



# CIBA NEWS

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## INTEGRATED FARMING OF PEARLSPOT (*ETROPLUS SURATENSIS*) WITH POULTRY AT NARAKKAL RESEARCH CENTRE OF CIBA



Experimental integrated fish-cum-poultry pond at Narakkal Research Centre.

Integrated farming of fish with livestock and crops is known to be an efficient means of increasing fish production through maximum recycling of wastes and a total savings on inorganic fertilizers and supplementary feeds. In an effort to evolve a low-cost technology of brackishwater fish/prawn culture with minimum inputs, experiments were conducted in raising fish (*Etroplus suratensis*) with poultry at the Narakkal Research Centre of Central Institute of Brackishwater Aquaculture and the results are presented here.

Two ponds, each 0.02 ha, were stocked with juveniles of pearlsplit @ 10,500 fish/ha. The average size of fish at stocking was 79 mm/10 g. In one of the ponds, 4 wooden cages with tiled roof were installed. The cages were located near the earthen bund for easy handling. In each cage, 3 egg-laying birds (10 weeks old) of "Astro White" variety, obtained from Kerala Agricultural University at Mannuthy, were housed. The birds were fed daily with a commercial feed mash. The fish in the control pond were fed with a feed containing groundnut oil cake, rice



A cage for rearing the poultry birds

bran, wheat bran and fish meal. No feeding was done in the poultry pond. During 438 days of culture period, the hydrography of pond water and health of fish and birds were monitored regularly.

The fish stocked in the poultry pond, receiving the bird droppings, attained a final average size of 170 mm/109 g, while the fish in the control pond reached an average size of 154 mm/74 g. Like-wise, a higher production of 805 kg/ha/438 days was estimated for the fish-cum-poultry pond and a lesser production of 638 kg/ha/438 days for the control pond. A total of 1328 eggs were obtained from the birds, which worked out to 138 eggs/bird/year. This culture experiment has clearly indicated the potential of integrated farming for increasing fish and poultry production in brackish-water aquaculture.

The work was carried out by Dr. L. Krishnan, Senior Scientist of the Institute.

## RESEARCH HIGHLIGHTS

### Shrimp disease investigations

Investigations on shrimp diseases have indicated that the tiger shrimp *Penaeus monodon* reared in the

commercial farms and hatcheries were affected with Monodon Baculovirus (MBV) and luminescent bacterial diseases.

Histopathological methods have been standardised for the detection of Systemic Ectodermal and Mesodermal Baculovirus (SEMBV) infection in the broodstock of tiger shrimp, *P. monodon*.



Adult 'Astro White' variety bird

### Shrimp nutrition

Shrimp feeds containing probiotics, namely, *Lactobacillus*, *Spirulina*, yeast and shrimp gut microflora, incorporated at 2% level, have shown better digestibility (85-91%) and growth (27-35%) compared to the control, in yard experiments with juvenile tiger shrimp (*P. monodon*).

### VISITORS

34 B.F.Sc. students from College of Fisheries, Mangalore, visited the Muttukadu Experimental Station, 4 May 1996.

Shri G.Mohan Kumar, IAS, Director (A&I), MPEDA, Kochi, visited the Headquarters and Muttukadu Experimental Station, 23 May 1996.

A group of B.F.Sc. students from College of Fisheries, G.B.Pant University, Pant Nagar, Uttar Pradesh, visited the Headquarters and Muttukadu Experimental Station, 27 May 1996.

Mr.Thng Choo Tong, Mr.Thng Bee Beng, Miss Thng Bee Lay and Miss Thng Bee Hua of M/s Tong Kee Trading Co., Singapore, visited

Muttukadu Experimental Station, participated in the MPEDA sponsored Workshop on Crab Fattening and Packaging for Industry and demonstrated the methods in handling, packaging and transport of live mud crabs for export trade, 30 May 1996.

21 B.F.Sc. students from College of Fisheries and Research Institute, Tuticorin, visited the Headquarters, 4 June 1996.

## ENGAGEMENTS

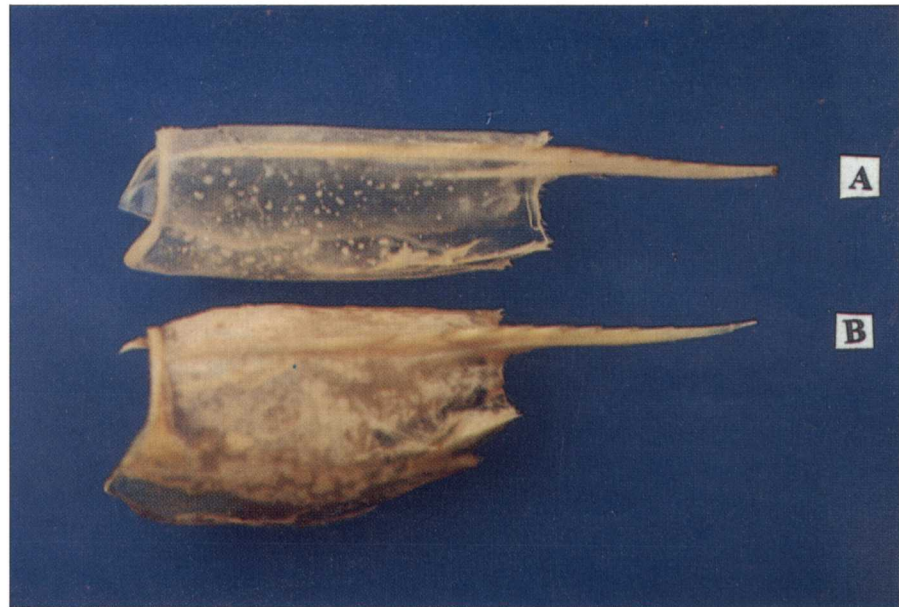
Dr. K. Alagarwami, Director, attended the following meetings:

- Second meeting of Working Group on Fisheries for IX Five Year Plan, at Dept. of Agriculture and Cooperation, Ministry of Agriculture, New Delhi, 8-9 April 1996.
- Meeting on the Introduction of Exotic Aquatic Species, at National Bureau of Fish Genetic Resources, Lucknow, 14-16 April 1996.
- The Inter-Divisional Peer Review meeting for the presentation of the Perspective Plan of the Institute, at ICAR Headquarters, New Delhi, 14-15 May 1996.
- Shrimp Hatchery Operators and Farmers Meet, organised by Aquaculture Foundation of India, at Chennai, 15 June 1996.

Dr. R. D. Prasad, Principal Scientist, attended the meeting on Fishermen Welfare and Fisheries Development and Management Policy at Directorate of Fisheries, Govt. of Tamil Nadu, Chennai, 26 February 1996.

Dr. P. Kishore Chandra, Scientist, attended the Workshop on Selective Breeding of Rohu, *Labeo rohita* at CIFA, Bhubaneswar, 21-22 March 1996.

Shri S.V. Alavandi, Scientist(SS), participated in the Seminar-cum-Farmer's Meet on Shrimp Diseases and their Control, organised by ADAK, MPEDA and MATSYAFED at Kochi, 10 April 1996.



'White spot' disease investigations: A. Carapace with lesser spots, B. Carapace with dense spots.

Dr. K. V. Rajendran, Scientist, attended the Seminar on Shrimp Diseases, organised by MPEDA at Haroa, West Bengal, 24 April 1996.

The following scientists have served as faculty members of the semester in Aquaculture and Marine Biotechnology, Centre for Biotechnology, Anna University, Chennai, during February-April 1996

and delivered lectures (topics given in brackets) to the final year students: Dr. P. Ravichandran (hatchery technology for shrimp), Dr. S. Kulasekarapandian (mass culture of live feed organisms), Dr. M. Natarajan (bioenergetics and feed selection), Dr. S. A. Ali (microencapsulated diets), Dr. A. R. Thirunavukkarasu (hormones for controlled spawning in fish and hatchery technology for fish), Shri N.



Dr. B. P. Gupta, Senior Scientist, explaining the Institute's role in brackishwater environmental studies to Shri K. Jagadeesh, Deputy Director, MPEDA, Chennai and Shri G. Mohan Kumar, Director, MPEDA, Kochi, during their visit to Muttukadu Experimental Station.



Workshop on Crab Fattening and Packaging for Industry, organised by MPEDA at Muttukadu Experimental Station.

Kalaimani (fish processing technology), Dr. K. O. Joseph (instruments for monitoring physico-chemical parameters in water quality management), Shri S. V. Alavandi (bacterial and fungal diseases of shrimp and fish), Dr. K. K. Vijayan (histopathology of shrimp and fish diseases), Dr. K. V. Rajendran (parasitic diseases of shrimp and fish) and Dr. S. S. Mishra (viral diseases of shrimp and fish).

Shri M. Kathirvel, Senior Scientist and Dr. C. P. Balasubramanian, Scientist, attended the Workshop on Crab Fattening and Packaging for Industry, organised by MPEDA at Muttukadu Experimental Station, 30 May 1996.

Dr. S. S. Mishra, Scientist, attended the Workshop on Molecular Methods for Rapid Detection of Seafood Associated Pathogens, sponsored by UNESCO/FAO/ODA and organised by the Dept. of Fishery Microbiology, College of Fisheries, Mangalore, 10-14 June 1996.

Dr. L. H. Rao, Shri M. Kathirvel and Dr. P. Ravichandran, Senior Scientists and Dr. K. O. Joseph and Shri S. V. Alavandi, Scientists (SS),

participated in the Shrimp Hatchery Operators and Farmers Meet, organised by Aquaculture Foundation of India, Chennai, 15 June 1996.

### MEETINGS

The third meeting of Institute's Joint Staff Council was held on 15 June 1996.

### TRAINING

Two technical staff of M/s Indo-Aquatic Ltd., Nellore, Andhra Pradesh, namely Shri S. Venugopal and Shri G. Ravi, underwent training in shrimp health and environment monitoring at CIBA Headquarters, 15 June 1996.

### HUMAN RESOURCE DEVELOPMENT

Dr. K. K. Vijayan, Scientist (SS), underwent a 3-month training course in basic methodologies in genetic engineering, cell biology and bio-process technology at the Centre for Biotechnology, Anna University, Chennai, 25 March to 15 June 1996.

### STAFF NEWS

#### Appointment

Shri R. Balakumaran, SS Grade I as Driver at Chennai, 28 May 1996.

### Promotion

#### Technical Personnel:

Shri P.M. Abdul Kadir, T-5 with 3 Advance Increments, w.e.f., 1 July 1993.

Shri N. Venugopal, T-4 as T-5, w.e.f., 1 January 1995.

Shri K.K. Surendran, T-I-3 with 3 Advance Increments, w.e.f. 1 July 1994.

Shri C.S. Sasidharan, T-I-3 with 3 Advance Increments, w.e.f., 1 July 1994.

Shri B.B. Roy, T-I-3 as T-II-3, w.e.f., 1 January 1995.

Shri M.G. Subramani, T-I-3 as T-II-3, w.e.f., 1 January 1995.

Shri M. Gopinathan Nair, T-I-3 as T-II-3, w.e.f., 1 July 1995.

Shri M.G. Sivadasan, T-I-3 as T-II-3, w.e.f., 1 January 1995.

### Classification

The following auxiliary personnel (Driver), namely S/Shri P. C. Mohanty, K. Paranthaman and R. Balakumaran were classified as Technical Assistant w.e.f., 29 June 1996.

### Transfer

Shri G. Sasidharan, Administrative Officer from CIBA, Chennai to CIFT, Kochi, 15 May 1996.

Shri P.K. Manimandram, Administrative Officer from CIFT, Kochi to CIBA, Chennai, 24 May 1996.

### Relief

Shri T. Ravisankar, Scientist, relieved on 3-year study leave, 2 April 1996.

### Award

Dr. P. Kishore Chandra, Scientist, was awarded the Doctoral Degree in Animal Genetics and Breeding in the Faculty of Veterinary Science by the Andhra Pradesh Agricultural University for his thesis entitled "Studies on some aspects of progeny testing of buffalo bulls", in March 1996

