PENINGKATAN KUALITAS SENSORIS KERIPIK PISANG MENGGUNAKAN METODE TAGUCHI

INTISARI

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UMKM Keripik Pisang Bu Anne menghadapi tantangan dalam menjaga konsistensi kualitas produk, terutama pada aspek tekstur, ketebalan, dan warna. Penelitian ini bertujuan untuk melakukan perbaikan kualitas keripik pisang dengan menggunakan pendekatan *Design of Experiment* (DoE) metode Taguchi. Metode Taguchi pada penelitian ini menggunakan 3 level faktor dan 4 variasi sehingga *Orthogonal Array* yang digunakan adalah L9(3^4). Pengujian dilakukan analisis statistik menggunakan *two-way* ANOVA. Sampel diperoleh melalui teknik *simple random sampling,* untuk kemudian diuji parameter persentase keutuhan, kadar air, kadar abu, kadar lemak, warna, tekstur, dan *Total Plate Count* (TPC) dan Data yang diperoleh diolah menggunakan bantuan Microsoft Excel dan Minitab versi 19.1. Sampel sebelum perlakuan memiliki persentase keutuhan sebesar 98%, kadar air 2,41%, kadar abu 0,81%, kadar lemak 37%, warna L* 76,67; a* -4,57; b* 38,29; tekstur 64 gf/mm^2; serta tidak ditemukan bakteri dan kapang. Setelah dilakukan perlakuan, terjadi peningkatan mutu, antara lain persentase keutuhan menjadi 99%, kadar air 2,31%, kadar abu 1,06%, kadar lemak 25%, warna L* 64,66; a* -1,54; b* 36,10; dan tekstur meningkat menjadi 241 gf/mm^2, akan tetapi ditemukan mikrobia di pengujian 1 dan 7 yang masih berada di bawah ambang SNI. Melalui analisis *Grey Relational Analysis* (GRA), diperoleh kombinasi perlakuan terbaik, yaitu lama perendaman 15 menit, penggorengan 5 menit, penirisan 2 menit, dan penggunaan 20 gram garam. Kombinasi ini terbukti mampu meningkatkan karakteristik sensoris produk secara keseluruhan. Hasil uji konfirmasi yang dilakukan juga menunjukan pengujian prediksi dan konfirmasi beririsan atau tumpang tindih seluruhnya. Nilai ini menandakan pengujian yang dilakukan menghasilkan nilai yang terkonfirmasi.

Kata kunci: Keripik Pisang, Metode Taguchi, Mutu Biologis dan Sensoris, UMKM

IMPROVING THE QUALITY OF BANANA CHIPS BASED ON SENSORY CHARACTERISTICS USING THE TAGUCHI METHOD

ABSTRACT

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Bu Anne's Banana Chips UMKM faces challenges in maintaining product quality consistency, especially in terms of texture, thickness, and color. This study aims to improve the quality of banana chips using the Taguchi method Design of Experiment (DoE) approach. The Taguchi method in this study uses 3 levels of factors and 4 variations so that the Orthogonal Array used is L9 (34). The test was carried out using statistical analysis using two-way ANOVA. Samples were obtained through simple random sampling techniques, then tested for the percentage of intactness, water content, ash content, fat content, color, texture, and Total Plate Count (TPC) parameters and the data obtained were processed using Microsoft Excel and Minitab version 19.1. The sample before treatment had a percentage of intactness of 98%, water content of 2.41%, ash content of 0.81%, fat content of 37%, color L * 76.67; a * -4.57; b * 38.29; texture 64 gf /mm^2; and no bacteria and mold were found. After the treatment, there was an increase in quality, including the percentage of intactness to 99%, water content 2.31%, ash content 1.06%, fat content 25%, color L* 64.66; a* -1.54; b* 36.10; and texture increased to 241 gf/mm^2. Through the analysis of Gray Relational Analysis (GRA), the best combination of treatments was obtained, namely a soaking time of 15 minutes, frying for 5 minutes, draining for 2 minutes, and the use of 20 grams of salt. This combination has been proven to be able to improve the overall sensory characteristics of the product. The results of the confirmation test also showed that the prediction and confirmation tests overlapped or overlapped entirely. This value indicates that the test produced a confirmed value.

Keywords: Banana, Banana Chips, Sensory, Taguchi Method