



# CIBA NEWS

Volume 6, No.4

OCTOBER - DECEMBER 2001

CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE, CHENNAI

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## Editorial Committee:

Dr.S.M.Pillai,

Shri M.Kathirvel,

Dr.C.P.Rangaswamy,

Dr.(Mrs.) Munawar Sultana and

Dr.N.Kalaimani,

Principal Scientists

## Published by :

Dr.Mathew Abraham,

Director,

CIBA, Chennai-28

**Central Institute of Brackishwater Aquaculture**

75, Santhome High Road, R.A. Puram,  
Chennai - 600 028.

## HATCHERY TECHNOLOGY FOR SEABASS TRANSFERRED TO RAJIV GANDHI CENTRE FOR AQUACULTURE (RGCA)

For the first time in India, a major breakthrough was achieved by CIBA in the breeding of the Asian Seabass (Bhetki) *Lates calcarifer*, during July, 1997. Subsequently, the seabass hatchery seed production technology was standardized and a technology package including development of land-based captive broodstock, induced breeding, larval rearing and live feed culture, was evolved by the Institute. As a part of transfer of technology, a consultancy project on seabass seed production was taken up for the Rajiv Gandhi Centre for Aquaculture (RGCA), Mayiladuthurai, under the Marine Products Export Development Authority (MPEDA). An MOU with RGCA was signed in November 1999. The consultancy cost was Rs.6,74,275/- with a project duration of two years. The technology transfer was programmed in two phases. The first phase was the selection of a suitable site / hatchery, based on a feasibility study and suggestions, to be rendered by CIBA on required modifications in the existing facilities and development of additional facilities. The second phase was the technology transfer by CIBA through demonstration and training in different aspects of the technology package viz., procurement, transport, acclimatization and maintenance of broodstock fishes, feeding and health management, monitoring and assessment of maturation, selection of breeders, induced breeding, egg collection and incubation, larval and nursery rearing and live feed culture.

A private shrimp hatchery located at Thoduvai village, (Sirkazhi Taluk), in the Nagapatinam District of Tamil Nadu, was

taken on lease by the RGCA. The existing facilities available in the hatchery viz., maturation tanks, larval and post-larval rearing facilities, water and air supply systems, algal culture tanks, algal stock culture maintenance room, etc. were utilized and necessary modifications were made to suit the requirements for seabass seed production.

RGCA initiated the process of broodstock development in one of the reservoirs of 100 ton capacity. Fishes in the size range of 2.0 to 6.0 kg were procured from the wild (Kille backwaters and Karaikal) and transported by trucks to the hatchery and released into the broodstock holding tanks after necessary acclimatisation and quarantine. 25 broodstock fishes comprising 20 females and 5 males were maintained from January 2001 onwards. From this broodstock, within a period of 10 months, matured male and female fishes were obtained and the



Injection of reproductive hormone to seabass by RGCA official.

first successful induced spawning was achieved at the RGCA hatchery during November 2001.

The RGCA hatchery personnel were imparted training by CIBA in all the aspects of seabass breeding and seed



production. Culture of live feed *Chlorella* sp., *Tetraselamis* and Rotifer stock and mass cultures were also demonstrated. RGCA is now in a position to maintain continuous culture of live feed organisms suitable for seabass larval rearing.

The transfer of seabass seed production technology to RGCA, has led to the production of 0.30 million fry of seabass, at the initial stage. The fry were supplied to farmers in Andhra Pradesh and Tamil Nadu. With the development of additional facilities required for broodstock holding, maturation and spawning, RGCA will shortly enter into large scale seed production of seabass, adopting CIBA's seed production technology.

### RESEARCH HIGHLIGHTS

- The effect of feed additives viz.,  $\beta$ -carotene, chitin and glucosamine on growth promotion in tiger shrimp *Penaeus monodon* juveniles (average weight 1 g), was evaluated by a feeding trial of 45 days duration, under laboratory conditions. Results indicated that  $\beta$ -carotene gave the highest weight increase and better FCR followed by glucosamine and chitin.
- Edible mushrooms incorporated in a standard shrimp feed formulation at 0, 5, 10 and 15% levels were tested for their efficacy as immunostimulants, on tiger shrimp, *P. monodon* postlarvae (PL 15), in a laboratory feeding trial of 90 days duration. Results indicated that addition of mushroom at 10% level to shrimp feed evoked higher immune response in shrimps as evidenced by the higher level of phenol oxidase activity in the haemolymph, at the end of the trial.

### VISITORS

- Mr. Bruno Chavarial, Engineer, COFREPECHE / IFREMER, France, 30 November 2001.
- Dr. P.V. Dehadrai, Ex-DDG (Fy.), ICAR, New Delhi, 20 December 2001.
- Dr. M. Devaraj, Ex-Director, CMFRI, Kochi, 20 December 2001.
- Dr. Sher Ali, Professor, National Institute of Immunology, New Delhi, 20 December 2001.
- Dr. A.D. Diwan, ADG (M. Fy.), ICAR, New Delhi, 20 December 2001.

- Dr. Y.S. Yadava, BOBP Co-ordinator, Chennai, on 20 December, 2001

### ENGAGEMENTS

Dr.G.R.M.Rao, Director, attended the following meetings / workshops / seminars:

- NORAD Meeting, at New Delhi, 1 October 2001.
- National Seminar on Use of Hindi in ICAR Fisheries Research Institutes - Issues and Prospects, at CMFRI, Kochi, 12 October 2001.
- Sixth National Seminar of the Indian Society for Coastal Agricultural Research (ISCAR), at ANG Ranga Agricultural University, Hyderabad, 20-23 November 2001. The Director chaired the session and presented a paper on Coastal Aquaculture.
- Meeting of National Committee on Introduction of Exotic Aquatic Species in Indian Waters, at NBFGR, Lucknow, 1-2 November 2001.
- 24th Meeting of Aquaculture Authority, at Chennai, 3 November 2001.
- International Symposium on Fish for Nutritional Security, at CIFE, Mumbai, 4-6 December 2001 and presented a paper.
- XVIII Meeting of ICAR Regional Committee No.VIII, at CTCRI, Tiruvananthapuram, 14-16 December 2001.
- ICAR Directors' Meeting at NBPGR, Pusa, New Delhi, 27-28 December 2001.

The Scientists attended the following seminars / symposia / meetings:

- Shri K.Ponnusamy, Scientist, participated in the Zonal Review Meet of ICAR under the Institute Village Linkage Programme of National Agricultural Technology Project, at Gandhigram Rural Institute, Dindigul, 18-20 October 2001.
- Dr. A.R. Thirunavukkarasu, Dr.S.A.Ali and Dr.N.Kalaimani, Principal Scientists and Dr.M.Kumaran, Scientist, participated in the International Symposium on Fish for Nutritional Security, at CIFE, Mumbai, 4-6 December 2001 and presented papers.
- Dr.(Mrs.) Munawar Sultana, Principal

Scientist, attended the International Symposium on Women in Fisheries, at CIFE, Mumbai, 11-12 December 2001 and presented a paper.

- Dr.T.Ravisankar, Scientist (Senior Scale), Shri K.Ponnusamy and Dr.(Mrs.)Ch.Sarada, Scientists, attended the Sixth National Seminar of Indian Society of Coastal Agricultural Research (ISCAR), at ANG Ranga Agricultural University, Hyderabad, 20-23 November 2001 and presented papers.
- Shri K.Ponnusamy and Mrs.B.Santhi, Scientists, attended the National Seminar on National Policy on Empowerment of Women, at Avinasingam Deemed University, Coimbatore, 14-15 December 2001 and presented papers.

### MEETINGS

- The 22nd Meeting of the Institute Management Committee (IMC) of CIBA was held at CIBA Headquarters, Chennai, on 19 December 2001, under the Chairmanship of Dr.G.R.M.Rao, Director.



7th Research Advisory Committee Meeting on 20 December 2001 under the Chairmanship of Dr.P.V.Dehadrai, Retd. Deputy Director General (Fy.), ICAR, New Delhi. Seated on the left: Dr.G.R.M.Rao, Director, Dr.A.D.Diwan, Asst. Director General (M.Fy.) and Dr.Y.S.Yadava, BOBP Coordinator, Chennai.

- The 7th Meeting of the Research Advisory Committee (RAC) of the Institute was held at CIBA Headquarters, Chennai, during 20-21 December 2001, under the Chairmanship of Dr.P.V.Dehadrai, Ex-DDG (Fy.), ICAR. The following RAC members attended: Dr.M.Devaraj, Ex-Director, CMFRI, Kochi; Dr.Sher Ali, Professor, National Institute of Immunology, New Delhi; Dr.Y.S.Yadava, FAO-BOBP Co-ordinator, Chennai and Dr.A.D.Diwan, A D G ( M . F y . ) , I C A R .

### HUMAN RESOURCE DEVELOPMENT

- Dr.T.Ravisankar, Scientist (Senior Scale), Shri K.Ponnusamy and



Dr.M.Kumaran, Scientists, participated in the training programme on Hybrid rice-seed production (under NATP/IVLP for Technology Assessment and Refinement in Coastal Agro-ecosystem of Tiruvallur district of Tamil Nadu), at Tamil Nadu Rice Research Institute, Tamil Nadu Agricultural University, Aduthurai, 6 November 2001.

## TRAINING

- A training programme on soil and water quality management for brackishwater aquaculture was conducted at Muttukadu Experimental Station of CIBA, from 15-24 November 2001. Three officials from MPEDA, one each from regional centers at Karwar, Vijayawada and Kochi, and one shrimp farmer from Andhra Pradesh participated in the programme.



Dr.Mathew Abraham, Principal Scientist & Head, Fish Culture Division, distributing certificate to a participant of the training programme on Soil and Water quality Management in Brackishwater Aquaculture on 24 November 2001.

- Field visit/Training on scientific rice farming was organized under NATP-IVLP for sixteen farmers, at Tamil Nadu Rice Research Institute (TNAU), Aduthurai, Tanjore district, on 6 November 2001.

Lectures and demonstrations were conducted for the following at CIBA Headquarters / Muttukadu Experimental Station.

- 10 fish farmers from Andhra Pradesh, 11 October 2001.
- 16 students (M.Sc. Aquaculture) from Dept. of Zoology, Govt. Arts College (Nandanam), Chennai, 29 October 2001.
- 19 students (M.Sc. Zoology) from M.S.University, Baroda, Gujarat, 17 November 2001.
- 21 students (M.F.Sc.) from Dept. of Applied Aquaculture, Barkatullah

University, Bhopal, 29 November 2001.

## HINDI DAY CELEBRATIONS

The Hindi Day was celebrated at CIBA Headquarters, Chennai, on 6th October, 2001. A function was organised by the Hindi Cell of CIBA and presided over by Dr. G.R.M. Rao, Director. A Hindi Debate Competition was conducted and 1st and 2nd Prizes were awarded to the best debaters. 74 CIBA Personnel participated.



Hindi Day Celebration at CIBA, Chennai on 6 October 2001. Cultural Programme - Hindi Song by Shri Rajukumar, T-II-3. Sitting from left to right Dr.B.P.Gupta, Principal Scientist & SIC, AEED, Dr.G.R.M.Rao, Director and Dr.Mathew Abraham, Principal Scientist & Head, Fish Culture Division.

## ARS EXAMINATION 2001

- The ARS / SRF / NET Examination 2001 was conducted by CIBA, at Chennai, during 22-24 October 2001.
- The ARS Examination - Special Recruitment Drive for North Eastern Hill Regions and Andaman and Nicobar Islands was conducted by CIBA, at CIBA Headquarters, Chennai, during 26-28 December 2001.

## CIBA WEBSITE

The 2nd edition of the CIBA Website [www.nic.in/ciba/](http://www.nic.in/ciba/) was inaugurated by Dr. P.V. Dehadrai, Ex. DDG (Fy.), ICAR, New Delhi, 21 December 2001.



Inauguration of second edition of CIBA Web site by Dr.P.V.Dehadrai, Retd. Deputy Director General (Fy.), ICAR, New Delhi on 21 December 2001. Dr.G.R.M.Rao, Director, Dr.Y.S.Yadava, BOBP Coordinator, Chennai and Dr.M.Devaraj, Retd. Director, CMFRI, look on.

## SHIFTING OF CIBA HEADQUARTERS TO NEW BUILDING

The Institute's Headquarters shifted its premises from the rented building at Mahalingapuram, Chennai, to the newly constructed, Laboratory cum Administrative building, at 75, Santhome High Road, Raja Annamalai Puram Chennai 600 028 and started functioning from the new premises from 1 October 2001.

## STAFF NEWS

### Ph.D. Degree Award

- Dr (Mrs.) M.Jayanthi, Scientist, was awarded the Ph.D. degree in Civil Engineering, on 30 November 2001, by Anna University, Chennai, for her thesis entitled "Evaluation of Aquaculture and its impact in Pichavaram".

### Appointment

- Shri H.Pandarinath appointed as Hindi Typist, 12 December 2001.

### Relief

- Shri A.E.Raju, S.S.Gr.III, relieved on voluntary retirement, 1 December 2001.

### Study leave

- Shri A. Panigrahi, Scientist, relieved on study leave, 1 October 2001.
- Dr.K.Ambasankar, Scientist, relieved on study leave, 29 October 2001.
- Dr.T.K.Ghosal, Scientist, relieved on study leave, 1 November 2001.

### Obituary

- Shri N.C.Som, S.S.Gr.II, Kakdwip Research Centre of CIBA, 15 December 2001.



Dr.(Mrs.) M.Jayanthi, Scientist, awarded Ph.D.degree in Civil Engineering by Anna University, Chennai, on 30 November 2002



केन्द्रीय खारापानी जलजन्तु पालन संस्थान

## केखाजपासं. की सीबास हैचरी प्रौद्योगिकी का राजीव गाँधी जलकृषि केन्द्र (रागाजके.) एम.पी.ई.डी.ए. को अंतरण

केखाजपासं. ने एशियन सीबास (भेतकी), लेट्स कालकेरिफर के प्रजनन में महत्वपूर्ण उपलब्धियाँ प्राप्त की है। इसके पश्चात् सीबास हैचरी प्रौद्योगिकी को मानकीकृत किया गया तथा संस्थान द्वारा भू-आधारित बंधक सीबास शावक संजाति, प्रेरित प्रजनन, लार्वल रियरिंग तथा जीवित आहार संवर्धन के लिए प्रौद्योगिकी पैकेज विकसित किया गया। प्रौद्योगिकी अंतरण के अन्तर्गत केखाजपासं. द्वारा समुद्री उत्पाद निर्यात विकास प्राधिकरण (एम.पी.ई.डी.ए.) के अधीन राजीव गाँधी जलकृषि केन्द्र, मैलाडुदुरे के लिए परामर्श परियोजना अपनाई गई। रागाजके. के साथ नवम्बर, 1999 में दो वर्ष अवधि की परियोजना के लिए परामर्श लागत 6,74,275/- रु. के सहमति पत्र पर हस्ताक्षर किए गए।

प्रौद्योगिकी अंतरण का कार्य दो चरणों में पूरा किया गया। प्रथम चरण में थोडुवई ग्राम, सीरगाली तालुका, नागपट्टिणम् जिला, तमिलनाडु में विद्यमान झींगा हैचरी का चयन किया गया तथा इसे सीबास बीज उत्पादन के अनुकूल परिवर्तित किया गया। प्रौद्योगिकी अंतरण के द्वितीय चरण में सीबास बीज उत्पादन के भिन्न-भिन्न पहलुओं पर प्रदर्शन व प्रशिक्षण कार्यक्रम आयोजित किए गए।

केखाजपासं. के सीबास बीज उत्पादन प्रौद्योगिकी के अंतरण तथा परामर्श से रागाजके. के द्वारा 0.30 मिलियन सीबास फ्राई उत्पादित किए गए।

**शोध विशिष्टताएँ :**

\* टाइगर झींगा पी. मोनोडान (जुवेनाइल्स का औसत वजन 1 ग्रा.) की वृद्धि के लिए 45 दिनों के आहार परीक्षण के द्वारा आहार योगशील (जैसे  $\beta$ -केरोटिन, चिटिन तथा ग्लूकोजमाइन) के प्रभाव का मूल्यांकन किया गया। परिणाम यह दर्शाते हैं कि चिटिन व ग्लूकोजमाइन की अपेक्षा  $\beta$ -केरोटिन वजन में

उच्च वृद्धि तथा एफ.सी.आर. प्रदान करता है।

\* आदर्श झींगा आहार सूत्र में 0, 5, 10 एवं 15% अलग-अलग स्तरों पर भोज्य मशरूम मिलाकर प्रयोगशाला में 90 दिनों के आहार परीक्षण के द्वारा टाइगर झींगा डिम्बकोत्तर पी. मोनोडान (पी.एल. 15) पर इसके रोग-निरोधक प्रेरक के रूप में प्रभाव को देखा गया। परिणाम यह दर्शाते हैं कि झींगा आहार में 10% मशरूम मिलाने से झींगों में रोग-निरोधक क्षमता बढ़ती है। जो हिमोलिफ में उच्च स्तरीय फिनोलाक्सिडेस क्रिया को दर्शाता है।

**बैठकें :**

\* 19 दिसम्बर, 2001 को केखाजपासं. की संस्थान प्रबंधन समिति की 22वीं बैठक केखाजपासं. मुख्यालय, चेन्नई में हुई।

\* 20-21 दिसम्बर, 2001 को संस्थान की शोध सलाहकार समिति की 7वीं बैठक केखाजपासं. मुख्यालय, चेन्नई में हुई।

**प्रशिक्षण :**

\* 15-24 नवंबर, 2001 को केखाजपासं. के मुत्तुकाडु प्रयोगिक केन्द्र पर "खारेपानी में जलकृषि के लिए मृदा व पानी के गुणवत्ता प्रबंधन" पर प्रशिक्षण कार्यक्रम आयोजित किया गया।

\* केखाजपासं. मुख्यालय व मुत्तुकाडु प्रायोगिक केन्द्र पर व्याख्यानों व प्रदर्शनों का आयोजन किया गया।

**हिन्दी दिवस समारोह :**

\* 6 अक्टूबर, 2001 को केखाजपासं. मुख्यालय, चेन्नई में डा. जी.आर.एम. राव, निदेशक की अध्यक्षता में "हिन्दी दिवस" मनाया गया। इस अवसर पर वाद-विवाद प्रतियोगिता का आयोजन किया गया तथा विजेताओं को प्रथम व द्वितीय पुरस्कार प्रदान किए गए। सांस्कृतिक कार्यक्रमों का भी आयोजन किया

गया। समारोह में 74 लोगों ने भाग लिया।  
**ए.आर.एस. परीक्षा 2001 :**

\* 22-24 अक्टूबर, 2001 को केखाजपासं. द्वारा चेन्नई में ए.आर.एस./एस.आर.एफ./एन.ई.टी. परीक्षा आयोजित की गई।

\* 26-28 दिसम्बर, 2001 को केखाजपासं. द्वारा केखाजपासं. मुख्यालय, चेन्नई में उत्तरपूर्व पहाड़ी क्षेत्र तथा अंडमान निकोबार द्वीप समूह के लिए विशेष भर्ति अभियान के अंतर्गत ए.आर.एस. परीक्षा आयोजित की गई।

**केखाजपासं. मुख्यालय का संथोम, चेन्नई में नव-निर्मित भवन में स्थानांतरण :-**

महालिंगपुरम्, चेन्नई में स्थित संस्थान के मुख्यालय का स्थानांतरण अपने नव-निर्मित प्रयोगशाला-सह-प्रशासनिक भवन, 75, संथोम हाई रोड, चेन्नई-600 028 में किया गया। इस नए परिसर में 1 अक्टूबर, 2001 से कार्य प्रारंभ हो गया।

**स्टाफ समाचार :**

**पीएच.डी. उपाधि :**

डा. एस. जयन्ती, वैज्ञानिक को सिविल इंजीनियरिंग में अण्णा विश्वविद्यालय द्वारा 30 नवम्बर, 2001 को पीएच.डी. उपाधि प्रदान की गई।

**नियुक्ति :**

12-12-2001 को श्री एच. पंडरिनाथ की हिन्दी टंकक के पद पर नियुक्ति हुई।

**भारमुक्त :**

1-12-2001 से श्री ए. ई. राजु, एस.एस.जी.आर.-III को स्वेच्छिक सेवा-निवृत्ति पर भारमुक्त किया गया।

**अध्ययनार्थ छुट्टी :**

श्री ए. पाणिग्रही, वैज्ञानिक को 1-10-2001 से डा. अम्बाशंकर, वैज्ञानिक को 29-10-2001 से तथा डा. टी. के. घोसाल, वैज्ञानिक को 1-11-2001 से अध्ययनार्थ छुट्टी पर भारमुक्त किया गया।