

**Hatchery Production and Nursery
Culture of the Angel Wing Clam,
Cyrtopleura costata, a Potential
Bivalve Species for Culture in
Sub-Tropical Waters**

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Overfishing has reduced the natural stocks of bivalve molluscs which supply the U.S. processed clam industry. The objective of this study was to evaluate candidate species indigenous to Florida's sub-tropical waters for a mariculture-based processed clam meat industry. The angel wing clam, Cyrtopleura costata, exhibited characteristics amenable to large-scale culture.

Angel wing clams were found in spawning condition throughout most of the year, with peak recruitment occurring during late summer and fall (September - December). Adult angel wing clams were induced to spawn throughout most of the year when subjected to thermal shock, mechanical stimulation or sperm infusions. Fertilized eggs developed to straight-hinged larvae within 24 hours, and these veligers were fed Tahitian Isochrysis galbana and mixed green algae (Chlorophyta) for 21 days. Settlement occurred within 16 to 21 days after fertilization at an average shell length of 317 .

Sand-filled collectors were the most efficient method for settlement of angel wing spat. Downwelling screens and collectors with less than 1 cm of sand substrate resulted in high mortality during the nursery phase due to biofouling by macroalgae, bryozoans and Capitella sp. Juvenile clams placed in shallow sand trays and fed mixed cultures of unicellular algae exhibited rapid growth, measuring 5.6 1.4 mm shell length within 30 days of settlement. Growout techniques are discussed.