ABSTRACT

ASTRI HANDAYANI. Utilization of Zeolite and Active Carbon in a Closed Transportation of Tilapia Seed Strain BEST Oreochromis sp. with a High Density. Supervised by EDDY SUPRIYONO and HARTON ARFAH.

A common method of moving the seeds is a short-distance transport with a limited density of fish. Therefore, it is necessary to have a transport system that can move the seeds to a raising area in a relatively long time, with high density and high survival rate. This study used a combination of zeolite (20 g/ℓ) and active carbon (10 g/ℓ) on tilapia seeds strain BEST with a size of ± 0.22 g/ℓ fish with a high density. Addition of supplement materials such as zeolite and active carbon were aimed to raise and maintain water quality during the transportation process, so the highest density could be attained. This study aimed to determine and find out the effectiveness of zeolite and active carbon in maintaining the quality of water in a closed transportation so as to know the optimal density of tilapia seeds strain BEST transported for 16 hours and to minimize the post-transport of mortality rate. This study consisted of two stages. The preliminary stage was to measure the level of oxygen consumption, ammonia excretion rate, fish fasting ability, and to determine the optimum density of tilapia BEST in a closed transportation. Transport time was 16 hours and the post-transport raising was 14 days for treatments with a density of 300, 500 and 700 fish/ℓ. The study result showed that density of 300 fish/ℓ is more effective compare to other treatment with a survival rate of 96%, highest Specific Growth Rate, namely 5.96%, and survival rate after transportation was 85%. However, when viewed from the profit, the optimum treatment density of 700 fish/ℓ had a profit of Rp 86.280, with a survival rate of 79% for 16 hours.

Keywords: Survival rate (SR), fish transportation, zeolites and active carbon.