Kiko Technology Pacific White Shrimp Nursery Trial, 13 Sep TO 05 Oct 2012
Binh Thuy District, Can Tho Province, Vietnam

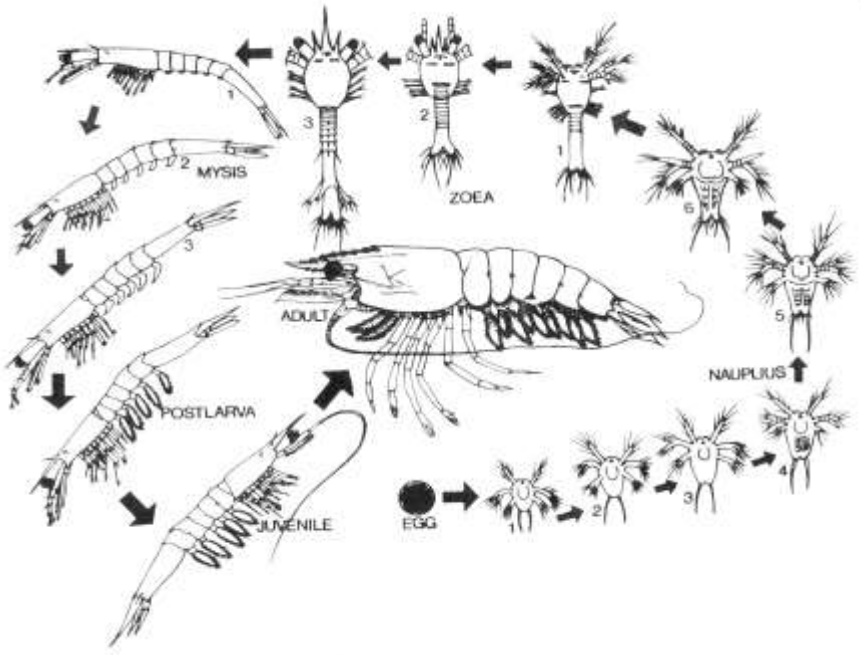
SUBJECT:

Pacific white shrimp also known as white leg shrimp (*Litopenaeus vannamei*, formerly, *Penaeus vannamei*) – a variety of shrimp of the eastern Pacific Ocean commonly caught or farmed for food.

L. vannamei grows to a maximum length of 230mm (9.1 inches) with a carapace length of 90mm (3.5 inches).

OBJECTIVE OF TEST:

To reduce mortality, using Kiko Technology, between the growth stage from nauplius to post larvae/ juvenile (22nd day).



START DATE:	**EXPECTED START DATE:**
13 September 2012	As across
FINISH DATE:	**EXPECTED FINISH DATE:**
5 October 2012	After approx. 22 days

CLIENT INFORMATION:

The client, Mr. Quyet, is a local gentleman and an ex- Cần Thơ University researcher with a 15-year history[1] of aquatic farming in the area. His indoor farm is on a live-work site in a village in Bình Thủy district, Cần Thơ province, Vietnam.

This nursery facility contains about 50 tanks and is considered a hatchery, as the focus is the egg to juvenile stages of growth.

TRIAL PROCEDURES:

One (1) Tritan KCC was installed in one (1) indoor tank on 13-Sep-12. The Seagull distribution team, Mr

James Osugi, Mr Steven See, and Ms Nari Osugi were on location to supervise the installation. At the time of installation the larvae were 02 day old nauplii. One tank usually houses approximately 1 million nauplii.

Each tank measures 2.5m x 2.5m or about 4CBM. The water is constantly controlled at 30°C, the optimum temperature to support hatchling growth.

The larvae are grown in brackish water to mimic wild conditions. Sterile salt blocks are purchased for this, and salinity is carefully measured throughout using a salinity ball.

The Pacific White Shrimp eggs are purchased from a supplier whose farm is in central Vietnam. Currently shrimp egg prices in Vietnam are generally higher than China.

These larvae are fed with Artemia ("brine shrimp") cysts of which the egg sac is rich in nutrients. The cysts are purchased in tins and hatched on-site in separate feed tanks in an adjoining room. Initially 03 grams are fed 8 times per day. Feed amount increases over time.

Juveniles are sold to another farm for grow out to adulthood, 40% mortality is considered as excellent, 50% is good, 60% or below is common.

Total mortality in one tank only (i.e. all 1 million larvae), in one rotation only, would represent a loss of about VND 15,000,000 (approx. USD $800) for the farmer – a case which is common in the risky business of larvae breeding.

In order to alleviate this risk and to initiate the Vietnamese team's first trial on shrimp larvae, Seagull Marine paid a guarantee deposit of VND 15,000,000 to Mr. Quyet, the breeder should this trial is unsuccessful.

The average market price for shrimp juveniles per rotation, per tank:

@VND 80 per juvenile or VND 48,000,000 for the whole lot of 600,000 larvae, if mortality is just 40%.

When start up with 01 million larvae as common practice, after less 40% mortality to successfully grown to post larvae/juvenile, at selling price of US $0.00385 per juvenile, the survived stock can generate US$ 2,305 per tank.



TEST RESULTS:

As at 5-Oct-12, the mortality rates of the post-larval shrimp were as follows:

Kiko treated : 50%

Control (non-Kiko) : 65% and 58% in two control tanks respectively. (Avg. 61.5%)

FOLLOW UP :

As at 17-Oct-12: Mr. Quyet highly values the output of this first trial. He will continue to set up a second trial on Tiger Prawns on 10-Oct-12. Expected finish day: 20 days.

WHERE TEST IS LOCATED:

Bình Thủy – a district of Cần Thơ (province) in the Mekong Delta region of Vietnam (location “A” on map, below):

WHO IS RUNNING THE TEST:

Mr. Quyet, Farm Owner, Bình Thủy, Cần Thơ (province), Vietnam
Mr Danny Tran, CEO, Seagull Marine-Petroleum Corporation, HCMC, Vietnam (Kiko Technology Distributor)
Ms Rachel Nguyen, Exec. Assistant to Danny Tran, Seagull Marine-Petroleum Corporation, HCMC, Vietnam
Mr. Tung Lam, Agriculturist at CLRRI, in cooperation with Seagull Marine-Petroleum Corporation, HCMC, Vietnam

NEXT STEPS:

Seagull Marine plans to set up a service contract with this farm as well as use the results to approach other prawn farmers in South Vietnam.

Submitted by

Tung Lam
Agriculturist, CLRRI
Date: 17 Oct 2012