BREEDING AND SEED PRODUCTION OF CULTURED *Penaeus monodon* (Fabricius) TO BE 2<sup>nd</sup> GENERATION (F<sub>1</sub>) FROM 1<sup>st</sup> GENERATION (P<sub>0</sub>) BROODSTOCK.

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ABSTRACT

Rearing 1<sup>st</sup> generation of cultured *P. monodon* to be broodstock in grow out ponds was conducted at Phuket Coastal Fisheries Research and Development Center from September 2003 – September 2004. The trails started by rearing PL 15-19 of 1<sup>st</sup> generation (P<sub>0</sub>) seeds from 12 broodstock. At the end of 125 days, white spot syndrome virus outbreak, caused prawns from 11 broodstock died, only prawns from 1 broodstock could move to concrete tanks and new grow out ponds and continually reared until 12 months old. These stocks will be used to produce 2<sup>nd</sup> generation (F<sub>1</sub>) seeds in October – November 2004. In the first 4 months, PL 15-19 which average total length 1.15±.01 cm, average body weight 0.005±0.003 g were stocked at density 19-41 PL/m<sup>2</sup> and fed with commercial pellet. At the end of 125 days cultured period, the prawns showed average total length 15.27±4.20 cm and average body weight 15.22±4.24 g. The prawns from 1 broodstock that could survive from WSSV were continually reared until 363 days old. They were fed with commercial pellet and supplement with fresh horse mussel in 10<sup>th</sup>-12<sup>th</sup> month. The male prawns showed average total length 20.15±0.70 cm, average body weight 84.64±7.77 g and female prawns showed average total length 21.20±0.79 cm, average body weight 99.24±11.30 g respectively. Due to broodstock were few and came from 1 broodstock only, hence, seed production to be 2<sup>nd</sup> generation (F<sub>1</sub>) were carried out by cross breeding with broodstock aged 454 days old from Coastal Aquatic Animals Health Research Institute (Songkha) which male prawns were average total length 20.46±1.47 cm, average body weight 66.78±15.54 g and female prawns were average total length 22.32±1.10 cm, average body weight 117.59±17.00 g. Broodstock from both places were sex separate stocked in 4 concrete tanks covered with black plastic sheets. Fed them with fresh food i.e. *Diopatra* sp., squid and horse mussel till satiation 3 times a day. Unilateral eyestalk ablation was applied on female broodstock to induce maturation. Let them cross mating in concrete tanks and made an artificial insemination to unmated female. Checking for gravid female everyday and took them to spawn in spawning tanks. The results showed that total amount of 57 Phuket’s gravid female prawns were found from 10 days onward after eyestalk ablation. However, only 42 gravid female spawned 10,288,000 eggs but eggs from 15 gravid female only hatched 1,858,800 nauplii. Nursing these nauplii in nursing tanks and could produce 711,640 zoea, 619,640 mysis and 192,900 PL26 respectively. Relationship between total length and fecundity of Phuket’s female prawns was expressed in equation $y = 23960x - 310682$. The results of Songkha’s prawns showed 55 gravid female were found from 5 days onward after eyestalk ablation. However, only 43 gravid female spawned 16,855,000 eggs but eggs from 6 gravid female only hatched 627,000 nauplii. Nursing these nauplii in nursing tanks and could produce 450,000 zoea, 381,000 mysis and 133,800 PL28 respectively. Relationship between total length and fecundity of Songkha’s female prawns was expressed in equation $y = 60893x - 1154716$.

Key words: 1<sup>st</sup> generation *P. monodon*, broodstock, 2<sup>nd</sup> generation