

## **Report on Use of cryopreservation techniques in upgradation of Brood stock in Bihar**

Cryopreservation is of interest not only for fish farming but also for the conservation and genetic improvement of resources. It is to preserve and store the viable biological samples in a frozen state over extended periods of time. In commercial aquaculture fish seed plays an important role in the overall production and thus quality maintenance of brood stock is very essential. Off late, there has been constant report and discussion deteriorating of quality fish seed due to inbreeding, repeated breeding, breeding of undersized fishes, mix breeding etc. One of the best strategies to improve the quality of the stock is the exchange the brood stock over the years however, it is cumbersome and difficult and there might be a mortality of priced brood fishes during transportation.

ICAR Research Complex for Eastern Region (ICAR RCER), Patna has taken up the initiative in upgradation of quality fish seed and the brood fish in the state. Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar has standardized the protocol for cryopreservation of Indian major carp spermatozoa and used that for stock upgradation and seed production on a sustainable basis. In this regard as per the request of the fish seed producers, ICAR RCER, Patna in collaboration with, ICAR CIFA, Bhubaneswar has taken an attempt to upgrade brood stock of three hatcheries namely ICAR Research Complex for Eastern Region, Patna, Banasur Matsya Hatchery, Karisath, Ara and Chaudhary Matsya Bij Kendra (hatchery), Jandahaduring 1<sup>st</sup> and 2<sup>nd</sup> August 2017.

In the present case short term preserved milt from quality brood fish was bought from CIFA, Bhubaneswar, and was used for the stock upgradation programme at Bihar. All the three species of IMC viz. Rohu (2-2.5 kg) of 9 numbers, Catla (2.5-5 kg) of 5 numbers and mrigal (1.5 kg) were attempted in those hatcheries. The dry stripping method was employed in all the cases and stripping was done at 9.45- 10.10 pm at ICAR RCER, Patna (1.08.2017), 1.30 ó 2.50am at Banasur Matsya Hatchery, Karisath, Ara (2.08.2017) and 2.45- 3.30 am at Chaudhary Matsya Bij Kendra , Jandaha (2.08.2017). Overall fertilization rate was around 80% and hatching around 60-70%. Three days old spawn was harvested on 5.08.2017 and 2.25 lakh, 1.5 lakh and 5.5 lakh spawn was recovered from the three hatcheries respectively. Proprietor of both the hatcheries Shri Tripurary Chaudhary of Jandaha and Shri Satyandra Kumar from Ara expressed their happiness for selecting their firm for upgradation of quality brood program. The whole process was initiated under the supervision of Dr A. Dey and his team comprises of Dr Kamal Sarma, Dr Tarkeshwar Kumar, Mr Surendra Ahirwal, Mr Dev Narayan and Amreddra Kumar at ICAR Research Complex for Eastern Region, Patna and Dr. J.K. Sundaray, Incharge Director, Dr. P. Routray and Dr D. K. Verma of CIFA Bhubaneswar.

ICAR Research Complex for Eastern Region, Patna



BanasurMatsya Hatchery, Karisath, Ara



Chaudhary MatsyaBijKendra ,Jandaha

