

INDIA

NATIONAL RESIDUE CONTROL PLAN

FOR

AQUACULTURE PRODUCTS

YEAR 2016



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NATIONAL RESIDUE CONTROL PLAN OF INDIA FOR
AQUACULTURE PRODUCTS – 2016

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NATIONAL RESIDUE CONTROL PLAN (NRCP) OF INDIA FOR AQUACULTURE PRODUCTS – 2016

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 <u>meet the prescribed regulatory requirements</u> 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 the largest supplier of shrimp to the world and ranks 2nd largest 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. 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 almost 65% of the total cultured crustaceans (<i>Litopenaeus vannamei</i>, <i>Penaeus monodon</i> and

Macrobrachium rosenbergi) in India. Species-wise aquaculture production through inland and brackish water culture is given 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 (<i>Litopenaeus vannamei</i> & <i>Penaeus monodon</i>)	4,26,568
<i>Macrobrachium rosenbergii</i>	4,945
Total	4,31,513

Source: MPEDA, 2014 -15

5.2 Details of State-wise production of brackish water shrimp & freshwater prawn (Scampi) during 2014 -15

Among the maritime states, most of the aquaculture activities are concentrated in Andhra Pradesh. The other leading states in aquaculture production are West Bengal, Kerala, Orissa and Gujarat (MPEDA, 2014 -15). The aquaculture production of crustaceans (shrimp & scampi) in the country is given in Table: 2 below.

Table – 2

State	<i>L. vannamei</i> & <i>P. monodon</i>	% (production)	<i>M. rosenbergii</i> (Scampi)	% (production)	TOTAL (M/T)
Production (M/T)					
West Bengal	53,921	12.64	3,449	69.75	57,370
Orissa	21,941	5.14	598	12.09	22,539
Andhra Pradesh	2,79,039	65.41	688	13.91	2,79,727
Tamil Nadu	32,761	7.68	25	0.51	32,786
Kerala	3,655	0.86	185	3.74	3,840
Karnataka & Goa	1,226	0.29	00	0	1,226
Maharashtra	5,079	1.19	0	0	00
Gujarat	28,946	6.79	0	0	00
Total	4,26,568	100	4,945	100	4,31,513

5.3 Enrollment of Aquaculture Farms by MPEDA:

In order to achieve the traceability of supply and control over 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 are 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 to be 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 recognized by its latitude and longitude. Other required details/information on the farm 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	Feed-mills (functional)	Shrimp Hatcheries
West Bengal	4,188	0	0
Orissa	5,207	1	13
Andhra Pradesh	28,737	11	145
Tamil Nadu + Pondicherry	1,602 (1589+13)	3	49
Kerala	1,644	0	21
Karnataka	290	0	3
Goa	11	0	1
Maharashtra	148	0	0
Gujarat + Daman & Diu	676 (664+12)	1	3
Total	42,503	16	235

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

The export of Aquaculture Products by EU approved export establishments to EU and non-EU countries (during 2014 - 15) are as given in Table: 4 below.

Table - 4

Sl no.	State / Region	Cultured Shrimp / products	Cultured Fresh-water Fish / products
		Quantity in M/T	
1	Gujarat	6,585	241
2	Maharashtra	22,010	5089
3	Goa	2,015	186
4	Karnataka	899	2
5	Kerala	16,510	9
6	Tamil Nadu	53,188	14
7	Andhra Pradesh	98,486	27
8	Orissa	17,696	0
9	West Bengal	15,188	5
	TOTAL	2,32,577	5,573

6.0	Residue monitoring in India
	There are 532 land based processing establishments in India. Of which, 334 establishments (as on December 2015) have been approved for processing of fish and fishery products to EU. In addition, 55 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 EU Directive 96/23/EC 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.
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: The functions of MPEDA are: 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 EU Directive 96/23/EC), Monitoring of Pesticide Residue at National Level (MPRNL), etc. Monitoring of Cadmium content/residue in Cephalopods 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 & Nellore are

	involved in implementation of the National Residue Control Plan for aquaculture products, as per EU Directive 96/23/EC. 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)
	The Marine Products Export Development Authority (MPEDA), Ministry of Commerce and Industry, Government of India, MPEDA House – 5 th Floor, Panampilly Avenue, Cochin – 682036, Karalla, India. (Tel.91-484-2311979, 2321811, 2311033 Fax.91-484-2313361, E-mail: asha@mpeda.gov.in ; mahesh@mpeda.gov.in ; web-site: http://www.mpeda.com)
7.3.2	MPEDA Quality Control Laboratory, Bhimavaram
	The Marine Products Export Development Authority, Pattabhi Plaza, 2 nd floor, 27/1/6, Juvalpuram Road, Bhimavaram-534202, West Godavari Dist. Andhra Pradesh, Tel: 91-08816-226410, 227076 E-mail: lab.bhi@mpeda.gov.in
7.3.3	MPEDA Quality Control Laboratory, Nellore
	The Marine Products Export Development Authority, D.No.26-1766/A-1, Srinagar colony, Mini Bypass Road, Nellore- 524003, Andhra Pradesh. Tel: 91-0861-2319144, 2319344 E-mail: lab.nel@mpeda.gov.in
7.3.4	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-chennai@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. The MPEDA QC Laboratories is also having ISO 9001:2008 certification.

8.2	Proficiency Test & Inter-laboratory comparisons:
	The MPEDA Laboratories (Kochi, Nellore & Bhimavaram) & EIA Chennai laboratory participate regularly in Proficiency Testing programmes conducted by international PT providers like FAPAS (CSL) and LGC Promochem, UK 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 Nitrofurantoin metabolites, Chloramphenicol, Tetracyclines, Chemical Elements, Quinolones (Oxolinic Acid/Nalidixic Acid), Sulphonamides, Organochlorine compounds like Pesticides and PCBs, Dyes, etc. Dyes (Malachite green and Leucomalachite green) and also regularly organize as well as participate in Inter-laboratory Testing/Comparison programmes.
9.0	Personnel responsible for sample collections:
	The MPEDA has a sufficient number of field offices (Regional/Sub-regional Offices/Centres) located in different each maritime state 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 mixing plants 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 and Bhimavaram. The sampling official records the nature, source, the date and place of sampling and other relevant information. A signed copy of the sample format accompanies each sample to the designated laboratory. 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:
	1. Shrimps (<i>P.monodon</i>, <i>P. indicus</i>, <i>L.vannamei</i>, etc): The number of samples is decided based on the total production of aquaculture shrimp in previous year (2014-15), I e; 1(one) sample per every 100 M/T of production, which also cover at least 10% of the farms enrolled under MPEDA. 2. Scampi (<i>M. rosenbergii</i>): At least one sample per every 100 M/T of production. 3. 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 production. 4. Feed samples: four samples per feed-mill. 5. Hatchery sample (seed/water): at least one sample from each registered hatchery. The allocation/distribution of samples for analysis of Group B substances, to be collected by the ROs and SROs from processing establishments (approved for export to EU), is done taking into consideration of the production/through-put of the processing establishments, number of establishments in each region/state, etc.

10.1	Number of Aquaculture Samples to be collected and analyzed under NRCP 2016 :					
	Table – 5					
	<i>Type of sample</i>	<i>No. of Enrolled Farms</i>	<i>Aqua-culture Production (M/T)</i>	<i>Total through-put of EU approved Processing plants (RM)</i>	<i>No. of samples to be analysed</i>	<i>Criteria for sampling</i>
	1. Crustaceans	42,503		--	4,265	1 sample per every 100 M/T of production (1:100)
	(i) <i>L. vannamei</i>		426,568			
	(ii) <i>P. monodon</i>					
	(iii) <i>P. indicus</i>					
	&					
	(iv) <i>M. rosenbergii</i>		4,945	--	50	1 sample per every 100 M/T of production (1:100)
	<i>Sub Total</i>		431,513		4,315	
	1. Freshwater Fin-fishes	--	--	9,287	93	1 sample per every 100 M/T (1:100), based on through-put in export approved (EU) establishments
	TOTAL				4,408	
10.2	Break up of Aquaculture samples for analysis of Group A & Group B Substances					
	Table – 6					
	<i>Type of Sample</i>	<i>Number of samples to be tested</i>	<i>Break up of samples to be tested</i>			
			<i>Group A substances</i>		<i>Group B substances</i>	
			<i>Farms</i>	<i>Processing Plants</i>	<i>Farms</i>	<i>Processing Plants</i>
	1. Crustaceans					
	(i) Shrimp	4,265	1,422	--	1,421	1,422
	(ii) Scampi	50	17	--	20	13
	2. Fin-fishes	93	31	--	40	22
	Total	4,408	1,470	--	1,481	1,457
10.3	NRCP 2016 - Break up of samples for analysis of Group A substances					
	Table – 7					
	Samples for analysis of Group-A substances:					
	<i>Species</i>	<i>No. of samples for Group A Substances</i>	<i>A-1 Stilbenes</i>	<i>A-3 Steroids</i>	<i>A-6 NF + CAP + Nitroimidazoles.</i>	
	Cultured Shrimp	1,422	--	--	1,422	

	Cultured fresh water Prawn (Scampi)	17	--	--	17
	Cultured fresh water Fin-fishes	31	10	10	11
	Total	1,470	10	10	1,450

10.4 NRCP 2016 - Break up of samples for Analysis of Group B substances*Table -- 8*

<i>Species / item</i>	<i>No. of Samples</i>	<i>Samples taken from</i>	<i>No. of samples</i>					
			<i>(B1) Antibacterials</i>	<i>(B2a) Anthelmintics</i>	<i>(B3a) Organochlorine Compounds including PCBs</i>	<i>(B3c) Chemical Elements</i>	<i>(B3d) Mycotoxin</i>	<i>(B3e) Dyes</i>
Cultured shrimp	2,843	Farms (1421)	711	280	150	150	65	65
		Proc. Plants (1422)	712	280	150	150	65	65
Cultured fresh water prawn (Scampi)	33	Farms(20)	10	4	2	2	1	1
		Proc. Plants (13)	6	2	2	2	0	1
Cultured fresh water fin-fishes	62	Farms (40)	20	7	5	4	2	2
		Proc. Plants (22)	11	4	3	2	1	1
Total	2,938	--	1,470	577	312	310	134	135

10.5 NRCP 2016 - Number of Feed Samples to be monitored: Hatchery and Feed Samples:*Table - 9*

<i>Sl no.</i>	<i>Item</i>	<i>Parameter</i>	<i>No. of Hatcheries / Feed-mills in operation</i>	<i>No. of samples to be analysed</i>	<i>Criteria for sampling</i>
1	Feed	NF + CAP	16	64	4 samples per Feed-mill in operation
2	Hatchery Seed	NF + CAP	235	235	one sample per each Hatchery

10.6	Total number of Samples proposed under NRCP 2016:																											
	Table - 10																											
	<table><tr><th>Sl no.</th><th>Item / species</th><th>No. of Samples to be tested by MPEDA Labs</th></tr><tr><td rowspan="3">1</td><td>Crustaceans</td><td></td></tr><tr><td>(i)Shrimp (<i>L. vannamei</i> / <i>P. monodon</i>)</td><td>4,265</td></tr><tr><td>(ii) Scampi (<i>M. rosenbergii</i>)</td><td>50</td></tr><tr><td>2</td><td>Fresh water Fin-fishes</td><td>93</td></tr><tr><td></td><td>Sub Total</td><td>4,408</td></tr><tr><td>3</td><td>Hatchery seed</td><td>64</td></tr><tr><td>4</td><td>Feed</td><td>235</td></tr><tr><td></td><td>TOTAL</td><td>4,707</td></tr></table>	Sl no.	Item / species	No. of Samples to be tested by MPEDA Labs	1	Crustaceans		(i)Shrimp (<i>L. vannamei</i> / <i>P. monodon</i>)	4,265	(ii) Scampi (<i>M. rosenbergii</i>)	50	2	Fresh water Fin-fishes	93		Sub Total	4,408	3	Hatchery seed	64	4	Feed	235		TOTAL	4,707		
Sl no.	Item / species	No. of Samples to be tested by MPEDA Labs																										
1	Crustaceans																											
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	Sub Total	4,408																										
3	Hatchery seed	64																										
4	Feed	235																										
	TOTAL	4,707																										
11.0	Collection and transportation of samples																											
	Approximately 500 gms of samples (whole prawns / fish) are taken from farm / establishment so as to get 250 gms of meat for analysis in duplicate. 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 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. Feed samples are taken in polythene bags. 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. (<i>Annexure-V</i>)																											
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	MRL/MRPL/MLs for Group A and Group B Substances of Veterinary Drugs and Environmental Contaminants																								
14.1	MRL/MRPL/MLs for Group A Substances																								
	List of substances/residues under and their MRLs:																								
	Group A.																								
	<table><tr><th><i>Substance group</i></th><th><i>Substances</i></th><th><i>Substance monitored</i></th><th><i>MRL/MRPL/Working Limit</i></th></tr><tr><td>Group: A (1)</td><td>Stilbenes and its derivatives</td><td>Diethyl Stilbestrol</td><td>Nil MRPL: 1 µg/kg</td></tr><tr><td rowspan="2">A (3)</td><td rowspan="2">Steroids</td><td>Progesterone</td><td>Nil MRPL: 1 µg/kg</td></tr><tr><td>17-β Oestradiol</td><td>Nil MRPL: 1 µg/kg</td></tr><tr><td rowspan="4">A (6)</td><td rowspan="4">Compounds included in Council Regulation No.37/2010.</td><td>(i) Chloramphenicol</td><td>Nil MRPL: 0.3 µg/kg</td></tr><tr><td>(ii) Nitrofurans Metabolites (AOZ, AMOZ, SEM & AHD)</td><td>Nil MRPL: 1.0 µg/kg</td></tr><tr><td>(iii) Nitrofurans (parent compounds, in case of feed samples)</td><td>Nil #</td></tr><tr><td>(iv) Nitroimidazoles (Metronidazole, Dimetridazole & Ronidazole and their hydroxyl compounds)</td><td>Nil (Recommended concentration /Working Limit - 3 µg/kg)</td></tr></table>	<i>Substance group</i>	<i>Substances</i>	<i>Substance monitored</i>	<i>MRL/MRPL/Working Limit</i>	Group: A (1)	Stilbenes and its derivatives	Diethyl Stilbestrol	Nil MRPL: 1 µg/kg	A (3)	Steroids	Progesterone	Nil MRPL: 1 µg/kg	17-β Oestradiol	Nil MRPL: 1 µg/kg	A (6)	Compounds included in Council Regulation No.37/2010.	(i) Chloramphenicol	Nil MRPL: 0.3 µg/kg	(ii) Nitrofurans 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 and their hydroxyl compounds)	Nil (Recommended concentration /Working Limit - 3 µg/kg)
<i>Substance group</i>	<i>Substances</i>	<i>Substance monitored</i>	<i>MRL/MRPL/Working Limit</i>																						
Group: A (1)	Stilbenes and its derivatives	Diethyl Stilbestrol	Nil MRPL: 1 µg/kg																						
A (3)	Steroids	Progesterone	Nil MRPL: 1 µg/kg																						
		17-β Oestradiol	Nil MRPL: 1 µg/kg																						
A (6)	Compounds included in Council Regulation No.37/2010.	(i) Chloramphenicol	Nil MRPL: 0.3 µg/kg																						
		(ii) Nitrofurans 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 and their hydroxyl compounds)	Nil (Recommended concentration /Working Limit - 3 µg/kg)																						

Group B substances/residues:				
B -1	Antibacterial substances			
	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	working MRL *	
		Nalidixic acid	working MRL *	
	Tetracyclines	Tetracycline & its 4-epimer	100 µg/kg	
		Oxytetracycline & its 4-epimer	100 µg/kg	
		Chlortetracycline & its 4-epimer	100 µg/kg	
	Sulfonamides	Sulfadiazine, Sulfamethoxazole, Sulfamethoxypyridine, Sulfamethazole, Sulfamethazine, Sulfamerazine, Sulfapyridine, Sulfadimethine, sulfachloropyradizine, Sulfathiazole-freeacid.	100 µg/kg (MRL - sum of all substances)	
	B-2(a)	Anthelmintics	Emamectin	100 µg/kg
			Ivermectin	No MRL *
	Environmental Contaminants			
B-3(a)	Organochlorine compounds (i) Pesticides	α BHC	No MRL (Reporting > LOQ)	
		β BHC		
		γ BHC		
		Aldrin		
		DDT		
		Dieldrin		
		Endrin		
		Heptachlor		
		HCB		
		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 MRL Reporting >LOQ.
	B-3(e)	Dyes	Malachite green & Leuco-malachite green	Nil (MRPL: 2 µg/kg)
			Chrystal Violet & Leuco-crystal Violet	Nil #
	B-3(c)	Chemical Elements	Mercury	500 µg/kg
			Cadmium (Crustaceans)	500 µg/kg
			-do- (Fish muscle)	50 µg/kg
			-do- (Cephalapod, without viscera)	1000 µg/kg
			Arsenic (Fish muscle)	1000 µg/kg
			Lead (Crustaceans)	500 µg/kg
			-do- (Fish muscle)	300 µg/kg
	* LOD & LOQ are determined as working limit by individual laboratory. # Working Limit (ALARA) is determined by each Lab			
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			
	<i>Group as per Directive</i>	<i>Residue</i>	<i>Technique</i>	<i>Equipment (Example)</i>
	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, Nitrofurans Metabolites and Nitroimidazoles	Liquid Chromatography-Tandem Mass Spectrometry	LC-MSMS
15.2	Group B -Antibacterial substances, Pesticides and Chemical elements.			
	<i>Group as per Directive</i>	<i>Residue</i>	<i>Technique</i>	<i>Equipment (Example)</i>
	Group B.1	Tetracyclines, Quinolones and Sulphonamides	Liquid Chromatography / Liquid Chromatography-Tandem Mass Spectrometry	HPLC (with PDA/Fluro. Detector) / LC-MSMS
	Group B.2(a)	Anthelmintics (Ivermectin / Enamectin)	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 2015 :
16.1 Shrimp, Scampi & Fin-fishes:

Under NRCP 2015, against the target/plan of 4075 samples (shrimp, scampi and fin-fishes), a total of 4155 samples were analysed.

The number of non-compliant (residue positive) samples detected was 9 for different substances under group-A and group-B substances. Total number of non-compliant samples under Group-A6 was 5 due to residues of NF & CAP (shrimp: 5 + scampi: 0 + fin-fish: 0) and in case of Group B samples, 4 samples were non-compliant for Group B3c Chemical Elements (Arsenic).

16.2 Feed & Hatchery Samples:

In case of hatchery seed and feed samples, against the target/plan of 44 feed and 197 hatchery samples, 45 feed and 129 hatchery samples were analysed. The number of non-compliant samples were, feed: nil and hatchery: 50 (Gr. A6 (CAP/NF)).

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



Dr. S. K. Saxena
Director, (Insp. & Quality Control)
Export Inspection Council of India
21st March 2016

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 (%)		poultry	aquaculture		milk	eggs	rabbit	wild game	farmed game	honey
				slaughtered	live equidae for direct slaughter			fish/shellfish						
Substances / groups of substances to be monitored														
A1	E	E	E	E		E	E				E		E	
A2	E	E	E	E										
A3	E	E	E	E	E	E	E	E			E		E	
A4	E	E	E	E		E					E		E	
A5	E	E	E	E	E	E					E		E	
A6	E	E	E	E	E	E	E	E	E	E	E		E	E
													HD	E
													HD	E
B1	E	E	E	E		E	E	HD	E	E	E		E	E (3)
B2a	HD	HD	HD	HD	HD	HD	HD	HD	HD		HD		HD	
B2b	HD	HD	HD	HD	HD					HD	E		HD	
B2c	HD	HD	HD	HD	HD						HD		HD	HD
B2d	HD	HD	HD	HD	HD									
B2e	HD	HD	HD	HD	E		E		HD		HD		HD	
B2f			E (3)											
B3a	HD	HD	HD	HD	HD			HD	HD	HD	HD		HD	HD
B3b	HD	HD	HD	HD	HD				HD					HD
B3c	HD	HD	HD	HD	HD			HD	HD		HD	E	HD	HD
B3d	HD	HD	HD	HD	HD			HD	HD					
B4e								E	E					

Groups defined in Annex I of Directive 91/271/EEC. Monitoring of $\pm$ (essential) substances or group of substances is mandatory. Monitoring of HD (highly detectable) 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.

[illegible]

The stable metabolites/marker residues of the four main nitrofurantoin drugs (furazolidone, furazone, nitrofurantoin and nitrofurantoin macrophosphate) should be analysed. The metabolites are: furazolidone: amino-oxazolidinone (AOZ); furazone: 3-amino-5-methylthio-2-oxazolidinone (AMOT); nitrofurantoin: semicarbazide (SEM) and nitrofurantoin macrophosphate (MOT).

(5) The nationalities include: Argentine, Bolivian, Canadian, Chilean, Colombian, Costa Rican, Cuban, Dutch, Ecuadorian, English, French, German, Greek, Honduran, Italian, Japanese, Mexican, Norwegian, Panamanian, Paraguayan, Peruvian, Polish, Portuguese, Romanian, Russian, Salvadoran, Spanish, Swiss, Uruguayan, Venezuelan, and Yugoslavian.

Out of these categories, the following are the most relevant to the livestock production sector. Examples include:

- **Antibiotics:** Used to treat bacterial infections in livestock. Examples include penicillins, tetracyclines, aminoglycosides, macrolides, and fluoroquinolones.
- **Antiparasitics:** Used to control internal and external parasites. Examples include ivermectins, benzimidazoles, and pyrantel pamoate.
- **Antifungals:** Used to treat fungal infections. Examples include itraconazole and fluconazole.
- **Antivirals:** Used to treat viral infections. Examples include oseltamivir and interferon.
- **Anticancer drugs:** Used to treat cancer in livestock. Examples include meloxicam and fentanyl.
- **Anticoagulants:** Used to prevent blood clots. Examples include heparin and warfarin.
- **Antidepressants:** Used to treat depression in livestock. Examples include fluoxetine and amitriptyline.
- **Antipsychotics:** Used to treat mental health issues in livestock. Examples include haloperidol and risperidone.
- **Anticonvulsants:** Used to treat seizures in livestock. Examples include phenytoin and carbamazepine.
- **Antiemetics:** Used to treat nausea and vomiting in livestock. Examples include maropitant and ondansetron.
- **Antacids:** Used to treat acid reflux in livestock. Examples include ranitidine and famotidine.
- **Antidiarrheals:** Used to treat diarrhea in livestock. Examples include loperamide and bismuth subsalicylate.
- **Antispasmodics:** Used to treat muscle spasms in livestock. Examples include dicyclanole and hyoscyamine.
- **Anticholinergics:** Used to treat overactive bladder in livestock. Examples include tolterodine and trospium chloride.
- **Antihistamines:** Used to treat allergic reactions in livestock. Examples include cetirizine and loratadine.
- **Anticoagulants:** Used to prevent blood clots. Examples include heparin and warfarin.
- **Antidepressants:** Used to treat depression in livestock. Examples include fluoxetine and amitriptyline.
- **Antipsychotics:** Used to treat mental health issues in livestock. Examples include haloperidol and risperidone.
- **Anticonvulsants:** Used to treat seizures in livestock. Examples include phenytoin and carbamazepine.
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- **Antacids:** Used to treat acid reflux in livestock. Examples include ranitidine and famotidine.
- **Antidiarrheals:** Used to treat diarrhea in livestock. Examples include loperamide and bismuth subsalicylate.
- **Antispasmodics:** Used to treat muscle spasms in livestock. Examples include dicyclanole and hyoscyamine.
- **Anticholinergics:** Used to treat overactive bladder in livestock. Examples include tolterodine and trospium chloride.
- **Antihistamines:** Used to treat allergic reactions in livestock. Examples include cetirizine and loratadine.

The reduced number of substances to be looked for in live equines exposed for direct slaughter in 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). The substances to be looked for in live equines exposed for direct slaughter in 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). The reduced number of substances to be looked for in live equines exposed for direct slaughter in 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).

subsequent to the outbreak.

53) Her eye should be tested for environmental substances including sulphonamides, tetracyclines, tylosin and streptomycin.

The authors are grateful to the referees for useful and constructive comments. The authors are also grateful to the referees for their valuable comments and suggestions.

Алехире ! А

DATE	2015 December 15
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EU EXPORT DATA in TONNES (referring to the previous year)	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 EARNED 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 the following link: EU export link
---	---

Sampling levels and frequencies

[illegible]

GROUP OF SUBSTANCES TO BE MONITORED	NUMBER OF SAMPLES		COMPOUND OR MARKER RESIDUE	MATRIX ANALYSED	SCREENING METHOD	CONFIRMATORY METHOD	SCREENING LIMIT $\mu\text{g/kg}$	CONFIRMATION DETECTION LIMIT $\mu\text{g/kg}$	LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) $\mu\text{g/kg}$	LABORATORY
	MIN	PLAN								
Sum of B3a + B3c + B3d + B3e	867	870								Page 8 of 25
B3a ORGANOCHLORINE COMPOUNDS INCLUDING PCBS	304	304								
B3c CHEMICAL ELEMENTS	304	304								
B3d MYCOTOXINS	131	131								
B3e DYES e.g. Malachite Green (+ isocomalachite green), crystal violet etc	131	131								

NRCP for Aquaculture Products - 2016
REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

Annex 1B

For official use

COUNTRY	India
YEAR OF PLAN IMPLEMENTATION	2016
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)	9287
NUMBER OF SAMPLES †	ACCORDING TO EU REQUIREMENTS
MINIMUM #	93
PLAN	93

DATE	2015 December 15
------	------------------

92.87

EU EXPORT DATA in TONNES (referring to the previous year)	EU: 890 MT Total: 5572 MT
---	------------------------------

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



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]	CONFIRM/METH. DETECTION LIMIT [µg/kg]	LEVEL OF ACTION (i.e. concentration above which a result is deemed non-compliant) [µg/kg]	LABORATORY
	MIN	PLAN								
A1 STILBENES	10	10								
A3 STEROIDS (WITH ANDROGENIC, ESTROGENIC OR PROGESTAGENIC ACTIVITY)	10	10								
Chloramphenicol + Nitrofurans* Nitroimidazoles	10	11								
CHLORAMPHENICOL NITROFURANS Nitrofurantoin metabolite Furazolidone metabolite Nitrofurazone metabolite NITROIMIDAZOLES										
A6										
B1 ANTIBACTERIAL SUBSTANCES	31	31								

[illegible]

4. 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.

A sample is one of more fish. The minimum number of samples to be collected each day is 100. The following breakdown must be respected: **Group A: one third of the total samples.**

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 placed 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.

In order to facilitate this breakdown and ensure that the correct number of samples are tested, the spreadsheet has made the following calculations distributing samples between each

of the (sub) groups in the following way:

- Of the samples to be tested for in Groups A1, A3 and A6, one third of the total Group A samples are allocated to each of the three subgroups. Of the samples to be tested for Group B, 50% of those have been allocated to Group B1, 20% to Group B2 and 30% to Group B3. It is essential that dives are tested for:

Of the samples to be tested for Group B, 50% of these have been allocated to Group B1 (20% of one sample per compound group has been allocated to Group B1) and 50% to Group B2 and 50% to Group B3. It is ~~essential~~ ^{essential} that of the total number of

pebbles and
shells to the

NRCP 2016 - Allocation of Samples - for regions other than Andhra Pradesh (under jurisdiction of MPEDA Lab Kochi)

Item / species	Parameter	RO Mumbai - Gujarat samples	RO Veraval Porbandar	SRO Porbandar	RC Valsad	RC Panvel	SC Ratnagiri	RO Maharashtra samples	SRO Goa	SRO Karwar	SRO Mangalore	SRO Kannur	RC Kochi	RO Kochi	SRO Kollam	RC Nagapattinam	SRO Tuticorin	RO Chennai - samples to Lab Kochi	RC Bhuvanesarwar	SRC Balasore	SRO Bhubaneswar	SRC Kolkata	SRC Conial	RO Kolkata	Total (Parameter wise)
CULTURED SHRIMP	CAP + NF + Nitroimidazole	0	0	0	56	24	4	0	0	6	0	7	22	0	0	114	0	0	76	0	113	40	0	498	
	Antibact. B	7	7	7	26	12	2	64	7	3	0	4	10	44	6	57	66	27	39	57	58	20	50	591	
	Anthelmintic	3	3	2	11	5	1	25	3	1	0	1	5	18	2	22	26	12	15	22	22	8	20	234	
	Pesticides	2	2	1	6	2	1	13	2	1	0	1	2	9	1	12	15	6	8	12	12	4	10	126	
	Chem. Element	2	1	2	6	2	1	13	2	1	0	1	2	9	1	12	15	6	8	12	12	4	10	126	
	Mycotoxins	0	1	1	4	1	0	5	1	0	0	0	1	4	1	5	6	2	1	4	5	2	5	54	
	Dyes	1	0	1	4	1	0	5	1	0	0	0	1	4	1	5	6	2	1	4	5	2	5	54	
	Sub Total	15	14	14	113	47	9	125	16	12	0	14	43	88	12	227	134	55	71	154	113	227	80	100	1683
SCALP	CAP + NF + Nitroimidazole	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	7	3	0	14	
	Antibact. B	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	1	0	0	5	2	1	15	
	Anthelmintic	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	1	0	5	
	Pesticides	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	3	
	Chem. Elem.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	4	
	Mycotoxins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
	Dyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
	Sub Total	0	0	0	0	0	0	0	0	0	0	0	2	4	1	1	5	2	2	4	0	17	6	1	45
FISH	CAP + NF + Nitroimidazole	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	2	1	0	7
	Antibact. B	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	6	
	Anthelmintic	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	7
	Pesticides	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	2	0	22
	Chem. Elem.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	8	
	Mycotoxins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	5	
	Dyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	
	Sub Total	1	0	0	1	2	0	20	1	3	0	0	2	0	0	4	0	0	3	0	17	8	0	63	
Grand TOTAL		16	14	14	114	49	9	145	17	15	0	14	47	92	13	232	139	57	74	161	113	261	94	101	1791

NRCP 2016 - Allocation of Samples - for Andhra Pradesh (under jurisdiction of MPEDA Labs Bhimavaram & Nellore)

1. QC Lab Bhimavaram

Item / species	Parameter	Number of Samples				TOTAL (parametr wise)
		SRC Bhimavaram to Lab Bhimavaram	RC Vijayawada to Lab Bhimavaram	SRO Bhimavaram to Lab Bhimavaram		
CULTURED SHRIMP	CAP + NF + Nitroimidazoles	450	0	0		450
	Antibacterial B	223	0	213		436
	Anthelmintics	85	0	84		169
	Pesticides	47	0	44		91
	Chem. Element	47	0	44		91
	Mycotoxins	20	0	19		39
	Dyes	20	0	19		39
	Sub Total	892	0	423		1315
SCAMPI	CAP + NF + Nitroimidaz.	1	0	0		1
	Antibacterial B	0	0	0		0
	Anthelmintic	0	0	0		0
	Pesticides	0	0	0		0
	Chem. Element	0	0	0		0
	Mycotoxins	0	0	0		0
	Dyes	0	0	0		0
	Sub Total	1	0	0		1
FISH	CAP + NF + Nitroimidaz.	1	0	0		1
	Stilbens	2	0	0		2
	Steroids	1	0	0		1
	Antibacterial B	3	0	0		3
	Anthelmintics	1	0	0		1
	Pesticides	1	0	0		1
	Chem. Element	1	0	0		1
	Mycotoxins	1	0	0		1
	Dyes	0	0	0		0
	Sub Total	11	0	0		11
Total		904	0	423		1327

2. QC Lab, Nellore

Item / species	Parameter	No. of Samples					TOTAL (parametr wise)
		RC Vijayawada to Lab Nellore	SC Nellore to Lab Nellore	RO Vizag Lab to Nellore	RO Chennai to Lab Nellore		
CULTURED SHRIMP	CAP + NF + Nitroimidazoles	349	125	0	0		420
	Antibacterial B	175	64	81	75		368
	Anthelmintics	72	25	31	30		143
	Pesticides	36	14	17	16		77
	Chem. Element	36	14	17	16		77
	Mycotoxins	16	6	8	7		34
	Dyes	16	6	8	7		34
	Sub Total	700	254	162	151		1153
SCAMPI	CAP + NF + Nitroimidaz.	2	0	0	0		2
	Antibacterial B	1	0	0	0		1
	Anthelmintic	1	0	0	0		1
	Pesticides	0	0	0	0		0
	Chem. Element	0	0	0	0		0
	Mycotoxins	0	0	0	0		0
	Dyes	0	0	0	0		0
	Sub Total	4	0	0	0		4
FISH	CAP + NF + Nitroimidaz.	3	0	0	0		3
	Stilbens	3	0	0	0		3
	Steroids	2	0	0	0		2
	Antibacterial B	4	1	0	0		5
	Anthelmintics	2	0	0	0		2
	Pesticides	2	0	0	0		2
	Chem. Element	1	0	0	0		1
	Mycotoxins	0	0	0	0		0
	Dyes	1	0	0	0		1
	Sub Total	18	1	0	0		19
Total		722	255	162	151		1290

Allocation of Feed and Hatchery Samples -**A. for regions other than Andhra Pradesh under jurisdiction of: 1. MPEDA Lab Kochi**

Item / species	Parameter	RC Valsad	RC Panvel	SRC Karwar	SRC Kannur	RC Kochi	RC Nagapattinam	RC Bhubaneswar	SRC Balasore	SRC Contai	RC Kolkata	Total
No. of Samples												
Feed	CAP + NF	4	0	0	0	0	12	4	0	0	0	20
Hatchery sample	CAP + NF	3	0	4	2	19	49	13	0	0	0	90

B. Andhra Pradesh (under jurisdiction of MPEDA Labs Bhimavaram & Nellore)**2. Lab, Nellore**

Item / species	Parameter	No. of Samples			Total
		RC Vijayawada	SC Nellore		
Feed	CAP + NF	10	6		16
Hatchery sample	CAP + NF	28	40		68

3. Lab, Bhimavaram

Item / species	Parameter	No. of Samples			Total
		SRC Bhimavaram	RC Vijayawada		
Feed	CAP + NF	28	0		28
Hatchery sample	CAP + NF	77	0		77

THE MARINE PRODUCTS EXPORT DEVELOPMENT AUTHORITY, KOCHI - 36

NRCP - 2015 - Summary of Results

Item/ Species	Substance	No. of Samples			Residue substance (s)
		Target	Analysed	Non-compliant	
Shrimp	Group A6	1328	1355	5	CAP/NF
	Group B1	1328	1368	0	
	Group B2a Anth	510	520	0	
	Group B3a	298	301	0	
	(i) OCPs & PCBs	4	4	0	
	(ii) Dioxins/Furans and dioxin like PCBs	298	304	4	Arsenic
	Group B3c CE	110	111	0	
	Group B3d Myco	112	114	0	
Scampi	Group A6	14	12	0	
	Group B1	11	8	0	
	Group B2a Anth	4	3	0	
	Group B3a OCPs & PCBs	2	1	0	
	Group B3c CE	2	1	0	
	Group B3d Myco	1	1	0	
	Group B3e Dyes	2	1	0	
Fish	Group A1	5	5	0	
	Group A3	5	5	0	
	Group A6	5	6	0	
	Group B1	15	14	0	
	Group B2a Anth	6	6	0	
	Group B3a	3	3	0	
	(i) OCPs & PCBs	6	6	0	
	(ii) Dioxins/Furans and dioxin like PCBs	3	3	0	
	Group B3c CE	1	1	0	
	Group B3d Myco	2	2	0	
Sub Total		4075	4155	9	

Feed	Group A6	44	45	0	
Hatchery Seed	Group A6	197	129	50	CAP/NF
TOTAL		4316	4329	59	

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY	INDIA	DATE	12.02.2016
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2015		
ANIMAL SPECIES/PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH		

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	Diethylstilbesterol (screening test)	Shrimp	0	0	RL: 1.0	NA
		Scampi	0	0		NA
		Fish	5	5		NIL
A3. SYNTHETIC STEROIDS (WITH ANDROGENIC, GESTAGENIC OR ESTROGENIC ACTIVITY)	Progesterone (screening test)	Shrimp	0	0	RL: 1.0	NA
		Scampi	0	0		NA
		Fish	5	5		NIL
	Oestradiol (screening test)	Shrimp	0	0	RL: 1.0	NA
		Scampi	0	0		NA
		Fish	5	5		NIL
A6. CHLORAMPHENICOL	Chloramphenicol	Shrimp	1328	1355	CCα: 0.06(Kochi) 0.09 (Nellore) 0.051(Bhimavaram)	2
		Scampi	14	12		0
		Fish	5	6		0
A6. NITROFURANS						
Nitrofurantoin metabolite	AHD	Shrimp	1328	1355	CCα: 0.240 (Kochi) 0.64 (Nellore) 0.304(Bhimavaram)	0
		Scampi	14	12		0
		Fish	5	6		0
Furaltadone metabolite	AMOZ	Shrimp	1328	1355	CCα: 0.186 (Kochi) 0.60 (Nellore) 0.321(Bhimavaram)	0
		Scampi	14	12		0
		Fish	5	6		0
Furazolidone metabolite	AOZ	Shrimp	1328	1355	CCα: 0.333 (Kochi) 0.62 (Nellore) 0.311(Bhimavaram)	3
		Scampi	14	12		0
		Fish	5	6		0
Nitrofurazone metabolite	SEM	Shrimp	1328	1355	CCα: 0.443 (Kochi) 0.66 (Nellore) 0.337(Bhimavaram)	0
		Scampi	14	12		0
		Fish	5	6		0

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

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COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2015
ANIMAL SPECIES/PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	12.02.2016
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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			
A6. OTHERS							
NITROIMIDAZOLES	Ronidazole	Shrimp	1328	1355	CCa: 0.39(Kochi) 0.41(Nellore)	NIL	
		Scampi	14	12			
		Fish	5	6			
	Metronidazole	Shrimp	1328	1355	CCa: 0.59(Kochi) 0.33(Nellore)	NIL	
		Scampi	14	12			
		Fish	5	6			
	Dimetronidazole	Shrimp	1328	1355	CCa: 0.39(Kochi) 0.27(Nellore)	NIL	
		Scampi	14	12			
		Fish	5	6			
	Iprnidazole-OH	Shrimp	1328	1355	CCa:0.56(Kochi) 0.24(Nellore)	NIL	
		Scampi	14	12			
		Fish	5	6			
	HMNI	Shrimp	1328	1355	CCa: 0.42(Kochi) 0.42(Nellore)	NIL	
		Scampi	14	12			
		Fish	5	6			
	B1. ANTIBACTERIAL SUBSTANCES						
	Screening test	NIL	-	-	-	-	NA
	Confirmatory test	Tetracycline	Shrimp	1328	1368	CCa: 104.1 (Kochi) 105.90 (Nellore) 110.45(Bhimavaram)	NIL
Scampi			11	8			
Fish			15	14			
4-Epi Tetracycline		Shrimp	1328	1368	CCa: 103.6 (Kochi) 106.07 (Nellore) 110.48(Bhimavaram)	NIL	
		Scampi	11	8			
		Fish	15	14			
Oxytetracycline		Shrimp	1328	1368	CCa: 102.8 (Kochi) 105.74 (Nellore) 110.82(Bhimavaram)	NIL	
		Scampi	11	8			
		Fish	15	14			
4-Epi Oxytetracycline		Shrimp	1328	1368	CCa: 103.2 (Kochi) 106.89 (Nellore) 112.99(Bhimavaram)	NIL	
		Scampi	11	8			
		Fish	15	14			

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD *Page 27 of 35*

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2015
ANIMAL SPECIES/PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	12.02.2016
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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) [$\mu\text{g/kg}$]	NUMBER OF NON COMPLIANT RESULTS (ABOVE LEVEL OF ACTION)
			PLANNED	TESTED		
Confirmatory test	Chlortetracycline	Shrimp	1328	1368	CC α : 102.6 (Kochi) 106.56 (Nellore) 108.23(Bhimavaram)	NIL
		Scampi	11	8		
		Fish	15	14		
	4-Epi Chlortetracycline	Shrimp	1328	1368	CC α : 103.1 (Kochi) 107.05 (Nellore) 112.15(Bhimavaram)	NIL
		Scampi	11	8		
		Fish	15	14		
	Sulphadiazine	Shrimp	1328	1368	CC α : 102.01 (Kochi) 103.65 (Nellore) 112.36(Bhimavaram)	NIL
		Scampi	11	8		
		Fish	15	14		
	Oxolinic Acid	Shrimp	1328	1368	CC α : 103.32 (Kochi) 104.205 (Nellore) 106.12(Bhimavaram)	NIL
		Scampi	11	8		
		Fish	15	14		
	Nalidixic Acid	Shrimp	1328	1368	CC α : 101.42 (Kochi) 105.18 (Nellore) 109.3(Bhimavaram)	NIL
		Scampi	11	8		
		Fish	15	14		
B2a. ANTHELMINTICS	Ivermectin	Shrimp	510	520	CC β : 80.0 (Kochi) 106.545 (Nellore) 57.02 (Bhimavaram)	NIL
		Scampi	4	3		
		Fish	6	6		

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD *Page 28 of 35*

COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2015
ANIMAL SPECIES/PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	12.02.2016
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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		
B2f. OTHER PHARMACOLOGICALLY ACTIVE SUBSTANCES						
B3a. ORGANOCHLORINE COMPOUNDS INCLUDING PCBS	Aldrin	Shrimp	298	301	ML: 200	NIL
		Scampi	2	1		
		Fish	3	3		
	Dieldrin	Shrimp	298	301	ML: 200	NIL
		Scampi	2	1		
		Fish	3	3		
	Chloradane	Shrimp	298	301	ML: 50	NIL
		Scampi	2	1		
		Fish	3	3		
	DDT	Shrimp	298	301	ML: 1000	NIL
		Scampi	2	1		
		Fish	3	3		
	Endrin	Shrimp	298	301	ML: 50	NIL
		Scampi	2	1		
		Fish	3	3		
	Heptachlor	Shrimp	298	301	ML: 200	NIL
		Scampi	2	1		
		Fish	3	3		
	Hexachloro Benzene	Shrimp	298	301	ML: 200	NIL
		Scampi	2	1		
		Fish	3	3		
	Alpha HCH	Shrimp	298	301	ML: 200	NIL
		Scampi	2	1		
		Fish	3	3		
	Beta HCH	Shrimp	298	301	ML: 100	NIL
		Scampi	2	1		
		Fish	3	3		
	Gamma HCH	Shrimp	298	301	ML: 20	NIL
		Scampi	2	1		
		Fish	3	3		
	PCBs	Shrimp	298	301	ML: 75 Sum of 6 NDL-PCBs	NIL
		Scampi	2	1		
		Fish	3	3		
	Dioxins/Furans and Dioxins like PCBs	Shrimp	4	4	ML:6.5pg/gm	NIL
		Fish	6	6		

RESULTS OF REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

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COUNTRY	INDIA
YEAR OF IMPLEMENTATION OF THE RESIDUE PLAN	2015
ANIMAL SPECIES/PRODUCT	AQUACULTURE - CRUSTACEANS & FINFISH

DATE	12.02.2016
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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		
B3c. CHEMICAL ELEMENTS	Mercury	Shrimp	298	304	ML:500	NIL
		Scampi	2	1		
		Fish	3	3		
	Cadmium	Shrimp	298	304	ML:500	NIL
		Scampi	2	1		
		Fish	3	3		
	Arsenic	Shrimp	298	304	ML:1000	4
		Scampi	2	1		NIL
		Fish	3	3		NIL
	Lead	Shrimp	298	304	ML:500	NIL
		Scampi	2	1		
		Fish	3	3		
B3d. MYCOTOXINS	Aflatoxin B1	Shrimp	110	111	LOQ: 0.5 (Kochi & Nellore) LOD:0.25 (Bhimavaram)	NIL
		Scampi	1	1		
		Fish	1	1		
	Aflatoxin B2	Shrimp	110	111	LOQ: 0.5 (Kochi & Nellore) LOD:0.25 (Bhimavaram)	NIL
		Scampi	1	1		
		Fish	1	1		
B3e. DYES	Malachite green	Shrimp	112	114	CCα: 0.33 (Kochi) 0.72 (Nellore) 0.5(Bhimavaram)	NIL
		Scampi	2	1		
		Fish	2	2		
	Leucomalachite green	Shrimp	112	114	CCα: 0.22(Kochi) 0.20 (Nellore) 0.42 (Bhimavaram)	NIL
		Scampi	2	1		
		Fish	2	2		

The Marine Products Export Development Authority
NRCP 2015 - List of Non-Compliant (Residue Positive) Samples

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I Quality Control Laboratory, KOCHI

SNo.	Type & Species	Parameter	Value (µg/kg)	Region/ State	Sample ID& Collection Date
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SHRIMP

1	1	P.Monodoon	Chemical Element - Arsenic	3362.30	Orissa	24/S1/P1/0050/2015
2	2	P.Monodoon	Chemical Element - Arsenic	3485.45	West Bengal	09/S1/P1/0026/2015
3	3	P.Monodoon	Chemical Element - Arsenic	1562.12	Orissa	31/S1/P1/0136/2015
4	4	P.Monodoon	Chemical Element - Arsenic	1667.90	Orissa	31/S1/P1/0137/2016

II Quality Control Laboratory, BHIMAVARAM

SNo.	Type & Species	Parameter	Value (µg/kg)	Region/ state	Sample ID& Collection Date
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SHRIMP

5	1	L.Vannamei	Nitrofurantol Metabolite - AOZ	26.9	Andra Pradesh	25/S1/Q1/0063/2015
6	2	L.Vannamei	Nitrofurantol Metabolite - AOZ	1.32	Andra Pradesh	25/S1/Q1/0071/2015
7	3	L.Vannamei	Nitrofurantol Metabolite - AOZ	2.00	Andra Pradesh	25/S1/Q1/0187/2015
8	4	L.Vannamei	Chloramphenicol	2.19	Andra Pradesh	25/S1/Q1/0193/2015
9	5	L.Vannamei	Chloramphenicol	1.10	Andra Pradesh	25/S1/Q1/0869/2015

III Quality Control Laboratory, NELLORE - NIL

SNo.	Type & Species	Parameter	Value (µg/kg)	Region/ State	Sample ID& Collection Date
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The Marine Products Export Development Authority
NRCP 2015 - Non-Compliant (Residue Positive) Hatcherly Samples

I Quality Control Laboratory, KOCHI**HATCHERY SAMPLES**

	SNo.	Type & Species	Parameter	Value (µg/kg)	Region/ state	Sample ID& Collection Date
1	1	Shrimp seed	Chloramphenicol	0.16	Kerala	15/S4/01/0003/2015
2	2	Shrimp seed	Chloramphenicol	0.41	Kerala	15/S4/01/0004/2015
			Nitrofurantol Metabolite - AOZ	0.59		
3	3	Shrimp seed	Chloramphenicol	0.12	Kerala	15/S4/01/0080/2015
4	4	Shrimp seed	Chloramphenicol	0.14	Kerala	15/S4/01/0087/2015
5	5	Shrimp seed	Chloramphenicol	0.27	Kerala	15/S4/01/0102/2015
6	6	Shrimp seed	Chloramphenicol	3.12	Karnataka	19/S4/01/0002/2015
			Nitrofurantol Metabolite - AOZ	2.04		
7	7	Shrimp seed	Nitrofurantol Metabolite - AOZ	29.13	Tamilnadu	23/S4/01/0019/2015
8	8	Shrimp seed	Chloramphenicol	0.11	Tamilnadu	23/S4/01/0020/2015
9	9	Shrimp seed	Nitrofurantol Metabolite - AOZ	35.6	Tamilnadu	23/S4/01/0053/2015
10	10	Shrimp seed	Chloramphenicol	1.98	Tamilnadu	23/S4/01/0072/2015
11	11	Shrimp seed	Chloramphenicol	0.72	Tamilnadu	23/S4/01/0094/2015
			Nitrofurantol Metabolite - AOZ	1375.4		
12	12	Shrimp seed	Chloramphenicol	516.71	Orissa	24/S4/01/0034/2015
			Nitrofurantol Metabolite - AOZ	2325.19		
13	13	Shrimp seed	Chloramphenicol	331.17	Orissa	24/S4/01/0035/2015
			Nitrofurantol Metabolite - AOZ	2888.95		

II Quality Control Laboratory, BHIMAVARAM

14	1	Shrimp seed	Chloramphenicol	0.12	Andra Pradesh	16/S4/01/1218/2015
15	2	Shrimp seed	Chloramphenicol	0.18	Andra Pradesh	25/S4/01/0001/2015
16	3	Shrimp seed	Chloramphenicol	0.37	Andra Pradesh	25/S4/01/0002/2015
17	4	Shrimp seed	Chloramphenicol	0.14	Andra Pradesh	25/S4/01/0003/2015
18	5	Shrimp seed	Chloramphenicol	3.68	Andra Pradesh	25/S4/01/0080/2015
19	6	Shrimp seed	Chloramphenicol	0.45	Andra Pradesh	25/S4/01/0081/2015
			Nitrofurantol Metabolite - AOZ	926.69	Andra Pradesh	
20	7	Shrimp seed	Nitrofurantol Metabolite - AOZ	295	Andra Pradesh	25/S4/01/0088/2015
21	8	Shrimp seed	Chloramphenicol	0.53	Andra Pradesh	25/S4/01/0099/2015
			Nitrofurantol Metabolite - AOZ	55.7	Andra Pradesh	
22	9	Shrimp seed	Chloramphenicol	5.51	Andra Pradesh	25/S4/01/0177/2015
23	10	Shrimp seed	Chloramphenicol	0.38	Andra Pradesh	25/S4/01/0181/2015
			Nitrofurantol Metabolite - AOZ	129.7	Andra Pradesh	
24	11	Shrimp seed	Nitrofurantol Metabolite - AOZ	8.4	Andra Pradesh	25/S4/01/0182/2015

	SNo.	Type & Species	Parameter	Value (µg/kg)	Region/ State	Sample ID& Collection Date
						Page 32 of 35
25	12	Shrimp seed	Chloramphenicol	0.75	Andra Pradesh	25/S4/01/0228/2015
			Nitrofurantoin Metabolite - AOZ	12	Andra Pradesh	
26	13	Shrimp seed	Chloramphenicol	0.46	Andra Pradesh	25/S4/01/0230/2015
27	14	Shrimp seed	Chloramphenicol	10.63	Andra Pradesh	25/S4/01/0231/2015
			Nitrofurantoin Metabolite - AOZ	1845.24	Andra Pradesh	
28	15	Shrimp seed	Chloramphenicol	0.46	Andra Pradesh	25/S4/01/0315/2015
29	16	Shrimp seed	Chloramphenicol	1.02	Andra Pradesh	25/S4/01/0316/2015
			Nitrofurantoin Metabolite - AOZ	11.33	Andra Pradesh	
30	17	Shrimp seed	Nitrofurantoin Metabolite - AOZ	962	Andra Pradesh	25/S4/01/0317/2015
31	18	Shrimp seed	Chloramphenicol	8.88	Andra Pradesh	25/S4/01/0400/2015
			Nitrofurantoin Metabolite - AOZ	40.88	Andra Pradesh	
32	19	Shrimp seed	Nitrofurantoin Metabolite - AOZ	46.11	Andra Pradesh	25/S4/01/0401/2015
33	20	Shrimp seed	Chloramphenicol	0.24	Andra Pradesh	25/S4/01/0438/2015
34	21	Shrimp seed	Chloramphenicol	0.68	Andra Pradesh	25/S4/01/0439/2015
			Nitrofurantoin Metabolite - AOZ	0.71	Andra Pradesh	
35	22	Shrimp seed	Chloramphenicol	2.58	Andra Pradesh	25/S4/01/0440/2015
			Nitrofurantoin Metabolite - AOZ	293	Andra Pradesh	
36	23	Shrimp seed	Chloramphenicol	16.65	Andra Pradesh	25/S4/01/0442/2015
37	24	Shrimp seed	Nitrofurantoin Metabolite - AOZ	29.03	Andra Pradesh	25/S4/01/0539/2015
38	25	Shrimp seed	Chloramphenicol	0.4	Andra Pradesh	25/S4/01/0543/2015
39	26	Shrimp seed	Nitrofurantoin Metabolite - AOZ	9.29	Andra Pradesh	25/S4/01/0603/2015
40	27	Shrimp seed	Nitrofurantoin Metabolite - AOZ	9.49	Andra Pradesh	25/S4/01/0609/2015
41	28	Shrimp seed	Nitrofurantoin Metabolite - AOZ	13.71	Andra Pradesh	25/S4/01/0610/2015
42	29	Shrimp seed	Chloramphenicol	0.34	Andra Pradesh	25/S4/01/0823/2015
43	30	Shrimp seed	Chloramphenicol	0.53	Andra Pradesh	25/S4/01/0852/2015
			Nitrofurantoin Metabolite - AOZ	3.79	Andra Pradesh	
44	31	Shrimp seed	Chloramphenicol	1.58	Andra Pradesh	25/S4/01/0853/2015
			Nitrofurantoin Metabolite - AOZ	3.77	Andra Pradesh	
45	32	Shrimp seed	Chloramphenicol	1.06	Andra Pradesh	25/S4/01/0854/2015
			Nitrofurantoin Metabolite - AOZ	9.45	Andra Pradesh	
46	33	Shrimp seed	Chloramphenicol	1.75	Andra Pradesh	25/S4/01/0855/2015

III Quality Control Laboratory, NELLORE

47	1	Shrimp seed	Chloramphenicol	26.02	Andra Pradesh	16/S4/01/1144/2015
			Nitrofurantoin Metabolite - AOZ	22.06	Andra Pradesh	
48	2	Shrimp seed	Nitrofurantoin Metabolite - AOZ	23.78	Andra Pradesh	16/S4/01/1145/2015
49	3	Shrimp seed	Chloramphenicol	0.28	Andra Pradesh	16/S4/01/1147/2015
50	4	Shrimp seed	Chloramphenicol	0.45	Andra Pradesh	16/S4/01/1220/2015

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

No. Lab/HO/2/2014

Dated: 07 January, 2016

NRCP – Instructions – effective from January 2016.

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 RC/SRC/RO/SRO is in consideration of enrolled site/export from their jurisdiction. The sample target for RC/SRC is fixed on the basis of district-wise registration of farms and according to the aquaculture production and the month-wise targets for the RCs/ SRCs 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 RO/SRO.
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 approved/ enrolled by/under the Marine Products Export Development Authority(MPEDA).
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. 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.
9. 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 thermo-cole box packed with dry/wet ice.
13. All RCs and SRCs 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 RO/SRO and RC/SRC shall maintain a register of samples collected and dispatched to the respective Laboratory. Needless to mention, in respect of RC/SRC, the column relating to "Name of Processing Plant" will be left blank. RO/SRO 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. The RO/SRO 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 under the RO/SRO 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 two per plant per day. 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. ROs and SROs 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 ROs/SROs 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 RCs/SRCs/ROs/SROs 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 RC/SRC/RO/SRO.
28. Wherever non-compliant (residue positive) results are reported, the EIAs and MPEDA RC/SRC/RO/SRO 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.