

# **Chemical and Organoleptic Quality of Chicken Egg Yolk Flour with Different Duration of Tempe Yeast Fermentation**

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## **ABSTRACT**

The purpose of this study was to determine the effect of different fermentation time on the manufacture of egg yolk flour with chemical qualities (pH, protein and fat) and organoleptics (color, texture, aroma and taste). The research method used was an experimental method (experimental) with a basic pattern factorial design completely randomized design (CRD) using 4 treatments, namely P0 (0 hours without fermentation), P1 (6 hours with fermentation), P2 (12 hours with fermentation) and P3. (24 hours with fermentation) using 0.4% tempeh yeast. The research data were analyzed using analysis of variance (ANOVA) based on a completely randomized design (CRD) with four treatments and five replications. If there is a difference, a further test of the smallest real difference (LSD) is carried out. Organoleptic test data were processed by Kruskal Wallis' non-parametric test and continued with One Way Anova and Duncan's test. The results of long fermentation experiments (P1, P2, and P3) using tempeh yeast showed significantly different results from P0 (control) ( $P < 0.01$ ) on chemical quality (pH, protein, and fat). The best treatment was at P3, the fermentation time was 24 hours which was able to increase the value of protein content and decrease the crude fat value of egg yolk flour, while the best pH value was at P0 (without fermentation). In the non-parametric Kruskal Wallis organoleptic test showed no difference in color, aroma and taste ( $P > 0.05$ ), while there was a difference in aroma ( $P < 0.05$ ). Organoleptic test results showed significant differences in aroma and taste in the follow-up test ( $P < 0.05$ ), the best assessment was at P0 (without fermentation) while for color, texture, there was no difference ( $P > 0.05$ ).

Keywords: Chicken Eggs, Egg Yolk Flour, Fermentation, Tempe Yeast