

ABSTRAK

Ahmad Fauzi (212410017). “Pengaruh Penambahan Tepung Sinbiotik dari Kulit Nanas dan Inulin Bengkuang terhadap Berat Relatif Organ Limfoid Ayam Broiler”. Skripsi. Peternakan. Fakultas Pertanian, Universitas Muhammadiyah Purworejo. 2025.

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung sinbiotik dari kulit nanas (*Ananas comosus*) dan inulin bengkuang (*Pachyrhizus erosus*) terhadap berat relatif organ limfoid (*Thymus*, bursa *Fabricius*, dan limpa) ayam broiler, sebanyak 100 ekor DOC broiler betina menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 4 ulangan, di mana setiap ulangan terdiri dari 5 ekor ayam. Perlakuan yang diberikan adalah suplementasi tepung sinbiotik dengan dosis 0% (P0, kontrol), 5% (P1), 10% (P2), 15% (P3), dan 20% (P4) dari total berat pakan komersial. Data dianalisis menggunakan Analisis Ragam (ANOVA) dan dilanjutkan dengan Uji Jarak Berganda Duncan (DMRT) pada taraf kesalahan 5%. Hasil penelitian menunjukkan bahwa penambahan tepung sinbiotik berpengaruh nyata ($P < 0,05$) terhadap berat relatif *Thymus* ayam broiler. Perlakuan P3 (15% sinbiotik) menghasilkan berat *Thymus* tertinggi dengan rerata $0,61 \pm 0,01\%$, yang berada dalam kisaran normal (0,30% - 0,60%) dan menunjukkan efek *imunostimulan* optimal. Perlakuan P4 (20% sinbiotik) menunjukkan berat *Thymus* terendah ($0,33 \pm 0,10\%$), mengindikasikan potensi penurunan respons imun atau efek toksik ringan akibat dosis berlebih. Perlakuan P0, P1, dan P2 menunjukkan rerata berat *Thymus* yang relatif berdekatan dan tidak berbeda signifikan dibandingkan kontrol. Namun, penambahan tepung sinbiotik tidak memberikan pengaruh yang signifikan ($P > 0,05$) terhadap berat relatif bursa *Fabricius* dan limpa ayam broiler pada semua level perlakuan. Berat relatif bursa *Fabricius* dan limpa pada semua kelompok perlakuan masih berada dalam kisaran normal (0,07% - 0,11% untuk bursa *Fabricius* dan 0,12% - 0,15% untuk limpa). Penambahan tepung sinbiotik dari kulit nanas dan inulin bengkuang memiliki potensi untuk memperkuat sistem kekebalan tubuh ayam broiler, terutama melalui peningkatan perkembangan *Thymus* pada dosis 15%.

Kata Kunci : Ayam Broiler, Tepung Sinbiotik, Kulit Nanas, Inulin Bengkuang, Organ Limfoid

ABSTRACT

Ahmad Fauzi (212410017). “The Effect of Adding Synbiotic Flour from Pineapple Peel and Jicama Inulin on the Relative Weight of Lymphoid Organs in Broiler Chickens”. Thesis. Animal Husbandry. Faculty of Agriculture, Universitas Muhammadiyah Purworejo. 2025.

This study aimed to determine the effect of adding synbiotic flour from pineapple peel (*Ananas comosus*) and jicama inulin (*Pachyrhizus erosus*) on the relative weight of lymphoid organs (thymus, bursa of Fabricius, and spleen) in broiler chickens. A total of 100 female DOC broilers were used in a Completely Randomized Design (CRD) with 5 treatments and 4 replicates, where each replicate consisted of 5 chickens. The treatments involved supplementing synbiotic flour at doses of 0% (P0, control), 5% (P1), 10% (P2), 15% (P3), and 20% (P4) of the total commercial feed weight. Data were analyzed using Analysis of Variance (ANOVA) followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level. The results showed that the addition of synbiotic flour had a significant effect ($P < 0.05$) on the relative weight of the broiler chicken thymus. Treatment P3 (15% synbiotic) resulted in the highest thymus weight with a mean of $0.61 \pm 0.01\%$, which was within the normal range (0.30% - 0.60%) and indicated an optimal immunostimulant effect. Conversely, treatment P4 (20% synbiotic) showed the lowest thymus weight ($0.33 \pm 0.10\%$), suggesting a potential decrease in immune response or mild toxic effects due to excessive dosage. Treatments P0, P1, and P2 showed relatively similar mean thymus weights and did not differ significantly compared to the control. However, the addition of synbiotic flour did not have a significant effect ($P > 0.05$) on the relative weight of the bursa of Fabricius and spleen in broiler chickens at all treatment levels. The relative weights of the bursa of Fabricius and spleen in all treatment groups remained within the normal range (0.07% - 0.11% for bursa of Fabricius and 0.12% - 0.15% for spleen). Addition of synbiotic flour from pineapple peel and jicama inulin has the potential to strengthen the immune system of broiler chickens, particularly through increased thymus development at a 15% dose.

Keywords: Broiler Chicken, Synbiotic Flour, Pineapple Peel, Jicama Inulin, Lymphoid Organs.