

ABSTRACT

The purpose of this research is to find the best product formulation for Nasi Uduk Instan using

The research is conducted in two steps. The preliminary step is to determine the objective function as well as (control) fixed and changed variables in the manufacture of Nasi Uduk Instan which later will be input to the *Design Expert* application with *Mixture Design D-Optimal* method to produce the expected organoleptic and chemical properties, while the second step of the research is to determine the best formulation for Nasi Uduk Instan by using *Design Expert* with *Mixture Design D-Optimal* method. The responses from this research are chemical response in the form of the analysis of the protein levels, fat and water content; and physical response in terms of volume development test; as well as sensory responses such as brightness, taste salty, savory sensation, and fatty mouthfeel.

Nasi Uduk Instan is made of milk powder, instant rice, and salt. Out of eleven proposed formulations, one optimal formulation is found, consisting of 14.30% coconut milk powder, 0.75% salt, and 40.83% instant rice, while other ingredients as the fixed variables are 0.02% dried bay leaves, 0.08% dried lemongrass and 44.02% water. The formula produces 5.82388% protein content, 8.38617% fat content, and 0.685342% water content, 51.4472 volume development, 2.53 brightness, 5.32 saltiness, 3.11 savory taste, and 3.27 fatty mouthfeel.

Keyword: Nasi Uduk, Instan, Optimization