

ABSTRAK

EFEKTIVITAS ZEOLIT, KARBON AKTIF, DAN MINYAK CENGKEH PADA SISTEM TRANSPORTASI TERTUTUP BENUR UDANG VANNAMEI *Litopenaeus vannamei* (Boone, 1931)

Oleh
Daniel Vopi Nusantara Sihombing

Udang vaname (*Litopenaeus vannamei*) salah satu cerustacea yang diminati dan telah berkembang teknologi budi daya dan pembenihannya. Tahapan penting untuk keberhasilan budi daya yaitu, pada saat transportasi benur dari pembenihan *hatchery* ke tambak pembesaran. Benur yang rentan stres saat dilakukan transportasi sehingga banyak mengalami kematian, mengakibatkan kerugian para petambak. Penelitian ini bertujuan untuk mengkaji pengaruh pemberian minyak cengkeh, zeolit, dan karbon aktif pada sistem transportasi tertutup terhadap *survival rate* (SR), total amonia nitrogen (TAN), dan kualitas benur. Penelitian dilaksanakan di *hatchery* milik Bapak Hanafi yang beralamat di Desa Ujau, Kecamatan Rajabasa, Lampung Selatan. Benur yang digunakan sebanyak 1.500 ekor pada stadia post larva 8 dengan berat 0,24 g. Metode yang digunakan adalah rancangan acak lengkap dengan 5 perlakuan dan 3 pengulangan, setiap ulangan menggunakan 100 ekor/100 ml. Parameter utama yaitu untuk mengurangi TAN dan mendapat tingkat kelulushidupan tinggi. Dosis yang digunakan dalam penelitian ini yaitu A (kontrol), B (14,00 μ l/l minyak cengkeh+20 g zeolit+10 g karbon aktif), C (9,33 μ l/l minyak cengkeh+20 g zeolit+10 g karbon aktif), D (4,67 μ l/l minyak cengkeh+20 g zeolit+10 g karbon aktif) dan E (1,87 μ l/l minyak cengkeh+20 g zeolit+10 g karbon aktif). Hasil menunjukkan bahwa media pengisi berpengaruh nyata terhadap tingkat kelulushidupan benur dan mengurangi total amonia nitrogen pada sistem transportasi tertutup selama 14 jam. Perlakuan C memberikan hasil terbaik dalam peningkatan *survival rate*, penurunan total amonia nitrogen, dan performa benur yang lebih baik. Penelitian ini diharapkan menjadi salah satu solusi dalam permasalahan transportasi benur vaname.

Kata Kunci: Udang vannamei, proses transportasi, total amonia nitrogen (TAN), *survival rate* (SR)

ABSTRACT

EFFECTIVENESS OF ZEOLIT, ACTIVE CARBON AND OIL CLOVE ON CLOSED TRANSPORTATION SYSTEM BENUR VANNAMEI SHRIMP

Litopenaeus vannamei (Boone, 1931)

By

Daniel Vopi Nusantara Sihombing

Vannamei shrimp (*Litopenaeus vannamei*) is one of the most popular crustacea and has developed were cultivation and hatchery technology. One of the important steps for successful cultivation is the transport of fry from the hatchery to the enlargement pond. The fry often experience stress during the transport process, resulting in many deaths and consequently harming the farmers in the hatchery. This study aimed to examine the effect of clove oil, zeolite and activated carbon in a closed transport system on the survival rate, Total Ammonia Nitrogen (TAN), and fry quality. The research was carried out at the hatchery owned by Mr. Hanafi, located at Ujau Village, Rajabasa District, South Lampung. 1.5000 fry were used at post larva stage 8 with a weight of 0.24 g. The method used was a complete random design with 5 treatments and 3 repetitions, each replication using 100 animals/100 ml. The main parameters were to reduce TAN and get a high survival rate. The doses used in this study were A as control (without media), B (14.00 l/l clove oil+2 g zeolite+1 g activated carbon), C (9.33 µl/l clove oil+20 g zeolite+10 g activated carbon), D (4.67 µl/l clove oil+20 g zeolite+10 g activated carbon) and E (1.87 µl/l clove oil+20 g zeolite+10 g activated carbon). The results showed that the effect of the filler media had a significant effect on the survival rate, of fry, and reduced TAN levels in a closed transport system for 14 hours. Treatment C gave the best results in reducing TAN level, increasing survival, and better fry performance. This research is expected to be one of the solutions to the transportation problem of vannamee shrimp fry.

Keywords: Udang vannamei, proses transportasi, total ammonia nitrogen (TAN), *survival rate* (SR)