

ABSTRAK

PENGARUH PEMBERIAN PAKAN KOMBINASI ANTARA MIKROALGA (*Nannochloropsis oculata*) DAN TEPUNG IKAN TONGKOL (*Euthynnus affinis*) TERHADAP KEPADATAN DAN LAJU PERTUMBUHAN POPULASI ROTIFERA (*Brachionus plicatilis*) DI BBPBL

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Pakan merupakan faktor penting dalam keberhasilan budidaya perikanan, terutama pada fase larva yang bergantung pada pakan alami seperti rotifera *Brachionus plicatilis*. Ketersediaan rotifera sering terbatas karena ketergantungannya pada fitoplankton. Upaya peningkatan produktivitas dapat dilakukan melalui pemberian pakan kombinasi bernutrisi tinggi, seperti tepung ikan tongkol (*Euthynnus affinis*) yang kaya protein dan asam lemak esensial, serta mikroalga *Nannochloropsis oculata* yang mengandung protein, vitamin, dan pigmen alami. Penelitian ini bertujuan untuk menganalisis pengaruh pakan kombinasi *N. oculata* dan tepung ikan tongkol terhadap kepadatan populasi dan laju pertumbuhan rotifera *B. plicatilis*, serta menentukan formulasi terbaik. Penelitian menggunakan metode Rancangan Acak Lengkap (RAL) yang terdiri atas lima perlakuan, yaitu P1 (kontrol), P2 (0,25 g pakan buatan + pakan alami), P3 (0,50 g pakan buatan + pakan alami), P4 (0,75 g pakan buatan + pakan alami), dan P5 (1,00 g pakan buatan), dengan kandungan tepung ikan tongkol yang dikombinasikan dengan *N. oculata* (kepadatan 3×10^6 sel/mL), masing-masing perlakuan diulang tiga kali. Parameter yang diamati adalah laju pertumbuhan dan kepadatan populasi *B. plicatilis* selama masa pemeliharaan. Data dianalisis menggunakan analisis sidik ragam (ANOVA) dan dilanjutkan dengan uji Beda Nyata Terkecil (BNT) pada taraf 5% apabila terdapat perbedaan nyata. Hasil penelitian menunjukkan bahwa kombinasi pakan buatan dan alami memberikan pengaruh nyata terhadap kepadatan populasi *B. plicatilis* ($p < 0,05$) serta berpengaruh nyata terhadap laju pertumbuhan populasi spesifiknya ($p < 0,05$). Perlakuan terbaik terdapat pada P2, yaitu kombinasi pakan buatan tepung ikan tongkol 0,25 g dan pakan alami *N. oculata* (kepadatan 3×10^6 sel/mL), yang menghasilkan kepadatan populasi sebesar 123 ind/L dan laju pertumbuhan populasi spesifik sebesar 28,21%/hari.

Kata kunci: *Brachionus plicatilis*, *Nannochloropsis oculata*, tepung ikan tongkol, pertumbuhan, kepadatan populasi.

ABSTRACT

THE EFFECT OF FEEDING A COMBINATION OF MICROALGAE (*Nannochloropsis oculata*) AND TONGKOL FISH MEAL (*Euthynnus affinis*) ON THE DENSITY AND POPULATION GROWTH RATE OF ROTIFERA (*Brachionus plicatilis*) AT BBPBL

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Feed is an important factor in the success of aquaculture, especially during the larval stage, which depends on natural food such as the rotifer *Brachionus plicatilis*. The availability of rotifers is often limited due to their dependence on phytoplankton. Efforts to increase productivity can be carried out through the provision of high-nutrient combined feeds, such as mackerel tuna (*Euthynnus affinis*) fish meal, which is rich in protein and essential fatty acids, and the microalgae *Nannochloropsis oculata*, which contains protein, vitamins, and natural pigments. This study aimed to analyze the effect of a combined feed of *N. oculata* and mackerel tuna fish meal on the population density and growth rate of the rotifer *B. plicatilis*, as well as to determine the best formulation. The study used a Completely Randomized Design (CRD) consisting of five treatments, namely P1 (control), P2 (0.25 g artificial feed + natural feed), P3 (0.50 g artificial feed + natural feed), P4 (0.75 g artificial feed + natural feed), and P5 (1.00 g artificial feed), with fish meal combined with *N. oculata* (density 3×10^6 cells/mL), each treatment being repeated three times. The parameters observed were the growth rate and population density of *B. plicatilis* during the rearing period. Data were analyzed using analysis of variance (ANOVA) followed by the Least Significant Difference (LSD) test at a 5% significance level when significant differences were found. The results showed that the combination of artificial and natural feed had a significant effect on the population density of *B. plicatilis* ($p < 0.05$) and also significantly affected its specific population growth rate ($p < 0.05$). The best treatment was P2, which combined 0.25 g of mackerel tuna fish meal with the natural feed *N. oculata* (density 3×10^6 cells/mL), resulting in a population density of 123 ind/L and a specific population growth rate of 28.21%/day.

Keywords: *Brachionus plicatilis*, *Nannochloropsis oculata*, skipjack fish meal, growth, population density.