



THE INDIAN FRESHWATER FISHERIES SECTOR

How to scale up preventive approaches to minimise antibiotic use

Obtaining quality seed in freshwater aquaculture: Challenges and Concerns

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Disease-resilient breeds in India (Genetically Improved Strains)



- AhR Jayanti Rohu**
- Emerged by Selective Breeding**
- Resistance against Aeromoniasis, bacterial infection, particularly from *Aeromonas hydrophila***



ICAR- CIFA

- CIFA-Amrit Catla**
- Breeding of 4th generation- 2024**
- Higher survival rates and better disease resistance**

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CIFA-GI SCAMPI



Genetically Improved Freshwater Prawn
(*Macrobrachium rosenbergii*)

AMUR COMMON CARP



FRIC Hesaraghatta
KVAFSU

MAHAMAGUR



Clarias magur
Freshwater Fish Farm, Balbhadrapuram
ICAR-CIFE



GIFT TILAPIA
(*Oreochromis niloticus*)



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Why GI Strains become disease-resilient?

- Parents with Desirable Traits**
- Improved Immunity**
- Reduced Infectivity**
- Better Environmental Adaptability**
- Better Feed Efficiency**
- Efficient Biofloc Utilization**
- Shorter Harvest Period**
- Late Maturity**
- Heritable Trait**
- Identification of Genes**



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Broodstock Management for Quality Seed Production

- Minimization of Inbreeding**
- Maximize number of broodstock contributing to next generation**
- Equal numbers of fish from each spawning set for next generation**
- Separate different age classes**
- Evaluation of performance of the stocks**
- Avoid mixing of stocks**
- Pond management and Feeding**
- Selection of broodstocks**
- Proper breeding techniques**
- Species-wise segregation of spent broodstocks**

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NFDB- EASTERN REGIONAL CENTRE

(Its Role in Production & Supply of Quality Seed)

- Maintenance of good quality and/or genetically improved brood stocks**
- Production of quality seed of genetically improved brood stocks at NFFBB Multiplication Centre**
- Accreditation/ Networking of hatcheries and seed growers**
- Supply of the breeder seed to the accredited hatcheries and seed growers**
- Training & Capacity building of officers and farmers**
- Awareness programmes on importance of culture of genetically improved strains**

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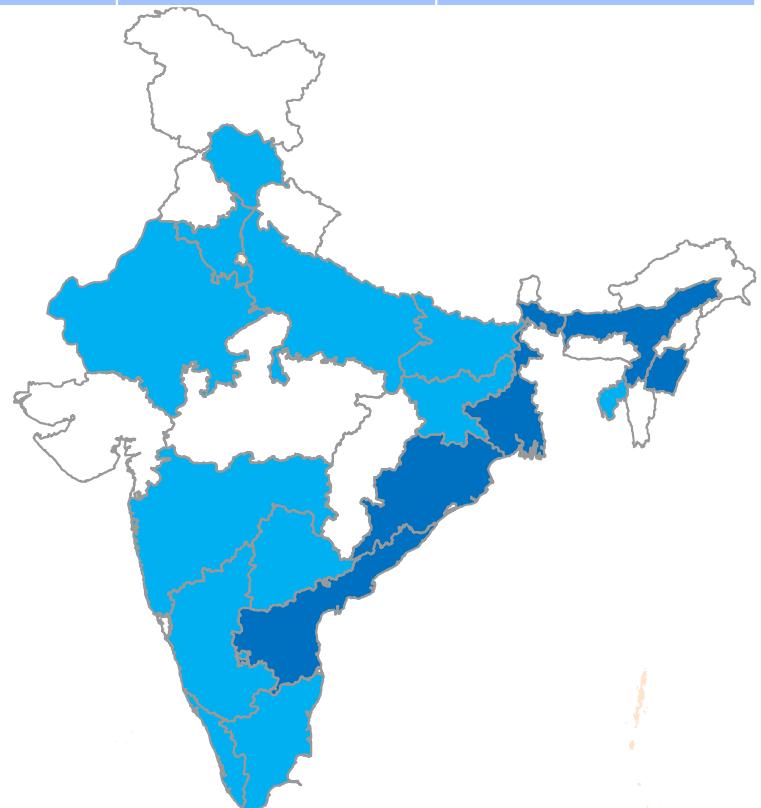


NATIONAL FISHERIES DEVELOPME... @nfdbindia

A fish farmer of [#Assam](#), Shri Anup Kumar Sarmah procured [#AmurCarp](#) fish seed from [#NFDB](#) - [#NFFBB](#). He stocked at 80-100gm size and achieved growth of 2-3 kg body weight in culture period of 10 months.



YEAR	REGISTERED NETWORK HATCHERY	REGISTERED NETWORK SEED GROWER	S. N.	STATE	NETWORK HATCHERY (IN NO.)	NETWORK SEED GROWER (IN NO.)
2021-22	66	46	1	Andhra Pradesh	8*	7
2022-23	9	16	2	Assam	20	5
2023-24	4	-	3	Bihar	3	5
TOTAL	79 Nos	62 Nos	4	Haryana	1	
2024-25	7*	18*	5	Himachal Pradesh		1

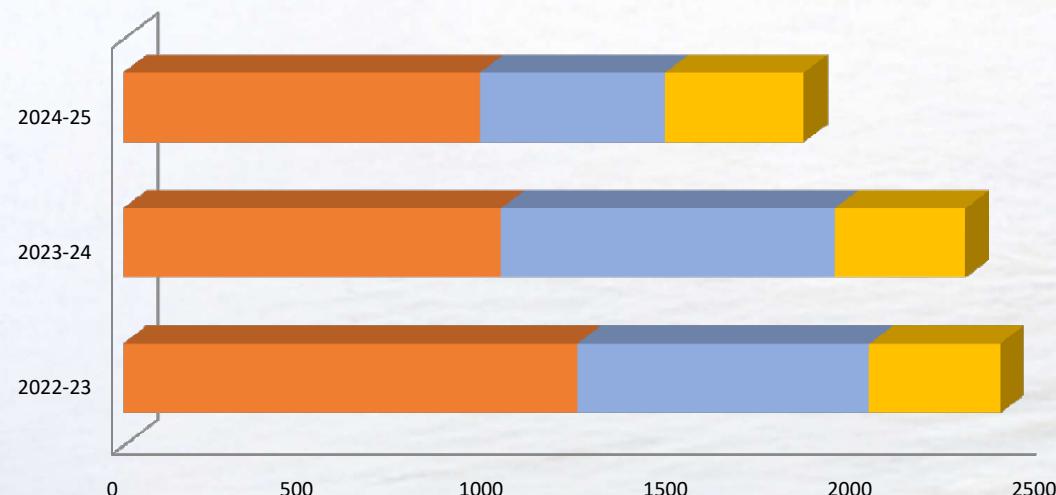


*Scampi Hatchery (9)- AP- 6, KL- 1, OD- 2 & TN- 1

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Production & Supply Status of Genetically Improved Fish Strains



	2022-23	2023-24	2024-25
JAYANTI ROHU	1229	1023	965
AMRIT CATLA	791	903	501
AMUR COMMON CARP	353	354	375



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Challenges and Concerns

- Maintenance of Genetic Purity**
- Follow of SOPs**
- Categorization of Hatcheries**
- Encouragement on production/ farming of genetically improved strains**
- Development of Multi- Species Hatchery**
- Digital information on availability of quality seed**
- Uniformity in fixation of cost**
- Norms on supply/ purchase of quality seed**
- Introduction of new strains from other countries**
- Certification of Seed**

Thank You



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