

NEW TRENDS IN AQUACULTURE OF QUEEN CONCH, *Strombus gigas*

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Queen conch, *Strombus gigas*, is a large gastropod found in Florida and throughout the Caribbean. Development of queen conch aquaculture programs began in the 1970's as a means to enhance over-harvested populations and to take the pressure off the fisheries by providing meat for the food market. In 2001, Harbor Branch Oceanographic Institution started a conch aquaculture program to conduct queen conch research to improve culture techniques and to develop educational material to raise the awareness of the species.

Research breakthroughs include breeding queen conch in captivity. The queen conch laid egg masses on a raised sand bed in a recirculating culture system. Temperature was a major factor influencing spawning frequency. Viable larvae hatched from these egg masses and were cultured to juvenile stage. Studies with hatchery-reared juvenile queen conch showed that optimal growth and survival occurred with a stocking density of 75 conch per meter squared and on an aragonite sand substrate. Queen conch juveniles can be grown successfully in temperature controlled recirculating systems using salt water from a well. Juvenile conch readily consume artificial feed made from a blend of catfish chow, dried sea lettuce (*Ulva* sp.), and algininate. Conch larvae cultured in the hatchery are also used to assist in ecological studies to determine water and habitat quality for spawning sites and restocking locations. These culture techniques can be applied to growing conch for stock enhancement, for the meat market, and for the aquarium hobbyist.

The education program, Conch Heritage Network, was established at Harbor Branch Oceanographic Institution to work with the communities of South Florida and the Caribbean to advance conservation and wise management of the queen conch. The Network has developed a website (www.savetheconch.org) to help facilitate exchange and dissemination of information. The site includes queen conch research updates, educational lesson plans and activities, and conch resources. The "Conch in the Classroom" lesson plans and activities are tied to national and state standards and cover geography, fisheries, biology and aquaculture. Several teachers are using these lessons as part of their marine biology and science curriculum.

These research and education projects at Harbor Branch provide educators, scientists, aquaculturists, and resource managers with valuable information that can be used to assist in determining the most effective strategies to conserve queen conch and minimize conch fisheries pressure.