




**Technologies available for commercialization of
ICAR-CIFA, Bhubaneswar**

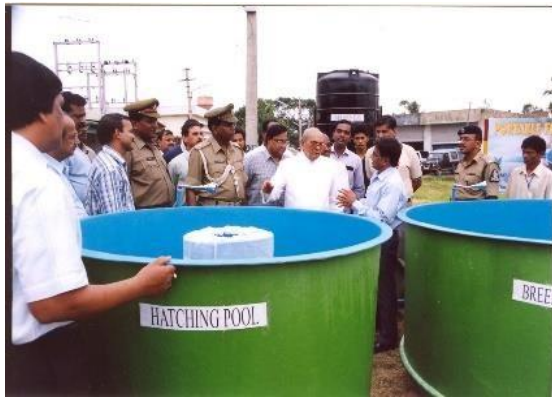
**The Brief of the Technologies are being provided
below. For details on technical specification, Terms of
Trade, Terms and Conditions, Price, etc. please**


Contact:


Director, ICAR-CIFA, Bhubaneswar


01	Name of the Technology: Jayanti Rohu	Photographs
	<ul style="list-style-type: none"> • Source of Technology: Fish breeding • Year of release: 2002 • Agro-climatic zone: ALL • Description of technology: Jayanti rohu was developed through selective breeding, by selecting rohu, Labeo rohita from different founder populations of North Indian Rivers • Critical inputs required: NO • Observations to be recorded: YES • Suitability for the Programme: OFT/FLD 	
02	Name of the Technology : CIFAX	Photographs
	<ul style="list-style-type: none"> • Source of Technology: Medicine • Year of release: 1997 • Agro-climatic zone: ALL • Description of technology: CIFAX is a chemical formulation for fish against parasitic diseases & bacterial diseases. It prevents and cures ulcerative diseases of freshwater fishes. Control measures for parasitic and bacterial infections. It is very effective against epizootic ulcerative syndrome (EUS). • Critical inputs required: NO • Observations to be recorded: yes • Suitability for the Programme: OFT/FLD 	
03	Name of the Technology: Immunoboost –C	Photographs

	<ul style="list-style-type: none"> • Source of Technology: Medicine • Year of release: 2006 • Agro-climatic zone: ALL • Description of technology: Immunoboost-C is an immunostimulant to improve brood fish health and seed production in carps. It modulates the fish immunity against microbial diseases and has been proven through extensive trials conducted at many aquaculture regions in India. It is also given to spawn, fry and fingerlings through bath treatment during seed transport. • Critical inputs required: NO • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
04	Name of the Technology: FRP Portable Carp Hatchery	Photographs


	<ul style="list-style-type: none"> • Source of Technology: seed production • Year of release: 2006 • Agro-climatic zone: All • Description of technology: Fiberglass Reinforced Plastic (FRP) carp hatchery has proved to be a very effective tool in carp seed production which will be beneficial to the farmers • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
05	Name of the Technology: FRP Magur Hatchery	Photographs

	<ul style="list-style-type: none"> • Source of Technology: Magur hatchery Tank • Year of release: 2008 • Agro-climatic zone: All • Description of technology: Magur has its high market demand due to its protein rich flavor and medicinal value. The portable magur hatchery is a simple device comprising a stand on which are placed a row of plastic tubs (12 cm die, 6 cm high). Water supplied from the overhead tank through a common pipe to all the tubs with individual control tabs. It includes egg incubation and hatching. • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
06	Name of the Technology : CIFACURE	Photographs


	<ul style="list-style-type: none"> • Source of Technology: Medicine • Year of release: 2008 • Agro-climatic zone: All • Description of technology: CIFACURE is used for controlling common bacterial and fungal infections of freshwater ornamental fishes • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
07	Name of the Technology: CIFA-CRYO	Photographs


	<ul style="list-style-type: none"> • Source of Technology: • Year of release: 2010 • Agro-climatic zone: All • Description of technology: CIFACRYO is a manually operated handy cryofreezer for gamete cryopreservation. This manually operated handy cryofreezer is used for the cryopre-servation of milt of freshwater fish species. • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
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08	Name of the Technology: CIFABROOD	Photographs
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	<ul style="list-style-type: none"> • Source of Technology: Fish feed • Year of release: 2013 • Agro-climatic zone: All • Description of technology: CIFABROOD' is an exclusive carp brood stock diet, adequately rich in essential nutrients. It advances gonad growth and maturation, • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
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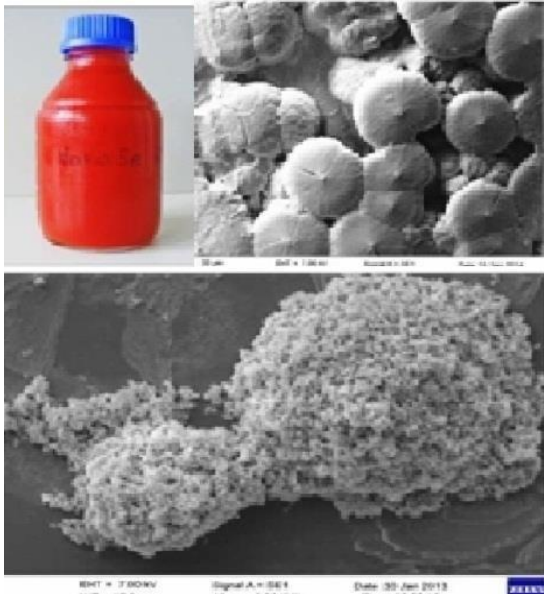

09	Name of the Technology: Spot Agglutination Kit	Photographs
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	<ul style="list-style-type: none"> • Source of Technology: Medicine • Year of release: 2017 • Agro-climatic zone: All • Description of technology: Spot Agglutination Kit' is used for quick on farm diagnosis of Edwardsiellosis, Aeromoniasis and bacterial gill disease of Indian major carps. • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
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10	Name of the Technology: DOT ELISA KIT	Photographs
	<ul style="list-style-type: none"> • Source of Technology: Testing kit • Year of release: 2017 • Agro-climatic zone: All • Description of technology: DotELISA kit' is used for diagnosis of Edwardsiellosis, Aeromoniasis and Bacterial gill disease of carps. It detects the bacterial antigens of <i>Aeromonas hydrophila</i>, <i>Edwardsiella tarda</i>, <i>Pseudomonas fluorescens</i> and <i>Flavobacterium branchiophilum</i> in infected tissues upto 72 hours of death and antibodies in serum for disease diagnosis and routine health monitoring of fish stock. • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
11	Name of the Technology: (CIFA- CARP STARTER)	Photographs

	<ul style="list-style-type: none"> • Source of Technology: Fish feed • Year of release: 2019 • Agro-climatic zone: All • Description of technology: Nursery phase is one of most critical phases in the production of stock able seed materials in carp culture. Generally, it is observed that the recovery of spawn to fry and fry to fingerling is low (25-30% and 40-50%, respectively in farmers' practice). To address this problem, ICAR-CIFA, Bhubaneswar has developed a carp nursery feed which ensures over 80% survival, better growth and uniform sized fingerling production. This feed is highly nutritious and palatable. The feed is suitable for carp seed growers to enhance their production and profitability • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
12	Name of the Technology: CIFA- CARP GROWER	Photographs

	<ul style="list-style-type: none"> • Source of Technology: Fish feed • Year of release: 2019 • Agro-climatic zone: All • Description of technology: Carp grower phase is one of most important phase for production of marketable fish in carp culture. Generally, it is observed that the profit by using commercial/handmade feed in grow out culture is very minimum and taste of the fish is also not up to satisfaction of customers. The fish may not be healthy by using commercial feed. To address this problem, ICAR-CIFA, Bhubaneswar has developed a carp grower feed which ensures better growth, improved FCR, higher palatability 	
	<p>to fish, disease resistance and tastier fish. This is suitable for carp growers to enhance their production and profitability.</p> <ul style="list-style-type: none"> • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
13	Name of the Technology: Nanoplus @CIFA	Photographs

	<ul style="list-style-type: none"> • Source of Technology: Fish feed additive • Year of release: 2019 • Agro-climatic zone: All • Description of technology: ZincSelenium Nanoplus is a formulation prepared from nanoparticles of two important trace minerals i.e. Zinc sulphate and Sodium selenite and used as a fish feed additive. Addition of these two trace minerals to fish feed in nanoparticle form has synergistic effect on promoting growth, better feed utilization and disease resistance in fish. It improves breeding performance, egg developments. It keeps the fish fin and scale healthy and intact and promotes rapid wound healing. Moreover, it reduces the toxicity of other minerals and heavy metals contamination of water • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
14	Name of the Technology: Fish Hydrolysate	Photographs
	<ul style="list-style-type: none"> • Source of Technology: Fish waste formulation • Year of release: 2020 • Agro-climatic zone: All • Description of technology: Fermentation of Fishery Waste with molasses, yeast and Starter Culture 	

	<p>at ambient temperature extracts amino acids, fatty acids, macro and micro nutrients, minerals and trace minerals, Hormone and peptides. Recycling of fish prawn processing waste in to the final product has PH 4.0-4.5 and is self -stable without any microbial contamination. The product is Chlorophyll and Plankton enhancer, nutrient supplementation, immunity booster, an tibacterial and fungal effects.</p> <ul style="list-style-type: none"> • Critical inputs required: No • Observations to be recorded: Yes • Suitability for the Programme: OFT/FLD 	
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Commercial-viable Technology by ICAR-CIFA

1- Name of the Technology: **ARGULUS - PCR Detection Kit for *A. siamensis* and *A. japonicas***

Source of Technology: **Diagnostic Kit**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: In Indian aquaculture, Argulosis caused by Argulus sp., predominantly *A. siamensis* and *A. japonicus*, is one of the most devastating and economically important disease of freshwater culture system. A loss to the tune of Rs.300 crore per annum has been estimated due to this disease in India. Rapid detection and identification of this pathogen is of paramount significance for timely implementation of effective counter measures. Argulosis management measures should be species-specific for far-reaching results because both species of Argulus demonstrate differences in infection and pathology patterns. The Argulus Detection Kit utilizes the polymerase chain reaction as the method in species-specific identification of the two important Argulus sp., *A. siamensis* and *A. japonicas*.

Critical inputs required: **No**

Observations to be recorded: **Yes**

2- Name of the Technology: **A PCR Based Rohu-Catla Hybrid Detection Kit**

Source of Technology: **Diagnostic Kit**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **A PCR based identification kit has been developed which can identify in a hybrid in just two steps with genomic DNA as starting material. This is a specific kit designed for the identification of *Labeo rohita* (rohu), *Catla catla* (catla) and their Hybrid in the early life stages. This technology would really be of great use for those producers and buyers for screening of quality seeds and moreover it would be a stepping stone for seed certification programs for both government and private hatcheries**

Critical inputs required: **No**

Observations to be recorded: **Yes**

3- Name of the Technology: **Koi Herpes Virus (KHV) PCR- based diagnostic kit**

Source of Technology: **Diagnostic Kit**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **The koi herpes virus is also known as cyprinid herpes virus 3 (CyHV3), belonging to the family Alloherpesviridae and widely distributed in different geographical regions around the globe. The outbreak of the virus causes mass mortality among populations of koi *Cyprinus carpio* koi and common carp *cyprinus carpio carpio*, with clinical signs such as swelling and necrosis of gill filaments, sunken eyes and excessive mucous production leading to discolouration of skin.the ready to use PCR kit contains the components for polymerase chain reaction that allows rapid amplification of KHV DNA using the gene specific primers.the nested pcr kit can detect up to single virus particle in tissues. This kit can be used in disease surveillance, developing control measures and detection of virus in hatcheries and farms**

Critical inputs required: **No**

Observations to be recorded: **Yes**

4- Name of the Technology: **Spring Viraemia of Carp PCR–based diagnostic kit**

Source of Technology: **Diagnostic Kit**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **The spring viraemia of carp (SVC) is a fatal rhabdovirus infection in several carp and ictalurid fish species capable of causing an acute haemorrhagic and contagious viraemia that mainly attack the kidney, gill, spleen and encephalon. The causative pathogen is a single, non-segmented RNA virus responsible for huge economic losses in various countries.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

5- Name of the Technology: **White Tail Disease {(Macro brachium Rosenbergii Nodavirus (MrNV)) Detection Kit**

Source of Technology: **Diagnostic Kit**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **White Tail Disease (WTD) or White Muscle Disease (WMD) has caused mass mortality in larval and early juvenile stages as well as devastating production loss in culture systems of Macrobrachium rosenbergii (scampi) in many countries, particularly India, China, Thailand and Taiwan. Recently, it has been reported from Australia also.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

6- Name of the Technology: **FRP demand fish feeder**

Source of Technology: **Fish feeder**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **The feeder is 30 lit capacity, which can hold 10 kg of pelleted feed (depends on the shape and size of the feed particles) with feed platform and protecting cover against rain. The feeder is suspended from MS pipe stand with the activating mechanism extending into the water through the conical portion of the hopper. The developed system would reduce the feed loss up to 15%, maintaining the appropriate water quality. In one acre pond area up to 6no's feeders (based on biomass of fish) are required to deliver feed.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

7- Name of the Technology: **Mechanical pond applicator**

Source of Technology: **Pond applicator**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **'Mechanical pond applicator' is used for effective application of different inputs like lime, inorganic fertilizer, medicines and manure slurry. The raft design has central tank and suction chamber with bifurcated delivery mouth. It spreads the input uniformly and effectively which reduce the man power and is cost efficient**

Critical inputs required: **No**

Observations to be recorded: **Yes**

8- Name of the Technology: **Starter-M**

Source of Technology: **Magur feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Starter-M is nutritionally balanced and highly palatable feed for baby magur. It ensures faster growth and high larval survival**

Critical inputs required: **No**

Observations to be recorded: **Yes**

9- Name of the Technology: **Nanox-Antibiofouling and Wound Healing Nano formulation**

Source of Technology: **Fish feed additive**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **Nano based anti-biofouling and wound healing formulation for aquaculture and veterinary applications. Antimicrobial activities of different metal nanoparticles such as gold, sulphur, and selenium, silver, copper, zinc, iron, TiO₂ and magnesium oxide were studied with different bacterial and fungal isolates/strains of aquaculture importance. Among them zinc oxide, copper oxide, iron oxide, aluminium oxide, silver, silver -titanium dioxide, magnesium oxide, gold, selenium and sulphur nanoparticles showed broad spectrum antibacterial and antifungal activities. Similarly, Metal nanoparticles such as zinc oxide, copper oxide and selenium showed antialgal properties**

Critical inputs required: **No**

Observations to be recorded: **Yes**

10- Name of the Technology: **Bind Add (Feed Binder Cum Additive)**

Source of Technology: **Feed additive**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **Bind add is used in animal and fish feed industries as a feed additive during palletization and Feed development, it will be reduce the cost of production and enhance the nutritive of the feed material the product has good amount of macro and micro nutrients, essential amino acid and fatty acids, minerals and trace minerals hormone and peptides. The also contains chitosan derivatives and chito-oligosaccharides for disease resistance and immune booster. The product also contains taurine which is only found in fishery waste**

Critical inputs required: **No**

Observations to be recorded: **Yes**

11- Name of the Technology: **Diesel operated new aeration device for large aquaculture ponds**

Source of Technology: **Aeration device**

Year of release: **No**

Agro-climatic zone: **ALL**

Description of Technology: **It is an aeration device for large aquaculture pond which increases the dissolved oxygen (DO) level of the water approximately double in 2 hrs.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

Suitability for the Programme: OFT/FLD

12- Name of the Technology: **Boneless whole carp**

Source of Technology:

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **Boneless whole carp' technology has been developed using a manual deboning procedure, without distorting the shape of fish. Spiced boneless carp is a ready to use product in retail market. Roasted whole carp can be very good fast food item as a carry home pack.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

13- Name of the Technology: **Magur Culture**

Source of Technology: **Fish Breeding**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **Breeding and hatchery management of *Clarias batrachus* (Magur). Suitable in tropical and sub-tropical areas where water temperature is 27-32 °C.**

Critical inputs required: **NO**

Observations to be recorded: **Yes**

Suitability for the Programme: OFT/FLD

14- Name of the Technology: **Murrel Culture**

Source of Technology: **Fish Breeding**

Year of release: **No**

Agro-climatic zone: **All**

Description of Technology: **Grow out culture of striped murrel (*Channa striatus*). Generally striped murrel is an air breathing fish. Ponds with steep dyke and size-0.1-0.5 ha are preferable for murrel culture.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

15- Name of the Technology: **Prawn Culture**

Source of Technology: **Prawn culture**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Grow out culture of freshwater prawn. Suitable for areas where water Temperature remains >24 °C for at least 6-8 months**

Critical inputs required: **No**

Observations to be recorded: **Yes**

16- Name of the Technology: **Pearls Culture**

Source of Technology: **Pearls Culture**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Pearls known as 'Queen of Gems' have been occupying a unique place due to their fascinating beauty ever since their discovery in ancient time. It is a natural gem that is produced by a living organism and does not require the treatment by lapidary. Pearl farming is a billion dollar industries and one of the world's largest aquaculture activities in terms of value**

Critical inputs required: **No**

Observations to be recorded: **Yes**

17- Name of the Technology: **CIFA-GI Scampi**

Source of Technology: **Prawn Breeding**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **A genetically improved faster growing strain of giant freshwater prawn *Macrobrachium rosenbergi* (also called 'scampi') was developed through selective breeding**

Critical inputs required: **No**

Observations to be recorded: **Yes**

18- Name of the Technology: **Rohu (*Labeo rohita*) Natural killer enhancing factor B cDNA clone in expression system for recombinant protein-polyclonal antibody-ELISA based assay** Source

of Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Rohu NKEF-B was found to be having lytic property against both Gram positive and negative bacteria. It's presence in serum at low level could be easily detected by standardized ELISA using this produced polyclonal antibody and the recombinant protein generated in this technology. With an era of increasing antimicrobial resistance pattern to conventional synthetic antibiotics, this fish recombinant protein could be a potential alternative to antibiotics.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

19- Name of the Technology: **Rohu (*Labeo rohita*) Glutathione peroxidase 1 cDNA clone in expression system for recombinant protein-polyclonal antibody-ELISA based assay** Source of

Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Rohu GPX-1 was found to be having antioxidant property. It's presence in serum at low level could be easily detected by standardized ELISA using this produced polyclonal antibody and the recombinant protein generated in this technology. Further, the clone could be of further use for vaccine candidate screening against important bacteria and parasites of fish**

Critical inputs required: **No**

Observations to be recorded: **Yes**

20- Name of the Technology **Rohu (*Labeo rohita*) CuZn superoxide dismutase cDNA clone in expression system for recombinant protein-polyclonal antibody-ELISA based assay**

Source of Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Rohu CuZnSOD was found to be having strong antioxidant activity. It's presence in serum at low level could be easily detected by standardized ELISA using this produced polyclonal antibody and the recombinant protein generated in this technology, for its further evaluation as marker in ecotoxicological studies**

Critical inputs required: **No**

Observations to be recorded: **Yes**

21- Name of the Technology: cDNA clone in expression system for recombinant protein-polyclonal antibody from rohu and sarana

Source of Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Recombinant Hecpidin of sarana and rohu was found to be having lytic property against wide range of both Gram positive and negative bacteria. With an era of increasing antimicrobial resistance pattern to conventional synthetic antibiotics, this recombinant protein could be a potential alternative to antibiotics. It could be also used for development of ELISA based assay system.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

22- Name of the Technology: Rohu (*Labeo rohita*) Lysozyme G cDNA clone in expression system for recombinant protein-polyclonal antibody-ELISA based assay

Source of Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Rohu lysozyme G was found to be having lytic property against both Gram positive and negative bacteria. It's presence in serum at low level could be easily detected by standardized ELISA using this produced polyclonal antibody and the recombinant protein generated in this technology. With an era of increasing antimicrobial resistance pattern to conventional synthetic antibiotics, this fish recombinant protein could be a potential alternative to antibiotics**

Critical inputs required: **No**

Observations to be recorded: **Yes**

23- Name of the Technology: Rohu (*Labeo rohita*) Glutathione-S-transferase (μ) clone in expression system for recombinant protein-polyclonal antibody-ELISA based assay

Source of Technology: **Rohu (*Labeo rohita*)**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **GST(μ) was found to be having role in detoxification of chemical cures in aquaculture. It's presence in serum at low level could be easily detected by standardized ELISA using this produced polyclonal antibody and the recombinant protein generated in this technology. As it is very species-specific, the recombinant protein-based ELISA would be able to measure its activity at low level. Critical inputs required: **No****

Observations to be recorded: **Yes**

24- Name of the Technology: ***Aeromonas hydrophila*** Attenuated vaccine strain

Source of Technology: ***Attenuated vaccine***

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: ***Aeromonas hydrophila***, a free-living Gram-negative bacterium, causes a wide variety of symptoms either as a primary, secondary or opportunistic pathogen in a variety of aquatic and terrestrial animals, including human beings. *A. hydrophila* infection is the scourge of fresh and brackish water fish farming worldwide and is considered as a significant economic problem in Indian aquaculture over the past decade. The bacterium causes various diseases in fish named as haemorrhagic septicaemia, dropsy, epizootic ulcerative syndrome, haemorrhagic enteritis, and red body disease. Critical inputs required: **No**

Observations to be recorded: **Yes**

Suitability for the Programme: OFT/FLD

25- Name of the Technology: ***Immunoboost-C*** Source of Technology:

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: ***Immunity of mother fish and its transfer to offspring was modulated by use of suitable immunostimulants maximum 15 days before breeding. An immunostimulant viz. Immunoboost – C was developed, field tested and commercialized for use throughout the country. It is estimated around 30% more carp seed production in Immunoboost – C injected fishes. The Immunoboost-C is also administered to young hatchlings through bath treatment to enhance the seed survivality by more than 50% and to reduce the stress during seed transport.***

Critical inputs required: **No**

Observations to be recorded: **Yes**

26- Name of the Technology: ***CIFABROOD™***

Source of Technology: **Fish feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: ***To address this inherent problem in seed production an urgent need was felt to scientifically develop a brood stock feed suitable for Indian major carps. Generally, in oviparous carps the embryonic development is completely dependent on the stored energy provided***

in the eggs following fertilization and the nutrient necessary for this is transferred from female brood during egg formation. Indian carps were confirmed to utilize lipids rather than protein for their embryonic development. Since millions of eggs mature simultaneously and derive all the essential nutrients from the brood mother, there is always chance of deficiency in one or other component either due to lack in mother's diet or due to malnutrition. Therefore, adequate nutrient source through exogenous diet containing indispensable amino acids (IAA), long-chain fatty acids (PUFAs), selected vitamins and trace elements must be provided to the brood prior to maturation in such a way that voluntary dietary intake becomes optimum.

Critical inputs required: **No**

Observations to be recorded: **Yes**

27- Name of the Technology: *Feed for Carp Polyculture 'CIFACA'*

Source of Technology: **Fish feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **CIFACA was formulated were tested through on-farm evaluation at the experimental ponds of ICAR-CIFA and in the farmer's pond. Later, there some alternate feed ingredients were incorporated to make the feed cost-effective without losing the performance.**

The FCR of the feed is 1.5.

Critical inputs required: **No**

Observations to be recorded: **Yes**

28- Name of the Technology: *Magur Fry Feed 'CIFAMA'*

Source of Technology: **Fish feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **CIFAMA was formulated with ideal fish feed ingredients. The feeds were tested in different Magur hatcheries in the country including at ICAR-CIFA. CIFAMA is nutritionally balanced and highly palatable Magur FRY. It ensures faster growth and high larval survival (Over 60%). 60 days feeding of CIFAMA is good enough to get healthy fingerlings. The feed is available as crumbles. However, the powder feed can be used as moist pellets. The feeds in both forms are very stable in the aquatic environment. An ordinary dry and cool place is suitable to store feed packets.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

29- Name of the Technology: *Pangas Larval Feed 'Starter Pangas'*

Source of Technology: **Fish seed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Starter-Pangas is nutritionally balanced and highly palatable for baby pangas. It ensures faster growth and high larval survival. Two weeks feeding of Starter-Pangas is good enough to get healthy fry with 80% survivability. The feed is available as dry crumbles. An ordinary dry and cool place is suitable to store feed packets**

Critical inputs required: **No**

Observations to be recorded: **Yes**

30- Name of the Technology: *Pangas Fry Feed 'Pangas Grow-I'*

Source of Technology: **Fry Feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **ICAR-CIFA, after conducting several feeding trials developed a feed 'Pangas Grow-I' under ICAR's Outreach 'Fish Feed' project to meet the nutritional requirement of pangas fry. Pangas Grow-I is a granular feed that is fed in the 2nd and 3rd month of life of Pangas fry or till the fish reaches 5 g body weight. Pangas Grow-I is nutritionally balanced and highly palatable to Pangas fry and ensures faster growth with about 80 % survival of fry. Ordinary dry and cool places are suitable to store the feed.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

31- Name of the Technology: *Pangas Fingerling Feed 'Pangas Grow-II'*

Source of Technology: **Fingerling Feed**

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **ICAR-CIFA, after conducting several feeding trials developed a feed "Pangas Grow-II" under ICAR's Outreach 'Fish Feed' project to meet the nutritional requirement of pangas fingerlings. Pangas Grow-II is a pelleted feed which is fed at 5g body weight of fish till reaches 50 g body weight. Pangas Grow-II is nutritionally balanced and highly palatable to Pangas fingerlings and ensures faster growth with about 80 % survival of fingerlings. Ordinary dry and cool places are suitable to store feed packets.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

32- Name of the Technology: *Farm-Made Grow-Out Carp Feed 'Gram-Ca-Feed'*

Source of Technology: *Carp Feed*

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Carp grow-out feed 'Gram-Ca-Feed' was formulated with locally available ingredient. The dry pelleted feed was tested through on-farm evaluation at the experimental ponds of ICAR-CIFA. Later the feed was evaluated in the farmer's pond in Odisha and West Bengal. With the use of Gram-Ca-Feed, feed cost was drastically reduced and carps were produced with FCR of 1.47**

Critical inputs required: **No**

Observations to be recorded: **Yes**

33- Name of the Technology: *Magur Hatchery*

Source of Technology:

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Since there was no hatchery for Magur in India, so it was imminent to develop the same because the demand for the seed of Magur is very high due to its high value** Critical inputs required: **No**

Observations to be recorded: **Yes**

34- Name of the Technology: *CIFACURE* Source of

Technology:

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **ICAR-CIFA, Bhubaneswar is proudly announcing a product called "CIFACURE" for controlling bacterial and fungal infections that occur commonly in freshwater ornamental fishes. This product can be used in the aquarium and other outdoor tanks where the ornamental fish is grown. It can control many bacterial diseases like hemorrhagic septicemia, ulcers, finrot, trillrot, eye disease, mouth fungus and other fungal infections. This medicine is available in 25 ml dropper bottles which is easy to use.**

Critical inputs required: **No**

Observations to be recorded: **Yes**

35- Name of the Technology: **Broodstock Diet for Striped Murrel, Channa Striata**

Source of Technology:

Year of release: **NO**

Agro-climatic zone: **All**

Description of Technology: **Broodstock diet ensures the development of striped murrel broodstock in captive condition irrespective to season and unavailability of live fishes. It reduces the dependency on live fish and the cost of feed. Broodstock diet has been specially developed for better gonadal maturation and spawning performance upon induced breeding. Striped murrel readily accept the developed broodstock diet and its balanced nutrient helps in timely maturation of gametes. The development of broodstock diet has opened the avenues for farmers/entrepreneurs to develop the striped murrel broodstock in their respective places for commercial seed production.** Critical inputs required: **No**

Observations to be recorded: **Yes**

36- Name of the Technology: **CIFA M-Check for External Injuries Caused by Argulus or any Secondary Pathogens in Fish**

Source of Technology:

Year of release: **2023**

Agro-climatic zone: **All**

Description of Technology: **Three potential chemical ingredients (Component A, Component B and Component C) were mixed in an optimum combination to develop the final product i.e. CIFA M-Check. A single application of CIFA M-Check can effectively control argulus ulcers in fish. It has also been noticed to heal bacterial infections or ulcers in fish and prawn. In addition, CIFA L-Check treatment should be followed by the CIFA M-Check application for the treatment of external injury and secondary infection caused by argulus. (details enclosed). It has been tested both in wet laboratory and more than twenty farmers field, and found to be very effective.**

Critical inputs required: **No**

Observations to be recorded: **Yes**