

## **ABSTRACT**

*The purpose of this study was to determine the right concentration of sodium hydrogen phosphate ( $\text{Na}_2\text{HPO}_4$ ) and soaking time to produce good characteristics of instant powdered corn jam in order to be acceptable to consumers.*

*The experimental design used in this study was a 3x3 factorial design in randomized block designs (RBD) with 3 repetitions, in order to obtain 27 units of trial. The design of the treatment carried out in this study consisted of two factors, namely concentration of sodium hydrogen phosphate ( $\text{Na}_2\text{HPO}_4$ ): 0.1%, 0.3% and 0.5% and soaking time: 30 minutes, 60 minutes and 90 minutes. The response designs included organoleptic responses with attributes of color, flavor, texture, aroma and smearing power, physical responses that were development volume and cooking time, chemical response that were yield and carotenoid levels. The chosen treatment were stored for 0 day, 3 days, 6 days and 9 days to analyze the water content.*

*Based on the obtained results, the concentration of sodium hydrogen phosphate ( $\text{Na}_2\text{HPO}_4$ ) significantly affected the texture, color, flavor, smearing power, carotenoid levels, development volume and cooking time. Soaking time significantly affected the texture, color, flavor, and carotenoid levels. Interaction between concentration of disodium hydrogen phosphate ( $\text{Na}_2\text{HPO}_4$ ) and soaking time significantly affected the texture, color, flavor, and carotenoid levels.*

*Based on the responses, the chosen treatment was  $a_2b_2$  (0.3 % of  $\text{Na}_2\text{HPO}_4$  concentration and soaking time in 60 minutes) with development volume of 140%, cooking time in 34.827 seconds, yield amounted to 18.16%, 77.752 ppm of carotenoid levels, and moisture content with storage of 0 day amounted to 4.97%, 3 days amounted to 5.04%, 6 days amounted to 5.10%, and 9 days amounted to 5.22%.*

**Keywords:** *Concentrations of  $\text{Na}_2\text{HPO}_4$ , Soaking Time, Organoleptic, Yield, Levels of Carotenoids, Volume Development, Cooking Time, Water Content, and Instant Powdered Corn Jam.*