

Pohnpei Pearl Project enters commercial phase

Kathryn Dennis

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The College of Micronesia (COM) Land Grant Program plans to help launch at least four locally owned private pearl oyster farms this summer as it ends the first year of Phase III, or the commercialisation phase, of its “Pearl Project.” Two farms in Pohnpei and two to three community-based farms in the outer islands will mark the beginning of what stakeholders hope will become a thriving industry in Pohnpei.

“Once we show that pearl farms can be successful, then others will feel more comfortable and get into the action,” says Singeru Singeo, executive director of the Land Grant Program at the College of Micronesia, which has its central office in Pohnpei, Federated States of Micronesia. The commercial phase began last summer with funding from USDA/CSREES and the US Department of the Interior’s Technical Assistance Office.

The goal is to harvest at least 10,000 (and up to 30,000) pearls as early as 2010 or as late as 2011 in order to go to auction in Guam and/or countries such as Japan, says Singeo. By 2008 (or 2009), then, the industry’s private farms must reach an annual production level of 100,000 pearl oysters of a size suitable for seeding. Once an oyster is seeded, it takes almost two years for it to produce a pearl of appropriate market size and quality. Also in 2008, the first private farms — launched this summer with seeded oysters from the COM’s project — will conduct a test harvest with the goal of 3,000 to 5,000 pearls.

Sounds like an impossible dream? Not so, suggests Masahiro Ito. The project’s chief scientist, Ito claims local staff regularly produce at or above the level necessary to reach these industry goals: 20,000 to 30,000 three-month-olds from a single hatchery run. They are on schedule to complete seven runs this year, four of them by mid-June, he says. Although not all the spat produced at the hatchery (to the size of 1 to 2 mm) eventually reaches optimum size for seeding, experience has shown that 80 per cent of the spat that grow out in an ocean nursery for three months become two-year-old oysters ready for seeding.

The COM Land Grant employs six local technicians at its hatchery and other facilities — all of whom have proven they can successfully and regularly spawn spat and grow out seeded oysters without

assistance. Training in grafting and seeding by a master technician began last year, and two local people will continue with this training.

From the beginning of the Pearl Project, the plan has focused on eventual commercialisation and the creation of an export market. The heart of the project, however, has been skills training for Micronesians. “Training local people is integral to the sustainability of the project and ultimately the industry,” says Singeo. The project has invested a great deal in training opportunities.

“One expert cannot handle it all. It was clear from the start of the project that we needed to train local technicians,” Ito says.

Over the last four years, the project has trained more than 70 people from local communities in ocean grow-out techniques and farm maintenance, and more than 10 people in hatchery techniques, including microalgae culture, broodstock and farm site selection, farm set-up and ocean nursery culture, says Ito. Training began the first year in 2001, as the project team and trainees turned a rundown warehouse into a low-tech, efficient hatchery at Nett Point in Pohnpei and had their first successful spat run in the project’s first nine months.

The target was unemployed people. “Usually, you pay tuition to learn. They can’t do that here and don’t have the money,” Ito says. Instead, the project gave trainees a stipend for lunch and transportation. The project has also employed local people on a casual hire basis, since the workload is not consistent throughout the year. The best and most dedicated trainees became the six technicians that now run the project’s Nett Point hatchery and nursery as well as pilot farm sites on Pakin Atoll. “By 2005, they had complete confidence in themselves. They could do spawning anytime; they could achieve larval settlement,” says Ito. He speaks matter-of-factly about project success in modest terms, yet exudes pride when he talks about “our boys”.

To build that confidence, Ito explains, he took a step back from these core trainees in 2003, a difficult position as he watched them struggle on their own. He says 2003 was tough, but “they had to learn and make their own improvements”.

Developing talent is critical to creating a productive industry — and so was building a hatchery. A

young pearl industry needs a regular source of spat to survive. Built in 2001, the hatchery system includes six 1000 L tanks. For grow out, the project's Nett Point training facility includes 12 sets of longline, each 100 m long, in an area of 1 ha. Two sub-farms in Pakin Atoll have 11 sets of longlines.

Hatchery broodstock began with 25 oysters from the wild. The project team carefully selected the best oysters from the 1000 wild specimens collected in the first year. Technicians have learned to check shell color as they check the gonad condition before spawning, says Ito. Today, the hatchery and pilot farms have 25,000 broodstock ready for spawning, plus 15,000 young adults, all of which were produced in the hatchery.

The idea is for the Pearl Project to lease its oysters, ready for seeding, to private farms at the suggested rate of 5 cents per year per juvenile or one-year-old oyster, and 10 cents per year per two year-old oyster. This year the project will have available for lease a total of 10,000 oysters: 5000 seeded and 5000 ready for seeding. In 2007, up to 35,000 could be ready for lease.

Demand for the project's oysters will play a role in determining how many farms will launch this summer, along with factors such as how many business people are willing to take on the risk, says Singeo. Priority will go to those farmers with the best chance for success, e.g. people with previous business management experience and resources such as boats and staff.

More than a dozen, potential farm sites have been identified by project technicians on Pakin Atoll and other areas such as Kitt, Mwoakilloa and Pingelap. "When people see our less than ideal location with strong trade winds, which create rough conditions and muddy water, we hope they say *If they can do it at Nett Point, then maybe we can do it at our place*," Ito says.

Clearly, the new farms will need assistance. COM does not want to be their sole support, so in 2004 it held the first of many stakeholder meetings to discuss pearl industry development. "The college's role is one of research, extension, and training. Another institution or government agency should take responsibility for the promotion of commercial activity," Singeo says.

So far, two members of the cabinet of the Pohnpei State Governor, Johnny David, have agreed to help. In early February, Kikuo Apis, director of the Economic Affairs Office, decided to take the lead in organising a public sector advisory group, and Yosuo Phillip, director of the semi-autonomous Economic Development Authority, decided to lead the formation of a private sector advisory group, says Singeo.

"The two gentlemen certainly are in a position to provide the necessary links between the Pearl Project and the government's actions as may be required," he says. (Apis and Phillip could not be reached for comment by deadline.)

The Pohnpei government needs to develop policies to support the development of an industry: permits for leasing ocean and lagoon areas, standards for pearl quality, tax incentives, and more. Also, a government agency could set up a small loan program to help farmers cover prohibitive costs, such as the services of seeding technicians, Singeo says. At the same time, he emphasises that the government must know its place, facilitating but not operating businesses.

A lot of people, resources, and institutions must come together by this summer, not to mention by 2010, when Singeo and Ito hope the industry will harvest at least 10,000 pearls, the minimum number it takes to attract serious buyers.

Almost two years ago, Ito conducted the first test harvest with oysters that had been seeded only 10 months before. Despite the early timing (harvesting usually occurs 20 to 22 months after seeding), the July 2004 harvest resulted in a high percentage of high quality (11–31% A-grade luster flaw, 64–81% green rate, and 16–26% blue rate) and roundness (13–31% round rate), Ito reports. The project has completed a harvest every summer since then and follow-up experiments this year may show more detailed results, he says.

"We have proven that we can make quality pearls from local oysters," says Singeo. Determined and hopeful that past success predicts an impressive future for the project in its commercialisation phase, he appraises the achievements of the project in establishing a hatchery, spawning, training and demonstration, seeding and quality pearl production, scientific research, and jumpstarting stakeholder meetings and support activities.

As Ito puts it, "We are just doing what we planned."

Even so, the plan means a great deal to a great many people, even if they do not know it yet. "Micronesia really needs economic development projects," Singeo says, noting that the Compact of Free Association between the United States and the Federated States of Micronesia will not last forever. "The only way for the islands to survive in the future, to have the money to support a government and infrastructure, is to have money coming from exports," he says. "Pearls are ideal because shelf life is long, weight and shipping costs are low, and selling prices are not cheap."