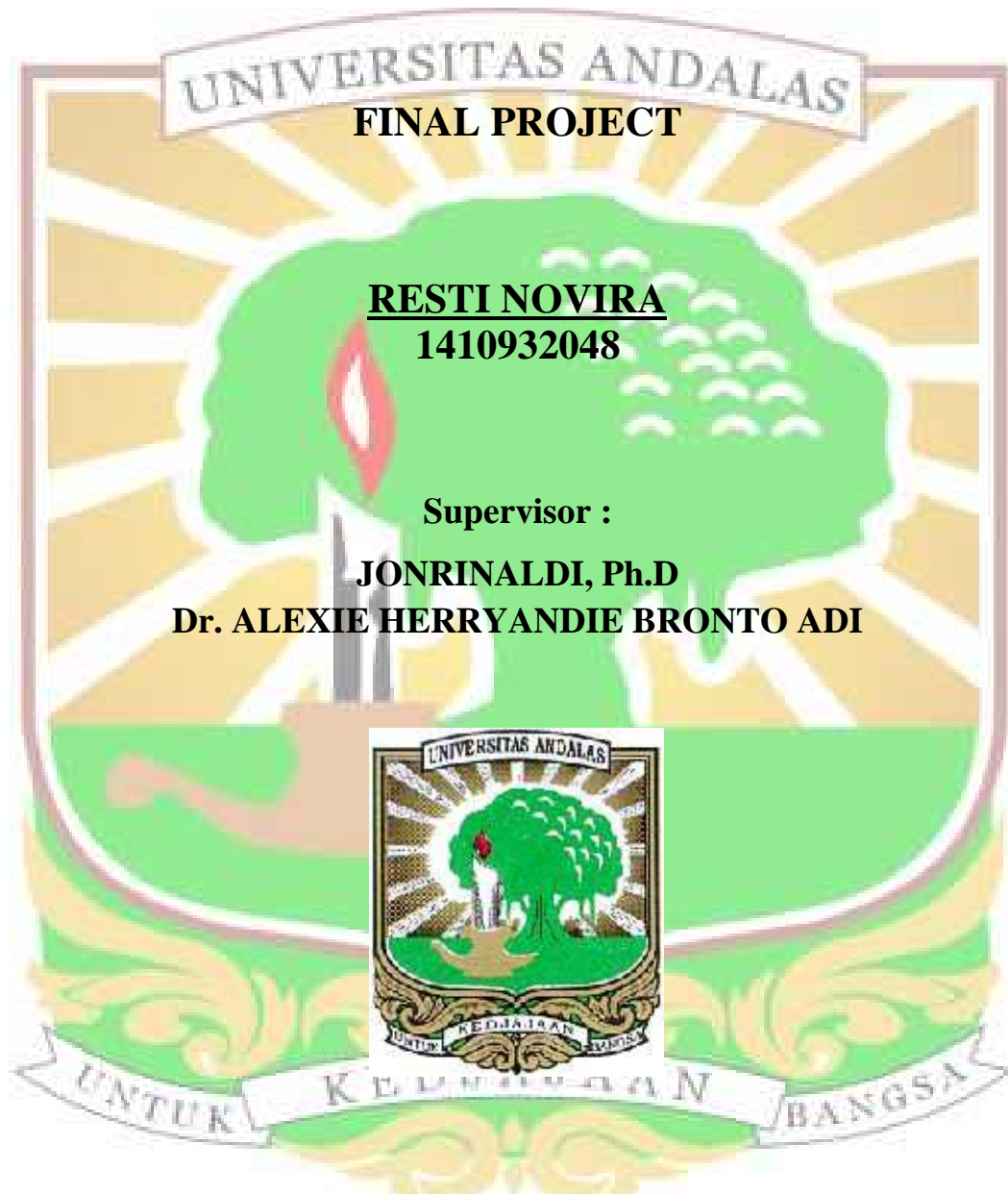


**CHILI SAUCE PRODUCTION PLANNING MODEL
TO MAXIMIZE THE PROFIT CONSIDERING SWEET
POTATO AVAILABILITY AS MAIN RAW
MATERIAL AT PT BINA USAHA KELUARGA SEDEP
ROSO**



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ABSTRACT

PT Bina Usaha Keluarga Sedep Roso is one of agroindustry located in Padang that produce chili sauce and soy sauce. Chili sauce and soy sauce main ingredients are sweet potato and black soybean, respectively. Both chili sauce and soy sauce have a broad market in West Sumatera. The problem happens in the chili sauce production that the demand of chili sauce has not fulfilled by the company's production because of seasonal and perishable properties of the sweet potato. This study addresses the suggestion of new production planning of chili sauce to maximize the total profit of chili sauce considering the sweet potato availability for the company. The chili sauce production planning resolved by using a nonlinear programming model to obtain the optimal solution to allocate the available resources with given constraints, that have been developed in the form of the mathematical model. Application of the model was performed using LINGO software. The mathematical model analysis and sensitivity analysis also presented in this study. The results of the new production planning that have been proposed show that the profit increased approximately Rp 1.534.057.981,- until Rp 1.646.134.669,- and the service level increased approximately 16 - 17 percent compared with the existing policy.

Keywords: *agroindustry, nonlinear programming, mathematical model, production planning model*

