ABSTRACT

This study aims to analyze the optimal production combination to increase efficiency and profit in the Putra Malaka Chips Agroindustry located in Paya Dua Village, Banda Baro Subdistrict, North Aceh Regency. The research applied a quantitative descriptive method using the Linear Programming approach with the Simplex method and POM-QM for Windows software. The analysis focused on four main products: sweet banana chips (X_1), salty banana chips (X_2), cassava chips (X_3), and potato chips (X_4). The results showed that actual daily profit was Rp.4.692.718,51, which increased to Rp. 5.065.643,99 after optimization. The optimal production consisted of 68,08 kg of salty banana chips, 34,98 kg of cassava chips, and 20 kg of potato chips, while sweet banana chips were excluded due to their low profit coefficient. Sensitivity analysis indicated that potato chips had the highest profit coefficient Rp.92,206.99/kg, making them the most strategic product. The study concludes that linear programming is effective in optimizing production and resource allocation in multi product agroindustries.

Keywords: *Production optimization, linear programming, agroindustry, profitability, POM-QM, Putra Malaka*