CIFRI newsletter

ICAR

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Calcutta T. V. Highlights CIFRI Achievements

The strenous efforts put in to demonstrate the effectiveness of high fish yielding technology of composite fish culture of Gangetic and Chinese carps which have resulted in yields as high as 3 000-9,000 kg/ha/yr constituted the central theme of the coverage of achievements of CIFRI by the Calcutta Centre of Doordarshan in their programmes on 2nd and 4th October, 1976. The activities of the Krishnanagar Operational Research Centre of the Institute at Anjana Fish Farm, Krishnanagar, in collaboration with the State Fisheries Department where efforts have been put to produce yields of high magnitudes from larger sheets of water, were telecast. At this centre, from three experimental ponds (2.15, 1.93 and 1.48 ha in area), in 1973-74 season a total of 20,232 kg of fish ranging from 2.654-4,290 kg/ha/yr have been produced as against the previous production record of only 462 kg/ha/yr. Fish production from these ponds has been increased to about eight times by adopting the technique of composite fish culture. A total sum of

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CIFRI FILM "INDUCED BREEDING" BAGS INTERNATIONAL PRIZE

At the International Festival of Films on Aquaculture, organised by the FAO of the United Nations in conjunction with the FAO Technical Conference on Aquaculture held in Kyoto, Japan, during 26th May to 2nd June, 1976, the Indian Film entitled "Induced Breeding" based on the work of the Central Inland Fisheries Research Institute, won the First Prize under the instructional category of films. Dr V. G. Jhingran, Director, Central Inland Fisheries Research Institute, who attended the conference, received the award on behalf of the country.

Central Experimental Aquaculture Reseaach & Training Centre, Dhauli, Orissa

The many notable scientific contributions have been made by the Cuttack Research Centre of the CIFRI under limited field facilities, *viz.*, a small improvised fish farm having less than 50 experimental ponds very kindly placed at the disposal of the Institute by the Fisheries Department of the Government of Orissa against the requirement of about 800 experimental ponds of different sizes. This limitation of the basic field facility for developmental research has been fully recognized and the need for establishing large well-designed modern fish farm for the CIFRI has been given top priority by the Indian Council of Agricultural Research. For setting the new fish farm, Institute has acquired about 144 ha of land at Dhauli in Orissa. The proposed farm will have about 800 experimental ponds of different sizes wherein statistically designed experiments on fish production, fish hybridization and selective breeding, fish genetics, fish nutrition, etc. to improve the stocks of fish would become possible. These limitations have hitherto denied further progress in aquacultural research along productive and significant directions.

It is proposed that this Central Fish Farm would gradually grow into a big complex (Dhauli Complex) as the principal national and an international centre for developmental research, training and extension in freshwater fish culture.

A Krishi Vigyan Kendra and a Trainers' Training Centre for fish culture have also been established at the adjacent State Government Fish Farm at Kausalyagang.

RESEARCH NEWS

REARING OF MACROBRACHIUM ROSENBERGII

The rearing of the larvae of the giant freshwater prawn *Macrobrachium rosenbergii* (deMan) has been successfully done at the Kakinada Research Centre of the Institute. Freshly hatched larvae were released in earthen pots with 30 litres of aged and diluted sea water (20%) containing rich plankton. After attainment of the sixth stage, the larvae were transferred to a round and flat bottomed trough of 10 litre capacity with the facilities for continuous aeration and circulation of water. The larvae were fed with freshly hatched *Artemia* nauplii and minced algae for a week and later with freshly hatched *Artemia* nauplii alone for the next three days and finally for the remaining days of the experiment, the feed for the larvae was finely sliced and cleaned *Tubifex* worms. After 10 moultings in 38 days the larval rearing was completed. In the second experiment, success was achieved in rearing the prawn larvae even when no *Artemia* nauplii were fed to the larvae. The larvae developed in the earthen pot itself even after the sixth stage and the larval development was completed in 42 days.

Subsequently in another eight sets of experiments where 40% sea water (with 35.19‰ salinity) was used, varied types of feed were tried and the larval development was successfully completed in 38 to 51 days. The larval development was quicker at a temperature range of 24.5° to 30.5°C. During the experiments, DO of the ambient water was between 3.95 and 6.55 ppm.

Seed thus raised in the laboratory was stocked in a 0-02 ha pond at Balabhadrapuram in July, 1976 @ 5,650/ha. Harvesting was done on 5th November, 1976 and gross and net productions of 284 and 243 kg/ha/4 months respectively were attained with a survival rate of about 74%. This is a significant achievement since at a low stocking density and short period of rearing in pond a net production of 243 kg/ha has been obtained.

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Rs. 58,576/- (including all inputs and salary of watchmen and fishermen) was spent to produce 20,332 kg of fish from the three ponds the cost of production being Rs. 2.94/kg. The fish was sold to the public at Krishnanagar @ Rs. 4.50/kg during that year.

The fish produced under this project in the second experiment has been sold to the general public of Krishnagar @ 6 to Rs. 7/kg depending upon the size of fish, through four different fish sale counters especially set up at Krishnanagar and Ranaghat for the purpose by the Nadia District Fishermen Cooperative Federation, under the direct supervision of the District Magistrate Nadia. Such a sale of fish produced in a State Government Fish Farm by the Central Inland Fisheries Research Institute, Barrackpore to the people, was a unique activity in West Bengal and contributes to the Prime Minister's 20 point Programme.

Fish Culture in Sewage-fed Ponds

Fish ponds enriched with sewage provide an environment where the growth of the Indian major carps is remarkably fast and the yield is appreciably high. As is well known, recycling of domestic wastes provides possibility of fish culture doing away with the use of organic and inorganic fertilisers which are in limited supply in the country. The possibility of culturing silver carp with major carps in sewage enriched ponds has been recently indicated where the former was found to grow to about 996 g in four months. Culture of *Tilapia mossambica* in water enriched with treated sewage gave gross production of 9,350 kg/ha/yr. No special management measures were adopted except for irrigating the pond adequately with sewage effluents and repeatedly harvesting the fish at short intervals. In an experiment on mixed culture of Indian and exotic carps in a sewage enriched pond (0.170 ha) at Rahara, 24-Parganas, West Bengal, a net production of 5,710 kg/ha/9 months was obtained.

Pelleted Feed for Trout

The experiments conducted at the Srinagar Research Centre of CIFRI have shown the possibility of

commercialising trout culture in the country by formulating pelletised feeds having crude protein content ranging from 28 to 39.%

In over 60 trials conducted with brown and rainbow trout as test animals with feeds having 28, 35 and 39.1% crude protein levels, conve sion ratios obtained ranged between 1.4 and 2.0. The manufacturing cost for commercial production of the pelleted feed containing crude protein ranging from 35-40% has been worked out to be Rs. 2.25 per kg.

Culture of Magur, Clarias Batrachus as a Component in Carp Culture

An experiment on polyculture of carps with magur, *C. batrachus* in a 0.06 ha pond in village Amgachhia, district 24-Parganas, West Bengal indicated tremendous possibility of culture in rural ponds. A production of 1,975 kg of carps/ha/8½ months and 1,200 kg of magur/ha/4½ months was obtained from the experimental pond showing a receipt of Rs. 15,528/- per hectare, magur alone contributing Rs. 10,312/-.

In the above experiment the Indian and Chinese major carps were stocked at 5,000 fingerlings/ha whereas magur at 20,000 fingerlings/ha. Supplementary feeding was done with mustard oilcake and rice bran mixture for carps, cauliflower leaves for grass carp and low grade dried marine trash fish for magur.

FAO SYMPOSIUM

Dr. V. G. Jhingran, Director, Central Inland Fisheries Research Institute, Barrackpore was the Chairman/Convenor of the FAO Symposium on the "Development and Utilisation of Inland Fisheries Resources" held in Colombo (Sri Lanka) during October 25-30, 1976. Dr. P. V. Dehadrai, Senior Fishery Scientist of the Institute also participated in the symposium.

EXTENSION ACTIVITIES

TRAINING IN BRACKISHWATER PRAWN AND FISH CULTURE

For the benefit of Fishery Operatives of West Bengal and Orissa, an eight day training course in Brackishwater prawn and fish culture was organised jointly by the Institute and the Marine Products Export Development Authority, India, during June 21 to 28, 1976 at the Kakdwip Research Centre of the CIFRI. Thirty six trainees (28 from West Bengal & 8 from Orissa) participated in the training. Brochures incorporating lectures, both in English and Bengali, on different aspects of brackishwater fish and prawn farming were presented to the trainees.

FISH FARMER'S DAY

A "Fish Farmer's Day" to demonstrate *Clarias* culture achievements was jointly organised at Kalyani on 26th May, 1976 by the Directorate of Fisheries, West Bengal, Bidhan Chandra Krishi Viswa Vidyalaya and Central Inland Fisheries Research Institute, Barrackpore. During the discourse with the Fish Farmers and others, the Deputy Director Fisheries, In-charge, centrally sponsored centre, Directorate of Fisheries, West Bengal, highlighted the achievements of the centrally sponsored centre of the Coordinated Research Project on Air-breathing Fish Culture. A Production of 5,500 kg/ha in five months only was attained when young *Clarias* was stocked @ 40,000/ha and fed with low grade dried marine trash fish. Besides 45 Fish Farmers and others, Dr. C. V. Kulkarni, Dr. S. N. Dwivedi, Dr. G. K. Manna, Dr. G. L. Rao, Dr. G. L. Rai, Dr. P. V. Dehadrai, Project Coordinator and Shri P. Das, Senior Extension Officer of the Central Inland Fisheries Research Institute also attended the demonstration. The deliberations of the Fish Farmers' Day were broadcast by the All India Radio, Calcutta in the news-reel programme on 28th May, 1976.

PUBLICITY

Information on the recent achievements of the CIFRI and its activities especially the news about the supply of Chinese carp seeds to foreign countries was broadcast by the All India Radio, Calcutta on October 3, 1976.

STAFF NEWS

Shri C. D. Kulkarni, Administrative Officer has been transferred to the Cotton Technological Research Institute, Matunga, Bombay, on 25th October, 1976. While Shri S. N. Chakraborty, Assistant Administrative Officer was on leave, Shri Shyamal Kumar Chatterjee, Assistant Administrative Officer took over from Shri C. D. Kulkarni on 25th October, 1976 and looked after the office of the Administrative Officer till 30th November, 1976. Since December 1, 1976 Shri S. N. Chakraborty, Assistant Administrative Officer is attending to the current duties of the Administrative Officer.

The following transfers were made during October - December, 1976.

Name & designation	*From*	*To*
Shri A. N. Ghosh, Scientist S-2	Kakdwip	Barrackpore
,, N. K. Tripathi, Liaison Officer	Cuttack	Bhubaneswar
,, C. D. Saha, Jr. Engineer	Cuttack	Bhubaneswar
,, A. K. Ghosh, Scientist S-1	Cuttack	Barrackpore
,, M. D. Mantri, Eastimator	Cuttack	Bhubaneswar
,, C. D. Saho, Draftsman	Cuttack	Bhubaneswar
,, A. B. Mukherjee, Assistant Eng.	Kakdwip	Barrackpore
,, S. A. K. Nasar, Scientist - S	Darbhanga	Bhagalpur
,, M. P. Singh Kohli, Scientist -S	Bilaspur	Darbhanga
,, J. N. Pal, Scientist -S	Ranchi	Barrackpore
,, G.N. Chattopadhyay, Scientist-S	Kakdwip	Barrackpore

The under mentioned ARS Probationers have joined the Institute and are undergoing training.

Sarvashri L. H. Rao, K. J. Rao, S. N. Mohanty, P. K. Aravindakshanan, B. C. Tyagi, A. Mukherjee, Hardyal Singh, Jagadish Chandra, Kuldip Kumar, Manas Kumar Das, Y. S. Yadav, Sukriti Ranjan Das, Ashok Kumar Saha, A. K. Laal. Arvinda Sen, Radha Charan Das, S. K. Munnet, V. R. Chitranshi, Utpal Bhowmick, R. Paul Raj, S. M. Pillai, P. Ravichandran, Smt. S. Sivakami, Smt. Kuljeet K. Bhanot, Miss. M. Sultana, Miss Usha Bali, Dr. K. Janaki Ram, Dr. P. M. Mathew, and Dr. Babulal.

ARS Probationer on fisheries of the Central Rice Research Institute, Cuttack, Shri D. P. Sinhababu is also undergoing training at this Institute alongwith others.

Following Research Scholars who have recently joined the Institute in various disciplines are posted at different research centres of the Institute.

Kumari Gauri Chakraborty	Fish & Fisheries
Shri Saibal Saha	,,
Shri B. R. Belurkar	,,
Shri B. R. Vaijinath Rao	,,
Shri Satish Asotra	,,
Kumari Santoshini Panigrahi	,,
Kumari Neelima Sharma	,,
Shri Ashish Prasad Mukherjee	Agricultural Chemistry
Shri Salil Kumar Barua	Agricultural Economics

CONSTRUCTION WORKS

Administrative approval and expenditure sanctions of Rs. 38.62 lakhs for the laboratory buildings and Rs. 6.67 lakhs for the boundary wall of the Dhauli Centre have been obtained from the ICAR and construction thereof entrusted with the CPWD. Preparation of 4 rearing ponds and 18 nursery ponds at Dhauli was done departmentally.

The CPWD has also been entrusted with the following construction works.

Laboratory buildings and brackishwater ponds at Kakdwip Research Centre at a cost of Rs. 8.21 lakhs.

Type IV residential quarters at Barrackpore at a cost of Rs. 74,260.

Edited & compiled by Shri B. N.Saigal

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