

**Optimasi Proses *Proofing* Pembuatan Roti Tawar Bebas Gluten
Menggunakan *Response Surface Methodology*. (Optimization of Gluten Free
Bread *Proofing* Process using *Response Surface Methodology*)**
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ABSTRACT

Gluten-free bread is commonly made without gluten as an ingredient. Gluten, which is usually a primer ingredient that is contained inside the flour, was replaced with other ingredients, i.e., starch, hydrocolloids, non-wheat cereals, nutritional supplements, and other additives. The temperature and proofing time affect the quality of the gluten-free white bread produced. This study aims to optimize the temperature and proofing time using Response Surface Methodology (RSM) to increase specific volume and moisture content. The research was conducted based on the central composite design (CCD). The treatment used two factors, namely temperature and proofing time, with three responses, namely specific volume and moisture content. The optimization model results for specific volume response and moisture content are quadratic models, and for fiber content response, it is a linear model. The R squared (R^2) value for specific volume response was 0.9144, for moisture content it was 0.9058, and for fiber content it was 0.5374. The suggested model for specific volume response and moisture content is a quadratic model, and for fiber content response, it is a linear model. Suggested optimum conditions for the proofing process of gluten-free white bread for 68.618 minutes at a temperature of 40°C, which is predicted to produce a specific volume of 3.580 cm³/g, a moisture content of 38.863%, and a fiber content of 10.839%. Furthermore, the validation test was carried out three times with accuracy results of 92.93%, 96.67%, and 94.79%, respectively.

Keyword: Breadfruit, Gluten-Free bread, Proofing, Response Surface Methodology.