

POSTLARVAE PRODUCTION IN THE AUSTRALIAN PRAWN AQUACULTURE INDUSTRY

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The prawn farming industry in Australia has been expanding rapidly since 1989. Its growth has come from expansion in the farmed pond area and improvements in pond productivity. To supply the farms, prawn hatcheries have increased their production capacity of postlarvae (PL) mainly through improving efficiency. Following farm trends, hatchery production consists mainly of black tiger prawn (*Penaeus monodon*) although production of the Japanese king prawn (*P. japonicus*) has increased since 1992.

P. monodon is mainly sold on the domestic market at an average value of \$17/kg. However, *P. japonicus* is considered a delicacy in Japan where Japanese wholesalers pay an average of \$75/kg for the Australian product. The price sometimes exceeds \$300/kg. Most farmed *P. japonicus* is exported to Japan (Lobegeiger 1995).

Hatcheries have increased the production of *P. monodon* PLs from 94 million in 1989-90 to 130 million in 1994-95 (Table 1). However, PL production has not always followed farm demand. In 1989-90, the PL production rose to 94 million which, was in excess of industry needs. Consequently, the following season PL production decreased to 65 million to avoid production of excess larvae. Since then there has been a strong increase in PL numbers produced each season. This increase is a result of more efficient egg production and enhanced larval survival through the hatchery phase. This is evidenced by the increasing numbers of PLs produced from similar numbers of spawners each year.

Production of *P. japonicus* PLs has also increased rapidly since 1992. During the 1994-95 season it reached 25.3 million larvae. It is estimated that the requirement for *P. japonicus* larvae will increase by 10% in the 1995-96 season.

The value of the hatchery industry for *P. monodon* has increased from A\$ 1.18 million in 1992-93 to A\$ 1.8 million in 1994-95. Conversely the cost of PLs has decreased from 1.82¢ each in 1990-91 to 1.7¢ in 1994-95. By way of comparison PLs from *P. japonicus* were sold for approximately 1.8¢ in the 1993-94 season and 1.6¢ in 1994-95.

Table 1. Prawn larvae (PL) production (10⁶ PL) and its value in Australia

Season	<i>P. monodon</i>						<i>P. japonicus</i>	
	1989/90	90/91	91/92	92/93	93/94	94/95	93/94	94/95
No. of hatcheries	8	6	5	6	6	8	---	---
No. of spawners	?	2100-2200	2900	2700	2500-2700	2700-2800	500-600	600-700
PL production	94	65	97	112	146	130	17.5	25.3
Total value (\$M)	53	36	77	70	96	106	8	25.3
Cost of PLs (¢/larvae)	?	1.82	1.71	1.69	1.66	1.70	1.80	1.60
Total value (\$M)	?	0.650	1.320	1.180	1.580	1.800	0.144	0.410

Hatcheries rely on wild caught spawners which vary in availability and quality, both seasonally and from year to year. This affects PL production and poses a risk to the industry. Research is currently being carried out at the Bribie Island Aquaculture Research Centre to breed reliable spawners under captive conditions.

LOBEGERGER, R. (1995). "Aquaculture Production Survey 1994/95", Report to Farmers, QDPI.