

**PENGARUH KONSENTRASI GULA PASIR TERHADAP TOTAL MIKROBA, TOTAL KHAMIR DAN ORGANOLEPTIK KOMBUCHA SARI BUAH APHEL MANALAGI**

*[The Effect of Sugar's Concentration on Total Plate Count, Total Yeast and Organoleptics of Manalagi Apple Juice Kombucha]*

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**ABSTRACT**

*Kombucha is one of the traditional beverage products produced from fermenting tea and sugar using a starter called SCOBY (Symbiotic Culture of Bacteria and Yeast) with a fermentation time of 8 days. This research was to determine the effect of sugar's concentration on total plate count, total yeast, total acid, antioxidant activity and organoleptic (color, aroma and taste) of manalagi apple juice kombucha. This study used a completely randomized design (CRD) with one factor, i.e. the addition of sugar's concentration of 0%, 5%, 10%, 15%, 20% and 25% that repeated 3 times. Thus, 18 experimental units were obtained. The parameters tested were total plate count, total yeast, total acid, antioxidant activity and organoleptic quality which included color, aroma and taste. From the observed data, the variance was analyzed (ANOVA) with a significance level of 5% using the Co-Stat application. If there was significant difference, further tests were carried out with the Orthogonal Polynomial Method and Honestly Significant Difference tests. The results showed that the level of sugar had a significantly different effect on total plate count, total yeast, total acid, antioxidant activity and organoleptic quality including color (scoring and hedonic), aroma (scoring and hedonic), taste (scoring and hedonic). The best recommended result was the addition of sugar's concentration of 15% seen from the organoleptic parameters of color and taste (scoring and hedonic) because it produced manalagi apple juice kombucha with a slightly yellow color, slightly sour taste and preferred by the panelists with 6.60% of total plate count, 8.29% of total yeast, 0.753% of total acid and 30.30% of antioxidant activity.*

**Keywords:** juice, kombucha, manalagi apple, sugar.

**ABSTRAK**

Kombucha merupakan salah satu produk minuman tradisional yang dihasilkan dari fermentasi teh dan gula dengan menggunakan starter yang disebut SCOBY (*Symbiotic Culture of Bacteria and Yeast*) dengan waktu fermentasi selama 8 hari. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi gula pasir terhadap total mikroba, total khamir, total asam, aktivitas antioksidan dan organoleptik (warna, aroma dan rasa) kombucha sari buah apel manalagi. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan satu faktor, yaitu penambahan konsentrasi gula pasir 0%, 5%, 10%, 15%, 20% dan 25% yang diulang sebanyak 3 kali sehingga diperoleh 18 unit percobaan. Adapun parameter yang diuji adalah total mikroba, total khamir, total asam, aktivitas antioksidan dan mutu organoleptik yang meliputi warna, aroma dan rasa. Dari data hasil pengamatan dianalisis keragaman (ANOVA) dengan taraf nyata 5% dengan menggunakan aplikasi Co-Stat. Apabila terdapat perbedaan nyata, maka dilakukan uji lanjut dengan Metode Ortogonal Polinomial dan Beda Nyata Jujur. Hasil penelitian menunjukkan tingkat konsentrasi gula pasir memberikan pengaruh berbeda nyata terhadap total mikroba, total khamir, total asam, aktivitas antioksidan dan mutu organoleptik meliputi warna (scoring dan hedonik), aroma (scoring dan hedonik), rasa (scoring dan hedonik). Hasil terbaik yang direkomendasikan adalah penambahan konsentrasi gula pasir 15% dilihat dari parameter organoleptik warna dan rasa (scoring dan hedonik) karena menghasilkan kombucha sari buah apel manalagi dengan karakteristik berwarna agak kuning, berasa agak asam dan agak disukai oleh panelis dengan nilai total mikroba 6,60%, total khamir 8,29%, total asam 0,753% dan aktivitas antioksidan 30,30%.

**Kata kunci:** apel manalagi, gula pasir, kombucha, sari buah.