## ABSTRACT

### THE EFFECT OF LEMON CONCENTRATION (*Citrus limon*) ON PH, TOTAL SOLUBLE SOLIDS, AND QUALITY OF SENSORY OF THE LIQUID SUGAR PALM SAP

**By**

**WANDA RAHMA AZZAHRA**

Palm sugar is unique compared to other types of sugar because it has a low glycemic index and a distinctive flavor and aroma. Liquid palm sugar has various advantages such as a quick, practical solution, and a more attractive appearance. The prospect of using palm liquid sugar was high potential, as the demand for natural and healthy sweeteners increases. The use of natural food additives such as lemon chunks in the manufacture of palm liquid sugar can be done to improve sensory quality with a variant of sour taste and improve the physiological function of palm liquid sugar products. The purpose of this study was to determine the effect of adding different concentrations of lemon chunks on the sensory properties of palm liquid sugar and to determine the concentration of lemon chunks that produces palm liquid sugar with the best sensory properties. The research was conducted with a non-factorial Randomized Complete Group Design (RCGD) consisting of 6 levels with 4 replications. The factors used were lemon chunks concentration, namely F0 (0% lemon), F1 (5% lemon), F2 (10% lemon), F3 (15% lemon), F4 (20% lemon), and F5 (25% lemon). The results showed that the addition of lemon pieces affected the pH, total soluble solids, and sensory properties of palm liquid sugar. The best treatment for palm liquid sugar is the F2 (lemon 10%) with a brix value of 62.630 brix, pH 5.52, lightness 50.63, a* 4.50, b* 15.58, color score 2.8; sweetness score 3.6; sourness score 2.9; bitter aftertaste 2.6; aroma score 3; and appearance score 4.4.



Keywords: lemon, palm liquid sugar, sensory.

## ABSTRACT

**PENGARUH KONSENTRASI LEMON (*Citrus limon*) TERHADAP PH, TOTAL PADATAN TERLARUT, DAN MUTU SENSORI GULA CAIR NIRA AREN**

**Oleh**

**WANDA RAHMA AZZAHRA**

Gula aren memiliki keunikan tersendiri dibandingkan dengan jenis gula lainnya karena memiliki indeks glikemik rendah dan citarasa serta aroma harum yang khas. Gula cair aren memiliki berbagai keuntungan seperti cepat larutan praktis, dan tampilan lebih menarik. Prospek penggunaan gula cair aren sangat potensial, seiring meningkatnya permintaan akan pemanis alami dan sehat. Penggunaan bahan tambahan pangan alami seperti potongan lemon pada pembuatan gula cair aren dapat dilakukan untuk meningkatkan mutu sensori dengan adanya varian rasa asam serta meningkatkan fungsi fisiologis produk gula cair aren. Tujuan penelitian ini adalah untuk mengetahui pengaruh penambahan konsentrasi potongan lemon yang berbeda terhadap sifat sensori gula cair aren serta mengetahui konsentrasi potongan lemon yang menghasilkan gula cair aren dengan sifat sensori terbaik. Penelitian dilakukan dengan Rancangan Acak Kelompok Lengkap (RAKL) secara non faktorial yang terdiri dari 6 taraf dengan 4 kali ulangan. Faktor yang digunakan berupa konsentrasi potongan lemon yaitu $F_0$ (lemon 0%), $F_1$ (lemon 5%), $F_2$ (Lemon 10%), $F_3$ (Lemon 15%), $F_4$ (Lemon 20%), dan $F_5$ (Lemon 25%). Hasil penelitian menunjukkan bahwa penambahan potongan lemon berpengaruh terhadap, pH, total padatan terlarut, dan sifat sensori gula cair aren. Gula cair aren perlakuan terbaik adalah perlakuan $F_2$ (lemon 10%) dengan nilai brix 62,63$^0$ brix, pH 5,52, *lightness* 50,63, a* 4,50, b* 15,58, skor warna 2,8; skor manis 3,6; rasa asam 2,9; *aftertaste* pahit 2,6; skor aroma 3; dan skor penampakan/penampilan 4,4.



Kata kunci: gula cair aren, lemon, sensori.