

## ABSTRAK

### RESPON IMUN NON-SPEKIFIK IKAN LELE (*Clarias sp.*) YANG DIBERI PAKAN BERBAHAN BAKU *Distillers Dried Grains with Solubles* (DDGS) DAN TAURIN

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*Distillers Dried Grains with Solubles* (DDGS) dan taurin merupakan bahan pakan potensial sebagai bahan pakan alternatif pengganti tepung ikan guna mencegah serangan penyakit. Penelitian ini bertujuan untuk mengevaluasi pengaruh pemberian pakan berbahan baku DDGS dan taurin terhadap respon imun non-spesifik ikan lele sebelum dan sesudah infeksi bakteri *Staphylococcus aureus*. Metode penelitian menggunakan rancangan acak lengkap (RAL) dengan 6 perlakuan (DDGS% : taurin%): Kontrol: (0 : 0); P1: (5 : 0,5); P2: (5 : 0); P3: (10 : 0,5); P4: (15 : 1,0); P5: (20 : 1,5) dan 3 ulangan yang diberikan pada ikan lele dengan berat dan panjang awal 4,06 g dan 9,20 cm selama 60 hari. Lalu, dilanjutkan dengan ujiantang selama 7 hari. Sampling respon imun non-spesifik dilakukan pada H60 dan pasca ujiantang pada H1, H3, dan H5 dengan diambil 6 dan 3 ekor pada masing-masing perlakuan. Hasil penelitian menunjukkan bahwa perlakuan yang diberikan setelah 60 hari memberikan pengaruh berbeda nyata terhadap kadar hematokrit (14,35-22,34%), total eritrosit ( $2,47-9,70 \times 10^5 \text{sel/mm}^3$ ), aktivitas fagositosis (30,00-47,67%) dan indeks fagositosis (1,41-1,71) ( $P < 0.05$ ) dan tidak memberikan pengaruh berbeda nyata terhadap total leukosit ( $43,63-55,48 \times 10^3 \text{sel/mm}^3$ ) ( $P > 0.05$ ) ikan lele. Kemudian, pasca ujiantang kelima variabel (kadar hematokrit: 14,52-23,31%; total eritrosit:  $3,40-9,77 \times 10^5 \text{sel/mm}^3$ ; total leukosit:  $32,68-59,37 \times 10^3 \text{sel/mm}^3$ ; aktivitas fagositosis: 18,00-44,33%; indeks fagositosis: 1,29-1,77) tidak dipengaruhi oleh perlakuan. Kesimpulan mengindikasikan bahwa perlakuan yang diujikan dapat meningkatkan respon imun non-spesifik ikan lele dan setelah diinfeksi bakteri *Staphylococcus aureus* menunjukkan kemampuan memproduksi imun non-spesifik yang sama untuk semua perlakuan.

Kata kunci : DDGS, Pakan ikan, respon imun non-spesifik, *Staphylococcus aureus*, taurin.

## ABSTRACT

### NON-SPECIFIC IMMUNE RESPONSE OF CATFISH FED FEED MADE FROM *Distillers Dried Grains with Solubles* (DDGS) AND TAURINE

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Distillers Dried Grains with Solubles (DDGS) and taurine are potential feed ingredients as alternative feed ingredients as replace fish meal to prevent fish disease attacks. The study aimed to evaluate the effect of feeding DDGS and taurine on the non-specific immune response toward *Staphylococcus aureus* bacterial infection of catfish juvenile. The research method used a completely randomized design (CRD) with 6 treatments (DDGS%: taurine%): Control: (0: 0); P1: (5: 0.5); P2: (5: 0); P3: (10: 0.5); P4: (15: 1.0); P5: (20: 1.5) and 3 replications given to catfish with an initial weight and length of 4.06 g and 9.20 cm for 60 days. Then, continued with a challenge test for 7 days. Sampling of non-specific immune responses was conducted on H60 and post-challenge test on H1, H3, and H5 by taking 6 and 3 fish in each treatment. The results showed that the treatment had a significantly different effect on hematocrit levels (14.35-22.34%), total erythrocytes ( $2.47-9.70 \times 10^5$  cells/mm<sup>3</sup>), phagocytosis activity (30.00-47.67%) and phagocytosis index (1.41-1.71) ( $P < 0.05$ ) and did not have a significantly different effect on total leukocytes ( $43.63-55.48 \times 10^3$  cells/mm<sup>3</sup>) ( $P > 0.05$ ) of catfish. Then, after the challenge test, the five variables (hematocrit level: 14.52-23.31%; total erythrocytes:  $3.40-9.77 \times 10^5$  cells/mm<sup>3</sup>; total leukocytes:  $32.68-59,37 \times 10^3$  cells/mm<sup>3</sup>; phagocytosis activity: 18.00-44.33%; phagocytosis index: 1.29-1.77) were not affected by the treatment. The conclusion indicates that the treatment can increase the non-specific immune response of catfish juvenile and after being infected with *Staphylococcus aureus* bacteria showed the same ability to produce immunity response.

Keywords: DDGS, Fish feed, non-specific immune response, *Staphylococcus aureus*, taurine.