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**Profil Asam Lemak Omega-3, Omega-6, dan Omega-9 Telur Ayam pada Pemberian Imbuhan Herbal-Probiotik
dan Telur Ayam Komersial**
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ABSTRAK

PROFIL ASAM LEMAK OMEGA-3, OMEGA-6, DAN OMEGA-9 TELUR AYAM PADA PEMBERIAN IMBUHAN HERBAL-PROBIOTIK DAN TELUR AYAM KOMERSIAL

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Telur ayam merupakan sumber protein hewani yang kaya akan asam lemak esensial, termasuk omega-3, omega-6, dan omega-9, yang berperan penting bagi kesehatan. Kualitas profil asam lemak telur dipengaruhi oleh komposisi pakan, sehingga penggunaan imbuhan pakan berbasis herbal-probiotik sebagai alternatif pengganti antibiotik sintesis diyakini dapat memengaruhi metabolisme lipid pada telur yang dihasilkan. Penelitian ini bertujuan untuk mengidentifikasi dan membandingkan profil asam lemak omega-3, omega-6, dan omega-9 pada telur ayam yang diberi imbuhan pakan herbal-probiotik (Promix dan herbal-probiotik) dengan telur ayam komersial dan kontrol tanpa imbuhan pakan. Analisis dilakukan menggunakan metode kromatografi gas (*Gas Chromatography*/GC) dengan detektor ionisasi nyala (*Flame Ionization Detector*/FID), di mana sampel kuning telur diekstraksi dan dikonversi menjadi *fatty acid methyl esters* (FAME), kemudian diidentifikasi dan dikuantifikasi berdasarkan perbandingan waktu retensi dengan standar FAME. Hasil penelitian menunjukkan bahwa kadar asam lemak omega-3, omega-6, dan omega-9 pada telur ayam komersial masih lebih tinggi dibandingkan seluruh kelompok perlakuan, namun telur ayam dengan imbuhan pakan menunjukkan kadar yang lebih tinggi dibandingkan kontrol tanpa imbuhan, meskipun perbedaannya tidak signifikan. Kadar omega-3 tertinggi di antara kelompok perlakuan ditemukan pada telur dengan imbuhan herbal-probiotik, sedangkan omega-6 dan omega-9 tertinggi diperoleh dari telur dengan imbuhan Promix®. Penelitian ini dapat disimpulkan bahwa imbuhan pakan herbal-probiotik mampu meningkatkan kadar asam lemak telur ayam dibandingkan kontrol, serta untuk menghasilkan peningkatan yang lebih signifikan diperlukan imbuhan pakan yang secara spesifik mengandung bahan-bahan penunjang biosintesis asam lemak omega tersebut.

Kata kunci: asam lemak, herbal-probiotik, kromatografi gas, omega-3, omega-6, omega-9, telur ayam.

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ABSTRACT

PROFILE OF OMEGA-3, OMEGA-6, AND OMEGA-9 FATTY ACIDS IN CHICKEN EGGS WITH HERBAL-PROBIOTIC SUPPLEMENTATION AND COMMERCIAL CHICKEN EGGS

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Chicken eggs are a source of animal protein rich in essential fatty acids, including omega-3, omega-6, and omega-9, which play important roles in health. The quality of the fatty acid profile in eggs is influenced by feed composition; therefore, the use of herbal-probiotic feed additives as an alternative to synthetic antibiotics is believed to affect lipid metabolism in the resulting eggs. This study aimed to identify and compare the profiles of omega-3, omega-6, and omega-9 fatty acids in chicken eggs supplemented with herbal-probiotic feed additives (Promix and herbal-probiotic) with commercial chicken eggs and a control group without feed additives. The analysis was conducted using the Gas Chromatography (GC) method with a Flame Ionization Detector (FID), in which egg yolk samples were extracted and converted into fatty acid methyl esters (FAME), then identified and quantified based on the comparison of retention times with FAME standards. The results showed that the levels of omega-3, omega-6, and omega-9 fatty acids in commercial chicken eggs were still higher than those in all treatment groups; however, eggs supplemented with feed additives showed higher levels than the control group without additives, although the differences were not significant. The highest omega-3 level among the treatment groups was found in eggs supplemented with herbal-probiotic additives, whereas the highest omega-6 and omega-9 levels were found in eggs supplemented with Promix. Therefore, it can be concluded that herbal-probiotic feed additives are capable of increasing the fatty acid levels in chicken eggs compared to the control group, and that more significant increases require feed additives specifically containing ingredients that support the biosynthesis of these omega fatty acids.

Key words: chicken eggs, fatty acids, gas chromatography, herbal-probiotic, omega-3, omega-6, omega-9.