Effects of Substrates on the Survival Rates and Growth of Young Mangrove Crab (Sesarma mederi H. Milne Edward, 1854)

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Abstract

The effects of substrate on the survival rates and growth of young mangrove crab (Sesarma mederi H. Milne Edward, 1854) were investigated by performing two experiments. Each experiment comprised 2 periods. Period 1, rearing mangrove crab from megalopa to 15 days old–crab stage in stocking at 20 pcs/liter (4,000 pcs/pond) and period 2, rearing mangrove crab from 15 to 45 days old–crab stage stocking at 190 pcs/m² (150 pcs/concrete tank). Experiment in concrete pond 0.314 m³ with 3 replications.

Experiment I, rearing mangrove crab by unsubstrate, cement block and sand stone. Period 1, the 15 days old–crab stage had average survival rate 3.78±0.19, 5.16±0.20 and 5.90±0.19% respectively. They had significant differences (P<0.05). But, the average carapace width and length had no significant differences (P>0.05). Period 2, mangrove crab 45 days old–crab stage had average survival rate 46.44±6.16, 72.67±4.37 and 74.84±5.00% respectively. Cement block and sand stone higher than pond with unsubstrate. The average size of crab larvae (carapace width, length and body weight) had no differences

Experiment II, rearing mangrove crab by cement block, sand stone and box with mud substrate. Period 1, the 15 days old–crab stage were average survival rate 5.61±0.22, 6.12±0.19 and 4.57±0.15% respectively. They had significant differences (P<0.05). But, the average carapace width had no differences but carapace length had differences. Period 2, mangrove crab 45 days old–crab stage had average survival rate 71.11±5.05, 77.33±5.81 and 58.89±3.42% respectively. The crab larvae reared in pond with cement block and sand stone significant higher than pond with mud (P<0.05). The average carapace width and length showed that pond with box with mud and sand stone, the average carapace width and length larger than those in pond with cement block. But sand stone and cement block had no different.

The result show that sand stone and cement block as shelter substrate are suitable for nursing mangrove crab larvae

Key words: young mangrove crab, substrate, survival rates, growth

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