

STRUKTUR HISTOLOGIS OTOT PEKTORALIS DAN PERFORMA PERTUMBUHAN AYAM BROILER [*Gallus gallus gallus* (Linnaeus, 1758)] SETELAH PEMBERIAN INSANG IKAN NILA [*Oreochromis niloticus* (Linnaeus, 1758)]

Occa Anjeli Vikasari
19/444702/BI/10380

Dosen Pembimbing : Dr.med.vet. drh. Hendry T.S.S.G Saragih, M.P.

INTISARI

Laju pertumbuhan penduduk Indonesia yang cenderung meningkat dari tahun ke tahun menyebabkan tingginya kebutuhan protein hewani. Pemenuhan kebutuhan protein hewani dapat dilakukan melalui peningkatan kapasitas produksi ayam broiler dengan pakan sebagai kontributor terbesar. Namun, bahan baku pakan perlu diimpor dengan harga lebih mahal. Berkembangnya industri pengolahan ikan menyisakan limbah dengan proporsi cukup tinggi, salah satunya insang ikan nila yang kaya akan protein sehingga dapat dimanfaatkan sebagai pakan alternatif. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian tepung insang ikan nila (TIIN) [*Oreochromis niloticus* (Linnaeus, 1758)] terhadap struktur histologis otot pektoralis dan performa pertumbuhan ayam broiler. Penelitian ini menggunakan 200 *Day Old Chicks* (DOC) ayam broiler jantan strain *Cobb 500* yang dipelihara hingga umur 14 hari. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 5 ulangan, yaitu K0 (pakan basal (PB)), TIIN1 (TIIN 0,25%/kg PB), TIIN2 (TIIN 0,5%/kg PB), TIIN3 (TIIN 1%/kg PB), dan TIIN4 (TIIN 2%/kg PB). Masing-masing ulangan terdiri dari 8 ekor DOC. Berikutnya, 5 ekor ayam diambil secara acak dari setiap perlakuan, didekapitasi, dilakukan pembedahan untuk preparat histologis otot pektoralis, dan diwarnai dengan *Hematoxylin-Eosin*. Parameter untuk terminasi meliputi berat otot, luas area otot, luas area fasikulus, luas area dan total *myofiber*. Sedangkan parameter untuk non terminasi meliputi berat badan, *feed intake*, *weight gain*, *feed conversation ratio* (FCR), dan morfometri tubuh. Hasil penelitian menunjukkan bahwa morfologi otot pektoralis dan performa pertumbuhan ayam broiler pada TIIN4 secara signifikan meningkat ($P \leq 0.05$) dibandingkan K0. Berdasarkan hasil tersebut, dapat disimpulkan bahwa pemberian TIIN dengan konsentrasi optimum 2% pada pakan basal berpengaruh positif terhadap struktur histologis otot pektoralis dan performa pertumbuhan ayam broiler.

Kata kunci : ayam broiler, insang ikan nila, otot pektoralis, performa pertumbuhan, pakan alternatif.

HISTOLOGICAL STRUCTURE OF PECTORALIS MUSCLE AND GROWTH PERFORMANCE OF BROILER CHICKEN [*Gallus gallus gallus* (Linnaeus, 1758)] AFTER SUPPLEMENTATION OF NILE TILAPIA [*Oreochromis niloticus* (Linnaeus, 1758)] GILLS

Occa Anjeli Vikasari
19/444702/BI/10380

Thesis Advisor : Dr.med.vet. drh. Hendry T.S.S.G Saragih, M.P.

ABSTRACT

Indonesia's population growth rate increases over the years causing the higher demand of animal protein. Fulfilling the higher demand for animal protein can be done by increasing the production capacity of broiler chickens with feed as the biggest contributor. However, feed raw materials need to be imported at a higher price. The development of the fish processing industry has left a fairly high proportion of waste, one of which is Nile tilapia gills which are rich in protein so they can be used as alternative feed. This research aimed to study the effect of supplementation Nile tilapia gills powder (NTGP) [*Oreochromis niloticus* (Linnaeus, 1758)] on the histological structure of pectoralis muscles and growth performance of broiler chickens. The study used 200-day-old chicks (DOC) of male broiler chickens, *Cobb 500* strain which were reared up to 14 days of age. This study used a completely randomized design (CRD) with 5 treatments and 5 repetitions, namely C0 (basal feed (BF)), NTGP1 (NTGP 0,25%/kg BF), NTGP2 (NTGP 0,5%/kg BF), NTGP3 (NTGP 1%/kg BF), and NTGP4 (NTGP 2%/kg BF). Each repetitions consists of 8 DOC. Subsequently, five chickens from each treatments were randomly taken, decapitated, subjected to surgery for histological preparations, and stained with Hematoxylin-Eosin. Parameters for termination include muscle area, muscle weight, fascicle area, myofiber area and total myofiber. While parameters for non-termination include body weight, feed intake, weight gain, feed conversion ratio (FCR) and body morphometry. The results showed that the muscle morphology and chicken growth performance of the NTGP4 group increased significantly ($P \leq 0.05$) compared to the C0 group. Based on the results, supplementation of NTGP with an optimum concentration of 2% through basal feed improves muscle morphology and chicken growth performance.

Keywords : broiler chickens, Nile tilapia gills, pectoralis muscle, growth performance, alternative feed.