

ABSTRAK

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PEMANFAATAN KULIT JERUK MANIS (*Citrus sinensis*) UNTUK MENINGKATKAN NILAI FUNGSIONAL BIR JENIS ALE
Skripsi, Fakultas Sains dan Teknologi (2020)

(xiv + 54 halaman : 2 tabel, 8 gambar, dan 6 lampiran)

Kulit jeruk merupakan limbah produk olahan jeruk yang memiliki komponen bioaktif. Penelitian ini dilakukan untuk mengetahui pengaruh penambahan kulit jeruk terhadap sifat fungsional bir *ale* berdasarkan pH, total padatan terlarut, kadar alkohol, total senyawa fenolik, dan total senyawa flavonoid. Bir *ale* dibuat dengan waktu perebusan (10, 20, 30, 40, 50 menit) dan waktu fermentasi (5, 7, 9, 11, 13 hari). Ragi yang digunakan adalah *Saccharomyces cerevisiae*. Perlakuan waktu perebusan 30 menit dan waktu fermentasi 9 hari adalah proses pembuatan bir *ale* terpilih berdasarkan pH, kadar alkohol, total senyawa fenolik, dan flavonoid. Estimasi penambahan kulit jeruk terhadap karakteristik bir *ale* ditentukan berdasarkan studi pustaka. Penambahan kulit jeruk diperkirakan tidak merubah nilai *bitterness* dan kadar alkohol bir *ale*. Penambahan kulit jeruk diperkirakan dapat menurunkan total padatan terlarut bir *ale*. Penambahan kulit jeruk diperkirakan dapat meningkatkan pH, total senyawa fenolik, total senyawa flavonoid, aktivitas antioksidan, evaluasi sensori, dan identifikasi senyawa fenolik bir *ale*. Dengan demikian dapat dikatakan bahwa penambahan kulit jeruk diperkirakan dapat meningkatkan nilai fungsional bir *ale*.

Kata Kunci: Bir *ale*, kulit jeruk, *Saccharomyces cerevisiae*

Referensi: 76 (1995-2020)

ABSTRACT

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UTILIZATION OF SWEET ORANGE PEEL (*Citrus sinensis*) TO INCREASE FUNCTIONAL VALUE OF ALE BEER

Thesis, Faculty of Sains and Technology (2020)

(xiv + 54 pages : 2 tables, 8 figures, and 6 appendices)

Orange peel is a waste from orange processed products which contains bioactive compounds. The objective of this research is to determine the effect of orange peel addition on ale beer's functional value based on pH value, total soluble solid, alcohol content, total phenolic compounds, and total flavonoid compounds. Ale beer was made at boiling time (10, 20, 30, 40, 50 minutes) and fermentation time (5, 7, 9, 11, 13 days). *Saccharomyces cerevisiae* was used as yeast. 30 minutes of boiling time and 9 days of fermentation time was the chosen treatment based on pH value, alcohol content, total phenolic compounds, and total flavonoid compounds. Estimation of orange peel addition on ale beer's characteristics was determined by literature review. Orange peel addition was predicted didn't change the value of bitterness and alcohol content of ale beer. Orange peel addition was predicted to decrease total soluble solid of ale beer. Orange peel addition was predicted to increase pH, total phenolic compounds, total flavonoid compounds, antioxidant activity, sensory evaluation, and identification of phenolic compounds of ale beer. The research conclude that orange peel addition was predicted to increase functional value of ale beer.

Keyword : Ale beer, orange peel, *Saccharomyces cerevisiae*

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