

ABSTRAK

Perkembangan industri pengolahan perikanan menuntut modernisasi dan efisiensi guna meningkatkan kualitas produk, sejalan dengan *Sustainable Development Goals* (SDGs) 9 (Industri, Inovasi, Infrastruktur) dan 12 (Konsumsi dan Produksi yang Bertanggung Jawab) untuk meminimalkan *food loss*. PT. XYZ, eksportir ikan teri kering ke Jepang, menghadapi 15-19% produk cacat pada akhir 2025 akibat kadar air ($>43\%$) dan garam ($>10\%$) yang melebihi standar. Penelitian ini bertujuan menentukan kombinasi parameter produksi optimal guna menekan kecacatan menggunakan Metode Taguchi. Eksperimen dirancang dengan matriks *Orthogonal Array* $L_4 (2^2)$ dan tiga pengulangan (*triplo*). Faktor kontrol meliputi lama perebusan (3 dan 5 menit) serta konsentrasi garam (6% dan 7%), sedangkan lama pengeringan menjadi faktor gangguan. Kualitas dievaluasi menggunakan *Signal-to-Noise Ratio* (SNR) dan *Analysis of Variance* (ANOVA). Hasil ANOVA membuktikan lama perebusan dan konsentrasi garam berpengaruh signifikan terhadap seluruh parameter mutu ($p\text{-value} \leq 0,05$). Kombinasi optimal diperoleh pada perlakuan A_1B_1 (perebusan 3 menit, garam 6%). Eksperimen konfirmasi membuktikan kualitas yang konsisten dengan kadar air 36,93%, kadar garam 8,67%, serta skor warna dan bau 9 (kriteria A). Inovasi efisiensi waktu perebusan ini berhasil menghemat energi (SDGs 9) dan valid menekan produk cacat untuk mencegah pemborosan sumber daya (SDGs 12), sehingga produk memenuhi standar ekspor global.

Kata kunci : Ikan Teri Kering, Optimasi Parameter, Pengendalian Kualitas, Metode Taguchi, SDGs 9, SDGs 12.

ABSTRAC

The development of the fisheries processing industry requires modernization and efficiency to improve product quality, in line with Sustainable Development Goals (SDGs) 9 (Industry, Innovation, Infrastructure) and 12 (Responsible Consumption and Production) to minimize food loss. PT. XYZ, the exporter of dried anchovies to Japan, faces 15-19% of defective products by the end of 2025 due to exceeding the moisture (>43%) and salt (>10%) content. This study aims to determine the optimal combination of production parameters to reduce defects using the Taguchi Method. The experiment was designed with an Orthogonal Array matrix L4 (22) and three repetitions (triplo). Control factors include boiling time (3 and 5 minutes) and salt concentration (6% and 7%), while drying time is a nuisance factor. Quality was evaluated using Signal-to-Noise Ratio (SNR) and Analysis of Variance (ANOVA). The results of ANOVA proved that the boiling time and salt concentration had a significant effect on all quality parameters ($p\text{-value} \leq 0.05$). The optimal combination is obtained in the A1B1 treatment (3-minute boiling, 6% salt). The confirmation experiment proved consistent quality with a moisture content of 36.93%, a salt content of 8.67%, and a color and odor score of 9 (criterion A). This boiling time efficiency innovation has succeeded in saving energy (SDGs 9) and validly suppressing defective products to prevent waste of resources (SDGs 12), so that products meet global export standards.

Keywords : *Dried Anchovies, Parameter Optimization, Quality Control, Taguchi Method, SDGs 9, SDGs 12.*