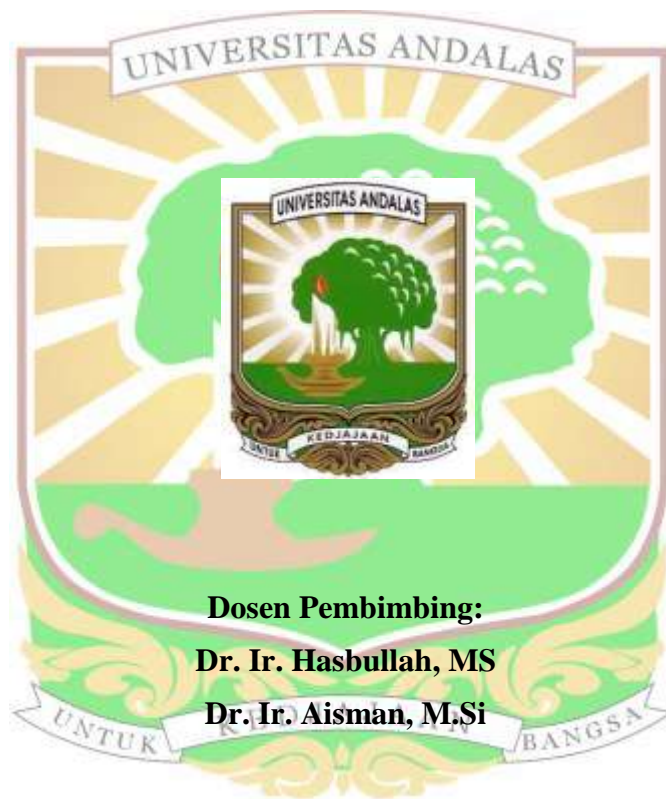


**PENGARUH SUHU PEMANASAN PADA EVAPORASI NIRA  
AREN (*Arenga pinnata*) MENJADI GULA CAIR  
DENGAN MENGGUNAKAN METODE *OPEN PAN* YANG  
DIMODIFIKASI**

**HELMITAR YULIA  
2111126001**



**Dosen Pembimbing:  
Dr. Ir. Hasbullah, MS  
Dr. Ir. Aisman, M.Si**

**FAKULTAS TEKNOLOGI PERTANIAN  
UNIVERSITAS ANDALAS  
PADANG  
2023**

# The Effect of Heating Temperature on the Evaporation of Palm Nira (*Arenga pinnata*) into Liquid Sugar Using a Modified Open Pan Method

Helmitar Yulia, Hasbullah, Aisman

## ABSTRACT

This study aims to determine the effect of heating temperature on liquid palm sugar which is evaporated using a modified open pan and to determine the best processing temperature for the resulting palm liquid sugar. This study used a CRD with 3 treatments and 3 replications. The treatment used in this study was heating temperature, namely 70°C (A), 80°C (B), 90°C (C). The data obtained was analyzed by Anova and then continued with DNMRT analysis at the 5% level. The results showed that the processing temperature had a significant effect on the level of acidity (pH), degree of brix, viscosity, color, water activity (Aw), yield, water content, reducing sugar, total sugar, organoleptic properties (color brightness rating, sap aroma, aroma caramel, thickness; and preference for color and flavor) resulting liquid sugar. Heating at a higher temperature will speed up the evaporation process, but at 90°C the characteristics of liquid sugar tend to decrease. The best treatment based on chemical, physical and organoleptic properties was treatment B (temperature 70 0C) with a value of degree of acidity (pH) 8.29; degree brix 75; Viscosity 266.33 MPas; °hue color 86,60 (yellow red); water activity (aw) 0.69; yield 13.30 %; water content 28.76%; ash content 1.66 %; reducing sugar 1.61 %; total sugar 63.35 %; total plate number  $7.8 \times 10^2$  CFU/g; organoleptic ratings of color brightness, sap aroma, caramel aroma, thickness, and sweetness were 1.9, 2.5, 2.7, 3.2, and 2.6 respectively; color description is chocolate; and preferences for color, aroma, viscosity, and taste were 4.15 (like), 3.80 (like), 3.40 (like) and 3.55 (like).

**Keywords:** evaporation, liquid sugar, open pan method, palm sap

