

ABSTRACT

THE EFFECT OF INCLUSION TEMPERATURE IN NaCl SOLUTION ON CALCIUM OXALATE LEVELS OF PORANG TUBERS (*Amorphophallus muelleri* Blume)

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The need for food is increasing every year, so it is necessary to use other foodstuffs. Porang tubers are one type of ilis-ilis plant that can be used as an alternative food because it contains glucomannan. However, the utilization of porang tubers is constrained by the presence of calcium oxalate which can cause itching, irritation, and health problems when consumed. This study aims to determine the effect of variations in immersion temperature in NaCl solution on calcium oxalate levels in porang tubers.

In this study, porang tubers were immersed in 6% NaCl solution with various immersion temperatures, that is room temperature (31), 45 and 60°C for 15 minutes. The porang tubers are processed into porang *chips* with a size of 2 x 2 x 0.5 cm, then soaked in 6% NaCl solution with different temperature variations for 15 minutes, then dried in the sun for 4 days and mashed to become porang flour which later will be analyzed. Analysis of calcium oxalate content using permanganometric titration method.

The results showed that immersion in 6% NaCl solution with variations in room temperature (31), 45 and 60°C had an effect on reducing calcium oxalate levels in porang tubers. The largest decrease in calcium oxalate levels was shown in porang tubers that had been soaked in 6% NaCl solution at a temperature of 60°C which could decrease by 55,58%, while immersion at room temperature and 45°C obtained a percentage decrease in calcium oxalate levels of 50,84% and 53,17%. The decrease in calcium oxalate levels in porang tubers due to heating can damage cell walls, causing calcium oxalate to come out which is then dissolved and wasted with the soaking solution. The higher the temperature of the soaking solution, the greater the decrease in calcium oxalate levels in porang tubers.

Keywords: Porang tubers, Calcium Oxalate, NaCl, Immersion Temperature