

The aquarium trade represents another growing market for giant clams. With their colorful mantles and simple upkeep, giant clams are fascinating animals and are becoming more and more popular among aquarium enthusiasts.

The greatest demand for clams is as seafood. The Pacific islanders have always prized the eating qualities of the giant clam and the local demand provides a secure market foundation. In the expanding Pacific food service industry, fresh whole giant clams also have broad appeal to tourists who are interested in trying exotic local seafood. From local islanders to chefs in five star restaurants, the most popular way of serving giant clam is as sashimi; the meats are cleaned, chopped and served in the shell accompanied by a garnish and a dipping sauce.

The clear waters surrounding Kosrae provide ideal conditions for producing safe, high quality seafood. The water in which clams are raised is routinely tested by center staff to monitor and confirm the pristine status of this environment.

FUTURE PLANS

The goal for the center is to produce 100,000 one-year-old clams annually. Market development will continue hand-in-hand with this production expansion. These efforts will help ensure that the National Aquaculture Center represents a healthy, stable economic asset to the local community as well as the entire country, and that this achievement is reached in harmony with the culture and the environment.

Visitors Welcome
9:00 a.m. to 4:00 p.m.
Monday through Friday

For more information write to:
Director
FSM National Aquaculture Center
P.O. Box JF
Kosrae, FM 96944

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(691) 370-2069



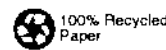
Two-year-old giant clam prepared as sashimi for Japanese restaurant.

RECEIVED

The National Aquaculture Center is a project of the FSM National Government Department of Resources and Development, Palikir, Pohnpei.

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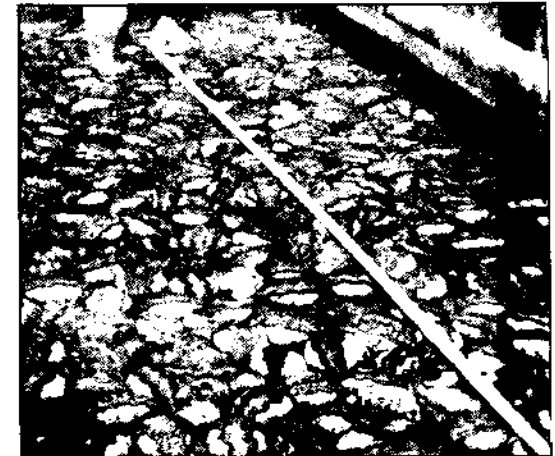
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INTRODUCTION

Many years ago giant clams were abundant throughout Micronesia and were a significant food resource for the islands' people. Ease of fishing resulted in overharvesting and a steady decline in catch. Today the natural populations are too low to support any significant fishery, and in some areas giant clams are essentially extinct.

In recent years aquacultural technology has been developed to spawn and raise large numbers of clams in controlled conditions. This has created the opportunity to establish an economically viable giant clam industry in the region.

The National Aquaculture Center was established in Kosrae in 1990 to serve as the focus for aquacultural development throughout the FSM. The first and major function of the center has been to set up and operate a giant clam hatchery, nursery, and grow-out system.



Local clam sales at the center.

FACILITIES

The center's facilities include administrative offices, a library, a laboratory, and accommodations for trainees and visiting scientists. Outside, a complex of concrete raceways and pools, ranging in size from 1,000 to 5,000 gallons, is continuously supplied with seawater pumped from a deep hole in the reef flat approximately 1,000 feet from the center. The electric pumps are backed up by diesel engine-driven pumps. The raceways are continuously aerated to increase the dissolved oxygen content and to mix the water, which ensures an even temperature distribution.

CLAM SPAWNING

Giant clams are hermaphrodites; each clam produces both sperm and eggs. Broodstock clams are placed in a raceway and spawning is induced by hormonal stimulation. Fertilized eggs are reared in small fiberglass tanks with filtered seawater. After two days, swimming larvae are collected by siphoning the tank through a fine screen and are then resuspended in fresh seawater.

Giant clams are unique among shellfish in having a symbiotic relationship with microscopic algae called zooxanthellae. The algae grow within the mantle and provide the clams with most, if not all, of their nutritional requirements. Zooxanthellae from adult clams are introduced to the larval tanks approximately five days after spawning. At this stage the larvae develop a foot and are called pediveligers. Once again they are siphoned through screening and transferred to a pool with running seawater where they settle and attach to the

bottom. After approximately five months they are harvested and transferred to raceways.

GROW-OUT

Four different species of giant clam are grown at the center; *Tridacna derasa*, *Tridacna gigas*, *Hippopus hippopus*, and *Tridacna maxima*. The young clams are kept in the raceways for one or two years, depending on what they will be used for. One-year-old clams are used in reef reseeding programs in the more remote parts of the FSM; the objective is to re-establish a breeding population and develop a subsistence fishery. Yearling clams are also sold to farmers who raise the clams in cages on the reef flats. When the clams are about two years old, they measure five to six inches (13-15 cm) and are ready for marketing to food service businesses and the local fish markets. At the center, some of the clams are kept in the raceways for two years and then sold directly to the public. From each batch of clams raised, several hundred of the fastest growing clams are kept as future broodstock.

MARKETING

In addition to the main activity of producing clams, the center has established itself as a diversified business by making inroads into three major markets. There is a high demand for the shells, for clams as aquarium specimens, and as seafood.

The beauty of the shells alone makes them a highly desirable item among shell retailers, tourists, and collectors. The shells are also used by local artisans to make candle holders, soap dishes, wasabi and sashimi sets, earrings, pins, and keychains.