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Milestones on tiger shrimp R&D at SEAFDEC

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Milestones on tiger shrimp R&D at SEAFDEC

The rapid expansion of the shrimp industry in the Philippines and in the region owes much to SEAFDEC/AQD's research on the tiger shrimp *Penaeus monodon*. Since 1973, technologies have been generated on broodstock development, hatchery operations and management, and pond grow-out.

In 1975, the life cycle of *P. monodon* was first completed in captivity using eyestalk ablation. Larval supply of the AQD large tank hatchery has evolved from total dependence on wild spawners (1975-1976) to the use of ablated females matured in pens (1977) and land-based tanks (1979 to the present). In 1977, AQD scaled down hatchery technology from large tanks to a small-scale "barangay" hatchery system characterized by simplified production and reduction in investment which was readily adopted by the private sector. The hatchery requirement for natural food was reduced by supplementation with egg yolk in 1981 and use of a kappa-carrageenan microbound larval diet in 1990.

In 1979, hatchery-reared postlarvae were already used in pond culture. Pond production of tiger shrimp was adversely affected by chronic soft-shell syndrome.

Identification of a number of factors particularly inadequate nutrition, water pollution, and poor pond soil quality became the basis for establishing measures to prevent and control soft-shelling in 1986. A broodstock diet and a cost-effective diet for grow-out pond were formulated in 1986.



One of the early training sessions on tiger shrimp culture (above); AQD's shrimp broodstock tanks (right)

Broodstock and hatchery technology for tiger shrimp

- 1975 completion of the tiger shrimp life cycle by eyestalk ablation
- 1977 mass production of ablated spawners in marine pens, mass production of fry in small-scale barangay hatchery, start of regular training courses in tiger shrimp hatchery
- 1978 extension manual on barangay hatchery operations, technology transferred to commercial private sector
- 1980 mass production of ablated spawners in land-based tanks
- 1986 formulation of effective broodstock diet
- 1990 formulation of effective diet for larvae in the hatchery

Pond grow-out technology for tiger shrimp

- 1976 extension manual on tiger shrimp grow-out
- 1977 start of training courses in tiger shrimp grow-out
- 1979 use of hatchery-reared fry in private commercial farms
- 1986 control of soft-shell syndrome in tiger shrimp in ponds
- 1990 formulation of a cost-effective diet for grow-out

