RINGKASAN

Ikan Sidat (*Anguilla* sp.) merupakan ikan yang tergolong katadromous. Perubahan lingkungan menjadikan salah satu faktor biotik yang mempengaruhi proses fisiologi ikan. Respon fisiologis ikan dapat dideteksi dari adanya perubahan nilai diferensial leukosit, sebagai respon fisiologisnya. Tujuan penelitian ini yaitu mengevaluasi diferensial leukosit Ikan Sidat Tropis (*Anguilla bicolor* McClelland) pada pemeliharaan dengan kepadatan berbeda.

Penelitian dilakukan secara eksperimental dengan Rancangan Acak Lengkap (RAL) yang terdiri dari 3 perlakuan dan 3 kali ulangan. Perlakuan yaitu (A) kepadatan 1 ekor / 72 L, (B) kepadatan 2 ekor / 72 L, dan (C) kepadatan 3 ekor / 72 L. Variabel bebas yang diteliti yaitu kepadatan berbeda, variabel terikat yang diteliti yaitu diferensial leukosit, variabel kontrol pada penelitian ini adalah pemberian pakan secara *ad libitum*, sistem aerator, dan ukuran bak fiber, parameter utama penelitian ini yaitu persentase diferensial leukosit Ikan Sidat dirinci persentase limfosit, neutrofil, monosit, eosinofil, dan basofil. Data dianalisis dengan uji ANOVA, menggunakan program SPSS.

Hasil penelitian menunjukkan bahwa rerata persentase diferensial leukosit, yaitu untuk limfosit yang terbesar berasal dari perlakuan 3 ekor / 72 L yaitu 39,11 ± 20,84%; untuk neutrofil tertingginya yaitu 4,44 ± 0,51 % dari perlakuan 3 ekor / 72 L; untuk monosit tertinggi yaitu 3,56 ± 0,51 % dari perlakuan 3 ekor / 72 L; untuk eosinofil tertinggi yaitu 2,80 ± 0,331 % dari perlakuan 3 ekor / 72 L. Jadi, persentase tertinggi diferensial ke-4 jenis leukosit diperoleh dari perlakuan kepadatan tertinggi, bukti adanya respon stres fisiologis Sidat perlakuan kepadatan hasil riset ini. Hasil analisis statistik menunjukkan bahwa data rerata persentase tersebut tidak nyata ($p > 0,05$), artinya kepadatan tidak nyata menentukan deferensial leukosit. Disimpulkan bahwa kepadatan hingga 3 ekor / 72 L walaupun tidak nyata meningkatkan diferensial leukosit.

Kata kunci : Ikan Sidat, Kepadatan, Stres, Diferensial Leukosit.

SUMMARY

Eel (*Anguilla* sp.) is a catadromous fish. Environmental changes make it one of the biotic factors that affect the physiology of fish. The physiological response of fish can be detected by changes in the differential value of leukocytes, as a physiological responses to density. The purpose of this study was to evaluate the differential leukocytes of tropical eel (*Anguilla bicolor* McClelland) after one month period of culture in different densities.

The study was conducted experimentally with a Completely Randomized Design (CRD) consisting of 3 treatments and 3 replications. Treatment are (A) density of 1 eel / 72 L, (B) density of 2 eels / 72 L, and (C) density of 3 eels / 72 L. The independent variable studied was different density, the dependent variables studied were differential leukocytes (lymphocytes, neutrophyl, monocyte, and eosinophyl, as well as basophyl). The culture condition during experimentation for all treatments were controlled in the same conditions : such as for *ad libitum* feeding, aerator systems, and the aquarium (fiber tub) sizes. Data were analyzed by ANOVA test, using the SPSS program.

Results shown that the highest averages percentages of differential leukocytes data, for lymphocytes was 39.11 ± 20.84% from the density of 3 eels / 72 L treatment; for neutrophil was 4.44 ± 0.51% also from the density of 3 eels / 72 L treatment; for monocytes was 3.56 ± 0.51% also from the density of 3 eels / 72 L treatment; and for eosinophils was 2.80 ± 0.331% from the density of 3 eels / 72 L treatment too. This study confirmed that the highest percentage of differential leukocytes were from the highest density treatments, indicating the stress physiological responses of eels studied for a month cultured in density treated. Statistical analysis showed that the averages data of those each leukocyte differential had no significant different ($p > 0.05$). In conclusion densities treatments of up to 3 eels / 72 L did not significantly increased the differential leukocytes after a month cultured.

Key word : Sidat Fish, Density, Stress, Differential Leukocytes.