

# The Effect of Adding Albedo Watermelon (*Citrullus lanatus*) Juice on the Chemical Properties of Marshmallow with Sorbitol Sweetener

Tiara Amanda Lestari<sup>1</sup>, Wilna Iznillillah<sup>2</sup>, Distya Riski Hapsari<sup>3</sup>, Sapira Aprilia<sup>4</sup>

<sup>1</sup>, Djuanda University, Indonesia ;

<sup>2</sup>, Djuanda University, Indonesia ;

<sup>3</sup>, Djuanda University, Indonesia ;

<sup>4</sup>, Djuanda University, Indonesia ;

1; 2; 3; 4;

---

## Abstract

**Background** - Albedo of watermelon contains quite high pectin, so it has the potential to be used as a substitute for gelling ingredients in marshmallow products. Sorbitol is used as an alternative to sucrose in marshmallows.

**Purpose** - This research aims to obtain the best comparison between albedo watermelon juice and gelatin to making marshmallows with sorbitol sweetener based on their chemical properties

**methodology** - This research used a completely randomized design with one factor, namely the comparison of watermelon albedo juice and gelatin (A) with 4 treatment levels, namely A1= 0% ; 100% ; A2= 10% ; 90% ; A3= 20% ; 80% ; and A4= 30% ; 70% with two repetitions for each level. The resulting marshmallow products will undergo chemical testing including water content, ash content, crude fiber and reducing sugar. Data analysis in this study used the SPSS 25 program with statistical tests, namely the variance test (ANOVA) and then continue with the Duncan test at a 95% confidence interval (level  $\alpha = 0.05$ ).

**Findings** - The research results showed that different concentrations of added albedo watermelon juice and gelatin did not have a significant effect on the response of water content, ash and crude fiber of marshmallows, but had a significant effect on the response of reducing sugar. The resulting marshmallows have a water content ranging from 27.866% - 38.958%, ash content 1.111% - 1.357%, crude fiber content 2.889% - 5.997% and reducing sugar 12.559% - 29.500%.

**Originality** - Based on the results obtained, it can be concluded that watermelon albedo has the potential to be used as a substitute for gelatin as a gelling agent in making marshmallows

Keywords: marshmallow, watermelon albedo, pectin, gelatin, sorbitol

---