STANDARD OPERATING PROCEDURE
FOR
AQUACULTURE RESIDUE MONITORING PLAN

NO.	DATE OF AMENDMENT	REVISION NO.	AMENDMENT REFERENCE
1.	11 March 2010	04	Para 4 and 5 Words *"**(EC) No"*** are included. Original Para 5.12-5.15 Deleted Para 6.1 The words ***"Annex 5"*** are changed to ***"Annex 4".*** The statement ***"All samples delivered to the laboratory should use Sample Delivery and Acceptance Form – ARMP01 Form (Annex 6). In cases where samples to be delivered to Agri-Food & Veterinary Authority of Singapore (AVA), the Request for Laboratory Examination [Code 021 Commercial] form should be used (Annex 7)"*** is deleted. Para 6.2 ***"New statements, (c) and (d)"*** are included: Original Para 6.3 and 6.4 Deleted and ***"new Para 6.3"*** and ***"6.4"*** are included. Para 6.5 The word ***"EU"*** is deleted and words ***"Directorate-General of Health and Consumers (DG SANCO)"*** are included. Original Annex 4 The words ***"Annex 4"*** is changed to ***"Annex 6".***

NO.	DATE OF AMENDMENT	REVISION NO.	AMENDMENT REFERENCE
			"Original Laboratory List" is deleted and ***"New List of Official Laboratories"*** is included. <u>Original Annex 5</u> The words ***"Annex 5"*** is changed to ***"Annex 4".*** <u>Original Annex 6</u> The words ***"Annex 6"*** is changed to ***"Annex 5".*** <u>Original Annex 7</u> Deleted and ***"new Annex 7: COMPILATION OF ANALYTICAL RESULTS OF SAMPLES TAKEN UNDER ARMP YEAR _____"*** is included.

1. Introduction

Malaysia produces about 200,000 MT shrimp, fish and shellfish annually from the aquaculture sub sector. Major portions of the shrimp and fish production are exported to various countries such as Singapore, Hong Kong, China, Australia, USA, Japan and the European Union (EU). Many of these countries require from Malaysia an official residue and contaminants monitoring program and all imported food commodities are accompanied with Health Certificate proving their compliance to residue and contaminants standards established by such countries.

In response to this requirement, Department of Fisheries (DoF) develops National Aquaculture Residue Monitoring Plan (ARMP) based on EU Council Directive 96/23/EC. This ARMP provides useful information in assuring importing countries on the quality and safety of Malaysian aquaculture produce. Data from this plan can also be used as a guarantee for certifying the residue and contaminant status of aquaculture produce.

Under Commission Decision dated 7 March 2006 (amending Decision 2004/432/EC on the approval of residue monitoring plans submitted by third countries in accordance with Council Directive 96/23/EC), Malaysia is required to submit the annual ARMP results from the previous year and the proposed ARMP for the current year before the end of March every year.

2. Objectives

a. Serve as an important part of an overall strategy to minimize unwanted /undesired residues and contaminants in aquaculture produce;
b. To provide guarantee and assurance to importing country on the safety and quality of Malaysian aquaculture products; and
c. To provide verification to Good Aquaculture Practices (GAqP) and, identifying potential residue problems and indicating where corrective actions are required.
d. To provide residue plan that offer guarantees at least equivalent to Article 29, Directive 96/23/EC
e. To demonstrate control system of the competent authority complies with Article 11, Directive 96/22/EC.

3. Scope

This ARMP is currently confined to shrimp from brackish water ponds; finfish from marine and brackish water ponds and; marine and fresh water cages in the aquaculture sub sector. These commodities are produced on commercial scale and for export markets.

4. Regulations/Requirements

Regulation (EC) No 178/2002, Regulation (EC) No 852/2004, Council Directive 96/23/EC, Commission Decision dated 7 March 2006 (amending Decision 2004/432/EC on the approval of residue monitoring plans submitted by third countries in accordance with Council Directive 96/23/EC) .

5. Overview of the Residue Plan

5.1 The design of the residue plan takes into account Regulation (EC) No 178/2002, Regulation (EC) No 852/2004, Council Directive 96/23/EC. Due consideration is also given to the extensive nature of the Malaysia's aquaculture industries. The selection of the commodity-matrix-residue combinations for inclusion in the residue monitoring is based on a risk profile that considers a number of factors, which include:-

- Use of a particular chemical and veterinary drug;
- Likelihood of occurrence of residue;
- Extent of use, usage pattern and incentives for misuse;
- Extent to which the residue has been monitored in the past and the results of that monitoring;
- Specific market access requirements and perception of the residue as a possible public health hazard

5.2 Based on the above and on an annual basis, shrimp and finfish from the aquaculture sector (farms and cages) are monitored for the presence of residues of prohibited substances, veterinary drugs, pesticides, heavy metals, dyes and other contaminants.

5.3 In Article 29 (1) of the Council Directive 96/23/EC states that a third country must submit a plan setting out the guarantees which it offers with regards to the monitoring of the groups of residues and substances referred to in Annex I of Council Directive 96/23/EC.

5.4 Fisheries Biosecurity Division in the DoF headquarters is responsible for developing, monitoring, evaluating, auditing and compiling record of ARMP in accordance with Council Directive 96/23/EC .

5.5 The number of samples for the ARMP depends on the annual national production figures. The minimum number of samples to be collected each year must be at least 1 per 100 tonne of annual production. The sampling level and frequency are laid down in Council Directive 96/23 and Commission Decision 97/747. The following breakdown must be respected:

Group A: one third of the total samples.
All the samples must be taken at farm level, on fish at all stages of farming[1], including fish which is ready to be placed on the market.

Group B: two thirds of the total samples.
The 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 (Reference: Council Directive 96/23/EC).

5.6 The proportion of minimum samples is based on the ARMP template (Annex 1). In all cases, samples taken at farm level should be taken from minimum of 10 percent of registered sites of production. The number of samples for each state shall be taken by staggering months and these shall be determined by Fisheries Biosecurity Division. Examples of the staggering sampling plan are shown in Annex 2a (for Shrimp) and Annex 2b (for Finfish).

5.7 The group of substances to be monitored under ARMP is laid down in Annex 3.

5.8 For other aquaculture products, when the countries have reason to believe that veterinary medicines or chemical are being applied to the other aquaculture products, or when environmental contamination is suspected then this species must be included in the sampling plan in proportion to the

[1] For sea-farming, in which sampling conditions may be especially difficult, samples may be taken from feed in place of samples from fish.

production as additional samples to those taken for finfish farming products.

5.9 The State Fisheries Biosecurity Unit upon receiving national ARMP (staggering sampling plan) from Fisheries Biosecurity Division, shall identify the farms in their respective state, determine number of samples (based on staggering annual sampling plan) to be taken from each of the identified farms, fix the date for taking samples, estimate financial requirement and prepared proposed state ARMP and send to the Fisheries Biosecurity Division for approval.

5.10 The Fisheries Biosecurity Division shall evaluate all proposed state ARMP. Any proposed state ARMP that has any deficiency will be returned to the state for correction. Only approved state ARMP shall be compiled into the national ARMP and send to the states for implementation. The national ARMP shall be sent to Ministry of Health.

5.11 The State Fisheries Biosecurity Unit shall implement the approved respective state ARMP at the farm level accordingly.

5.12 The Fisheries Biosecurity Division will monitor, inspect and carry out any necessary follow-up action through out the implementation approved national ARMP.

6. MECHANISM

6.1 Sampling Procedure

Samples shall be taken randomly from the identified farm by designated State Fisheries Biosecurity Unit officers. Sampling shall be conducted through out the year according to the approved ARMP (refer to para 5.5 and 5.6, para 5.7 and para 5.8). The procedure for sampling shall follow the SOP for Sampling Procedure (Document No. C), for each required parameter. All samples taken for analysis should follow the Sample Code as in Annex 4.

6.2 Sampling at Farm Level

Samples should be collected randomly from fish and shrimp farms and/or cages at all stages and are maintained under a strictly according to SOPs. These farms and/or cages should be based on:-

- Registered farm under DoF
- Farms supplying raw materials to seafood processing plants exporting to seafood processing establishment exporting to EU
- SPS Aquaculture Monitoring Location

Sampling at the farm will cover at least the following species based on annual production:

- Black Tiger Prawn (*Penaeus monodon*)
- Exotic White Shrimp (*Litopenaeus vannamei*)
- Giant Freshwater Prawn (*Macrobrachium rosenbergii*)
- Seabass (*Lates calcarifer*)
- Tilapia (*Oreochromis* sp.*)*
- Grouper (*Epinephelus* sp.)
- Snapper (*Lutjanus* sp.*)*
- Silver Pompano (*Trachinotus* sp.)
- River Catfish (*Pangasius* sp.)

a) Collected samples should be packed and labelled according to SOPs.

b) Collected samples should be handled and kept at all the time in appropriate container, at the right temperature and sent immediately to the official laboratories according to SOPs.

c) Sample Delivery and Acceptance Form – ARMP01 Form (Annex 5) shall be completed and submitted together with the samples to the laboratory.

d) Samples should be delivered to the identified laboratories according to the approved respective state ARMP schedule.

6.3 Laboratories

a) Official Laboratories

Official laboratories providing analytical services by parameters of analysis are as in Annex 6.

Official laboratories shall have quality assurance programme based on ISO/IEC 17025.

b) Analytical Methods

Performance of analytical methods shall be in compliance to Commission Decision 2002/657/EC.

6.4 Reporting of Analytical Results

i. The ARMP has a defined performance criterion for timeliness of analysis and reporting of results.

ii. Turnaround time is defined as time taken between the arrival of samples at the laboratory and the date of reporting which shall be within 14 working days for chemical analysis, and 30 working days for dioxins and PCBs analysis. In the event of non-compliance of the TAT, reasons are to be submitted to the CA by the laboratories.

iii. Analytical results shall be reported in compliance to the requirements under clause 5.10 of ISO/IEC 17025.

iv. It is the responsibility of the State Fisheries Biosecurity Unit to follow-up with the relevant laboratory if analysis results are not received and TAT has been exceeded.

v. The laboratory shall issue results of analysis to the sampler with a copy to the Fisheries Biosecurity Division and MOH (HQ) within 3 working days from the date of reporting.

vi. The State Fisheries Biosecurity Unit shall submit to the Fisheries Biosecurity Division the compilation of analytical results according to the format as in Annex 7 on a monthly basis. The Fisheries Biosecurity Division shall submit to the MOH (HQ) the compilation of analytical results according to the format as in Annex 7 on a quarterly basis.

vii. In the case of suspected contravening results, the laboratory shall report the preliminary results immediately via e-mail or facsimile to the sampler with a copy to the Fisheries Biosecurity Division and MOH (HQ).

viii. The State Fisheries Biosecurity Unit shall take appropriate follow-up action at the farm within three (3) working days after preliminary

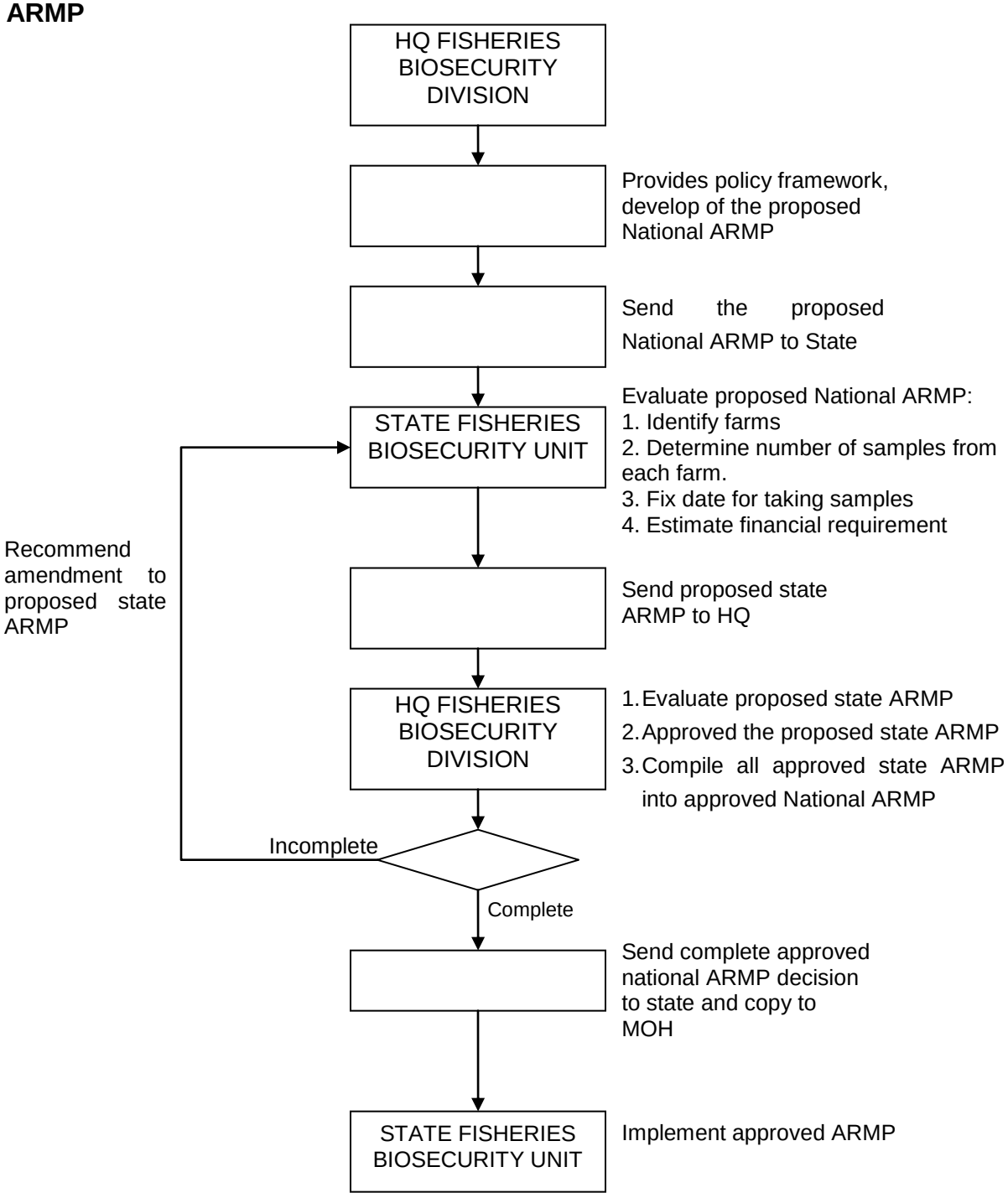
reports. The State Fisheries Biosecurity Unit shall immediately inform the respective farm, State Department of Health and Fishery Biosecurity Division. Other required actions should be referred to SOP on the Contingency Plan.

ix. All analytical results are to be kept for at least 3 years.

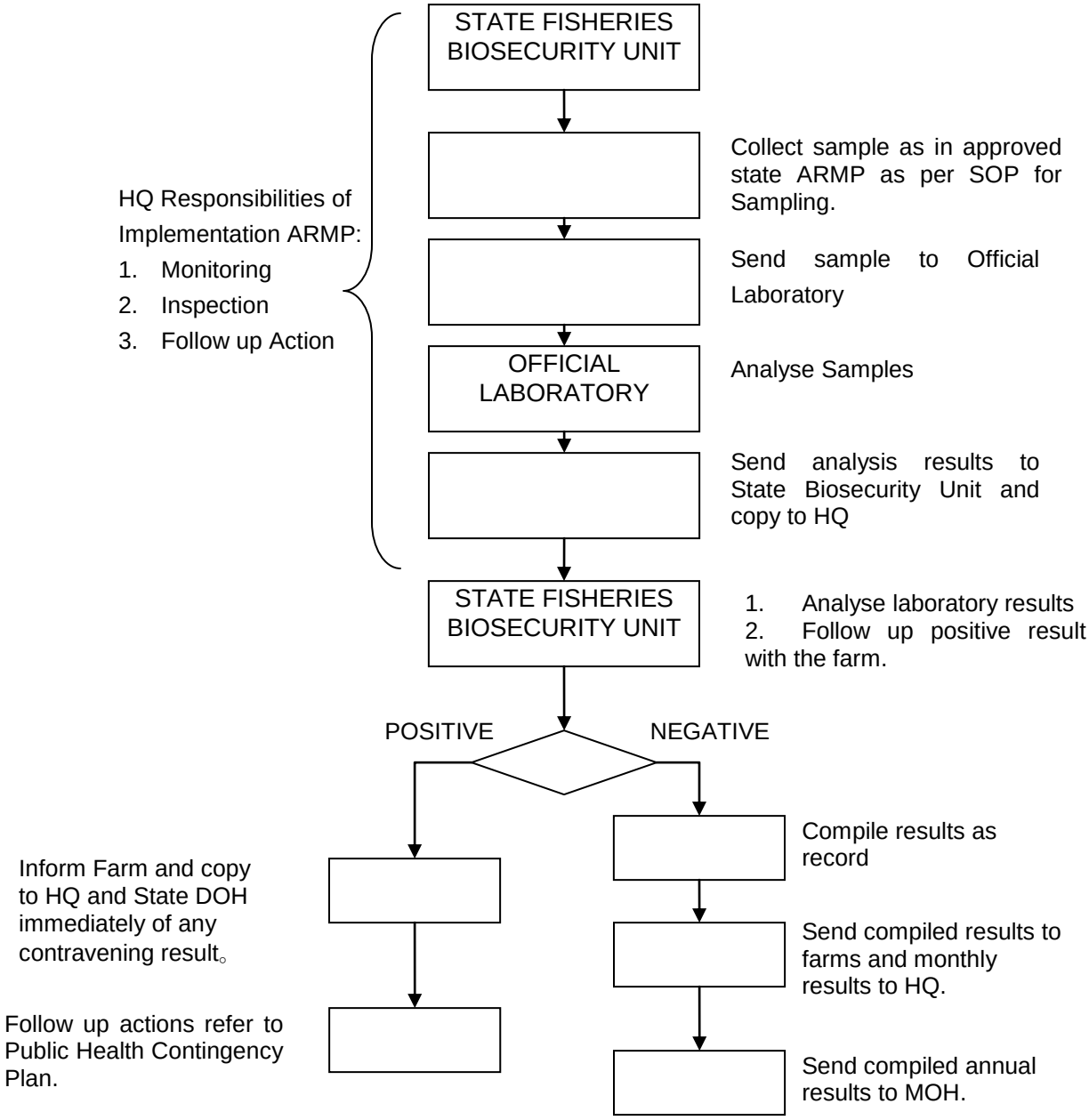
6.5 Annual Report

The Fisheries Biosecurity Division shall prepare ARMP Annual Report of current year to MOH by 28 February on the following year and MOH shall submit the report to Directorate-General of Health and Consumers (DG SANCO) before 31st March.

7. Flow Chart: STANDARD OPERATING PROCEDURE FOR THE APPROVAL OF ARMP



8. Flow-chart: STANDARD OPERATING PROCEDURE FOR THE IMPLEMENTATION OF APPROVED ARMP



Annex 1

The proportion of minimum samples is based on the ARMP template.

Refer to Excel ARMP Template

Residues Plan – Aquaculture Finfish

REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD										
							For official use			
COUNTRY	MALAYSIA		DATE				192.76			
YEAR OF PLAN IMPLEMENTATION	2009									
ANIMAL SPECIES / PRODUCT	AQUACULTURE FIN FISH									
National PRODUCTION DATA - in TONNES (referring to the previous year)			EU EXPORT DATA in TONNES (referring to the previous gear)							
PRODUCTION DATA in TONNES for calculation of SAMPLE NUMBERS. (referring to previous year's production)	19276	←	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.							
NUMBER OF SAMPLES †	ACCORDING TO EU REQUIREMENTS	ACCORDING TO CODEX ALIMENTARIUS	OTHER							
MINIMUM #	193									
PLAN										

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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
A1	STILBENES	21									
A3	STEROIDS (WITH ANDROGENIC, ESTROGENIC OR PROGESTAGENIC ACTIVITY)	21									
A6	Chloramphenicol + Nitrofurans+ Nitroimidazoles	21									
	CHLORAMPHENICOL										
	NITROFURANS										
	Nitrofurantoin metabolite										
	Furaltadone metabolite										
	Furazolidone metabolite										
	Nitrofurazone metabolite										
	NITROIMIDAZOLES										

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Residues Plan – Aquaculture Finfish

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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
		MIN	PLAN								
B1	ANTIBACTERIAL SUBSTANCES	65									
B2a	ANTHELMINTICS	26									
B2f	Other pharmacologically active subs										

Residues Plan – Aquaculture Finfish

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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
Sum of B3a + B3c + B3d + B3e		39									
B3a	ORGANOCHLORINE COMPOUNDS INCLUDING PCBS										
B3c	CHEMICAL ELEMENTS										
B3d	MYCOTOXINS										
B3e	DYES e.g. Malachite Green (+ leucomalachite green), crystal violet etc										

† 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 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 these have been allocated to Group B1, 20% to Group B2 and 30% to Group B3. It is essential that dyes are tested for.
 # For very small production volumes (e.g. < 500 tonnes) where the spreadsheet would calculate < 1 sample per substance group, a minimum of one sample per compound group has been assigned.

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Residue Plan For Aquaculture – Crustaceans (e.g Shirmp)

REGULATORY PROGRAMME FOR CONTROL OF RESIDUES IN FOOD

COUNTRY				DATE								
YEAR OF PLAN IMPLEMENTATION	2009											
ANIMAL SPECIES / PRODUCT	AQUACULTURE CRUSTACEANS											
National PRODUCTION DATA - in TONNES (referring to the previous year)				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)	35000	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.										
NUMBER OF SAMPLES †	ACCORDING TO EU REQUIREMENTS	ACCORDING TO CODEX ALIMENTARIUS	OTHER									
MINIMUM	350											
PLAN												
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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY		
	MIN	PLAN										
A6 Chloramphenicol + Nitrofurans+ Nitroimidazoles	116											
CHLORAMPHENICOL												
NITROFURANS												
Nitrofurantoin metabolite												
Furaltadone metabolite												
Furazolidone metabolite												
Nitrofurazone metabolite												
NITROIMIDAZOLES												

Residue Plan For Aquaculture – Crustaceans (e.g Shirmp)

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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
B1	ANTIBACTERIAL SUBSTANCES	117									
B2a	ANTHELMINTICS	47									
B2f	Other pharmacologically active subs										

Residue Plan For Aquaculture – Crustaceans (e.g Shirmp)

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. concentration above which a result is deemed non-compliant) [µg/Kg]	LABORATORY
Sum of B3a + B3c + B3d + B3e		70									
B3a	ORGANOCHLORINE COMPOUNDS INCLUDING PCBS										
B3c	CHEMICAL ELEMENTS										
B3d	MYCOTOXINS										
B3e	DYES e.g. Malachite Green (+ leucomalachite green), crystal violet etc										

† 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 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:
- Only Group A6 needs to be tested for for shrimps.
- Of the samples to be tested for Group B, 50% of these have been allocated to Group B1, 20% to Group B2 and 30% to Group B3. It is essential that dyes are tested for.
 # For very small production volumes (e.g. < 500 tonnes) where the spreadsheet would calculate < 1 sample per substance group, a minimum of one sample per compound group has been assigned.

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Annex 2

EXAMPLES OF THE STAGGERING SAMPLING PLAN

Refer to Excel Proposed staggering sampling plan

ANNEX 2a: EXAMPLES OF THE STAGGERING SAMPLING PLAN (SHRIMP)

EXAMPLE OF PROPOSED ARMP SAMPLING (SHRIMP) — ANNEX 2a

NO	STATE	SPECIES	FARM	PKIK SUBANG			MKAK. SG. BULOH		PKIK SUBANG	IPP, BATU MAUNG	JAB.KIMIA	USM	TOTAL	PROPOSED MONTHLY SAMPLING PLAN										
			Total Sample	116			117	47	70					JAN	FEB	MAC	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
				CAP	NF	NIT	ATB	ANT	OC	CE	DYES	MYCOTOXIN	PCB												
1	PERLIS	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
2	KEDAH	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
3	PULAU PINANG	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
4	PERAK	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
5	SELANGOR	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
6	N.SEMBILAN	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
7	MELAKA	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
8	JOHOR	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
9	PAHANG	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
10	TERENGGANU	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
11	KELANTAN	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
12	SARAWAK	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
13	SABAH	Shrimp	To be identified by SFB Unit	3	3	3	9	4	2	2	2	2	2	32											
	TOTAL			39	39	39	117	52	26	26	26	26	26	416											

Note :

Stillbene	Hormon	Stillbene	A1
Steroid	Hormon	Steroid	A3
Chloramphenicol	Antibiotik	CAP	A6
Nitrofuran	Antibiotik	NF	
Nitroimidazoles	Antibiotik	NIT	
Antibacterial	Antibacterial	ANB	B1
Anthelmintics	Anthelmintics	ANT	B2a
Organochlorine	Pestisid	OC	B3a
Chemical Elements	Logam Berat	CE	B3c
Mycotoxin	Mycotoxin	Mycotoxin	B3d
Dyes	Malachite Green	DYES	B3e

ANNEX 2b: EXAMPLES OF THE STAGGERING SAMPLING PLAN (FINFISH)

EXAMPLE OF PROPOSED ARMP SAMPLING (FINFISH) — ANNEX 2b

LABORATORY NAME				PKIK SUBANG			MKAK, SG. BULOH		PKIK SUBANG		IPP	JAB. KIMIA	USM			PROPOSED MONTHLY SAMPLING PLAN											
			Total Sample	21			65	26	39				21	21														
NO	STATE	SPECIES	FARM	CAP	NF	NIT	ATB	ANT	OC	CE	DYES	MYCO	PCB	STILBENE	STEROID	TOTAL	JAN	FEB	MAC	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	PERLIS	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
2	KEDAH	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
3	PULAU PINANG	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
4	PERAK	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
5	SELANGOR	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
6	N.SEMBILAN	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
7	MELAKA	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
8	JOHOR	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
9	PAHANG	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
10	TERENGGANU	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
11	KELANTAN	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
12	SARAWAK	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
13	SABAH	Finfish	To be identified by SFB Unit	1	1	1	5	2	1	1	1	1	1	2	2	19												
TOTAL				13	13	13	65	26	13	13	13	13	13	26	26	247												

Note :

Stillbene	Hormon	Stillbene	A1	
Steroid	Hormon	Steroid	A3	
Chloramphenicol	Antibiotik	CAP	A6	
Nitrofuran	Antibiotik	NF		
Nitroimidazoles	Antibiotik	NIT		
Antibacterial	Antibacterial	ANB	B1	
Anthelmintics	Anthelmintic	ANT	B2a	
Organochlorine	Pestisid	OC	B3a	
Chemical Elemen	Logam Bera	CE	B3c	
Mycotoxin	Mycotoxin	Myco.	B3d	
Dyes	Malachite Gr	DYES	B3e	

Finfish Species :

- Seabass (*lates calcarifer*)
- Tilapia (*Oreochromis* sp.)
- Grouper (*Epinephelus* sp.)
- Snapper (*Lutjanus* sp.)
- Silver Pompano (*Trachinotus* sp.)
- River Catfish (*Pangasius* sp.)

Annex 3

Group of Substances

Group No.	Parameters	Aquaculture (ARMP)	
		Finfish	**Crustacean**
A1	Stilbenes	E	
A3	Sterioids	E	
A6	Chloramphenicol	E	E
A6	Nitrofuran Metabolites	E	E
A6	Nitroimidazoles	HD	HD
B1	Antibacterial Substances	E	E
B2a	Anthelmintics	HD	HD
B3a	Organochlorine Compounds	HD	HD
B3c	Chemical Elements (Lead, Mercury, Cadmium, Arsenic)	HD	HD
B3d	Mycotoxins	HD	HD
B3e	DYES (Malachite Green & Leucomalachite Green)	E	E

Notes : E = Essential – monitoring is mandatory

HD = High Desirable – monitoring is mandatory in EU member country. Ideally third country should also monitor these groups. If they are not monitored, evidence should be provided justifying this decision

Annex 4

SAMPLE CODE

Program / Analysis / State / Year – Sample Number

Program List

1. ARMP - Aquaculture Residue Monitoring Program
2. A - SPS Aquaculture
3. M - SPS Marine
4. SPLAM - Malaysian Aquaculture Farm Certification Scheme
5. SAAB - Aquaculture Good Practices Scheme
6. GF - Gold Fish
7. K - Koi/Carp
8. TF - Tropical Fish
9. JTF - Japanese Trust Fund
10. R - Research
11. HI - High Impact
12. CI - Commercial Industry
13. HM - Hypermarket
14. PT - Proficiency Testing

Analysis List

1. CAP - Chloramphenicol
2. NF - Nitrofurans
3. MG - Malachite Green / Leucomalachite Green
4. Q - Quinolones
5. SP - Sulphonamides
6. TC - Tetracycline
7. HM - Heavy Metal
8. OC - Organochlorine
9. PCB - Polychlorinated biphenyls
10. B - Bacteriology
11. V - Virus
12. HAV - Hepatitis A Virus
13. NV - Noro Virus
14. HT - Histamine
15. FA - Formaldehyde
16. TMA-N - Trimethylamine Nitrogen
17. TVB-N - Total Volatile Basic Nitrogen
18. ATM - Anthelmintics
19. NI - Nitroimidazole
20. STR - Steroids
21. STB - Stilbenes
22. PRS - Parasites
23. PL - Plankton
24. MT - Mycotoxins
25. PSP - Paralytic Shellfish Poisoning
26. DSP - Diarrhetic Shellfish Poisoning
27. ASP - Amnesic Shellfish Poisoning

28. TTX - Tetrodotoxin
29. CTX - Ciguatera Toxin
30. MLM - Melamine
31. DX - Dioxin
32. SPH - Sulphite
33. BZA - Benzoic Acid
34. BRA - Boric Asid
35. MCPD - 3-monochlorapropane-1,2-diol or 3-chloro-1,2-propanediol

State List

1. R - Perlis
2. K - Kedah
3. P - Pulau Pinang
4. A - Perak
5. B - Selangor
6. N - N. Sembilan
7. M - Melaka
8. J - Johor
9. C - Pahang
10. T - Terengganu
11. D - Kelantan
12. Q - Sarawak
13. S - Sabah

Annex 5
ARMP01 Form

SAMPLE DELIVERY AND ACCEPTANCE FORM

Reference No. : ……
Date : ……

State Fisheries Biosecurity Unit
……
……
……

Analyst,
……
……
……

Enclosed herewith *fish / fishery product / water and ice sample(s) *through …… / by registered mail for your analysis at the laboratory. These *(name of State Fisheries Biosecurity Officer)* sample(s) are packed in a *sterile bag / bottle / original packaging and labeled as follows:

No.	Sample Code	Type of Sample	Date of Sampling	Type of Analysis
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Signature : ……
Officer's name : ……
Designation : ……

Admission of Sample(s) Acceptance (*This part will be filled by the laboratory*)

I ……*(officer's name)*…… hereby *accept / reject the sample(s) as mentioned above and *will / will not analyze them as requested.

Reason for samples rejection (if applicable):

……

Signature : ……
Officer's Name : ……
Designation : ……

Annex 6

List of Officials Laboratories for ARMP

No.	Full Address of Agency	Contact person / Tel. / Fax / e-mail	Scope / Analyte
1.	National Public Health Laboratory Ministry of Health Malaysia Lot 1853, Kg. Melayu 47000 Sg. Buloh Selangor, Malaysia	Ms. Tosiah Abdullah / Ms. Zalilah Nasir Tel: 603-61565109 Fax: 603-61402249 E-mail: tosiahabdullah@moh.gov.my zalilah.nasir@ moh.gov.my	Antibacterial Substances Anthelmintics (Albendazole, Thiabendazole, Flubendazole) Nitrofuran Chloramphenicol Nitroimidazoles Dyes (Malachite Green/Cristal Violet)
2.	Public Health Laboratory Ipoh Ministry of Health Malaysia Lot 39052 Jalan Jelapang 30020 Ipoh Perak, Malaysia	Ms. Kalai Vaani Vengrasalam Tel: 05-5287829 Fax: 05-5287836 E-mail: kalai@moh.gov.my	Antibacterial Substances (excluding Florfenicol) Anthelmintics (Thiabendazole) Chloramphenicol Dyes (Malachite Green/Cristal Violet)
3.	Public Health Laboratory Kota Kinabalu Ministry of Health Malaysia Bukit Padang, Jalan Kolam 88850 Kota Kinabalu Sabah, Malaysia	Ms. Afiedah Munir Tel: 088-250710 / 243230 Fax: 088-243210 / 243211 E-mail: afiedah@sbh.moh.gov.my	Antibacterial Substances (excluding Florfenicol) Anthelmintics (Thiabendazole) Chloramphenicol Dyes (Malachite Green/Cristal Violet) Nitrofuran
4.	Public Health Laboratory Johor Bahru Ministry of Health Malaysia Jalan Persiaran Tanjung Tampoi, 81200 Johor Bahru Johor, Malaysia	Ms. Susie Lu Ling Tel: 07-2387162 Fax: 07-2387215 E-mail: susielling@.moh.gov.my	Antibacterial Substances (excluding Florfenicol) Anthelmintics (Thiabendazole) Chloramphenicol Nitrofuran
5.	Food Safety and Quality Laboratory Kedah Kedah State Health Department 06050 Bukit Kayu Hitam Kedah	Ms. Suriani Muhammad Tel: 04-3324924 Fax: 043334097 E-mail: kamarudzaman@kdh.moh.gov.my	Antibacterial Substances (excluding Florfenicol) Anthelmintics (Thiabendazole) Nitrofuran Chloramphenicol Dyes (Malachite Green/Cristal Violet)

No.	Full Address of Agency	Contact person / Tel. / Fax / e-mail	Scope / Analyte
6.	Food Safety and Quality Laboratory Sarawak Sarawak State Health Department Jalan Tun Abang Haji Openg 93590 Kuching Sarawak, Malaysia	Mr. Eraou Batang Tel: 082-242675 Fax: 082-258849 E-mail: eraou@srwk.moh.gov.my	Antibacterial Substances (excluding Tetracycline and Florfenicol) Anthelmintics (Thiabendazole) Nitrofuran Chloramphenicol Dyes (Malachite Green/Cristal Violet)
7.	Doping Control Centre, Universiti Sains Malaysia 10800 Minden Penang, Malaysia	Prof. Aishah A. Latiff Tel : 04-6595605 Fax : 04-6569869 E-mail : aishah@dccusm.com	Stilbenes Steroids Dioxin Polycyclic Aromatic Hydrocarbon (PAH) Polychlorinated Biphenyls (PCBs) Anthelmintics (Avermectin) Nitrofuran Chloramphenicol
9.	Department of Chemistry Malaysia Jalan Sultan 46661 Petaling Jaya Selangor, Malaysia	Ms. Zaiton Ariffin Tel : 03-79853000 Fax : 03-79556764 E-mail: zaiton@kimia.gov.my	Metal Contaminants (Pb, Cd, Hg) Organochlorine Compounds Mycotoxin (in feed) Antibiotics (Penicillin) Chloramphenicol Dyes (Malachite Green)

Annex 7

COMPILATION OF ANALYTICAL RESULTS OF SAMPLES TAKEN UNDER ARMP YEAR _____

STATE	TYPE OF SAMPLE	SPECIES	ADDRESS OF SAMPLE TAKEN	SAMPLE REFERENCE NO.	NO. OF SAMPLE	SAMPLING DATE	DATE SAMPLE RECEIVED AT LAB	LABORATORY	DATE OF COA (RESULT)	LAB NO.	PARAMETER OF ANALYSIS	RESULT OF ANALYSIS	LOD/LOQ	EU DECISION LIMIT	CONTRAVENE	REMARK	TAT (DAYS)	TAT C/ NC