

KUALITAS FISIKO-KIMIA, MIKROBIOLOGIS DAN SENSORIS KEFIR SUSU SAPI DENGAN PENAMBAHAN MADU BUNGA KALIANDRA (*Calliandra calothyrsus*) SELAMA PENYIMPANAN DINGIN

Nabila Safitri
19/443010/PT/08142

INTISARI

Penelitian ini bertujuan untuk mengetahui kualitas fisiko-kimia, mikrobiologis dan sensoris kefir susu sapi dengan penambahan madu bunga Kaliandra selama 14 hari penyimpanan pada suhu 4°C. Proses produksi kefir susu sapi dilakukan menggunakan inokulum kefir grain 5% (b/v) dan inkubasi pada suhu ruang selama 24 jam. Pasca inkubasi, ditambahkan madu bunga Kaliandra sebanyak 0 (kontrol), 6, 12, 18% (v/v) dan disimpan pada suhu 4°C selama 14 hari. Pengujian kualitas dilakukan pada hari ke-0, 7, dan 14 hari. Parameter yang diuji yaitu kualitas fisik (viskositas, sineresis), kualitas kimia (pH, kadar alkohol, kadar air, dan gula total), kualitas mikrobiologis (total yeast dan total bakteri asam laktat) dan kualitas sensoris (tekstur, warna, rasa, aroma, dan daya terima). Hasil penelitian dianalisis menggunakan analisis variansi pola faktorial (4x3) yaitu 4 level madu bunga Kaliandra, dan 3 level hari penyimpanan, hasil signifikan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT). Uji sensoris dianalisis menggunakan *Kruskal Wallis* dan hasil signifikan dilanjutkan dengan *Mann-Whitney*. Hasil analisis didapatkan bahwa perbedaan konsentrasi madu berpengaruh sangat nyata ($P < 0,01$) terhadap kadar gula total serta berpengaruh nyata ($P < 0,05$) terhadap pH, sineresis, dan kadar alkohol. Lama penyimpanan berpengaruh sangat nyata ($P < 0,01$) terhadap pH dan kadar gula total dan berpengaruh nyata ($P < 0,05$) terhadap viskositas, sineresis, kadar alkohol, total BAL, dan total yeast. Terdapat interaksi sangat nyata ($P < 0,01$) antara perbedaan konsentrasi madu dan lama penyimpanan terhadap kadar gula total, dan terdapat interaksi nyata ($P < 0,05$) terhadap kadar alkohol. Hasil analisis uji sensoris didapatkan bahwa perbedaan konsentrasi madu berpengaruh sangat nyata ($P < 0,01$) terhadap tingkat kesukaan konsumen pada parameter rasa dan daya terima. Hasil penelitian dapat disimpulkan bahwa penambahan madu bunga Kaliandra dengan konsentrasi berbeda dan penyimpanan kefir pada suhu 4°C selama 14 hari mempengaruhi kualitas fisiko-kimia, mikrobiologis dan sensoris kefir, serta terdapat interaksi antara level penambahan madu dengan lama simpan kefir.

Kata kunci: Kefir, Madu bunga Kaliandra, Lama simpan, Kualitas fisiko-kimia, Mikrobiologis, Sensoris.

PHYSICO-CHEMICAL, MICROBIOLOGICAL AND SENSORIC QUALITY OF COW MILK KEFIR ADDED WITH KALIANDRA FLOWER HONEY (*Calliandra calothyrsus*) DURING COLD STORAGE

Nabila Safitri
19/443010/PT/08142

ABSTRACT

This research aims to determine the physico-chemical, microbiologic and sensory quality of cow's milk kefir with the addition of calliandra flower honey during 14 days of storage at 4°C. Kefir grains were inoculated with 5% (b/v) and incubated at room temperature for 24 hours. After incubation, 0 (control), 6, 12, 18% (v/v) of calliandra flower honey was added and stored at 4°C for 14 days. Quality testing was conducted on day 0, 7, and 14 days. The parameters tested were physical quality (viscosity, syneresis), chemical quality (pH, alcohol content, water content, and total sugar), microbiological quality (total yeast and total lactic acid bacteria) and sensory quality (texture, color, taste, aroma, and acceptability). The results were analyzed using analysis of variance factorial pattern (4x3), namely 4 levels of calliandra flower honey, and 3 levels of storage days, significant results were followed by *Duncan Multiple Range Test* (DMRT). Sensory test was analyzed using *Kruskal Wallis* and significant results were followed by *Mann-Whitney*. The results showed that different concentrations of honey had a very significant effect ($P < 0,01$) on total sugar content, a significant effect ($P < 0,05$) on pH, sineresis, and alcohol content. Length of storage had a very significant effect ($P < 0,01$) on pH and total sugar content, a significant effect ($P < 0,05$) on viscosity, syneresis, alcohol content, total BAL, and total yeast. There was a very significant interaction ($P < 0,01$) between different honey concentrations and storage duration on total sugar content, and there was a significant interaction ($P < 0,05$) on alcohol content. The results of the sensory test analysis showed that the difference in honey concentration had a very significant effect ($P < 0,01$) on the level of consumer liking in the parameters of taste and acceptability. The results of the study can be concluded that the addition of calliandra flower honey with different concentrations and storage of kefir at 4°C for 14 days affect the physico-chemical, microbiologic and sensory quality of kefir, and there is an interaction between the level of honey addition and the shelf life of kefir.

Keywords: Kefir, Calliandra Flower Honey, Shelf life, Physico-chemical quality, Microbiological, Sensory.