texture attributes and overall liking ( $p \geq 0.05$ ). In summary, modified starch has effect on quality of noodle especially improve texture of the developed Korat noodle.