

PENGARUH PENAMBAHAN KUNYIT (*Curcuma longa L.*) TERHADAP PROSES RANSIDITAS PADA KONSENTRAT BERBASIS FERMENTASI BAKTERI ASAM LAKTAT DENGAN PENYIMPANAN AERASI AEROBIK

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INTISARI

Penelitian ini bertujuan untuk mengetahui kemampuan antioksidan kunyit (*Curcuma longa L.*) dalam mencegah ransiditas pada penyimpanan secara aerasi aerobik pakan konsentrat berbasis fermentasi bakteri asam laktat (KFBAL). Perlakuan terhadap KFBAL adalah penambahan kunyit murni, ekstrak kunyit, dan vitamin E sebagai sumber antioksidan dengan kadar 0%, 0,5%, 1%, 1,5%, dan 2% masing-masing perlakuan mempunyai 3 ulangan. Semua perlakuan disimpan dalam keadaan aerob dengan perlakuan aerasi. Aerasi dilakukan setiap pagi dan sore selama 40 hari. Pengamatan proses ransiditas dilakukan pada penyimpanan selama 40 hari dengan ulangan sebanyak 3 kali. Parameter yang diamati adalah nilai pH, angka asam lemak bebas (FFA), dan uji kualitas fisik (warna, bau, jamur, dan tekstur) pada KFBAL. Data yang dihasilkan kemudian dianalisis dengan analisis rancangan acak lengkap pola faktorial. Apabila hasil yang diperoleh diperoleh berbeda nyata, maka dilanjutkan dengan uji *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa penambahan kunyit sebagai antioksidan terhadap proses ransiditas pada penyimpanan dengan aerasi aerobik menunjukkan pengaruh yang nyata terhadap kadar FFA dan tidak berpengaruh nyata terhadap nilai pH. Penambahan tiga macam dan lima kadar sumber antioksidan mempertahankan nilai pH di kisaran netral selama penyimpanan. Berdasarkan uji kadar FFA, penambahan ekstrak kunyit dan kunyit murni mampu menurunkan kadar FFA lebih baik dibandingkan kontrol dan vitamin E. Sehingga dapat disimpulkan pemberian sumber antioksidan dapat menekan peningkatan kadar FFA selama penyimpanan. Hasil kualitas fisik berupa warna, bau, tekstur, dan jamur, menunjukkan bahwa kualitas KFBAL bertahan cukup baik dalam semua perlakuan dengan perlakuan aerasi aerob dengan lama penyimpanan 40 hari.

Kata kunci: Kunyit, FFA, KFBAL, nilai pH, antioksidan

THE EFFECT OF ADDITION OF TURMERIC (*Curcuma longa* L.) ON THE RANCIDITY PROCESS OF CONCENTRATE FEED BASED ON LACTIC ACID BACTERIA FERMENTATION DURING AERATED AEROB STORAGE

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ABSTRACT

This study aims to determine the effect of additional of turmeric (*Curcuma longa* L.) in preventing the rancidity process of concentrate feed based on lactic acids bacteria fermentation in aerated aerobic storage conditions. The treatment given was the addition of pure turmeric, extract turmeric, and vitamin E as a source of antioxidants in feed with levels 0%, 0,5%, 1%, and 2%, each treatment has three replications. All treatment were stored in aerobic conditions with aeration treatment. Aeration was done every morning and evening for 40 days. Observation of the rancidity process was carried out at storage for 40 days with three replications. The parameters observed were pH values, numbers of free fatty acids (FFA), and physical quality (color, odor, mold, and texture) in KFBAL. The data obtained were analyzed by a completely randomized factorial pattern. If the results obtained were significantly different, the treatment then tested by Duncan Multiple Range Test (DMRT). The results showed that the addition of antioxidant sources during aerated aerobic storage showed a marked difference in FFA and no significant on pH value. The addition of three sources and five levels of antioxidant sources maintain a pH value in the neutral range during storage. Based on the FFA test, the addition of turmeric and turmeric extract can suppress increased of FFA value better than control and vitamin E. So that it can be concluded that the provision of sources of antioxidants can suppress increased levels of FFA during storage. The results of physical quality showed that the equality of KFBAL persisted quite well in all treatments with aerated aerobic on 40 days storage.

Keywords : Turmeric, FFA, KFBAL, pH value, antioxidant