

ABSTRAK

Karin Veronika (01034210050)

PENGARUH VARIASI KONSENTRASI SUKROSA TERHADAP KARAKTERISTIK MUTU DAN EVALUASI SENSORI BIR

Skripsi, Fakultas Sains dan Teknologi (2025)

(xvi+99 halaman, ; 43 gambar; 7 tabel 10 lampiran)

Bir merupakan salah satu minuman beralkohol hasil fermentasi yang telah dikonsumsi secara luas di berbagai negara. Salah satu bahan utama dalam pembuatan bir adalah *malt barley*, yang harganya relatif mahal. Untuk mengurangi biaya produksi tanpa mengorbankan mutu produk, diperlukan inovasi dalam formulasi bahan baku, salah satunya dengan mengganti sebagian *wort* menggunakan sukrosa. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi sukrosa terhadap karakteristik fisikokimia dan sensori bir. Perlakuan terdiri atas lima variasi konsentrasi, yaitu 0%, 2.5%, 5%, 7.5% dan 10%. Pengamatan dilakukan pada hari ke-0, ke-7, ke-14 fermentasi, dan setelah tahap maturasi. Parameter yang dianalisis meliputi berat jenis, kadar alkohol, pH, total padatan terlarut, warna, kekeruhan, dan kepahitan, serta evaluasi sensori melalui uji skoring dan hedonik. Hasil penelitian menunjukkan bahwa peningkatan konsentrasi sukrosa memberikan pengaruh nyata terhadap seluruh parameter fisikokimia yang diamati. Bir dengan konsentrasi sukrosa 2.5% terpilih sebagai perlakuan terbaik dengan kadar alkohol sebesar $9,46 \pm 1,0584$ %, nilai pH akhir $4,41 \pm 0,0583$, total padatan terlarut sebesar $9,6 \pm 0,7609$ °Brix, serta kepahitan sebesar $20,16 \pm 0,3930$ IBU, Warna bir sebesar $9,79 \pm 1,5637$ EBC dan kekeruhan sebesar $0,04 \pm 0,0122$. Dengan demikian, penambahan sukrosa dapat meningkatkan karakteristik bir, namun formulasi optimal perlu mempertimbangkan keseimbangan antara kualitas teknis dan preferensi konsumen.

Kata Kunci : bir, fermentasi, substitusi wort, sukrosa, wort

Referensi : 128 (2006-2024)

ABSTRACT

Karin Veronika (0103421005)

THE EFFECT OF SUCROSE CONCENTRATION VARIATION ON QUALITY CHARACTERISTICS AND SENSORY EVALUATION OF BEER

Thesis, Faculty of Science and Technology (2025)

(xvi + 99 pages; 43 figures; 7 tables; 10 appendices)

Beer is one of the most widely consumed alcoholic beverages around the world, produced through fermentation. One of the main ingredients in beer production is malted barley, which is relatively expensive. To reduce production costs without compromising product quality, innovations in raw material formulation are necessary, including partially substituting wort with sucrose. This study aims to investigate the effect of varying sucrose concentrations on the physicochemical and sensory characteristics of beer. The treatments consisted of five different sucrose concentrations: 0%, 2.5%, 5%, 7.5%, and 10%. Observations were conducted on days 0, 7, and 14 of fermentation, as well as after maturation. The parameters analyzed included specific gravity, alcohol content, pH, total soluble solids, color, turbidity, bitterness, and sensory evaluation through scoring and hedonic tests. The results showed that increasing sucrose concentration had a significant effect on all observed physicochemical parameters. Beer with 2.5% sucrose was selected as the best treatment, with an alcohol content of $9.46 \pm 1.0584\%$, final pH of 4.41 ± 0.0583 , total soluble solids of 9.6 ± 0.7609 °Brix, bitterness of 20.16 ± 0.3930 IBU, color of 9.79 ± 1.5637 EBC, and turbidity of 0.04 ± 0.0122 . Thus, sucrose addition can improve beer characteristics, although the optimal formulation should balance technical quality and consumer preference.

Keywords : beer, fermentation, sucrose, wort, wort substitution

Reference : 128 (2006-2024)