

EFFECTS OF SALINITY ON GROWTH, HAEMOLYMPH  
OSMOLALITY AND TOTAL PLASMA PROTEINS IN  
THE PENAEID PRAWN, *Penaeus monodon*  
FABRICIUS UNDER TANK CONDITIONS

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BURANG PERKULIAHAN DAN KELULUSAN LAPORAN  
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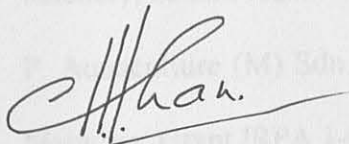
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## ABSTRAK

Kesan saliniti terhadap tumbesaran, osmolaliti hemolimfa dan jumlah protein plasma ke atas pasca-larva (PL) *Penaeus monodon* pada empat saliniti (5, 15, 25 dan 35 ppt) telah dikaji. Selepas di kultur selama 10 minggu, pasca-larva pada saliniti 15 ppt telah menunjukkan kadar pertumbuhan yang terbaik dengan 2.2307 g/2 minggu diikuti oleh saliniti 25, 35 dan 5 ppt dengan 1.6994, 1.5160 dan 1.3584 g/2 minggu. Kadar kemandirian adalah berjulat dari 48.66 hingga 94.12%. PL bagi *P. monodon* menjalankan osmoregulasi badan secara hyperosmotik pada saliniti 5, 15 dan 25 ppt dan secara hyposmotik pada saliniti 35 ppt. Terdapat perbezaan bererti ( $P < 0.05$ ) dalam osmolaliti hemolimfa pada saliniti 35 dengan 15 ppt dan 35 dengan 5 ppt. Bagaimanapun, tiada perbezaan bererti ( $P > 0.05$ ) yang didapati pada paras plasma protein di dalam hemolimfa di antara saliniti. Oksigen terlarut, suhu dan pH adalah didapati berada pada paras optima manakala kepekatan ammonia dan nitrit berlaku pada julat yang selamat.

## ABSTRACT

Effects of salinity on growth, haemolymph osmolality and total plasma protein of *Penaeus monodon* postlarvae (PL) was investigated at four salinities (5, 15, 25 and 35 ppt). After 10 weeks of culture, shrimps at 15 ppt salinity showed the best growth rate of 2.2307 g/2 weeks followed by salinities of 25, 35 and 5 ppt which showed the growth rate of 1.6994, 1.5160 and 1.3584 g/2 weeks respectively. Survival rate ranges from 48.66 to 94.12%. PL of *P. monodon* regulate hyperosmotically at salinities of 5, 15 and 25 ppt and hyposmotically at a salinity of 35 ppt. Significant differences ( $P < 0.05$ ) were seen in the haemolymph osmolality between salinities of 35 and 15 ppt and also 35 and 5 ppt. However, no significant differences ( $P > 0.05$ ) was observed in the plasma protein levels in the haemolymph amongst salinities. Dissolved oxygen (DO), temperature and pH were at optimum conditions and the concentration of ammonia and nitrite were within safe limits.

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