Suitable Substratum for Sand Worm Culture

(Perinereis quatrefagesi Grube, 1878)

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Abstract

The experiment of 3-days old Sand worm, Perinereis quatrefagesi (Grube,1878) (nectochaete stage) culture in rectangular plastic container with dimension of 0.34 x 0.48 x 0.26 m (0.1623 m² of a bottom area) with 4 different substrate i.e. very coarse sand, coarse sand, coarse sand with shell fragment and vermiculite was carried out at Phuket Coastal Fisheries Research and Development Center. The experiment was planed in Complete Random Design (CRD) and each treatment had 5 replications with 1,000 nectochaete stocking and fed with commercial Black Tiger Shrimp artificial feed twice a day at 09:00 am. and 03:00 pm. The rate of water exchange was 100 % weekly during 150 days. The result showed that the average survival rate were 14.41±0.30, 11.55±1.06 21.03±0.28 and 13.80±0.41 %, respectively. Average weight were 0.89±0.13, 0.60±0.09, 0.96±0.12 and 0.98±0.13 g, average length were 19.06±3.28, 15.65±4.94, 19.66±3.97 and 19.89±3.74 cm, average numbers of segment were 191.80±7.08, 189.02±7.60, 191.76±7.84 and 191.36±7.20 segments, respectively. Average yield were 1.85±0.03, 1.08±0.06, 3.09±0.09 and 2.30±0.07 kg./m² and food conversion ratios were 0.80±0.02, 1.41±0.10, 0.48±0.02 and 0.65±0.02, respectively. The highest survival rate and yield of sand worm on coarse sand with shell fragments substrate was significantly difference (P<0.05) those others. Moreover these worms yield the lowest food conversion ratio and was significantly difference (P<0.05) those others. This experiment has revealed that coarse sand with shell fragment was suitable substratum for sand worm culture.

Key words : substratum, culture sand worm (Perinereis quatrefagesi Grube, 1878)

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