

RINGKASAN

Achmad alfianzah, Analisis Karakteristik Mutu Dan Kelayakan Finansial Sabun Cuci Piring Berbahan Baku Ekstrak Kulit Buah Pisang, Dibawah bimbingan dosen utama, Danu Indra Wardhana, S.TP., M.P. dan Andika Putra Setiawan, S.ST., M.T.

Penelitian berdasarkan oleh tingginya produksi pisang di Kabupaten Lumajang yang menghasilkan limbah kulit pisang dalam jumlah besar dan belum dimanfaatkan secara optimal. Padahal, kulit pisang mengandung senyawa aktif seperti saponin, flavonoid, dan tanin yang berpotensi dimanfaatkan sebagai bahan alami pembersih. Pemanfaatan limbah kulit pisang sebagai bahan baku sabun cuci piring diharapkan dapat memberikan nilai tambah ekonomi sekaligus mengurangi pencemaran lingkungan akibat limbah organik.

Metode penelitian dilakukan melalui pembuatan sabun cuci piring dengan tiga variasi konsentrasi ekstrak kulit pisang kirana, yaitu 30%, 40%, dan 50%. Produk yang dihasilkan kemudian diuji karakteristik mutunya melalui pengujian pH, viskositas, daya tinggi busa, ketahanan busa, dan organoleptik. Selain itu, dilakukan analisis kelayakan finansial yang meliputi biaya produksi, harga jual, pendapatan, keuntungan, *Break Even Point* (BEP), *Revenue Cost Ratio* (R/C Ratio), *Net Present Value* (NPV), *Internal Rate of Return* (IRR), dan *Payback Period* (PBP).

Hasil penelitian menunjukkan bahwa variasi konsentrasi ekstrak kulit pisang kirana memberikan pengaruh terhadap karakteristik mutu sabun cuci piring yang dihasilkan. Peningkatan konsentrasi ekstrak memengaruhi nilai pH, viskositas, daya tinggi busa, ketahanan busa serta tingkat penerimaan panelis terhadap produk. Pemanfaatan kulit pisang kirana sebagai bahan baku sabun cuci piring menunjukkan potensi yang baik karena kandungan senyawa aktif yang dimiliki mampu mendukung fungsi pembersihan dan pembentukan busa pada produk. Berdasarkan hasil penelitian dapat disimpulkan bahwa ekstrak kulit pisang kirana dapat dimanfaatkan sebagai bahan baku sabun cuci piring dengan formulasi yang menghasilkan karakteristik mutu yang baik. Produk yang dihasilkan memiliki nilai pH 6,5, viskositas 47,92, daya tinggi busa 7,0cm, dan tingkat penerimaan konsumen yang sesuai sehingga berpotensi dikembangkan sebagai produk pembersih rumah tangga berbasis bahan alami dan ramah lingkungan. Selain itu, hasil analisis kelayakan finansial menunjukkan bahwa usaha sabun cuci piring

berbahan baku ekstrak kulit pisang kirana layak untuk dikembangkan. Nilai indikator kelayakan usaha, meliputi BEP 57,970, R/C Ratio 1,17, NPV1.574.769.597, IRR 51,136, dan *Payback Period* 3,61 menunjukkan bahwa usaha mampu memberikan keuntungan dan pengembalian modal dalam waktu yang relatif cepat, sehingga berpotensi menjadi alternatif usaha agroindustri berbasis pemanfaatan limbah pertanian yang bernilai ekonomi dan berkelanjutan.

Kata kunci: Agroindustri, Karakteristik Mutu, Kelayakan Finansial, Kulit Pisang Kirana, Sabun Cuci Piring.



SUMMARY

Achmad Alfianzah, Analysis of Quality Characteristics and Financial Feasibility of Dishwashing Liquid Made from Banana Peel Extract, under the supervision of primary supervisors Danu Indra Wardhana, S.TP., M.P. and Andika Putra Setiawan, S.ST., M.T.

This study was motivated by the high production of bananas in Lumajang Regency, which generates a large amount of banana peel waste that has not been optimally utilized. Banana peels contain active compounds such as saponins, flavonoids, and tannins, which have the potential to be used as natural cleaning agents. The utilization of banana peel waste as a raw material for dishwashing liquid is expected to provide economic added value while reducing environmental pollution caused by organic waste.

The research method involved the production of dishwashing liquid using three concentrations of Kirana banana peel extract, namely 30%, 40%, and 50%. The resulting products were evaluated for their quality characteristics through tests of pH, viscosity, foam height, foam stability, and organoleptic properties. In addition, a financial feasibility analysis was conducted, including production costs, selling price, revenue, profit, Break-Even Point (BEP), Revenue-Cost Ratio (R/C Ratio), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PBP).

The results showed that variations in the concentration of Kirana banana peel extract affected the quality characteristics of the dishwashing liquid produced. Increasing the extract concentration influenced pH value, viscosity, foam height, foam stability, and panelists' acceptance of the product. The utilization of Kirana banana peels as a raw material for dishwashing liquid demonstrated good potential because the active compounds contained in the peels supported the cleaning function and foam formation of the product.

Based on the research findings, it can be concluded that Kirana banana peel extract can be utilized as a raw material for dishwashing liquid formulations that produce desirable quality characteristics. The resulting product exhibited appropriate pH 6,5, viscosity 47,92, foam height 7,0cm, and consumer acceptance, indicating its potential for development as an environmentally friendly household cleaning

product based on natural ingredients. Furthermore, the financial feasibility analysis indicated that the dishwashing liquid business utilizing Kirana banana peel extract is feasible to develop. The feasibility indicators, including BEP 57,970, R/C Ratio 1,17, NPV1.574.769.597, IRR 51,136, dan Payback Period 3,61, demonstrated that the business is capable of generating profits and recovering investment within a relatively short period, making it a promising alternative agro-industrial venture based on the utilization of agricultural waste with economic value and sustainability.

Keywords: *Agroindustry, Quality Characteristics, Financial Feasibility, Kirana Banana Peel, Dishwashing Liquid.*

