INDIA

NATIONAL RESIDUE CONTROL PLAN

FOR

AQUACULTURE PRODUCTS

YEAR 2021

Export Inspection Council
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NATIONAL RESIDUE CONTROL PLAN OF INDIA FOR AQUACULTURE PRODUCTS – 2021

NATIONAL RESIDUE CONTROL PLAN (NRCP) OF INDIA FOR AQUACULTURE PRODUCTS – 2021

1.	**Introduction**
	The major concern all over the world for food and feed products of animal origin including aquaculture products is the presence of residues of veterinary Medicinal Products, feed additives and environmental contaminants. Specifications for a residue control programme are determined by the importance of the various health risks that could be incurred by consumers of products derived from animal food products. The Govt. of India is committed to ensure safe seafood for domestic and overseas market. Keeping the above in view, the National Residue Control Plan (NRCP) of India for Aquaculture products has been formulated for monitoring the presence of residues of Veterinary Medicinal Products (VMPs) including antibacterial and other veterinary/aquaculture medicinal substances like anthelmintics, growth promoters, substances like dyes, aflatoxin and environmental contaminants such as Organochlorine compounds including Pesticides, PCBs, Dioxins/Furans & dioxin like PCBs and Chemical Elements (Heavy Metals), etc.
2.	**Objectives of NRCP**
	➢ To establish a system for monitoring residues of Aquaculture drugs/VMPs and Environmental contaminants etc. in shrimp, scampi, fresh water fish, hatchery seed and feed samples drawn from aquaculture farms, feed mills, hatcheries and processing establishments. ➢ To establish a system of corrective action in the event of detection of residues/contaminants higher than the prescribed limits. ➢ To ensure that the aquaculture products exported from India meet the prescribed regulatory requirements of the importing countries/EU.
3.	**Scope of NRCP**
	All aquaculture farms, processing establishments, feed-mills and hatcheries linked to and / or intended for export oriented production of aquaculture products and the testing and certifying laboratories are covered under the NRCP, in order to ensure an overall monitoring of the aquaculture products at different stages of production to guarantee safe products from farm to table.
4.	**Implementation of NRCP**
	By exercising the powers under The Export (Quality Control & Inspection) Act, 1963, Ministry of Commerce and Industry (Govt. of India), amending the Notification S. O. 730 (E) dated 21.8.1995, vide notification No S.O. 1034(E) dated 9th September 2003, designated the Marine Products Export Development Authority (MPEDA) to carry out the residue monitoring on behalf of Export Inspection Council of India, the Indian Competent Authority.
5.	**Aquaculture in India**
	India is one of the largest supplier of shrimp to the world and ranks 2nd highest in aquaculture production in the global scenario. The pollution free waters along the 8129 km long Indian coastline, 1.2 million hectares of brackish water area and 5.4 million hectares of fresh water area contribute to the aquaculture (Handbook on Fisheries Statistics, 2014, Ministry of Agriculture, Govt. of India). In India, the aquaculture constitutes mainly freshwater and brackish water culture and are practiced

in the 9 maritime states of India. Andhra Pradesh is the leading state of aquaculture which produces about 67.8% of the total cultured crustaceans (*Litopenaeus vannamei, Penaeus monodon and Macrobrachium rosenbergii*) in India. Species-wise aquaculture production through inland and brackish water culture is given in Table-1 below

Presently, *L. vannamei and P. monodon* are the main species cultured in brackish water. This forms the bulk of shrimp exports to EU and other countries.

5.1 Brackish water/ Fresh water Shrimp/ Prawn culture

Table – 1

Name of species	Production (M/T)
Shrimp *(L. vannamei, P. monodon & P. indicus)*	747694
Scampi (*Macrobrachium rosenbergii*)	9540
Total	**757234**

Source: MPEDA, 2019 -20

5.2 Details of State-wise production of brackish water shrimp & freshwater Prawn (Scampi) during 2019-20:

Among the maritime states, most of the aquaculture activities are concentrated in Andhra Pradesh. The other leading states in aquaculture production are West Bengal, Gujarat, Tamil Nadu and Odisha (MPEDA, 2019-20). The aquaculture production of crustaceans (shrimp & scampi) in the country is given in Table:2 below.

Table – 2

State	*L. vannamei & P. monodon*	*%*	*M. rosenbergii (Scampi)*	*%*	*TOTAL Production (MT)*
	Production(MT)	*(production)*	*Production(MT)*	*(production)*	
West Bengal	58961.00	7.88	3307.00	34.66	62268.00
Odisha	48147.50	6.44	1235.00	12.95	49382.50
Andhra Pradesh	512244.00	68.51	1579.54	16.55	513823.54
Tamil Nadu	45022.00	6.02	38.30	0.40	45060.30
Kerala	2622.97	0.35	1.08	0.11	2624.05
Karnataka & Goa	1229.10	0.164	20.00	0.20	1249.10
Maharashtra	5625.10	0.75	1469.08	15.40	7094.57
Gujarat and Daman & Diu	73842.33	9.87	1890.00	19.81	75732.00
Total	**747694.00**		**9540.00**		**757234.00**

5.3 Enrollment of Aquaculture Farms by MPEDA:

In order to identify the aquaculture farms producing material for export intended production, the aqua farms producing shrimp (for export intended production), are enrolled by MPEDA. The details of aqua farms were collected through special campaigns conducted in the farming clusters by representatives of MPEDA. The information collected is digitized into several attributes of aqua farms database. Each farm enrolled is physically verified to obtain the Geo-spatial information through capturing co-ordinates of the aqua farm with the help of GPS instrument and the centroid of the farm is created by its latitude and longitude. Other required details/information on the farms are also collected by the representative of MPEDA. Each farm enrolled is recognized by a unique identification number of 8 characters.

5.4 Aquaculture Farms, Feed-mills & Hatcheries

The number of aquaculture farms, hatcheries enrolled with MPEDA and the feed-mills manufacturing aqua feeds and functional are as shown in Table: 3 below.

Table: 3

Number of Aquaculture Farms, Feed-mills & Hatcheries enrolled/registered under MPEDA

Region/State	*Farms* (as on 26/3/2021)	*Feed-mills (functional)*	*Shrimp Hatcheries (functional)*
West Bengal	11843	1	1
Odisha	7757	2	3
Andhra Pradesh	47364	21	187
Tamil Nadu	2498	3	56
Kerala	2414	0	8
Karnataka	434	0	0
Goa	33	0	0
Maharashtra	393	0	0
Gujarat	1136	2	4
Total	**73872**	**29**	**259**

5.5 Export of Aquaculture Products (Shrimp and Fish) by EU approved export establishments

During the year 2019-20, a total quantity of 4,81,030MT of aquaculture shrimp/products exported by EU approved export establishments to EU and non-EU countries and 1523MT of fresh water fish/products exported by EU approved units to EU and Non EU countries

6.0 Residue monitoring in India

There are 695 land based processing establishments in India. Of which, 393 establishments have been approved for processing of fish and fishery products to EU. In addition, 62 independent cold storages are also approved for storage of fish and fishery products for export to EU.
Compliance with the Hazard Analysis and Critical Control Point (HACCP) system has been made mandatory for all seafood processing units in India.

The residue control plan for aqua cultured animal is implemented since 1998 in India so as to comply with Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 to ensure the safety of aquaculture products exported to member states of the European

	Union. Substances like Chloramphenicol, Nitrofurans, Nitroimidazoles, Stilbenes, Steroids, Tetracyclines, Sulphonamides, Quinolones/Fluroquinolones, Anthelmintics, Mycotoxins, Organo-chlorine Pesticides, PCBs, Dioxins, Heavy Metals, Dyes, etc. are monitored under NRCP. Further, additional substances stated in the Table 10 is also monitored under NRCP 2021
7.0	**Organizations associated with the implementation of NRCP:**
	The Export Inspection Council of India (EIC) set up under Section 3 of the Export (Quality Control and Inspection) Act 1963, is the Competent Authority (CA) for inspection and quality control of fish and fishery products meant for exports.
7.1	**Registering authorities for aquaculture farms:** As per provision made in notification no. S.O. 497(E) dated 10.3.2011, the Competent Authority has recognized CAA, MPEDA & State Fisheries Authorities for registering the aquaculture farms.
7.2	**The Marine Products Export Development Authority (MPEDA),** a statutory body under Ministry of Commerce & Industry (Govt. of India) was constituted by the Marine Products Export Development Authority Act No 13 / 1972, to promote the production and export of marine products. Following are the major functions of MPEDA: 1. Registration of exporters / processing plants establishments/ storage premises / fishing vessels. 2. Quality up-gradation and modernization of seafood marine products industry. 3. Development of infrastructure facilities. 4. Implementation of residue monitoring/control programmes such as NRCP (as per Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017) , Monitoring of Pesticide Residue at National Level (MPRNL) etc. 5. Enrolment of farms, hatcheries & feed-mills intended for export linked production in order to ensure the code of practices for producing quality aquaculture products, hatchery seeds & aqua feed. 6. Promotion of export of marine products from the country to different international markets. 7. Guidance to farmers to adopt good management practices and sustainable aquaculture.
7.3	**NRCP laboratories**
	The MPEDA has set up a network of 4 (four) Quality Control Laboratories at Kochi, Bhimavaram, Nellore & Bhubaneswar. The Quality Control Laboratories at Kochi, Bhimavaram, Bhubaneswar & Nellore are involved in implementation of the National Residue Control Plan for aquaculture products, as per Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017.

	In addition to above, Export Inspection Agency-Chennai laboratory shall be utilized for testing the parameters like dioxin & furans.
7.3.1	**MPEDA Quality Control Laboratory, Kochi (Cochin)**
	MPEDA House – 5th Floor, Panampilly Avenue, Cochin – 682 036, Kerala, India. (Tel.91-484-2311979 / 2321811 / 2311033. Fax.91-484-2313361, E-mail: mahesh@mpeda.gov.in;
7.3.2	**MPEDA Quality Control Laboratory, Bhimavaram**
	27/1/6 - Pattabhi Plaza, 2nd floor, Juvalpalem Road, Bhimavaram-534 202, West Godavari Dist. Andhra Pradesh, Tel: 91-8816-226410 / 227076. E-mail: lab.bhi@mpeda.gov.in
7.3.3	**MPEDA Quality Control Laboratory, Nellore**
	D.No.26-1766/A-1, Srinagar colony, Mini Bypass Road, Nellore- 524 003, Andhra Pradesh. Tel: 91-861- 2319144 / 2319344 E-mail: lab.nel@mpeda.gov.in
7.3.4	**MPEDA Quality Control Laboratory, Bhubaneswar**
	2nd Floor, Raptani Bhavan, Near ID Market, IRC Village, Nayapalli,Bhubaneswar-751 015, Odisha. Tel: 91-674-2362365, E-mail: lab.bhu@mpeda.gov.in
7.3.5	**Export Inspection Agency-Chennai laboratory**
	Export Inspection Agency-Chennai , 6th Floor CMDA Tower II, No: 1, Gandhi Irwin Road, Egmore, Chennai - 600 008, Tel: +91-44 - 2855 2841 / 42 Fax: + 91-44 - 2855 2840 E-mail: eia-chennailab@eicindia.gov.in
8.0	**Level of competence of the MPEDA Laboratories and EIA-Chennai Laboratory involved in residue monitoring:**
	The MPEDA QC Laboratories and EIA-Chennai Laboratory are equipped with high precision sophisticated equipment like Liquid Chromatography Tandem Mass Spectrometer (LC-MSMS), Inductively Coupled Plasma - Mass Spectrometer (ICP-MS), Atomic Absorption Spectrometer (AAS), High Performance Liquid Chromatograph (HPLC), Gas Chromatograph(GC-ECD), Gas Chromatograph - Mass Spectrometer (GC-MS / GC-MSMS), etc. and all necessary supporting equipment/instruments. The EIA-Chennai Laboratory is also equipped with the GC-HRMS.
8.1	**Accreditation / approvals of Laboratories:**
	The MPEDA QC Laboratories & EIA Chennai laboratories are accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL), member of International Laboratory Accreditation Co-operation (ILAC), as per the ISO/IEC 17025 Standard. The scope of accreditations covers testing of fish and fishery products for chemical residues. The Laboratories are also approved by the Export Inspection Council of India for testing of fish and fishery products intended for export.

8.2	**Proficiency Test & Inter-laboratory comparisons:**
	The MPEDA QC Laboratories & EIA Chennai laboratory participate regularly in Proficiency Testing programmes conducted by international PT providers like FAPAS (CSL),LGC Promochem, UK and EIA laboratories to prove the competency in testing of various parameters under the scope of accreditation. The Laboratories have successfully participated in several PT programmes for analysis of Nitrofuran metabolites, Chloramphenicol, Tetracyclines, Chemical Elements, Quinolones, Sulphonamides, Organochlorine Pesticides and PCBs, Dyes, etc. Dyes and also regularly organize as well as participate in Inter-laboratory Testing/Comparison programmes.
9.0	**Personnel responsible for collection of samples:**
	The MPEDA has a number of field offices (Regional/Sub-regional Divisions) located in different maritime states of India where the aquaculture is carried out. The Residue Monitoring Officers of MPEDA field offices (who are designated for sample collection and other field/follow up activities related to NRCP) at different regions visit the farms, processing plants, hatcheries and feed mills and collect the targeted samples as per the monthly target/ schedule assigned to different regions/states and forward the same to the laboratories of MPEDA at Cochin, Nellore Bhimavaram and Bhubaneswar. The sampling official records the nature, source, the date and place of sampling and other relevant information. Trainings/work-shops are conducted for the Residue Monitoring Officers every year to evaluate the implementation of NRCP with regard to sampling procedure and strategies, collection of samples & follow-up samples, follow-up action, etc.
10.0	**Sampling Strategy:**
	(i) Shrimps (*Penaeus monodon, P. indicus, Litopenaeus vannamei, etc*): The number of samples are decided based on the total production in the previous year ie., 1 sample per every 100 M/T of production (1:100) (ii) Scampi (Macrobrachium rosenbergii): At least one sample per every 100 M/T of production. (iii) Fin-fishes: based on throughput in the approved export establishments (approved for export to EU) - at least one sample per every 100 M/T of export (iv) Feed samples: One sample per two registered feed-mill (50%). (v) Hatchery sample (seed/water): at least one sample from each hatchery under operation.

10.1 Number of Aquaculture Samples to be collected and analyzed under NRCP 2021 :

Table – 4

Type of sample	*No. of registered / Enrolled Farms*	*Aqua-culture Product-ion (M/T) (2019-20)*	*Total through-put of EU approved Processing plants (Fish RM)*	*No. of samples to be analysed*	*Criteria for sampling*
1. Crustaceans *(i) L. vannamei (ii) P. monodon (iii) P. indicus & (iv) M. rosenbergii*	73872	747694	-	7477	1 sample per every 100 M/T of production (1:100)
		9540	-	96	1 sample per every 100 M/T of production (1:100)
Sub Total		**757234**	**-**	**7573**	
1. Freshwater Fin-fishes *(i) P. pangasius (ii) O. niloticus (iii) L. calcarifer*	--	-	1620	17	1 sample per every 100 M/T (1:100), based on through-put in export approved (EU) establishments
			TOTAL	**7590**	

10.2 NRCP 2021 Breakup of Aquaculture samples for analysis of Group A & Group B Substances

Table – 5

Type of Sample	*Number of samples to be tested*	*Break up of samples to be tested*			
		Group A substances		*Group B substances*	
		Farms	*Processing Plants*	*Farms*	*Processing Plants*
1. Crustaceans (i)Shrimp	7477	2467	--	2505	2505
(ii) Scampi	96	32	--	40	24
2. Fin-fishes	17	6	--	6	5
Total	**7590**	**2505**	**--**	**2551**	**2534**

10.3 NRCP 2021 - Break up of samples for analysis of Group A substances

Table – 6

Samples for analysis of Group-A substances:				
Species	***No. of samples for Group A Substances***	***A-1 Stilbenes***	***A-3 Steroids***	***A-6 NF + CAP + Nitroimidazoles.***
Cultured Shrimp	2467	--	--	2467
Cultured fresh water Prawn (Scampi)	32	--	--	32
Cultured fresh water Fin-fishes	6	2	2	2
Total	**2505**	**2**	**2**	**2501**

10.4 NRCP 2021 - Break up of samples for Analysis of Group B substances

Table – 7

Species / item	***No. of Samples***	***Samples taken from***	***No. of samples***					
			(B1) Antibact-erials	***(B2a) Anthel-mintics***	***(B3a) Organo-chlorine Compounds including PCBs***	***(B3c) Chemical Elements***	***(B3d) Myco-toxin***	***(B3e) Dyes***
Cultured shrimp	5010	Farms (2505)	1253	501	251	251	124	125
		Proc. Plants (2505)	1253	501	251	251	124	125
Cultured fresh water prawn (Scampi)	64	Farms(40)	20	8	4	4	2	2
		Proc. Plants (24)	12	5	2	3	1	1
Cultured fresh water fin-fishes	11	Farms (6)	3	1	1	0	0	1
		Proc. Plants (5)	2	1	0	1	1	0
Total	5085	--	2543	1017	509	510	252	254

10.5 NRCP 2021 - Number of Feed Samples to be monitored: Hatchery and Feed Samples:

Table – 8

Sl no.	*Item*	*Parameter*	*No. of Hatcheries / Feed-mills in operation*	*No. of samples to be analysed*	*Criteria for sampling*
1	Feed	NF + CAP	29	15	Samples from 50% of registered feed mills
2	Hatchery Seed	NF + CAP	259	259	Samples from 100% of operational Hatcheries

10.6 Total number of Samples proposed under NRCP 2021:

Table – 9

Sl no.	*Item / species*	*No. of Samples to be tested by MPEDA Labs*
1	Crustaceans	7477
	(i)Shrimp (*L. vannamei / P. monodon/ P indicus*)	
	(ii) Scampi (*M. rosenbergii*)	96
2	Fresh water Fin-fishes *(i) P. pangasius* *(ii) O. niloticus* *(iii) L. calcarifer*	17
	Sub Total	**7590**
3	Hatchery seed	259
4	Feed	15
	Sub Total	**274**
	GRAND TOTAL	**7864**

10.7 Additional veterinary medicinal products covered under NRCP 2021

Table-10

Sl. No.	Name of Group	Parameter
1	Macrolides	1) Erythromycin A
		2) Tilmicosin
		3) Tylosin
		4) Spiramycin
2	Beta Lactams	1) Amoxicillin
		2) Ampicillin
		3) Benzyl Penicillin
		4) Dicloxacillin
		5) Oxacillin
		6) Cloxacilin
		7) Colistin
3	Amino glycosides	1) Spectinomycin

			2) Neomycin(including framycetin)
	4	Lincosamides	Lincomycin
	5	Diaminopyramidines	Trimethoprim
	6	Doxycycline	Doxycycline
	7	Cephalosporins	1) Cefalexin
			2) Cefapirin

A minimum of 459 samples shall be tested for Antibacterial substances (B1) from farms and processing plants for the above additional parameters. In the event of non-compliant results being detected, all the samples allocated for Group B1 shall be analyzed.

11.0 Collection and transportation of samples

500 gms of samples (whole prawns / fish) shall be taken from farm / establishment for analysis. In case of samples from hatchery, 20 to 25 gm of juveniles (excluding water) are collected from the larval and post-larval rearing tanks in polythene bags, sealed and transported in thermocole box packed with dried/ wet ice. In case of feed, 500 gms of feed samples are taken in polythene bags from farms and feed mills.

Shrimp / fish samples collected in polythene bags and covered in aluminum foil, affixed with code numbers, to maintain sample integrity and traceability. The container / packing must be officially sealed and packed in thermocole boxes are dispatched along with the sampling report, with sufficient dry ice in the case of long duration transport and with wet ice in the case of short distance transport.

The samples are forwarded to the concerned laboratories within 3 days of its collection so as to reach MPEDA Laboratories within 30 hours (transit time) of its dispatch.

Instructions issued to the field offices of MPEDA on sample collection, packing & transportation and follow-up action to be taken on residue positive samples. (***Annexure–V***)

12.0 Handling of sample in the Laboratory

Immediately on receipt, the samples are decoded and stored in deep freezer at −18°C (±2°C). The samples are then homogenized and divided into two equal portions and stored in deep freezer. One portion is used for the analysis, while the remaining portion is retained in the deep freezer.

The samples are analyzed by the respective laboratories at the earliest not more than **15 days** from the receipt of the samples. If the initial test shows positive, the remaining sample will be tested for confirmation of the results. The samples are disposed only on completion of **90 days** after analysis.

The test reports are received by the Field Offices & EIAs electronically (online).

13.0 Alert information, communication of results & measures taken in the event of infringement:

a) In the case of positive test results (non-compliant samples), the alert information along with test results is transmitted to the concerned field offices of MPEDA and EIA.
b) On receipt of such information EIA & MPEDA shall undertake the joint inspection of the facility to trace the origin / source of contamination.
c) The EIA & MPEDA officials collect follow up samples from the same premises for the further analysis at MPEDA laboratory. A joint inspection report shall be prepared & be

available at EIA & MPEDA.

d) If the sample is found positive, on repeated analysis the results shall be communicated by MPEDA to EIAs and the defaulting facility will be issued show cause notice by EIAs.
e) Based on the reply received from the facility, the EIA shall take the action as deemed fit.
f) A monthly summary of the samples drawn, tested and results (including positive and negative), shall be communicated to the Competent Authority by MPEDA.
g) EIAs shall send the monthly report of action taken on non-compliance results to EIC.
h) The farms reported with non-compliant results are subjected to more stringent checks for a period of at least twelve months by EIAs.
i) A Committee headed by the In-charge of the EIA reviews regularly the non-compliant (residue positive) cases for appropriate follow-up guidelines and actions

14.0 Maximum Residue Limit (MRL) /Maximum Residual Performance Limit(MRPL)/ Maximum Levels (MLs) for Group A and Group B Substances of Veterinary Drugs and Environmental Contaminants

14.1 MRL/MRPL/MLs for Group A Substances

Substance group	***Substances***	***Substance monitored***	***MRL/MRPL/Working Limit***
Group: A (1)	Stilbenes and its derivatives	Diethyl Stilbestrol Dienestrol; Hexestrol	Nil (Recommended concentration- 1µg/kg
A (3)	Steroids	Progesterone	Nil Recommended concentration-1µg/kg)
		MedroxyProgestrone	Nil Recommended concentration-1µg/kg)
		17-β Oestradiol	Nil Recommended concentration-1µg/kg)
A (6)	Compounds included in Council Regulation No.37/2010.	(i) Chloramphenicol	Nil MRPL: 0.3 µg/kg
		(ii) Nitrofuran Metabolites (AOZ, AMOZ, SEM & AHD)	Nil MRPL: 1.0 µg/kg
		(iii) Nitrofurans (parent compounds, in case of feed samples)	Nil #
		(iv) Nitroimidazoles (Metronidazole, Dimetridazole & Ronidazole , Ipronidazole and their hydroxyl compounds)	Nil (Recommended concentration /Working Limit - 3.0 µg/kg)

Group B substances/residues:

B -1	**Antibacterial substances**		
	1. Quinolones/Fluoro-quinolones	Oxolinic acid	100 µg/kg
		Difloxacin	300 µg/kg
		Sarafloxacin	30 µg/kg
		Enrofloxacin (sum of Enrofloxacin & Ciprofloxacin)	100 µg/kg
		Danofloxacin	100 µg/kg
		Flumequine - Fin-fish	600 µg/kg
		Flumequine - Other species	200 µg/kg
		Norfloxacin	No MRL (Reporting >LOQ)
		Nalidixic acid	No MRL (Reporting >LOQ)
	2. Tetracyclines	Tetracycline & its 4-epimer	100 µg/kg
		Oxytetracyline & its 4-epimer	100 µg/kg
		Chlortetracycline & its 4-epimer	100 µg/kg
		Doxycycline	100 µg/kg
	3. Sulfonamides	Sulfadiazine, Sulfamethoxazole, Sulfamethoxypyridine, Sulfamethizole, Sulfamethazine, Sulfamerazine, Sulfapyridine, Sulfadimethoxine, Sulfachloropyradizine, Sulfathiazole, Sulfadoxine	100 µg/kg (MRL - sum of all substances)
	4. Macrolides	Erythromycin A	200 µg/kg
		Tilmicosin	50 µg/kg
		Tylosin	100 µg/kg
		Spiramycin	No MRL (Reporting >LOQ)
	5. Beta Lactams	Amoxicillin	50 µg/kg
		Ampicillin	50 µg/kg
		Benzyl Penicillin	50 µg/kg
		Dicloxacillin	300 µg/kg
		Oxacillin	300 µg/kg
		Cloxacilin	300 µg/kg
		Colistin A & B	150 µg/kg
	6. Amino glycosides	Spectinomycin	300 µg/kg
		Neomycin(including framycetin)	500 µg/kg
	7. Lincosamides	Lincomycin	100 µg/kg
	8. Diaminopyramidines	Trimethoprim	50 µg/kg
	9. Cephalosporins	Cefalexin	No MRL (Reporting >LOQ)
		Cefapirin	No MRL (Reporting >LOQ)

B-2(a)	Anthelmintics	Emamectin	100 µg/kg
		Ivermectin	No MRL (Reporting >LOQ)
	Environmental Contaminants		
B-3(a)	Organochlorine compounds (i) Pesticides	α BHC	No MRL (Reporting > *LOQ*)
		β BHC	
		γ BHC	
		Aldrin	
		DDT (sum of p,p′-DDT, o,p′-DDT, p-p′-DDE and p,p′-TDE (DDD) expressed as DDT)	
		Dieldrin	
		Endrin	
		Heptachlor	
		HCB	
		Cis-Chlordane	
		Trans-Chlordane	
		Oxy-Chlordane	
	(ii) PCBs	PCBs (PCB 28, PCB 52, PCB 101, PCB 138, PCB 153, PCB 180)	75 µg/kg (sum of PCBs)
	(iii) Dioxins/Furans and dioxin like PCBs	Dioxins / Furans (17 compounds) & dioxin like PCBs (12 compounds)	3.5 pg/g (sum of all Dioxins/Furans) and 6.5 pg/g (sum of all Dioxins/Furans & dioxin like PCBs)

Other Substances			
B-3(d)	Mycotoxins	Aflatoxin B1& B2	No ML Reporting >LOQ.
B-3(e)	Dyes	Malachite green & Leuco-malachite green	Nil (MRPL: 2 µg/kg) sum
		Crystal Violet & Leuco-crystal Violet	Nil #
B-3(c)	Chemical Elements	Mercury	0.5 mg/kg
		Cadmium (Crustaceans) -do- (Fish muscle) -do- (Cephalapod, without viscera)	0.5 mg/kg 0.05 mg/kg 1.0 mg/kg
		Arsenic (Fish muscle)	No ML*
		Lead (Crustaceans) -do- (Fish muscle)	0.5 mg/kg 0.3 mg/kg

** LOD & LOQ is determined as working limit by individual laboratory.*
 # Working Limit (ALARA) is determined by each Lab.
Maximum Residue Limit (MRL) /Maximum Residual Performance Limit(MRPL)/ Maximum Level (ML).

15.0 DETAILS OF ANALYTICAL METHODS

Unless otherwise mentioned elsewhere the methods described in the Manual/Journal of Association of Official Analytical Chemists and methodology followed in the EU Community Referral Laboratories (CRLs) are followed using the equipment mentioned against the substances as given below.

15.1 Group A – substances having anabolic effect and unauthorized substances

Group as per Directive	*Residue*	*Technique*	*Equipment (Example)*
Group A.1	Stilbenes, Stilbene derivatives and their salts and esters	Liquid Chromatography-Tandem Mass Spectrometry	LC-MSMS
Group A.3	Steroids	Liquid Chromatography-Tandem Mass Spectrometry	LC-MSMS
Group A.6	Chloramphenicol, Nitrofuran Metabolites and Nitroimidazoles	Liquid Chromatography-Tandem Mass Spectrometry	LC-MSMS

15.2 Group B -Antibacterial substances, Pesticides and Chemical elements.

Group as per Directive	*Residue*	*Technique*	*Equipment (Example)*
Group B.1	Tetracyclines, Quinolones and Sulphonamides, Macrolides, Beta Lactams, Amino glycosides, Lincosamides, Diaminopyramidine, Cephalosporins	Liquid Chromatography / Liquid Chromatography-Tandem Mass Spectrometry	HPLC (with PDA/Fluro. Detector) / LC-MSMS
Group B.2(a)	Anthelmintics (Ivermectin / Emamectin)	Liquid Chromatography / Liquid Chromatography-Tandem Mass Spectrometry	HPLC / LC-MSMS
Group B.3(a)	i. Organo-chlorine Pesticides	Gas Chromatography	GC-ECD/ GC-MS / GC-MSMS
	ii. PCBs (non-dioxin like)	Gas Chromatography / Gas Chromatography-Mass Spectrometry / Tandem Mass Spectrometry	GC-ECD / GC-MS / GC-MSMS
	iii. Dioxins/Furans & dioxin like PCBs	Gas Chromatography-High Resolution Mass Spectrometry/ Gas Chromatography-Tandem Mass Spectrometry	GC-HRMS / GC-MSMS

	Group B.3(c)	Chemical Elements	Atomic Absorption Spectrometry / Inductively coupled Plasma-Optical Emission Spectrometry/ Mass Spectrometry	AAS / ICP-OES / ICP-MS
	Group B.3(d)	Mycotoxin / Aflatoxin	Liquid Chromatography	HPLC with Fluorescent Detector.
	Group B.3(e)	Dyes	Liquid Chromatography-Tandem Mass Spectrometry	LC-MSMS

16.0 Non-compliant (residue positive) samples of NRCP 2020 :

16.1 Shrimp, Scampi & Fin-fishes:

Under NRCP 2020, against the target/plan of 7669 samples (shrimp, scampi and fin-fishes), a total of 7704 samples were analyzed.

The number of non-compliant (residue positive) samples detected were 6 under Group-A6 due to residues of CAP,NFM & Nitroimidazoles (shrimp: 05 + scampi: 0 + fin-fish: 1) and 3 under Group-B3c due to presence of lead (shrimp: 03 + scampi: 0 + fin-fish: 0).

16.2 Feed & Hatchery Samples:

In case of hatchery seed and feed samples, against the target/plan of 19 feed and 283 hatchery samples, 19 feed and 218 hatchery samples were analysed. The number of non-compliant samples were, feed: nil and hatchery: 44 (Gr. A6 (CAP/NFM).

Details of the non- compliant samples are given at Annexure- 4A,4B & 4C

Diwakar Nath Misra
Joint Secretary & Director (Insp. & Quality Control)
Export Inspection Council
08.04.2021

Annex - I

Note	INSTRUCTIONS
1	The competent authority is requested to fill in each sheet (for the relevant commodity). Numerical data should only be included for those commodities currently being exported to the European Union (EU) or which the third country intends to export to the EU. Numerical data should be entered in those cells shaded light yellow thus: ⟶
2	Basis of the calculation: The tables are set up to calculate the required sample numbers on the basis of Directive 96/23/EC and Commission Decision 97/747/EC. Data in cells shaded light blue are automatically calculated when the **production data cell (Cell C8)** is completed (**see note 4 below**). In the case of **milk, eggs, farmed game** and **wild game**, the minimum numbers of samples to be taken have already been entered in the blue cells and are independent of the production volumes.
3	In order to ensure that all samples are tested and to facilitate the allocation of the balance of samples between groups (as is required for several commodities), explanations are given at the foot of each individual Excel worksheet.
4	It is important that for those countries where animals and products from **any farm** are eligible to be exported to the EU, the proportion of animals sampled should be taken relative to the **annual national production figures**. [IN THIS CASE THE ANNUAL PRODUCTION DATA SHOULD BE ENTERED IN CELL C8]. For those countries where only a **defined population of animals are eligible for export** to the EU, and where there is a system in place guaranteeing that only those animals from those farms are eligible for export (**i.e. a split system**), it is permissible that the proportion of animals sampled is relative to that defined population. [IN THIS CASE THE EU EXPORT DATA ONLY SHOULD BE ENTERED IN CELL C8].
5	With regard to the **selection of residues to be analysed**, guidance is given on this web page and is summarised in Table 2 below. The European Community considers that certain substances are 'essential' for monitoring. **These are indicated in the table as 'E' and must be monitored for.** Other substances are designated as 'highly desirable – HD' and the Community expects that these substances will be included in all residue monitoring plans of third countries. However, deviations concerning HD substances may be acceptable. In this case arguments based on an analysis of the risk of residues remaining in food are to be submitted by the third country. These arguments should demonstrate that, for example, because of the production conditions in that third country it is not necessary to test for the substance. When selecting individual substances in the HD groups, third countries should consider what veterinary medicines or feed additives are authorised and used legally in the country in each of the production sectors and what contamination might occur e.g. via feed and water or directly through the environment. Consideration should also be given to the possibility of illegal or unauthorised use.
6	The reduced number of substances to be looked for in **live equidae exported for direct slaughter** to the EU presupposes that there is no slaughter of horses in that third country, hence the substances chosen may be looked for in body fluids (i.e blood and urine) which can be sampled from live horses. It is stressed that if there *is* slaughter of horses in the third country and only live horses are exported for direct slaughter, *sampling should be based on the slaughtered animals* and take account of the wider range of substances that can be checked.

Table 2 Substances or Group of substances [1] to be monitored for in the relevant commodity. E = 'essential' HD = 'highly desirable'

Animal species or food covered by the plan →			bovine	ovine/ caprine	swine	Equine [7]		poultry	aquaculture		milk	eggs	rabbit	wild game	farmed game	honey
						slaughtered	live equidae for direct slaughter		finfish	crustaceans						
Substances / groups of substances to be monitored																
A1	**Stilbenes** (e.g. diethylstilbestrol, hexestrol, dienestrol)		E	E	E	E		E	E				E		E	
A2	**Thyrostats** (e.g. thiouracil, tapazol etc)		E	E	E	E										
A3	**Steroids** [androgens, estrogens and (pro)gestagens] [3]		E	E	E	E	E	E	E				E		E	
A4	**Resorcylic acid lactones** (e.g. zeranol)		E	E	E	E		E					E		E	
A5	**Beta agonists** (e.g. clenbuterol, ractopamine, zilpaterol, mabuterol etc)		E	E	E	E	E	E					E		E	
A6	**Compounds included in Annex IV to Council Regulation (EEC) No 2377/90**	Chloramphenicol	E	E	E	E	E	E	E	E	E	E	E		E	E
		Nitrofurans [4]			E			E	E	E		E	E		HD	E
		Nitroimidazoles [5]			E	E	E	E	HD	HD		HD	E		HD	
B1	**Antibacterial substances** [6]		E	E	E	E		E	E	E	E	E	E		E	E [8]
B2a	**Anthelmintics**		HD	HD	HD	HD		HD	HD	HD	HD		HD		HD	
B2b	**Anticoccidials**		HD	HD	HD	HD		E				HD	E		HD	
B2c	**Carbamates and pyrethroids**		HD	HD	HD	HD		HD					HD		HD	HD
B2d	**Sedatives**		HD	HD	HD	HD										
B2e	**Non steroidal anti-inflammatory drugs (NSAIDs)** (e.g. phenylbutazone)		HD	HD	HD	E	E	HD			HD		HD		HD	
B2f	**Other pharmacologically active substances**	Carbadox, olaquindox			E [9]											
B3a	**Organochlorine compounds including PCBs**		HD	HD	HD	HD		HD	HD	HD	HD	HD	HD		HD	HD
B3b	**Organophosphorus compounds**		HD	HD	HD	HD					HD					HD
B3c	**Chemical elements**		HD	HD	HD	HD		HD	HD	HD	HD		HD	E	HD	HD
B3d	**Mycotoxins**		HD	HD	HD	HD		HD	HD	HD	HD					
B3e	**Dyes** (in particular malachite green and its major metabolite leucomalachite green)								E	E						

(1) Groups defined in Annex I of Directive 96/23/EC. Monitoring of E (essential) substances or group of substances is mandatory. Monitoring of HD (highly desirable) groups is mandatory in the Member States. Ideally a third country should also monitor these groups, however, if they are not monitored, evidence must be provided justifying this decision. A full list of substances is included on the DG SANCO third country residues web page.

(3) Typical steroids to be monitored for include testosterone, methyl testosterone, trenbolone, nortestosterone, boldenone, stanozolol, estradiol, ethinyl estradiol, progesterone, medroxyprogesterone acetate, megoestrol acetate, flugestone etc

(4) The stable metabolites/marker residues of the four main nitrofuran drugs (furazolidone, furaltadone, nitrofurazone and nitrofurantoin) should be analysed. The metabolites are: Furazolidone: amino-oxazolidinone (AOZ); Furaltadone: 3-amino-5-morpholinomethyl-2-oxazolidinone (AMOZ); Nitrofurazone: semicarbazide (SEM) and nitrofurantoin: aminohydantoin (AHD).

(5) The nitroimidazoles include dimetridazole, ronidazole, metronidazole, ipronidazole etc

(6) Antibacterial substances should be chosen on the basis of what is authorised and used in the relevant livestock production sector. Examples include beta-lactams, tetracyclines, sulphonamides, fluoroquinolones, aminoglycosides, macrolides etc.

(7) The reduced number of substances to be looked for in live equidae exported for direct slaughter to the EU presupposes that there is no slaughter of horses in that third country, hence the substances chosen may be looked for in body fluids (i.e blood and urine) which can be sampled from live horses. It is stressed that if there is slaughter of horses in the third country and only live horses are exported for direct slaughter, sampling should be based on the slaughtered animals and take account of the wider range of substances that can be checked.

(8) Honey should be tested for antibacterial substances including sulphonamides, tetracyclines, tylosin and streptomycin.

(9) If carbadox or olaquindox are authorised in swine production, residue testing of tissues and/or feedingstuffs should be carried out.

REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

Anexure I A

COUNTRY	INDIA	DATE	12/15/2020
YEAR OF PLAN IMPLEMENTATION	2021		
ANIMAL SPECIES / PRODUCT	AQUACULTURE CRUSTACEANS		
National PRODUCTION DATA - in TONNES (referring to the previous year)	Table no.... in NRCP Doc.	EU EXPORT DATA in TONNES (referring to the previous year)	
PRODUCTION DATA in TONNES for calculation of SAMPLE NUMBERS. (referring to previous year's production)	757234	See Instruction sheet, note 4. If a **split system** is in place for exports to the EU, **actual export data** may be entered in this cell. If there is no split system and **FARMED SHRIMP from ALL FARMS are eligible for export to the EU**, **national production data** must be entered in this cell. For a more detailed description of the options see hyperlink	Sampling levels and frequencies

NUMBER OF SAMPLES †	ACCORDING TO EU REQUIREMENTS	ACCORDING TO CODEX ALIMENTARIUS	OTHER
MINIMUM	7572		
PLAN	7573		

GROUP OF SUBSTANCES TO BE MONITORED		NUMBER OF SAMPLES MIN	NUMBER OF SAMPLES PLAN	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREEN.METH. DETECTION LIMIT [µg/Kg]	CONFIR.METH. DETECTION LIMIT [µg/Kg]	LEVEL OF ACTION (i.e. conceentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
A6	Chloramphenicol + Nitrofurans+ Nitroimidazoles	2499	2499								
	CHLORAMPHENICOL										
	NITROFURANS										
	Nitrofurantoin metabolite										
	Furaltadone metabolite										
	Furazolidone metabolite										
	Nitrofurazone metabolite										
	NITROIMIDAZOLES										

GROUP OF SUBSTANCES TO BE MONITORED		NUMBER OF SAMPLES MIN	NUMBER OF SAMPLES PLAN	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREEN.METH. DETECTION LIMIT [µg/Kg]	CONFIR.METH. DETECTION LIMIT [µg/Kg]	LEVEL OF ACTION (i.e. conceentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
B1	ANTIBACTERIAL SUBSTANCES	2537	2538								

B2a	ANTHELMINTICS	1015	1015								
B2f	Other pharmacologically active subs										
GROUP OF SUBSTANCES TO BE MONITORED		NUMBER OF SAMPLES		COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREEN.METH. DETECTION LIMIT [µg/Kg]	CONFIR.METH. DETECTION LIMIT [µg/Kg]	LEVEL OF ACTION (i.e. conceentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
		MIN	PLAN								
Sum of B3a + B3c + B3d + B3e		1522	1521								
B3a	ORGANOCHLORINE COMPOUNDS INCLUDING PCBS		508								
B3c	CHEMICAL ELEMENTS		509								
B3d	MYCOTOXINS		251								
B3e	DYES e.g. Malachite Green (+ leucomalachite green), crystal violet etc		253								

REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

Annex 1B

For official use

16.2

COUNTRY	India
YEAR OF PLAN IMPLEMENTATION	2021
ANIMAL SPECIES / PRODUCT	AQUACULTURE FIN FISHES
National PRODUCTION DATA - in TONNES (referring to the previous year)	Annexe I (B)
PRODUCTION DATA In TONNES for calculation of SAMPLE NUMBERS. (referring to previous year's production THROUGHPUT by EU approved Export Establishments)	1620

DATE	12/15/2020
EU EXPORT DATA in TONNES (referring to the previous year)	2019-20

See Instruction sheet note 4. If a **split system** is in place for exports to the EU, **actual export data** may be entered in this cell. If there is no split system and **farmed FINFISH from ALL FARMS are eligible for export to the EU, national production data** must be entered in this cell. For a more detailed description of the options see hyperlink

Sampling levels and frequencies

NUMBER OF SAMPLES †	ACCORDING TO EU REQUIREMENTS	ACCORDING TO CODEX ALIMENTARIUS	OTHER
MINIMUM #	16		
PLAN	17		

GROUP OF SUBSTANCES TO BE MONITORED		NUMBER OF SAMPLES MIN	NUMBER OF SAMPLES PLAN	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREEN.METH. DETECTION LIMIT [µg/Kg]	CONFIR.METH. DETECTION LIMIT [µg/Kg]	LEVEL OF ACTION (i.e. conceentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
A1	STILBENES	2	2								
A3	STEROIDS (WITH ANDROGENIC, ESTROGENIC OR PROGESTAGENIC ACTIVITY)	2	2								
A6	Chloramphenicol + Nitrofurans+ Nitroimidazoles	2	2								
	CHLORAMPHENICOL										
	NITROFURANS										
	Nitrofurantoin metabolite										
	Furaltadone metabolite										
	Furazolidone metabolite										
	Nitrofurazone metabolite										
	NITROIMIDAZOLES										
B1	ANTIBACTERIAL SUBSTANCES	5	5								

B2a	ANTHELMINTICS	2	2								
B2f	Other pharmacologically active subs										
GROUP OF SUBSTANCES TO BE MONITORED		NUMBER OF SAMPLES MIN	NUMBER OF SAMPLES PLAN	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREEN.METH. DETECTION LIMIT [µg/Kg]	CONFIR.METH. DETECTION LIMIT [µg/Kg]	LEVEL OF ACTION (i.e. conceentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
Sum of B3a + B3c + B3d + B3e		3	4								
B3a	ORGANOCHLORINE COMPOUNDS INCLUDING PCBS		1								
B3c	CHEMICAL ELEMENTS		1								
B3d	MYCOTOXINS		1								
B3e	DYES e.g. Malachite Green (+ leucomalachite green), crystal violet etc		1								

† A sample is one or more fish. The **minimum number of samples to be collected each year must be at least 1 per 100 tonnes of annual production**.
The following breakdown must be respected: ***Group A: one third of the total samples.***
All of these samples must be taken at farm level, on fish at all stages of farming , including fish which is ready to be plac ed on the market for consumption.
Group B: two thirds of the total samples.
This sampling should be carried out: (a) preferably at the farm, on fish ready to be placed on the market for consumption;
(b) either at the processing plant, or at wholesale level, on fresh fish, on condition that tracing -back to the farm of origin, in the event of positive results, can be done.

The Marine Products Export Development Authority

NRCP 2021 - Allocation of Samples from Field Offices to MPEDA Lab Kochi

Type / Species	Parameter	Samples from FARMS										Samples from PROCESSING PLANTS												Total (Parameter wise)
		SRD Valsad	RD Panvel	RD Mangaluru	RD Kochi	SRD Nagapatnam	RD Vijayawada	SRD Bhimavaram	SRD Vizag	RD Bhubaneswa	RD Kolkata	RD Veraval	SRD Porbandar	RD Panvel	RD Mangaluru	RD Kochi	SRD Tuticorin	RD Chennai	RD Vijayawada	SRD Bhimavaram	SRD Vizag	RD Bhubaneswa	RD Kolkata	
CULTURED SHRIMP	CAP + NF + NI	38	11	10	19	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170
	Antibact. B	19	5	5	8	47	-	-	-	-	-	9	1	208	32	94	226	7	-	-	-	-	-	661
	Anthelmintics	8	2	2	4	19	-	-	-	-	-	4	-	83	13	38	90	3	-	-	-	-	-	266
	Pest. + PCBs	4	1	1	2	9	-	-	-	29	44	2	-	42	6	19	46	1	-	-	-	14	42	262
	Chem. Element	4	1	1	2	9	91	66	3	30	44	2	-	42	6	19	45	1	32	42	5	14	43	502
	Mycotoxins	2	-	1	1	4	-	-	-	-	-	1	-	20	3	9	22	1	-	-	-	-	-	64
	Dyes	2	-	1	1	4	-	-	-	-	-	1	-	20	3	9	23	1	-	-	-	-	-	65
	Sub Total	**77**	**20**	**21**	**37**	**184**	**91**	**66**	**3**	**59**	**88**	**19**	**1**	**415**	**63**	**188**	**452**	**14**	**32**	**42**	**5**	**28**	**85**	**1990**
SCAMPI	CAP + NF + NI	6	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
	Antibact. B	3	3	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	11
	Anthelmintics	1	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	4
	Pest. + PCBs	1	1	-	-	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	-	5
	Chem. Elem.	1	1	-	-	-	-	-	-	1	1	-	-	3	-	-	-	-	-	-	-	-	-	7
	Mycotoxins	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	Dyes	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
	Sub Total	**13**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**41**
FISH	Stilbens	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	Steroids	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	CAP + NF + NI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	Antibact. B	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	3
	Anthelmintics	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
	Pest. + PCBs	-	1	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	1
	Chem. Elem.	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	Mycotoxins	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	Dyes	-	1	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	1
	Sub Total	*0*	*4*	*0*	*0*	*0*	*2*	*2*	*0*	*0*	*0*	*0*	*0*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*13*
Grand TOTAL		**90**	**35**	**21**	**37**	**184**	**93**	**68**	**3**	**61**	**90**	**19**	**1**	**433**	**63**	**188**	**452**	**14**	**32**	**42**	**5**	**28**	**85**	**2044**

The Marine Products Export Development Authority

NRCP 2021 - Allocation of Samples from Field Offices to MPEDA Labs at Bhimavaram, Nellore & Bhubaneswar

QC Lab, Bhimavaram

Item / Species	Parameter	Number of Samples					
		SRD Bhimavaram (Farms)	SRD Bhimavaram (P. Plants)	RD Vijayawada (Farms)	SRD Vizag (Farms)	SRD Vizag (P. Plants)	TOTAL (parametrwise)
CULTURED SHRIMP	CAP + NF + NI	647	-	70	31	-	**748**
	Antibacterial B	328	211	40	16	26	**621**
	Anthelmintics	131	84	20	6	10	**251**
	Pest + PCBs	66	42	10	3	5	**126**
	Chem. Elements	-	-	-	-	-	0
	Mycotoxins	33	21	4	2	3	**63**
	Dyes	33	21	5	2	3	**64**
	Sub Total	***1238***	***379***	***149***	***60***	***47***	**1873**
SCAMPI	CAP + NF + NI	3	-	-	-	-	**3**
	Antibacterial B	2	2	-	-	-	**4**
	Anthelmintics	1	1	-	-	-	**2**
	Pest + PCBs	-	1	-	-	-	**1**
	Chem. Elements	-	-	-	-	-	0
	Mycotoxins	-	-	-	-	-	0
	Dyes	-	-	-	-	-	0
	Sub Total	***6***	***4***	***0***	**0**	**0**	**10**
FISH	Stilbens	-	-	-	-	-	0
	Steroids	-	-	-	-	-	0
	CAP + NF + NI	1	-	-	-	-	**1**
	Antibacterial B	1	-	-	-	-	**1**
	Anthelmintics	-	-	-	-	-	0
	Pest + PCBs	-	-	-	-	-	0
	Chem. Elements	-	-	-	-	-	0
	Mycotoxins	-	-	-	-	-	0
	Dyes	-	-	-	-	-	0
	Sub Total	**2**	**0**	**0**	**0**	**0**	**2**
	Total	**1246**	**383**	**149**	**60**	**47**	**1885**

QC Lab, Nellore

Item / Species	*Parameter*	Number of Samples		
		RD Vijayawada (Farms)	RD Vijayawada (P. Plants)	TOTAL (parametrwise)
CULTURED SHRIMP	CAP + NF + NI	826	-	**826**
	Antibacterial B	417	160	**577**
	Anthelmintics	162	64	**226**
	Pest + PCBs	82	32	**114**
	Chem. Elements	-	-	0
	Mycotoxins	40	16	**56**
	Dyes	40	16	**56**
	Sub Total	**1567**	***288***	**1855**
SCAMPI	CAP + NF + NI	3	-	**3**
	Antibacterial B	2	-	**2**
	Anthelmintic	1	-	**1**
	Pest + PCBs	-	-	**0**
	Chem. Elements	-	-	**0**
	Mycotoxins	-	-	**0**
	Dyes	-	-	**0**
	Sub Total	**6**	**0**	**6**
FISH	Stilbens	-	-	**0**
	Steroids	-	-	**0**
	CAP + NF + NI	1	-	**1**
	Antibacterial B	1	-	**1**
	Anthelmintics	-	-	**0**
	Pest + PCBs	-	-	**0**
	Chem. Elements	-	-	**0**
	Mycotoxins	-	-	**0**
	Dyes	-	-	**0**
	Sub Total	***2***	***0***	**2**
	Total	**1575**	**288**	**1863**

QC Lab, Bhubaneswar

Item / Species	*Parameter*	Number of Samples				
		RD Bhubaneswar (Farms)	RD Bhubaneswar (P.Plants)	RD Kolkata (Farms)	RD Kolkata (P. Plants)	TOTAL (parametrwise)
CULTURED SHRIMP	CAP + NF + NI	291	-	432	-	**723**
	Antibacterial B	148	70	220	209	**647**
	Anthelmintics	59	28	88	84	**259**
	Pest + PCBs	-	-	-	-	0
	Chem. Elements	-	-	-	-	0
	Mycotoxins	15	7	22	21	**65**
	Dyes	15	7	22	21	**65**
	Sub Total	***528***	***112***	***784***	***335***	**1759**
SCAMPI	CAP + NF + NI	4	-	11	-	**15**
	Antibacterial B	3	-	7	5	**15**
	Anthelmintic	1	-	3	2	**6**
	Pest + PCBs	-	-	-	-	0
	Chem. Elements	-	-	-	-	0
	Mycotoxins	-	-	2	-	**2**
	Dyes	-	-	1	-	**1**
	Sub Total	**8**	**0**	**24**	**7**	**39**
FISH	Stilbens	-	-	-	-	0
	Steroids	-	-	-	-	0
	CAP + NF + NI	-	-	-	-	0
	Antibacterial B	-	-	-	-	0
	Anthelmintics	-	-	-	-	**0**
	Pest + PCBs	-	-	-	-	0
	Chem. Elements	-	-	-	-	0
	Mycotoxins	-	-	-	-	0
	Dyes	-	-	-	-	0
	Sub Total	**0**	**0**	**0**	**0**	**0**
	Total	**536**	**112**	**808**	**342**	**1798**

Annex - 2C

The Marine Products Export Development Authority

Annual allocation of Samples to the Field Offices for additional parameters

Type / Species	Parameter	Samples from FARMS										Samples from PROCESSING PLANTS												Total (Parameter wise)
		SRD Valsad	RD Panvel	RD Mangaluru	RD Kochi	SRD Nagapatnam	RD Vijayawada	SRD Bhimavaram	SRD Vizag	RD Bhubaneswar	RD Kolkata	RD Veraval	SRD Porbandar	RD Panvel	RD Mangaluru	RD Kochi	SRD Tuticorin	RD Chennai	RD Vijayawada	SRD Bhimavaram	SRD Vizag	RD Bhubaneswar	RD Kolkata	
Shrimp	Antibact. B1	19	5	5	8	47	457	328	16	148	220	9	1	208	32	94	226	7	160	211	26	70	209	2506
Scampi	Antibact. B1	3	3	-	-	-	2	2	-	3	7	5	-	-	-	-	-	-	-	2	-	-	5	32
Fish	Antibact. B1	-	1	-	-	-	1	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	5
Grand Total		**22**	**9**	**5**	**8**	**47**	**460**	**331**	**16**	**151**	**227**	**14**	**1**	**210**	**32**	**94**	**226**	**7**	**160**	**213**	**26**	**70**	**214**	**2543**
Shrimp	Additional parameters	3	1	1	1	9	82	59	3	26	40	1	-	37	6	17	41	1	29	38	5	13	37	450
Scampi	Additional parameters	1	1	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	1	6
Fish	Additional parameters	-	-	-	-	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3
Grand Total		**4**	**2**	**1**	**1**	**9**	**83**	**60**	**3**	**27**	**41**	**2**	**0**	**38**	**6**	**17**	**41**	**1**	**29**	**38**	**5**	**13**	**38**	**459**

Annex - 3.

The Marine Products Export Development Authority - NRCP 2021

Allocation of Feed and Hatchery Samples

A. Sample Allocation from Field Offices to MPEDA Lab Kochi, Bhimavaram & Bhubaneswa

Lab, Kochi					
Item / species	Parameter	SRD Valsad	RD Kochi	SRD Nagapattinam	Total
Hatchery sample	CAP + NF	4	8	56	**68**

Lab, Bhubaneswar				
Item / species	Parameter	RD Bhubaneswar	RD Kolkata	Total
Hatchery sample	CAP + NF	3	1	**4**

Lab, Bhimavaram				
Item / species	Parameter	SRD Bhimavaram	SRD Vizag	Total
Hatchery sample	CAP + NF	67	34	**101**

B. Sample Allocation from Field Offices to MPEDA Lab Nellore

Lab, Nellore								
Item / Species	Parameter	RD Vijaya-wada	SRD Bhimavaram	RD Bhubaneswar	SRD Nagapattinam	SRD Valsad	RD Kolkta	Total
Feed	CAP + NF	6	4	1	2	1	1	**15**
Hatchery sample	CAP + NF	86	0	0	0	0	0	**86**

MPEDA - NRCP for Aquaculture Products - 2021
THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY, KOCHI - 36
NRCP - 2020- Summary of Results- All LABS

Item/ Species	*Substance*	*No.of Samples*			*Residue substance (s)*
		Target	*Analysed*	*Non-compliant*	
Shrimp	Group A6	2368	2389	5	CAP, AOZ, AMOZ, AHD, MNZ,MNZ-OH
	Group B1	2368	2368	0	
	Group B1 (additional parameters)	454	454	0	
	Group B2a Anth	946	948	0	
	Group B3a OCPs & PCBs	472	460	0	
	DL PCBs	0	0	0	
	Group B3c CE	474	479	3	LEAD
	Group B3d Myco	118	126	0	
	Group B3e Dyes	356	353	0	
Scampi	Group A6	24	24	0	
	Group B1	24	23	0	
	Group B1 (additional parameters)	4	4	0	
	Group B2a Anth	10	9	0	
	Group B3a OCPs & PCBs	5	1	0	
	Group B3c CE	5	5	0	
	Group B3d Myco	1	1	0	
	Group B3e Dyes	3	3	0	
Fish	Group A1	4	5	0	
	Group A3	4	5	0	
	Group A6	4	4	1	AOZ
	Group B1	12	15	0	
	Group B1 (additional parameters)	1	1	0	
	Group B2a Anth	5	7	0	
	Group B3a OCPs & PCBs	2	3	0	
	DL PCBs	0	10	0	
	Group B3c CE	2	3	0	
	Group B3d Myco	1	1	0	
	Group B3e Dyes	2	3	0	
Sub Total		**7669**	**7704**	**9**	

Feed	Group A6	19	19	0	
Hatchery Seed	Group A6	283	218	44	CAP, AOZ
TOTAL		**7971**	**7941**	**53**	

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
A1. STILBENES	Diethyl Stilbestrol	Shrimp	0	0	CC-a : 0.19 (Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
	Dienestrol	Shrimp	0	0	CC-a : 0.24(Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
	Hexestrol	Shrimp	0	0	CC-a : 0.20(Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
A3. STEROIDS	17-Beta Estradiol	Shrimp	0	0	CC-a : 0.20(Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
	Progesterone	Shrimp	0	0	CC-a : 0.20(Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
	Medroxy Progesterone acetate	Shrimp	0	0	CC-a : 0.11(Kochi)	NIL
		Scampi	0	0		NIL
		Fish	4	5		NIL
A6. CHLORAMPHENICOL	Chloramphenicol	Shrimp	2368	2389	CCα: 0.06(Kochi) 0.13 (Nellore) 0.07(Bhimavaram)	3
		Scampi	24	24		NIL
		Fish	4	4		NIL
A6 Nitrofurn Metabolites	AHD	Shrimp	2368	2389	CCα: 0.240 (Kochi) 0.506 (Nellore) 0.37(Bhimavaram)	1
		Scampi	24	24		NIL
		Fish	4	4		NIL
	AMOZ	Shrimp	2368	2389	CCα: 0.186 (Kochi) 0.507 (Nellore) 0.36(Bhimavaram)	1
		Scampi	24	24		NIL
		Fish	4	4		NIL
	AOZ	Shrimp	2368	2389	CCα: 0.333 (Kochi) 0.512 (Nellore) 0.36(Bhimavaram)	1
		Scampi	24	24		NIL
		Fish	4	4		1
	SEM	Shrimp	2368	2389	CCα: 0.443 (Kochi) 0.513 (Nellore)	NIL
		Scampi	24	24		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
		Fish	4	4	0.38(Bhimavaram)	NIL
A6 NITROIMIDAZOLES	Ronidazole	Shrimp	2368	2389	CCα: 0.39(Kochi) 1.26 (Nellore) 0.32(Bhimavaram)	NIL
		Scampi	24	24		NIL
		Fish	4	4		NIL
	Metronidazole	Shrimp	2368	2389	CCα: 0.63(Kochi) 1.23 (Nellore) 0.32(Bhimavaram)	1
		Scampi	24	24		NIL
		Fish	4	4		NIL
	Dimetronidazole	Shrimp	2368	2389	CCα: 0.34(Kochi) 1.27 (Nellore) 0.31(Bhimavaram)	NIL
		Scampi	24	24		NIL
		Fish	4	4		NIL
	Ipronidazole-OH	Shrimp	2368	2389	CCα: 0.27(Kochi) 1.25 (Nellore) 0.32(Bhimavaram)	NIL
		Scampi	24	24		NIL
		Fish	4	4		NIL
	Ipronidazole	Shrimp	2368	2389	CCa : 0.17(Kochi) 1.23 (Nellore)	NIL
		Scampi	24	24		NIL
		Fish	4	4		NIL
	Metronidazole-OH	Shrimp	2368	2389	CCα: 0.39(Kochi) 1.48 (Nellore) 0.33(Bhimavaram)	1
		Scampi	24	24		NIL
		Fish	4	4		NIL
	HMMNI	Shrimp	2368	2389	0.53(Kochi) 1.25 (Nellore) 0.32(Bhimavaram)	NIL
		Scampi	24	24		NIL
		Fish	4	4		NIL
B1. ANTIBACTERIAL SUBSTANCES						
Tetracyclines with 4-epimers	Tetracycline	Shrimp	2368	2368	CCα: 104.1 (Kochi) 109.80 (Nellore) 105.94(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	4-Epi Tetracycline	Shrimp	2368	2368	CCα: 103.6 (Kochi) 115.0 (Nellore) 107.96(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Oxytetracycline	Shrimp	2368	2368	CCα: 102.8 (Kochi) 111.5 (Nellore) 107.29(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	4-Epi Oxytetracycline	Shrimp	2368	2368	CCα: 103.2 (Kochi) 111.3 (Nellore) 110.62(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
		Shrimp	2368	2368	CCα:	NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
	Chlortetracycline	Scampi	24	23	102.6 (Kochi) 107.2 (Nellore) 106.47(Bhimavaram)	NIL
		Fish	12	15		NIL
	4-Epi Chlortetracycline	Shrimp	2368	2368	CCα: 103.1 (Kochi) 107.2 (Nellore) 106.54(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
Sulfanoamides	Sulphadiazine	Shrimp	2368	2368	CCα: 109.59 (Kochi) 108.70 (Nellore) 106.44(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfapyridine (SPD)	Shrimp	2368	2368	CCα: 113.05(Kochi) 106.69(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfamethoxizole(SMTX)	Shrimp	2368	2368	CCα: 110.99 (Kochi) 107.02(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfathiazole(STZ)	Shrimp	2368	2368	CCα: 109.15 (Kochi) 104.60(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfamerazine(SMR)	Shrimp	2368	2368	CCα: 109.14 (Kochi) 103.37(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfamethizole(SMTZ)	Shrimp	2368	2368	CCα: 111.52 (Kochi) 108.68(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfamethazine(SMT)	Shrimp	2368	2368	CCα: 106.60 (Kochi) 105.72(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfamethoxypyridazine(SMP)	Shrimp	2368	2368	CCα: 111.40 (Kochi) 106.06(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfadimethoxine(SDM)	Shrimp	2368	2368	CCα: 115.72 (Kochi) 106.78(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfadoxine(SD)	Shrimp	2368	2368	CCα: 116.21(Kochi) 105.23(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sulfachloropyridazine(SCP	Shrimp	2368	2368	CCα: 111.25(Kochi) 109.21(Bhimavaram)	NIL
		Scampi	24	23		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
		Fish	12	15		NIL
Quinolones /Fluroquinolones	Oxolinic Acid	Shrimp	2368	2368	CCα: 106.27 (Kochi) 106.50 (Nellore) 106.00(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Nalidixic Acid	Shrimp	2368	2368	LOD:2 (Kochi) CCα: 105.18 (Nellore) 16.89(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Flumequine (FLU)	Shrimp	2368	2368	CCα: 215.48 (Kochi) 216.50(Bhimavaram) LOD:	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Norfloxacin (NOR)	Shrimp	2368	2368	LOD:2 (Kochi) CCα: 18.54(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Ciprofloxacin (CIP)	Shrimp	2368	2368	CCα: 106.27 (Kochi) 105.88(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Enrofloxacin (ENR)	Shrimp	2368	2368	CCα: 106.14 (Kochi) 106.72(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Sarafloxacin (SAR)	Shrimp	2368	2368	CCα: 31.91(Kochi) 32.19(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Difloxacin (DIF)	Shrimp	2368	2368	CCα: 331.79 (Kochi) 313.31(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
	Danofloxacin (DAN)	Shrimp	2368	2368	CCα: 109.29 (Kochi) 106.27(Bhimavaram)	NIL
		Scampi	24	23		NIL
		Fish	12	15		NIL
Macrolides	Erythromycin A	Shrimp	453	453	CCα : 223 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Tilmicosin	Shrimp	453	453	CCα : 55.6 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Tylosin	Shrimp	453	453	CCα : 117.7 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
	Spiramycin	Shrimp	453	453	CCα : 225 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
Beta Lactams	Ampicillin	Shrimp	453	453	CCα : 53.8 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Benzyl Penicillin	Shrimp	453	453	CCα : 56.5 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Dicloxacillin	Shrimp	453	453	CCα : 338 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Oxacillin	Shrimp	453	453	CCα : 327.4 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Cloxacilin	Shrimp	453	453	CCα : 327.6 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Colistin A &B	Shrimp	453	453	CCα:168(CollistinA) CCα:164(Collistin B) (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
	Amoxicillin	Shrimp	453	453	CCα : 54.00 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
Lincosamides	Lincomycin	Shrimp	453	453	CCα : 112.9 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
Diaminopyramidines	Trimethoprim	Shrimp	453	453	CCα : 53.7 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
Doxycycline	Doxycycline	Shrimp	453	453	CCα : 109.1 (Kochi)	NIL
		Scampi	24	4		NIL
		Fish	2	2		NIL
Cephalosporins	Cefalexin	Shrimp	453	453	CCα : 228 (Kochi)	NIL
		Scampi	4	4		NIL
		Fish	2	2		NIL
		Shrimp	453	453		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
	Cefapirin	Scampi	4	4	CCα : 54.4 (Kochi)	NIL
		Fish	2	2		NIL
B2a ANTHELMINTICS	Ivermectin	Shrimp	946	948	LOD 3.00 (Kochi) 3 (Nellore) 5 (Bhimavaram)	NIL
		Scampi	10	9		NIL
		Fish	5	7		NIL
	Emmmectin	Shrimp	946	948	CCα : 111.00 (Kochi) 10420 (Nellore) 114.20(Bhimavaram)	
		Scampi	10	9		
		Fish	5	7		
B3a ORGANOCHLORINE COMPOUNDS INCLUDING PCBS	Aldrin	Shrimp	472	461	> LOQ -10ppb	NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Dieldrin	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Chloradane	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	DDT	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Endrin	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Heptachlor	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Hexachloro Benzene	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Alpha HCH	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
	Beta HCH	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Gamma HCH	Shrimp	472	461		NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	PCBs	Shrimp	472	461	ML: 75 Sum of 6 NDL-PCBs	NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
B3c CHEMICAL ELEMENTS	Mercury	Shrimp	474	479	ML:500	NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Cadmium	Shrimp	474	479	ML:500	NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Arsenic	Shrimp	474	479	> LOQ- 40ppb	NIL
		Scampi	5	5		NIL
		Fish	2	3		NIL
	Lead	Shrimp	474	479	ML:500	3
		Scampi	5	5		NIL
		Fish	2	3		NIL
B3d MYCOTOXINS	Aflatoxin B1	Shrimp	118	126	LOQ: 0.5 (Kochi) LOQ: 0.5(Nellore) LOQ:0.5 (Bhimavaram)	NIL
		Scampi	1	1		NIL
		Fish	1	1		NIL
	Aflatoxin B2	Shrimp	118	126	LOQ: 0.5 (Kochi) LOQ: 0.5(Nellore) LOQ:0.5 (Bhimavaram)	NIL
		Scampi	1	1		NIL
		Fish	1	1		NIL
B3e DYES	Malachite green	Shrimp	356	353	CCα: 0.33 (Kochi) 0.17(Nellore) 0.37 (Bhimavaram)	NIL
		Scampi	3	3		NIL
		Fish	2	3		NIL
	Leucomalachite green	Shrimp	356	353	CCα: 0.22(Kochi) 0.16(Nellore) 0.24 (Bhimavaram)	NIL
		Scampi	3	3		NIL
		Fish	2	3		NIL
	Crystal Violet	Shrimp	100	100	CCα: 0.41 (Bhimavaram)	NIL
		Scampi	0	0		NIL
		Fish	1	1		NIL
	Leucocrystal Violet	Shrimp	100	100	CCα: 0.49 (Bhimavaram)	NIL
		Scampi	0	0		NIL

ANNEX - 4B

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2020
ANIMAL SPECIES/ PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	3/25/2021

GROUP OF SUBSTANCES TO BE MONITORED	COMPOUND or MARKER RESIDUE	MATRIX ANALYSED	NUMBER OF SAMPLES		LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
		Fish	1	1		NIL

Annex - 4C

The Marine Products Export Development Authority

NRCP 2020- List of Non-Compliant (Residue Positive) Samples

I Quality Control Laboratory, KOCHI

	S No.	Type	Parameter	Value (µg/kg)	Region/ state	Sample ID
			SHRIMP			
1	1	Shrimp	Chemical Elements -Lead	960.28	Kerala	01/S1/P2/0042/2020
2	2	Shrimp	Chemical Elements -Lead	2572.19	Kerala	01/S1/Q1/0056/2020
3	3	Shrimp	Chemical Elements -Lead	569.12	Kerala	15/S1/P1/0062/2020
4	4	Shrimp	Chloramphenicol	3.58	Odisha	24/S1/Q1/0262/2020
5	5	Shrimp	Chloramphenicol	0.09	Odisha	24/S1/Q1/0388/2020

II Quality Control Laboratory, BHIMAVARAM

6	1	Shrimp	Nitrofuran Metabolite - AOZ	0.54	AP	25/S1/Q1/0007/2020
			Nitrofuran Metabolite - AMOZ	0.58		
			Nitrofuran Metabolite - AHD	13.96		
7	2	Shrimp	Chloramphenicol	0.74	AP	25/S1/Q1/0055/2020
8	3	Shrimp	Metronidazole (MNZ)	6.00	AP	25/S1/Q1/1477/2020
			Metronidazole-OH(MNZ-OH)	0.58		

III Quality Control Laboratory, NELLORE

			FISH			
9	1	Fish	Nitrofuran Metabolite - AOZ	5.00	AP	16/S3/P0/1660/2020

The Marine Products Export Development Authority

NRCP 2020 - Non-Compliant (Residue Positive) Hathery Samples

I Quality Control Laboratory,KOCHI

HATCHERY SAMPLES

	S No.	Type	Parameter	Value (µg/kg)	Region/ state	Sample ID
10	1	Hatchery Sample	Chloramphenicol	0.07	Odisha	24/S4/01/0001/2020
11	2	Hatchery Sample	Chloramphenicol	0.11	Odisha	24/S4/01/0002/2020
			Nitrofuran Metabolite - AOZ	15.85		
12	3	Hatchery Sample	Chloramphenicol	0.39	Odisha	24/S4/01/0004/2020
13	4	Hatchery Sample	Chloramphenicol	0.41	Odisha	24/S4/01/0005/2020
14	5	Hatchery Sample	Chloramphenicol	0.96	Odisha	24/S4/01/0007/2020
			Nitrofuran Metabolite - AOZ	487.66		
15	6	Hatchery Sample	Chloramphenicol	0.26	Odisha	24/S4/01/0008/2020
			Nitrofuran Metabolite - AOZ	0.54		
16	7	Hatchery Sample	Chloramphenicol	0.12	Tamil nadu	23/S4/01/0003/2020
17	8	Hatchery Sample	Nitrofuran Metabolite - AOZ	74.41	Tamil nadu	23/S4/01/0010/2020
18	9	Hatchery Sample	Nitrofuran Metabolite - AOZ	0.76	Kerala	15/S4/01/0094/2020
19	10	Hatchery Sample	Nitrofuran Metabolite - AOZ	4.41	Kerala	15/S4/01/0114/2020
20	11	Hatchery Sample	Chloramphenicol	0.83	Kerala	15/S4/01/0119/2020
21	12	Hatchery Sample	Chloramphenicol	2.55	Tamil nadu	23/S4/01/0176/2020
22	13	Hatchery Sample	Chloramphenicol	0.27	Tamil nadu	23/S4/01/0192/2020

II Quality Control Laboratory, NELLORE

23	1	Hatchery Sample	Nitrofuran Metabolite - AOZ	1.93	AP	16/S4/01/0256/2020
24	2	Hatchery Sample	Chloramphenicol	1.17	AP	16/S4/01/0471/2020
25	3	Hatchery Sample	Nitrofuran Metabolite - AOZ	42.86	AP	16/S4/01/0782/2020
26	4	Hatchery Sample	Chloramphenicol	0.21	AP	16/S4/01/1222/2020
27	5	Hatchery Sample	Chloramphenicol	1.04	AP	16/S4/01/1396/2020
28	6	Hatchery Sample	Nitrofuran Metabolite - AOZ	64.25	AP	16/S4/01/1397/2020
29	7	Hatchery Sample	Chloramphenicol	0.8	AP	16/S4/01/1534/2020

III Quality Control Laboratory, BHIMAVARAM

30	1	Hatchery Sample	Nitrofuran Metabolite - AOZ	1.99	AP	25/S4/01/0024/2020
31	2	Hatchery Sample	Chloramphenicol	2.65	AP	25/S4/01/0028/2020
32	3	Hatchery Sample	Nitrofuran Metabolite - AOZ	12.87	AP	25/S4/01/0037/2020
33	4	Hatchery Sample	Nitrofuran Metabolite - AOZ	248.3	AP	25/S4/01/0269/2020
34	5	Hatchery Sample	Nitrofuran Metabolite - AOZ	109.7	AP	25/S4/01/0356/2020
35	6	Hatchery Sample	Nitrofuran Metabolite - AOZ	2.52	AP	25/S4/01/0409/2020
36	7	Hatchery Sample	Nitrofuran Metabolite - AOZ	63.47	AP	25/S4/01/0863/2020
37	8	Hatchery Sample	Nitrofuran Metabolite - AOZ	1.59	AP	25/S4/01/0867/2020
38	9	Hatchery Sample	Nitrofuran Metabolite - AOZ	0.47	AP	25/S4/01/0873/2020
39	10	Hatchery Sample	Chloramphenicol	0.23	AP	25/S4/01/0880/2020
			Nitrofuran Metabolite - AOZ	146.69		
40	11	Hatchery Sample	Nitrofuran Metabolite - AOZ	4.97	AP	25/S4/01/0882/2020
41	12	Hatchery Sample	Nitrofuran Metabolite - AOZ	1.34	AP	25/S4/01/1037/2020
42	13	Hatchery Sample	Nitrofuran Metabolite - AOZ	0.54	AP	25/S4/01/1040/2020
43	14	Hatchery Sample	Nitrofuran Metabolite - AOZ	1.06	AP	25/S4/01/1041/2020
44	15	Hatchery Sample	Nitrofuran Metabolite - AOZ	0.49	AP	25/S4/01/1044/2020
45	16	Hatchery Sample	Nitrofuran Metabolite - AOZ	0.49	AP	25/S4/01/1067/2020
46	17	Hatchery Sample	Chloramphenicol	5.19	AP	25/S4/01/1068/2020
			Nitrofuran Metabolite - AOZ	508.95		
47	18	Hatchery Sample	Nitrofuran Metabolite - AOZ	272.41	AP	25/S4/01/1069/2020
48	19	Hatchery Sample	Nitrofuran Metabolite - AOZ	3.47	AP	25/S4/01/1098/2020
49	20	Hatchery Sample	Chloramphenicol	0.11	AP	25/S4/01/1101/2020
			Nitrofuran Metabolite - AOZ	2.79		
50	21	Hatchery Sample	Chloramphenicol	3.01	AP	25/S4/01/1249/2020
51	22	Hatchery Sample	Chloramphenicol	1.51	AP	25/S4/01/1390/2020
			Nitrofuran Metabolite - AOZ	68.7		
52	23	Hatchery Sample	Chloramphenicol	0.53	AP	25/S4/01/1391/2020
			Nitrofuran Metabolite - AOZ	45.46		
53	24	Hatchery Sample	Chloramphenicol	8.79	AP	25/S4/01/1516/2020
			Nitrofuran Metabolite - AOZ	46.62	AP	

Annex: 5

The Marine Products Export Development Authority
(Ministry of Commerce & Industry, Govt. Of India)
Kochi – 682 036

No. LAB-KOC/NRCP(NRCP)/1/2021 **Dated: 01 January 2021**

NRCP – Instructions – effective from January 2021.

1. The sampling procedure/strategy shall be as per the instruction contained in Annex III to the EU Directive 96/23/EC. The sampling level for RO/SRO/RC/SRC is being communicated to you separately. However, if further clarity is required please see annex IV to the EU Directive 96/23/EC for the sampling level and frequency.

2. The target given to each field office of MPEDA is in consideration of enrolled site/export from their jurisdiction. The sample target for field office is fixed on the basis of district-wise registration of farms and according to the aquaculture production and the month-wise targets for the field offices are also based on the various stages of production. Similarly, the month-wise targets for sampling from processing plants will be in such a way that the total number of samples will tally with the target fixed for the field offices.

3. The collection of sample shall be unforeseen, unexpected and effected at no fixed time and on no particular day of the week and the sample collection must be done as per the guidelines on sample acceptance criteria.

4. The shrimp/scampi/fish samples under NRCP shall be collected by the designated residue monitoring officers (RMOs) only from farms that are enrolled by the Marine Products Export Development Authority (MPEDA), which may include farms approved by the Coastal Aquaculture Authority (CAA).

5. Samples must be collected in Polythene bags and properly labeled to maintain the sample integrity and traceability. The container/packing must prevent the substitution, cross contamination and degradation of sample. The container/packing must be officially sealed. The designated officers for sample collection have to be provided with official seals by the concerned field offices.

6. The follow-up samples being collected from farms/processing plants shall be considered as only additional samples over and above the samples allocated under NRCP to each region/state.

7. Sampling at farm level shall be in such a way that a minimum 10% of enrolled sites of production is covered in the yearly Plan, as all the enrolled farms in a State need to be covered over a period of time. In other words, there shall not be excess drawl of samples from one unit or farm and similarly no unit or farm will be left uncovered.

8. The farms reported with residue positive cases and processing plants reported with rejections/quality complaints have to be closely monitored and subjected to stringent and frequent sampling.

9. In case of farms situated in areas reported/suspected with presence/use of unknown chemicals/substances or indications of fraudulent activities, disease out breaks etc, more samples may be drawn.

10. Sampling levels:
    - Shrimp (black tiger) farms : 60 - 90 days & 15 days prior to harvest.
    - Scampi farms : 60-90 days, 90-120 days & 15 days prior to harvest.
    - Fish farms : at any stage of production & 15 days prior to harvest.

11. In respect of farms, while the netting may be done by the employees of the farm, the supervision of the netting and actual selection of the samples shall be done by the MPEDA officer himself and not by the farm representative. When sample is drawn from the aquaculture farm, netting should be done at least in 4 to 5 positions of the pond. Sample netting may be done in each pond at equidistant places on four sides and the centre.

12. While collecting the hatchery samples (seed), a minimum of 20 - 25 gm (excluding water) shall be drawn. The seed sample should be collected in polythene bags, sealed and transported in thermocol box packed with dry/wet ice.

13. All field offices are advised to draw samples from saltwater aquaculture (cage culture) also, as per availability in their region, for analysis of different substance groups.

16. RCs and SRCs are directed to use the GPS device while collecting samples from farms.

17. In the case of on-farm sampling, the farmer or his representative has to sign the original sampling report. The original sampling report has to be kept with the field office to guarantee that unauthorized persons cannot access the original report.

18. When collecting samples from the farm, the details of medication within the last 4 weeks before sampling shall be collected and indicated in the register as well as in the packing slip/sampling report that will accompany each sample.

19. As already in practice, the field offices shall maintain a register of samples collected and dispatched to the respective Laboratory. Needless to mention, in respect of aquaculture related field offices, the column relating to "Name of Processing Plant" will be left blank. Field office will note the name of the farm in respect of each sample drawn from

a processing plant. This should be obtained from the records of the processing plant. Field office has also to note the name of the farm as well as the identification/registration number issued by the MPEDA.

20. The number of samples to be collected from the processing plants will be based on the production capacity and/or actual production/through-put of each processing plant.

21. In respect of processing plants, in normal case, the number of samples to be drawn has to be taken as one sample from one farm and the samples at the rate of maximum three per plant per day, provided the source of the samples are traced back to three different farms supported by documental evidences. Drawing multi number of samples from processing plant shall be allowed only with prior permission of HO, provided the number of plants processing aquaculture products in a region is less than the number of samples to be drawn for the month from the region.

22. Field office shall ensure that all samples are collected only from the raw material receiving section of the processing establishments approved for export to EU.

23. The field offices shall verify periodically, the parameter-wise target/allocation assigned to each region/state, in order to ensure that all the processing plants in the region/state are covered for all the parameters in sample collection during the plan year.

24. The drawl of samples from processing plant shall be done by the residue monitoring officer of MPEDA himself. This task should not be entrusted to any personnel of the Processing Plant.

25. The quantity (net weight) of sample drawn shall be 500 gm in case of farm / processing plant and 20 - 25 gm in case of hatchery seed.

26. The samples shall be forwarded to the respective MPEDA Laboratory with in 3 (three) days of its collection so as to reach the laboratory with in 30 (thirty) hours of dispatch.

27. All field offices shall ensure that the samples are collected and delivered to the QC Lab concerned before 20th of every month as per their monthly target/allocation.

28. The results of the tests communicated from the respective laboratory should be recorded in the specified columns in the registers maintained by the field offices.

28. Wherever non-compliant (residue positive) results are reported, the EIAs and MPEDA field offices concerned may take action as follows:

    i. On receipt of the alert information along with test results, the EIA & MPEDA shall undertake the joint inspection of the facility to trace the origin/source of contamination. A joint inspection report shall be prepared & be available at EIA & MPEDA.

ii. The EIA & MPEDA officials collect follow up samples from the same premises for further analysis at MPEDA Laboratory. If the sample is found positive, on repeated analysis the results shall be communicated by MPEDA to EIAs and the defaulting facility will be issued show cause notice by EIAs.

iii. Based on the reply received from the facility, the EIA shall take the action as deemed fit.

iv. A Committee headed by the In-charge of the EIA reviews regularly the non-compliant (residue positive) cases for appropriate follow-up guidelines and actions.

29. The farms reported with non-compliant results are subjected to more stringent checks for a period of at least twelve months by the EIAs.