

ABSTRAK

Rezadi Setyo Chandrawimba, “pH dan Jumlah Asam Laktat Kefir dengan Penambahan Ekstrak Kayu Secang (*Caesalpinia sappan* L.)”. Kayu secang mempunyai kelebihan yaitu sebagai pewarna alami dan sumber antioksidan dengan karakteristik yang dapat dievaluasi dari pH dan jumlah asam laktat. Penelitian telah dilaksanakan secara eksperimental menggunakan RAL, data yang diperoleh dianalisis variansi dan uji lanjut orthogonal polinomial, di Laboratorium Teknologi Hasil Ternak, Universitas Jenderal Soedirman, tanggal 8 - 20 Juli 2025. Penelitian dilakukan untuk mengetahui pengaruh penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) dengan jumlah yang berbeda (0.1%; 0.3%; 0.5%; 0.7%; 0.9%) terhadap pH dan jumlah asam laktat pada kefir serta mengetahui penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) terbaik. Hasil penelitian menunjukkan perbedaan pH sangat nyata ($P < 0.01$) dengan rata-rata pH sebesar 4.74 ± 0.0074 . pH tertinggi diperoleh dengan penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) sebanyak 0.9% dengan hasil 4.46 ± 0.0027 dan pH terendah diperoleh dengan penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) sebanyak 0.1% dengan hasil 4.60 ± 0.0059 . Hasil penelitian menunjukkan perbedaan jumlah asam laktat sangat nyata ($P < 0.01$) dengan rata-rata jumlah asam laktat sebesar 7.77 ± 0.161 g/L. Jumlah asam laktat tertinggi diperoleh dengan penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) sebesar 0.1% dengan hasil 9.66 ± 0.121 g/L dan jumlah asam laktat terendah diperoleh dengan penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) 0.9% dengan hasil 6.52 ± 0.080 g/L. Kesimpulan penelitian yaitu penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) pada kefir mempengaruhi pH dan jumlah asam laktat.

Kata kunci : Produk olahan susu, fermentasi, kefir, pH, jumlah asam laktat

ABSTRACT

Rezadi Setyo Chandrawimba, “pH and Lactic Acid Content of Kefir with the Addition of Secang Wood Extract (*Caesalpinia sappan* L.).” Secang wood has advantages as a natural colorant and a source of antioxidants, with characteristics that can be evaluated based on pH and lactic acid content. The research was conducted experimentally using a Completely Randomized Design (CRD). The obtained data were analyzed using analysis of variance (ANOVA) and further tested with orthogonal polynomial analysis. The study took place at the Laboratory of Animal Product Technology, Jenderal Soedirman University, from July 8 to July 20, 2025. The study aimed to determine the effect of adding secang wood extract (*Caesalpinia sappan* L.) in different concentrations (0.1%; 0.3%; 0.5%; 0.7%; 0.9%) on the pH and lactic acid content of kefir, as well as to determine the optimal level of secang wood extract addition. The results showed a highly significant difference ($P < 0.01$) in pH, with an average pH value of 4.74 ± 0.0074 . The highest pH was obtained with 0.9% secang wood extract addition, resulting in 4.46 ± 0.0027 , while the lowest pH was found with 0.1% addition, resulting in 4.60 ± 0.0059 . The results also showed a highly significant difference ($P < 0.01$) in lactic acid content, with an average of 7.77 ± 0.161 g/L. The highest lactic acid content was obtained with 0.1% secang wood extract addition, resulting in 9.66 ± 0.121 g/L, while the lowest lactic acid content was obtained with 0.9% addition, resulting in 6.52 ± 0.080 g/L. In conclusion, the addition of secang wood extract (*Caesalpinia sappan* L.) to kefir affects both the pH and lactic acid content.

Keywords: Dairy products, fermentation, kefir, pH, lactic acid content

