MINISTRY OF AGRICULTURE AND RURAL EVELOPMENT DIRECTORATE OF FISHERIES

VietGAP

THE NATIONAL STANDARD FOR GOOD AQUACULTURE PRACTICE AND GUIDELINES FOR THE APPLICATION OF VIETGAP FOR PANGASIUS, TIGER SHRIMP AND WHITE LEG SHRIMP FARMING IN VIETNAM

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MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

No. 1503/QĐ-BNN-TCTS

Hanoi, *July* 5th, 2011

DECISION Issue the National Standard on Good Aquaculture Practices in Vietnam (VietGAP)

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

Pursuant to the Law on Food Safety No. 55/2010/QH12 approved by the 7th National Assembly of the Socialist Republic of Vietnam, held on 17th June, 2010;

Pursuant to Decree No. 01/2008/ND-CP dated 3rd May, 2008 of the Government to define the functions, responsibilities, powers and organizational structure of the Ministry of Agriculture and Rural Development;

Pursuant to Decree No. 75/2009/ND-CP dated 10th September, 2009 of the Government to amend Article 3 of Decree No. 01/2008/ND-CP dated 3rd May, 2008 of the Government to define the functions, responsibilities, powers and organizational structure of the Ministry of Agriculture and Rural Development;

At the proposal of the Director General of the Directorate of Fisheries,

DECIDES:

- **Article 1.** Issue together with this Decision the National Standard on Good Aquaculture Practices in Vietnam (VietGAP) and the Checklist for evaluation.
 - Article 2. This Decision shall take effect after its signing.
- **Article 3.** Cabinet of the Ministry, Director General of the Directorate of Fisheries, Heads of the Organizations under the Ministry, Director of Agriculture and Rural Development Department in the provinces and concerned organizations and individuals shall implement this Decision.

To:

- As Article 3:
- Government Cabinet;
- The Minister, Deputy Minister of MARD;
- The Ministries of: Health, Science and

Technology, Trade and Industry;

- MARD Website;
- Cabinet of MARD;
- Archives. D-Fish.

FOR THE MINISTER DEPUTY MINISTER

Vu Van Tam

VietGAP

(Issued together with Decision No. 1503 / QD-BNN-TCTS 5th July, 2011 of the Minister of Agriculture and Rural Development)

Chapter I. GENERAL PROVISIONS

1. Scope and application subjects

- **1.1. Scope:** This standard is applicable for good aquaculture practice, to systematically control the risks in order to ensure food safety, minimize environmental impacts, ensure good aquatic animal health and take responsibility for social welfare and worker safety.
- **1.2. Subjects:** This standard is applicable to organizations and individuals, both inside and outside the country, who are participating in the production process, trade, inspection and certification of aquaculture practices in Vietnam.

2. Definitions

- **2.1. 'Good aquaculture practice in Vietnam (VietGAP)'** is a standard applied to aquaculture to ensure the requirements for safe and hygienic products, reduce disease, reduce pollution of the ecological environment, and ensure the implementation of social responsibilities and the traceability of products.
- **2.2. 'Bio-security in aquaculture'** is the technical methods to prevent and limit the spread of biological agents that occur, either naturally or artificially, in aquaculture activities that can cause harm to humans, animals and ecosystems.
- **2.3. 'Farm'** is any place where aquaculture activity is being carried out which is owned by an organization or individual.
- **2.4. 'VietGAP Certification'** is the activity to assess and certify the production process of producers wishing to comply with VietGAP standards.
- **2.5.** A 'VietGAP certification body' is any capable organization, meeting the conditions as prescribed by the Ministry of Agriculture and Rural Development, intending to carry out inspection and certification of good aquaculture practice in Vietnam.

Chapter II. VietGAP standards, control points and compliance criteria

1 General requirements

Standard	Control Points	Compliance Criteria
1.1	Legislation	
1.1.1	Farms must be operated in accordance with applicable legislation.	lownership and lise or confract of land lise i
1.1.2	Farms have to register as such with the relevant competent authority as required by national legislation.	
1.1.3	The geographical location of any farm must be identified.	Geographical coordinates must identify all sites where the actual aquatic operation takes place. The coordinates should refer to the center of the production site (smaller sites; <1 ha) or the corners of the contours of larger production sites (> 1 ha). The coordinates (degrees and minutes latitude and longitude) must be accurate to within two decimals in the geographical minutes (e.g. 15° 22,65' N; 22° 43,78' E) using the VN2000 coordinates system. The geographical data shall be stored in the VietGAP database as soon as this service is available.
1.1.4.		Farms are located in approved aquaculture development zones (cross-reference with VN2000 coordinates).

Standard	Control Points	Compliance Criteria
1.2.	Records	
1.2.1.	Farms must establish a reference system for each pond, field and/or other farming unit used in production and reference these on a farm plan or map.	Visual identification in the form of a physical sign at each pond, field or other farm area/location is available. The farm plan or map shall be cross- referenced to the identification system.
1.2.2.	area/location to provide a record of the aquaculture	Purchase records including contracts, invoices and records of receipt inspectionsStock records of raw materials and
1.2.3.		
1.3.	Traceability	
1.3.1.	In case farmers only register for part of a farm/ products, an effective system must be in place to identify and segregate all VietGAP certified and noncertified products.	All farms and/or products belonging to the famers must be declared and a sub number for VietGAP certification must be requested. A system must be established to avoid mixing certified and non-certified products. This can be done via physical identification or product handling procedures, including the relevant records.
1.3.2.		Traceability records are available on site, including records of all movements of fish at all stages in the life cycle. Data records include where applicable: species, numbers, biomass, production unit ID.

2 Food safety and quality

Principle

Aquaculture must be conducted in a manner that ensures food safety and quality by implementing appropriate national standards and regulations following the FAO/WHO Codex Alimentarius.

Standard	Control Points	Compliance Criteria
2.1	Medicines, chemicals and probio	tics
2.1.1	All product inventory must be documented, regularly updated and readily available for all medicines, chemicals and probiotics in store.	All medicines, chemicals and probiotics in store are documented and inspected monthly. This inventory is regularly updated and recorded for all movements (use, maintain and supply).
2.1.2	medicines, chemicals, probiotics and treatments approved by the relevant competent authority for use in aquaculture and for the named species. A list of all	Only medicines, chemicals, probiotics and treatments approved by the relevant competent authority for use in aquaculture and for the named species must be used. A list of all medicines, chemicals and probiotics that may be used at the farm is available as part of the AAHP (Standard 3.1.1).
2.1.3	probiotics must be stored in accordance with the label	Medicines, chemicals and probiotics are stored in a secure lockable store and under conditions in accordance with the label instructions. Medicines, chemicals and probiotics are physically separated, where necessary, to avoid the risk of cross contamination, secure, well ventilated, and located away from other materials.
2.1.4	_	All expired medicines, chemicals and probiotics are discarded in an appropriate manner and recorded.
2.2	Hygiene	
2.2.1	Farms must have a written risk assessment for hygiene.	The written risk assessment for hygiene issues covers the production environment. The risks depend on the

Standard	Control Points	Compliance Criteria
		products produced and/or supplied. The risk assessment must be reviewed annually and updated when changes occur.
2.2.2	Farms must have hygiene instruction documents.	The hygiene instructions are visibly displayed with pictures and/or in the predominant language(s) of the workforce. As a minimum, the instructions must include: - the need for hand cleaning; - the covering of skin cuts; - limitations on smoking, eating and drinking to designated areas; - notification of any relevant infections
		or conditions, this includes signs of illness (e.g. vomiting, jaundice, diarrhea) whereby these workers shall be restricted from direct contact with the product and food-contact surfaces; - the use of suitable protective clothing.
2.3	Waste	F
2.3.1	All possible waste products and sources of pollution must be identified.	lexhalist smoke, oil, filel, noise, efflient,
2.3.2	be in place for collection and	Waste and other disposal items to be gathered and distributed to a dedicated location. The records of disposal through the correct legal routes are in place.
2.3.3	All litter/waste in farms must be cleared up.	No evidence of waste/litter in the immediate vicinity of the production area or storage buildings.

Standard	Control Points	Compliance Criteria
		Plastic or paper waste must not be burnt or left in the environment. All other litter and waste has been
		cleared up, including fuel spills.
2.3.4	Farms must have enough toilets and all human waste from toilets must be collected and disposed of through sanitary sewage disposal systems without contamination of the operation area and must not be released directly into open water systems as untreated raw sewage.	waste from toilets is collected and disposed of through sanitary sewage disposal systems without contamination to the inlet system and production areas.
2.4	Harvest & post-harvest	
2.4.1	Harvesting and transportation must be undertaken in a way that does not compromise food safety, in cases where it is the responsibility of the farmer.	Documented harvest and transport
2.4.2	A disinfection procedure and /or appropriate fallowing period must be in place between harvests and re-stocking must be applied.	disinfection and/or appropriate fallowing

3 Animal health and welfare

Principle

Aquaculture must be conducted in a manner that ensures the health and welfare of the farmed animals, by optimizing health, minimizing stress, reducing shrimp disease risks and maintaining a healthy culture environment at all phases of the production cycle.

Standard	Control Points	Compliance Criteria
3.1	Aquatic animal health plan	
3.1.1	An Aquatic Animal Health Pla	n An Aquatic Animal Health Plan (AAHP)

Standard	Control Points	Compliance Criteria
		is in place at farm level. An aquatic animal health specialist must sign off the AAHP. The plan must include: Name and location of farm; List of previously identified diseases; Planned preventive methods and treatments (including chemicals, veterinary medicines, biological products and withdrawal periods) to be administered for previously identified diseases; Pond preparation protocols;
		Vaccination protocols (when applicable); Bio-security procedures;
		Screening program in place for relevant pathogens; Water management protocols for disease prevention; Records of routine assigned aquatic animal health specialist visits are in place; Frequency and methods of removal of sick and disposal of dead animals; Other prevention plans (where applicable); Procedures for transportation of seed and of harvested fish; Mechanism for responding to disease outbreaks, including reporting disease outbreaks to the aquatic animal health specialist and to others as appropriate; Protocols for preventing disease spread (e.g. through water discharge and fish).
3.1.2	current overview of fish treatments	All fish treatments are applied and recorded in conformance with applicable national regulations (if available) and those listed in the AAHP.
3.2	Seed & feed	1
3.2.1	-	Records and certificates of seedlings are available for inspection. Suppliers are registered/certified in accordance with legislation.

Standard	Control Points	Compliance Criteria
3.2.2	the farm must be certified with the	Fish or seedlings introduced to the farm are certified according to legislative requirements on known diseases. Seedlings must be qualified according to TCVN (size, age). Records are available on site.
3.2.3	The amount of feed given must be in accordance with the needs and appetite of the fish stock in the production unit.	Doily feeding records must be available
3.2.4	Compound feed used must be obtained from a recognized source and have an operational license from a competent organization.	ia COHIDCICHI DI PAHIZALIOH.
3.2.5	Farms must have a list of all antibiotics, pigments, antioxidants, immune stimulants, probiotics and other additives utilized in feed.	Detailed records are in place for all additives utilized in feed such as pigments, antioxidants, immune stimulants, probiotics, etc., if applied. Feed used on farms has to be obtained from an approved source.
3.2.6	All feeds, including all medicated feeds, must be stored and handled in accordance with good practice and manufacturer instructions.	iis stored and lised in accordance Withi

Standard	Control Points	Compliance Criteria
3.3	Treatment	
3.3.1	antibiotic agents must not be used for the purposes of a growth promoting effect and prophylactic	Hormones and antibacterial agents shall not be used to promote growth and for prophylactics. Antibacterial agents are only applied where an infectious disease problem is diagnosed by an aquatic animal health specialist. A list of antibiotics used is in place.
3.3.2	Farms must maintain up to date legal medicine purchase and administration records, including medicated feed.	Identity of fish/group treated: Quantity
3.4	Monitoring of mortality	
3.4.1	Fish stocks numbers, density, average weight and total biomass must be monitored on a regular basis on a production unit level.	Fish stock numbers, average weight and total biomass must be monitored on a regular basis on a production unit level. Records of monitoring and documentation are available.
3.4.2	Daily records showing regular monitoring of fish for signs of stress or disease must be kept.	All signs of stress or disease of fish are monitored and recorded daily. Documentation is available.
3.4.3	Mortality inspection and removal from the production units must be done daily and recorded.	Dead fish are removed from the production units daily. In special situations (e.g. bad weather, low/no mortality) weekly inspections/removals can be acceptable. The number of dead

Standard	Control Points	Compliance Criteria
		fish and reason are documented. Mortality records must be available for inspection. Workers must show awareness of fish health status/ mortality causes at interview.
3.4.4	Farms have to inform the relevant competent authority of any disease according to the national regulations.	
3.4.5	dead fish removal, storage and	Dead fish must be removed, intermediately stored and disposed of as required by national legislation to ensure that environmental aspects and the risk of pathogen and disease spread to owned stock and wild fish species are not compromised. Records of this process are available.

4 Environmental integrity

Principle

Aquaculture must be planned and practiced in an environmentally responsible manner in accordance with applicable national and international rules and regulations. Ensuring environmental integrity requires that environmental impacts of planning, development and operation are addressed.

Standard	Control Points	Compliance Criteria
4.1	Environmental impact manager	nent
4.1.1	Farms must have an Environmental Impact Assessment (EIA) with community participation and results disseminated to the public.	An EIA report is available and covers all farm operations. The EIA process and document comply with guidelines in government regulations and VietGAP requirements.
4.1.2	Farms built after May 1999 must NOT be sited in mangrove ecosystems or other natural wetlands of ecological importance as determined by the EIA.	Farms have a statement from the local authority indicating land use from May 1999 to the establishment of the farm or historical land use maps/statements. Farms can provide a statement

Standard	Control Points	Compliance Criteria
		indicating the time (month and year) of construction of ponds.
4.1.3	The farm site or related facilities must not be established within a designated national Protected Area (PA). If within a PA IUCN category V or VI, consent from the PA management authority is required.	There is evidence that the farm site or related facilities are not within a national or international Protected Area with IUCN categories Ia through to VI and areas defined under international conventions and agreements. Evidence to include: Geographic Location provided at registration. If within a PA category V or VI, an auditor shall contact the PA authorities to establish if the farm complies with the PA management objectives. Information made public.
4.2	Use and discharge of water	
4.2.1	The infrastructure of the facility must ensure no contamination of intake water.	Intake and discharge must be controlled and independent from each other in order to avoid unwanted contamination of intake water.
4.2.2	Water abstraction and discharge must meet the requirements set by the competent authority.	The records of water intake of each year are available. Parameters of discharged water to the environment comply with national legislation.
4.2.3	Fresh groundwater or potable water must not be used to lower salt concentrations.	Fresh groundwater or potable water should not be used to lower the salt concentration of pond water (for brackish water culture) in accordance with national regulations.
4.2.4	Farms must have a routine water quality monitoring program based on a risk assessment taking into account aquatic animal health and welfare.	The farm has a risk based monitoring and control system for water quality in place to ensure fish health and welfare. The risk assessment must include relevant water quality parameters and sampling points (including farm or production unit level), such as temperature, salinity, turbidity, dissolved oxygen, pH, alkalinity, ammonia, H ₂ S. Records for each site

Standard	Control Points	Compliance Criteria			
		are in place. Frequency is established by the risk assessment.			
4.2.5	Farms must not discharge saline water into natural freshwater bodies.	The farm is designed and managed to ensure that saline water cannot be discharged into freshwater bodies. There is no evidence of saline water discharge (or seepage) from the farm into natural freshwater bodies.			
4.2.6	The relevant authorities and local communities must be informed when salinization of groundwater takes place.	The relevant authorities and local communities have been informed when salinization takes place (for brackish water and salt water cultures).			
4.2.7	The dredged sediment from farms must be collected and stored in an appropriate manner.	Dredged sediment, from canals, watercourses and ponds, to maintain their depth, is properly contained and located to prevent the salinization of soil and groundwater and not cause other ecological nuisances, such as placing it in mangrove or in other sensitive areas. Disposal of solid waste (sludge) is carried out in accordance with legislation. When no legislation is in place, the solids are gathered and disposed of in a separate and controlled area subject to the EIA.			
4.3	Predator control				
4.3.1	No lethal predator control method must be used.	Predator devices do not include any lethal predator control method. These standards include all types of predators during the production period, but only during the period of preparation of the holding units (e.g. ponds, cages and pens).			
4.3.2	Farming activities must not cause mortality of any species in the Vietnam red book (list of rare or endangered species).	Secondary impingement protection in place when Vietnam red boo			

5 Socio-economic aspects

Principle

Aquaculture must be conducted in a socially responsible manner, within national rules and regulations and relevant International Labor Organization (ILO) conventions on labor rights, not jeopardizing the livelihood of farmers and local communities. Aquaculture contributes to rural development and can enhance benefits and equity in local communities and alleviate poverty to promote food security. As a result socioeconomic issues must be considered at all stages of aquaculture planning, development and operation.

Standard	Control Points	Compliance Criteria
5.1	General working conditions	3
5.1.1	Workers must be above 15 years old.	Contracts are only with workers more than 15 years old. The list of all employees and copies of all workers' IDs shows compliance.
5.1.2	If workers are under 18 years old, the following conditions must be applied: 1 - Work does not jeopardize schooling 2 - Work, when added to the hours of schooling, does not exceed 8 hours/ day 3 - Work is restricted to light work 4 - Work is restricted to non hazardous work.	Light work is works that does not affect
5.1.3	terminate their employment and receive full payment until the last day of their employment, based on	Labor contracts are available and clearly stated and understood by employees. Employees are free to leave the workplace and manage their own time based on the contract. Employer does not withhold employee's original identity papers. Employer shall not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for the employer. Employees are not obligated to stay in the job to repay debt.

Standard	Control Points	Compliance Criteria
5.1.4	their right to collective bargaining), without interference from the employer and	Workers have the freedom to form and join any trade union, free of any form of interference from employers or competing organizations set up or backed by the employer according to the Law of Labor.
5.1.5	Workers do not suffer any discrimination from the employer or other workers.	Written anti-discrimination regulation is in place, stating that the company does not engage/support in discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age or any other condition that may give rise to discrimination.
5.1.6	Employers have to treat all workers with dignity and respect.	Employees are consistently treated with dignity and respect (e.g. no physical abuse). There are no deductions in pay for disciplinary actions.
5.1.7	2 - They do not exceed maximum hours as mentioned in the Law of Labor 3 - They occur on an xceptional	Employees' confirm that overtime is voluntary. Time sheets confirm the maximum number of overtime hours per week and that overtime occurs on an exceptional, rather than regular, basis. Contracts state remuneration for overtime and confirm compliance.
5.1.8	designated rest areas, hand	Hand washing facilities, potable drinking water, a place to store food and a place to eat must be provided for workers.

Standard	Control Points	Compliance Criteria
5.2	Health & safety	
5.2.1	The producer must have a written risk assessment for hazards to worker health and safety and procedures to solve such risks.	
5.2.2	The employer must provide a non-hazardous working and living environment.	Employees are adequately protected against hazards, such as potable/safe drinking water is available, sanitary conditions for disposal of human waste are in place. Employee housing is constructed of materials to sustain local conditions.
5.2.3	All workers have to receive health and safety training.	Workers undertake health and safety training. Training records, and/or training materials are available.
5.2.4	must be recorded including	Records of all accidents and corrective action taken are available. Evidence that corrective actions, such as invoices of medicines, are still in place.
5.3	Contracts and wages	
5.3.1	All workers in the farm must have their labor contract and understand the articles and conditions of the contract.	Workers in the farm have labor contracts. The only exception is where workers are family members.
5.3.2	The maximum length of probation period as stated in the contract for workers must comply with national regulations.	The labor contract and interview with employees confirms compliance.
5.3.3		The farm must comply with regulations regarding the present minimum wage for the

Standard	Control Points	Compliance Criteria			
	defined by the present national regulations.	location where the farm is located. Labor contracts of all employees, salary payment receipts and interviews with the workers confirm compliance.			
5.3.4		List of employees and timesheets confirm compliance.			
5.3.6	Wages must be paid in cash or in a manner most convenient to workers.	Tinterviews with employees confir			
5.4	Communication				
5.4.1	The employer must ensure that all workers have appropriate channels to communicate anonymously with employers on matters relating to labor rights and working conditions.	compliance.			
5.4.2		Register is available recording issues raised by workers (including complaint forms), date and response taken. Interviews with employees confirm compliance			
5.5	Community issues				
5.5.1	A verifiable conflict resolution policy for local communities must be developed and applied.	Liefters from the local community confirmi			

CHECKLIST FOR VIETGAP EVALUATION

(Issued together with Decision No. **1503** / QD-BNN-TCTS
July 5th, 2011 of the Minister of Agriculture and Rural Development)

1. General requirements

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
1.1	Legislation		<u> </u>		
1.1.1	operated in accordance	All legal documents to prove the compliance with national regulations and VietGAP are available including: land ownership and use or contract of land use, reports on evaluation/commitment of environmental impacts, labor, environment, veterinary aspects, bio-security, health & safety at work.			
1.1.2	Is the farm registered as such with the relevant competent authority as required by national legislation?	Farm registered and registration documents are available			
1.1.3	Is the geographical location of the farm identified?	Geographical coordinates must identify all sites where the actual aquatic operation takes place. The coordinates should refer to the center of the production site (smaller sites; <1 ha) or the corners of the contours of larger production sites (> 1 ha). The coordinates (degrees and minutes latitude and longitude) must be accurate to within two decimals in the geographical minutes (e.g. 15° 22,65' N; 22° 43,78' E) using the VN2000 coordinates system.			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		The geographical data shall be stored in the VietGAP database as soon as this service is available.			
1.1.4	Is the farm located in an approved aquaculture development zone?	Farms are located in approved aquaculture development zones (cross-reference with VN2000 coordinates).			
1.2	Records				
1.2.1	Has the farm established a reference system for each pond, field and/or other farming unit used in production? Are these referenced on a farm plan or map?	of a physical sign at each pond, field or other farm area/location is available. The farm plan or map shall be cross- referenced to the identification system.			
1.2.2	each unit of production or other	and finished products, including, where appropriate, annual stocktaking results - Production records - Sales orders received and			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
1.2.3	documented system that	work instructions are available on site demonstrating compliance with food safety and legality and the requirements of this standard.			
1.3	Traceability				
1.3.1	Where a famer only registers for part of a farm/ products, is an effective system in place to identify and segregate all VietGAP certified and non-certified products?	belonging to the famers must be declared and a sub number for VietGAP certification must be requested. A system must be established to avoid mixing certified and non-certified products. This can be			
1.3.2	Are all fish movements within, to and from the farm recorded and traceable?	Traceability records are available on site, including records of all movements of fish at all stages in the life cycle. Data records include where applicable: species, numbers, biomass, production unit ID.			

2. Food safety and quality

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
2.1	Medicines, chemicals	and probiotics			
2.1.1	chemicals and probiotics in store	All medicines, chemicals and probiotics in store are documented and inspected monthly. This inventory is			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	updated and readily available?	regularly updated and recorded for all movements (use, maintain and supply).			
2.1.2	medicines, chemicals, probiotics and treatments approved by the relevant competent authority for use in aquaculture and for the named	the relevant competent authority for use in aquaculture and for the named species must be used. A list of all medicines, chemicals and probiotics that may be			
2.1.3	chemicals and probiotics stored in	Medicines, chemicals and probiotics are stored in a secure lockable store and under conditions in accordance with the label instructions. Medicines, chemicals and probiotics are physically separated, where necessary, to avoid the risk of cross contamination, secure, well ventilated, and located away from other materials.			
2.1.4	chemicals and probiotics that have expired being	All expired medicines, chemicals and probiotics are discarded in an appropriate manner and recorded.			
2.2	Hygiene				
2.2.1	Does the farm have a written risk	The written risk assessment for hygiene			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	assessment for hygiene?	issues covers the production environment. The risks depend on the products produced and/or supplied. The risk assessment must be reviewed annually and updated when changes occur.			
2.2.2	Does the farm have hygiene instruction documents?	The hygiene instructions are visibly displayed with pictures and/or in the predominant language(s) of the workforce. As a minimum, the instructions must include: - the need for hand cleaning; - the covering of skin cuts; - limitations on smoking, eating and drinking to designated areas; - notification of any relevant infections or conditions, this includes signs of illness (e.g. vomiting, jaundice, diarrhea) whereby these workers shall be restricted from direct contact with the product and food-contact surfaces; - the use of suitable protective clothing.			
2.3	Waste				
2.3.1	products and sources	Possible waste products (e.g. paper, cardboard, plastic, oil, etc.) and sources of pollution (e.g.			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		fertilizer excess, exhaust smoke, oil, fuel, noise, effluent, chemicals, sheep-dip, feed waste, algae produced during net cleaning, etc.) produced by the farm processes have been listed.			
2.3.2	Is a waste management system in place for collection and classification according to legislation?	distributed to a dedicated location.			
2.3.3	Is all litter/waste in the farm being cleared up?	No evidence of waste/litter in the immediate vicinity of the production area or storage buildings.			
2.3.4	enough toilets? Is all human waste from toilets being collected and disposed of through sanitary sewage disposal systems withoutcontamination of the operation area	There are enough toilets for workers and waste from toilets is collected and disposed of through sanitary sewage disposal systems without contamination to the inlet system and production areas. Records of waste disposal and collection facilities for waste are in place.			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
2.4	Harvest & post-harve	st			
2.4.1	farmer, is harvesting and transportation being undertaken in a	Documented harvest and			
2.4.2	appropriate fallowing period in place	Documented procedures and records of disinfection and/or appropriate fallowing			

3. Animal health and welfare

Standards	Control points	Compliance Criteria	Yes	No	Adjustments				
3.1	Aquatic animal hea	Aquatic animal health plan							
3.1.1	Is an Aquatic Animal Health Plan available and has it been signed off by an aquatic animal health specialist?	include: Name and location of farm; List of							

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		periods) to be administered for previously identified diseases; Pond preparation protocols; Vaccination protocols (when applicable); Biosecurity procedures; Screening program in place for relevant pathogens; Water management protocols for disease prevention; Records of routine assigned aquatic animal health specialist visits are in place; Frequency and methods of removal of sick and disposal of dead animals; Other prevention plans (where applicable); Procedures for transportation of seed and of harvested fish; Mechanism for responding to disease outbreaks, including reporting disease outbreaks to the aquatic animal health specialist and to others as appropriate; Protocols for preventing disease spread (e.g. through water discharge and fish).			
3.1.2	Is the producer able to provide a complete history and current overview of fish treatments and application methods and evidence that these	All fish treatments are applied and recorded in conformance with applicable national regulations (if available) and those listed in the AAHP.			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	have been carried out according to national regulations and the AAHP?				
3.2	Seed & feed				
3.2.1	Are seedlings purchased from a certified supplier hatchery?	Records and certificates of seedlings are available for inspection. Suppliers are registered/certified in accordance with legislation.			
3.2.2	Are all fish or seedlings introduced to the farm certified with the national quality standard (TCVN) and free from known diseases?	Fish or seedlings introduced to the farm are certified according to legislative requirements on known diseases. Seedlings must be qualified according to TCVN (size, age). Records are available on site.			
3.2.3	Is the amount of feed given in accordance with the needs and appetite of the fish stock in the production unit?	The farm has a system in place to ensure that the amount of feed given is in accordance with the needs and appetite of the fish stock in the production unit. Daily feeding records must be available with an application of appropriate protocol or a protocol issued by a recognized institution approved by a competent organization.			
3.2.4	Is the compound feed used obtained from a recognized source with an operational license from a competent organization?	The Compound Feed Manufacturing (CFM) must be purchased from manufacturers/ sellers on the approved list that have an operational license from a competent			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		organization. Feed produced by farmers comply with Vietnamese standards and the ingredients must come from an approved source and be recorded.			
3.2.5	Does the farm have a list of all antibiotics, pigments, antioxidants, immune stimulants, probiotics and other additives utilized in feed?	Detailed records are in place for all additives utilized in feed such as pigments, antioxidants, immune stimulants, probiotics, etc., if applied. Feed used on farms has to be obtained from an approved source.			
3.2.6	Are all feeds, including all medicated feeds, stored and handled in accordance with good practice and manufacturer instructions?	Users undertake proper training and follow instructions for storing (with relevant conditions) and handling. Feed is stored and used in accordance with manufacturer instructions (storage and maintenance conditions, usage and expired time).			
3.3	Treatment				
3.3.1	Are natural or synthetic hormones or antibiotic agents used for the purposes of growth promotion or prophylactics at any time in the production process?	Hormones and antibacterial agents shall not be used to promote growth and for prophylactics. Antibacterial agents are only applied where an infectious disease problem is diagnosed by an aquatic animal health specialist. A list of antibiotics used is in place.			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
3.3.2	Does the farm maintain up to date legal medicine purchase and administration records, including medicated feed?	Records of products stored/used in accordance with standard requirements are in place. Records include: (Stored) Date of purchase; Name of product; Quantity purchased; Batch number; Expiry date; Name of supplier. (Used) Batch number; Date administered; Identity of fish/group treated; Quantity or biomass of fish treated; Dosage and total quantity of medicine used; Date treatment finished; Date withdrawal period completed; Earliest date the fish are available for consumption; Name of the person(s) who administered the medicine by date.			
3.4	Monitoring of mor	tality			
3.4.1	Are fish stocks numbers, density, average weight and total biomass monitored on a regular basis on a production unit level?	Fish stock numbers, average weight and total biomass must be monitored on a regular basis on a production unit level. Records of monitoring and documentation are available.			
3.4.2	Are daily records available showing regular monitoring of fish for signs of stress or disease?	All signs of stress or disease of fish are monitored and recorded daily. Documentation is available.			
3.4.3	Are records available showing	Dead fish are removed from the production units			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	that mortality inspection and removal from the production units are done daily?	daily. In special situations (e.g. bad weather, low/no mortality) weekly inspections/removals can be acceptable. The number of dead fish and reason are documented. Mortality records must be available for inspection. Workers must show awareness of fish health status/ mortality causes at interview.			
3.4.4	Does the farm inform the relevant competent authority of any disease, according to national regulations?	Farms inform the relevant competent authority wherever required to do so according to MARD regulations.			
3.4.5	Does the farm have a system for dead fish removal, storage and disposal, according to national legislation?	Dead fish must be removed, intermediately stored and disposed of as required by national legislation to ensure that environmental aspects and the risk of pathogen and disease spread to owned stock and wild fish species are not compromised. Records of this process are available.			

4. Environmental integrity

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
4.1	Environmental im	pact management			
4.1.1	Does the farm have an Environmental Impact	An EIA report is available and covers all farm operations. The EIA process and document			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	Assessment (EIA) with community participation and results disseminated to the public?	comply with guidelines in government regulations and VietGAP requirements.			
4.1.2	If the farm is built after May 1999, is it sited in a mangrove ecosystem or other natural wetland of ecological importance, as determined by the EIA?	from the local authority indicating land use from May 1999 to the establishment of the farm or historical land use maps/statements. Farms can provide a statement indicating the			
4.1.3	Is the farm site or related facilities established within a designated national Protected Area (PA)? If established within a PA IUCN category V or VI, has the PA management authority granted consent?	There is evidence that the farm site or related facilities are not within a national or international Protected Area with IUCN categories Ia through to VI and areas defined under international conventions and agreements. Evidence to include: Geographic Location provided at registration. If within a PA category V or VI, an auditor shall contact the PA authorities to establish if the farm complies with the PA management objectives. Information made public.			
4.2	Use and discharge	_			
4.2.1	Does the infrastructure of the facility ensure no contamination	must be controlled and independent from each			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	of intake water?	unwanted contamination of intake water.			
4.2.2	Does water abstraction and discharge meet the requirements set by the competent authority?	The records of water intake of each year are available. Parameters of discharged water to the environment comply with national legislation.			
4.2.3	Has fresh groundwater or potable water been used to lower salt concentrations?	Fresh groundwater or potable water should not be used to lower the salt concentration of pond water (for brackish water culture) in accordance with national regulations.			
4.2.4	Does the farm have a routine water quality monitoring program, based on a risk assessment, taking into account fish health and welfare?	The farm has a risk based monitoring and control system for water quality in place to ensure fish health and welfare. The risk assessment must include relevant water quality parameters and sampling points (including farm or production unit level), such as temperature, salinity, turbidity, dissolved oxygen, pH, alkalinity, ammonia, H ₂ S. Records for each site are in place. Frequency is established by the risk assessment.			
4.2.5	Does the farm discharge saline water into natural freshwater bodies?	The farm is designed and managed to ensure that saline water cannot be discharged into freshwater bodies. There is no evidence of saline water discharge (or			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		seepage) from the farm into natural freshwater bodies.			
4.2.6	In cases where salinization of ground water has taken place, were the relevant authorities and local communities informed?	The relevant authorities and local communities have been informed when salinization takes place (for brackish water and salt water cultures).			
4.2.7	Is dredged sediment from the farm collected and stored in an appropriate manner?	Dredged sediment, from canals, watercourses and ponds, to maintain their depth, is properly contained and located to prevent the salinization of soil and groundwater and not cause other ecological nuisances, such as placing it in mangrove or in other sensitive areas. Disposal of solid waste (sludge) is carried out in accordance with legislation. When no legislation is in place, the solids are gathered and disposed of in a separate and controlled area subject to the EIA.			
4.3	Predator control				
4.3.1	Is any lethal predator control method used?	Predator devices do not include any lethal predator control method. These standards include all types of predators during the production period, but only during the period of preparation of the holding units (e.g. ponds, cages and pens).			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
4.3.2	Do farming activities cause the mortality of any species in the Vietnam red book (list of rare or endangered species)?	Secondary impingement protection is in place when Vietnam red book species are known to be in region.			

5. Socio-economic aspects

Standards	Control points	Compliance Criteria	Yes	No	Adjustments		
5.1	Working conditions						
5.1.1	Are all workers in the farm above 15 years old?	Contracts are only with workers more than 15 years old. The list of all employees and copies of all workers' IDs shows compliance.					
5.1.2	under 18 years old,	Farms have job descriptions for each worker below 18 years old. Light work is works that does not affect health or the ability to learn.					
5.1.3	employment and	Labor contracts are available and clearly stated and understood by employees. Employees are					

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	last day of their employment, based on a reasonable notice	free to leave the workplace and manage their own time based on the contract. Employer does not withhold employee's original identity papers. Employer shall not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for the employer. Employees are not obligated to stay in the job to repay debt.			
5.1.4	the right to form or join organizations to defend their rights (including their	Workers have the freedom to form and join any trade union, free of any form of interference from employers or competing organizations set up or backed by the employer according to the Law of Labor.			
5.1.5	Do workers suffer any discrimination from the employer or other workers?	Written anti- iscrimination regulation is in place, stating that the company does not engage/support in discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
		affiliation, age or any other condition that may give rise to discrimination.			
5.1.6		Employees are consistently treated with dignity and respect (e.g. no physical abuse). There are no deductions in pay for disciplinary actions.			
5.1.7	hours offered accord to the following conditions? 1 - They are voluntary 2 - They do not	compliance.			
5.1.8	food storage areas, designated rest	potable drinking water, a place to store food and a place to eat must be provided for workers.			
5.2	Health & safety				
5.2.1	conducted a written risk assessment of hazards to worker health and safety	The written risk assessment for health and safety of workers is available and must be reviewed and updated when changes (e.g. new machinery, new buildings, new plant			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	procedures to solve such risks?	protection products, modified cultivation practices, etc.) occur.			
		Procedures to solve the issues related to the health and safety of workers must be appropriate for the conditions of the farm. They could also include accident and emergency procedures, contingency plans, dealing with any identified risks in the working situation, insurance.			
5.2.2	hazardous working	Employees are adequately protected against hazards, such as potable/safe drinking water is available, sanitary conditions for disposal of human waste are in place. Employee housing is constructed of materials to sustain local conditions.			
5.2.3	Do all workers receive health and safety training?	Workers undertake health and safety training. Training records, and/or training materials are available.			
5.2.4	even if minor, recordedincluding preventive and	Records of all accidents and corrective action taken are available. Evidence that corrective actions, such as invoices of medicines, are still in place.			
5.3	Contracts and wag	ges			
5.3.1	workers have labor contracts and	The only exception is where workers are family			
5.3.2		The labor contract and interview with employees			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	of probation period, as stated in the contract for workers, comply with national regulations?	confirms compliance.			
5.3.3	pay at least minimum wages, as defined by the	is located.			
5.3.4		List of employees and timesheets confirm compliance.			
5.3.6		Interviews with employees confirm compliance.			
5.4	Communication				
5.4.1	ensure that all				
5.4.2	raised by workers registered, tracked	Register is available recording issues raised by workers (including complaint forms), date and			

Standards	Control points	Compliance Criteria	Yes	No	Adjustments
	by the employer?	response taken. Interviews with employees confirm compliance			
5.5	Community issues				
5.5.1	Has a verifiable conflict resolution policy for local communities been developed and applied?	The farm has a conflict resolution policy for related farms and communities. A register of complaints reporting the issue, date and response plan is available (including signed letters from the local community confirming that the response plan has been applied). When meetings are held, agendas and summaries are available and confirmed by a representative of the relevant local authority and at least one civil society organization.			

MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

No. 1617/QĐ-BNN-TCTS

Hanoi, 18 th July, 2011

DECISION

Issue Guidelines for the application of VietGAP standards for pangasius (P. hypophthalmus), tiger shrimp (P. monodon) and white leg shrimp (P. vannamei)

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

Pursuant to the Law on Food Safety No. 55/2010/QH12 approved by the 7th National Assembly of the Socialist Republic of Vietnam, held on 17th June, 2010;

Pursuant to Decree No. 01/2008/NĐ-CP dated 03rd May, 2008 of the Government to define the functions, responsibilities, powers and organizational structure of the Ministry of Agriculture and Rural Development;

Pursuant to Decree No. 75/2009/ND-CP dated 10th September, 2009 of the Government to amend Article 3 of Decree No. 01/2008/ND-CP dated 3rd January, 2008 of the Government to define the functions, responsibilities powers and organizational structure of the Ministry of Agriculture and Rural Development;

Pursuant to Minister Decision No. 1503/QĐ-BNN-TCTS dated 5th July, 2011 of the Ministry of Agriculture and Rural Development to issue the National Standard on Good Aquaculture Practices in Vietnam (VietGAP);

At the proposal of the Director General of the Directorate of Fisheries,

DECIDES:

Article 1. Issue together with this Decision the Guidelines for application of VietGAP for pangasius (*P. hypophthalmus*), tiger shrimp (*P. monodon*) and white leg shrimp (*P. vannamei*).

Article 2. This Decision shall take effect after its signing.

Article 3. Cabinet of the Ministry, Director General of the Directorate of Fisheries, Heads of the Organizations under the Ministry, Director of Agriculture and Rural Development Departments in the provinces and concerned organizations and individuals shall implement this Decision.

To:

- As Article 3;

- MARD Website;
- Organizations of MARD;
- Archives. D-Fish.

FOR THE MINISTER DEPUTY MINISTER

Vu Van Tam

Guidelines for application of the VietGAP for pangasius (*P. hypophthalmus*), tiger shrimp (*P. monodon*) and white leg shrimp (*P. vannamei*)

(Issued together with Minister of Agriculture and Rural Development Decision No. 1617/ QD-BNN-TCTS dated 18th July, 2011)

Part 1 General Provisions

This document was issued to specify the content and guidance in the application of the National Standards on Good Aquaculture Practices in Vietnam (VietGAP) which was issued under the Ministerial Decision No. 1503/QĐ-BNN-TCTS dated 5th July, 2011 of the Ministry of Agriculture and Rural Development applying to pangasius, tiger shrimp and white leg shrimp.

Before applying this guidance, concerned organizations and individuals must carefully read the control points and compliance criteria prescribed in the VietGAP standards.

Part 2
Details of the Guidelines

Standard	Guidelines
1	General Requirements
1.1	Legislation
1.1.1	The following documents should be prepared: - 01 copy (with authentication) of the certificate of land use rights or decision on land allocation or lease of land by the competent authority; - Report on environmental impact assessment or commitment of environmental protection or environmental protection projects as prescribed in the Standard 4.1.1; - Documents to prove the farm meets the eligibility for food safety requirements as prescribed in the Standards 2 and 3; - Documents to prove the farm meets the requirements of the employer as prescribed in the Standard 5.
1.1.2	Regular registration documents for production activities are copies of the certificate of production registration or the certificate of business registration (for business) or the certificate of aquaculture registration (for households) or aquaculture license from the competent authorities. In the absence of these documents, a copy (certified) of the approved list of aquaculture farmers by a competent authority must be presented.
1.1.3	The geographic coordinates should be determined according to this compliance criteria.

Standard	Guidelines
1.1.4	The document which proves the farm belongs to an approved aquaculture zone is a copy (certified) of the approved aquaculture zones for shrimp / cat fish by the nearest competent authority (in order of the following commune, district, province) in which the location of the farm is marked (circled with highlight colored markers) on the map. In the absence of the above documents, a paper (certified by the commune / ward, or district / town people's committee) must be presented to confirmed the farm is legally located.
1.2	Records
	The cross-reference identified system includes:
1.2.1	- Signs for each item of work in farms, such as ponds, supply canals, drainage canals, ponds, reservoirs, storage, etc. Signs may be in paper covered by plastic or mica plastic and placed in plain sight such as Tool Kits B2, Chemical Storage B3, Pond A1, Pond A2, etc.
	- The overall diagram describes each item or pond system and cross-references each with the signs in the field.
1.2.2	Records should include: - Purchase records: vouchers when purchasing any items relating to the shrimp and catfish culture (at least one of the following documents: contracts, invoices, receipts) kept and stored in a file. A book list to breakdown this expenditure, together with the invoices / receipts attached to the memo pad. Record full information of the name and address of the seller, product name, quantity, unit price, total cost (similar to the invoice issued by the Ministry of Finance). Each purchased product needs to be stored and recorded after being inspected. For example, on 18/05/2011, 1kg chlorine was purchased from Mr. A's shop, quantity is real, sealed container, clean, no break, no mold, Ms. B (storage keeper) has carefully checked. - Store records: need to show the exact date and time when the products go in out of storage or have been used for aquaculture. For example, on 15/05/2011 input 30 kg CP feed; on 30/04/2011 output 0.5kg of A probiotics; on 15/06/2011 inventory there is 2.5kg of vitamin C left in storage, etc. - Production records: need to describe the process from pond preparation until the harvesting stage in compliance with the VietGAP requirements, including records in the tables specified in Part 3 of these Guidelines. - Other records: units of the farms such as reservoirs, ponds, water inlets and outlets, storage as well as other information should be recorded i.e. the number of visits, the number of dead birds and dead animals on the farm, the number of rat traps, the number of chemical sprays to kill insects, etc.
1.2.3	Documents should prove that the farm meets the hygiene and food safety requirement and include information about seed quality, pond water quality,

Standard	Guidelines
	medicines, chemicals, probiotics used for pond preparation, culture operation or used to preserve fish and shrimp before selling (see Part 3 Tables 6, 9, 11, 13).
	These documents for aquaculture compliance with hygiene and food safety (shrimp, white shrimp or catfish) should be readily available (e.g. on bookshelves) for workers. These materials may be regulatory documents or official guideline documentation of professional agencies under MARD (e.g. Circular 44, 45/2010/TT-BNNPTNT, Circular 15/2009/TT-BNN and Circular 20/2010/TT-BNNPTNT) or documents issued by the Provincial Department of Agriculture and Rural Development; documents by recognized aquaculture research institutions or relevant universities.
1.3	Traceability
	Farms must declare in accordance with the compliance criteria of this standard.
1.3.1	A system must be in place to identify and segregate all VietGAP certified and non-certified products to ensure there is no confusion including records, tools, equipment demonstrating the difference in the use of the water inlet, equipment used in the system, the marking, numbering of each production unit until harvesting, pre-processing, sorting, packing in ice foam boxes before transferring, etc.
1.3.2	Every movement of shrimp and catfish (seedling supplementation, escape, death) during the culture period must be recorded for each pond and described if necessary (by completing Part 3 Tables 2, 6, 12). For example, on 15/05/2011, 200 black tiger shrimps, weight is 2kg escaped from pond A1, have been collected and kept in the trap, escape due to pond leaking from the eel cave; on 30/06/2011, shrimp density in pond A2 is too high according to VietGAP, have been separated into two new ponds named A2a and A2b, etc.
2	Food safety and quality
2.1	Medicines, chemicals and probiotics
2.1.1	Medicines, chemicals, probiotics (hereinafter referred to as chemicals) in stock must be listed and periodically checked on a certain day of the month. Inventory records must be updated periodically and compared with data recorded on their input (Table 8), use (Table 9) or discard as expired (Table 12).
2.1.2	A list of chemicals that will be used in farms (refer to Circular No. 12/2010/TT-BNNPTNT) must be made. Check the operating permit license when purchasing chemicals. Do not use any chemicals that are prohibited in Part 3 (Annex 4).
	Before using medicine, ask professionals (as defined in standard 3.1.1 of

Standard	Guidelines
	these Guidelines) about disease diagnosis, causes, dosage, usage (with prescription and signature). Bear in mind that antibacterial agents may only be applied following the diagnosis of an infectious disease; do not use antibiotics for prophylactic use or to stimulate growth.
2.1.3	Chemical storage must be safe, solid, locked, ventilated, well-lit, and with no evident of rats, snakes or insects, etc. Chemicals in storage must be kept as per the instructions on the label. They must also be placed in shelves or on separate trays to avoid spillage, being broken or confused. The boxes, bottles, bags of chemicals being used should be tightly closed or tied, to avoid spillage. Farm owners must regularly self-check to ensure the above requirements are being strictly complied with.
2.1.4	During inventory of chemicals, mark those (circled with a red marker) which are going to expire for warning. Expired chemicals must be discarded in accordance with the Chemical Law and Government Decree No. 108/2008/NĐ-CP dated 7 th October 2008 and recorded as described in Part 3 (Table 12).
2.2	Hygiene
2.2.1	Assessment of hazards on food safety can be done once a year by self-evaluation or by a consultant. The assessment of hazards on food safety may come from inside (e.g. by the feces and redundant feed of the animals) or outside the farms (e.g. new pesticide factory nearby) or from steps in the whole production cycle (site selection, construction, pond preparation, seedling, grow-out, etc.). Hazards can also be generated by changes in technology.
	Assessment of hazards on food safety include 4 basic parts: identification of hazards, characteristics of hazards, exposure and risk assessments. Recording hazards is a prerequisite and basis for assessment. It includes issues relating to food safety, provides clues for evaluation and suggests if it is necessary or not. Assessment of hazards on food safety should be conducted by professional experts.
2.2.2	Guidelines on safety and hygiene must be highlighted and displayed in prominent locations, such as a dining room, entrance, etc. with clear signs (with illustrations) and / or in the common languages of employees. In cases where workers are from ethnic minorities (such as Khmer, Cham, Hoa, etc.) the language of the documentation must be appropriate.
2.3	Waste
2.3.1	A list should be made as described in Standard 2.3.1.
2.3.2	Garbage / organic waste (vegetable, fruit, food scraps, etc.) must be treated with probiotics for burying; recyclable garbage / waste such as plastic,

Standard	Guidelines
	paper, packaging boxes, metal, glass bottles, etc. must be collected and sold; garbage / hazardous waste, such as glass vials containing drugs and chemicals, must be handled according to the manufacturer's instructions or regulations issued by competent agencies.
	There must be a separate area for burial of organic waste, plastic bags, broken glass, rubble, plastic, etc. which is not recyclable.
2.3.3	All waste must be cleared up in compliance with Standard 2.3.3.
2.3.4	Farms must provide toilets for workers as stipulated in Ministry of Health Decision No. 3733/2002/QD - BYT dated 10/10/2002. Workers are not permitted to freely discharge (waste, defecation, urination) in the production area or outside the toilet. Sewage from toilets must be discharged through the treatment system as regulated in the national standard (QCVN 14: 2008/BTNMT). Sewage is not allowed to discharge directly into the river or irrigation system to avoid contamination to the water supply system for the communities. It is also not allowed to store untreated sewage in farms. Facilities for waste collection and disposal (garbage, collecting area, gloves, buckets, garbage carts, etc.) must be available and the activities need to be recorded as described in Part 3 (Table 12).
2.4	Harvest & post-harvest
	In cases where drugs or chemicals are applied during the production process, the date of harvest of shrimp and fish must be decided by the aquatic animal health specialist to ensure there is no chemical residue to ensure food hygiene and safety.
2.4.1	Antibiotics, chemicals, etc. are strictly forbidden to preserve fish and shrimp after harvesting. If the products are transported by the farm, proper transportation guidance must be applied as requested by the processors. When refrigerated, technical protocols must be followed and the temperature of shrimp and fish must be monitored during transport. Records of the harvest must be registered (see Part 3 Table 13) and the transportation and refrigeration protocols (if any) must be available as guidance to retailers/ processors (if farms conduct transportation). Workers must fully understand food safety and respond appropriately in the interview for certification evaluation.
2.4.2	Farms must apply disinfection procedures and/or allow appropriate fallowing periods between harvests and re-stocking (depending on culture conditions, specific species, etc.) and record these (as planned in Section 3.1.1 of these Guidelines). The fallowing period for intensive farming of shrimp and catfish is 30 days minimum (according to Circular No. 44 and 45/2010/TT-BNNPTNT).

Standard	Guidelines
3	Animal health and welfare
3.1	Aquatic animal health plan
	Aquatic animal health specialists can be veterinarians who have received at least 60 hours training on aquaculture or aquaculture engineers who have received at least 60 hours training on veterinary medicine. The aquatic animal health plan must be instructed and signed by an aquatic animal health specialist: - Name and location of farms: record information consistent with the
	general information as registered. - List of previously identified diseases: such as white spot disease, yellow head, Taura syndrome (for shrimp) and BNP/ESC (for catfish).
	- Planned preventive methods and treatments used (including use of chemicals, drugs/ medicines, probiotics): describe how to prevent the known-diseases by providing a number of situations / scenarios for treatment.
	- Pond preparation protocols: following the standard protocol prescribed by competent agencies or published by a recognized institution.
	- Vaccination protocols (when applicable): following the guidance of the manufacturer or a specialist.
3.1.1	- Screening program in place for relevant pathogens: inspection program on site to detect the pathogen involved, include testing procedures and visual inspection. Irregular or regular sampling of water, mud, shrimp, fish should be conducted and tested at prestigious centers. This can be done monthly or based on the age of cultured species.
	- Water management protocols for disease prevention: in rearing ponds, sedimentation ponds, treatment ponds (if any) and related information about the drains, pumps, quality and water intake, medicines, chemicals for water treatment. Protocols should be described accordingly with production stages such as preparation, grow out, harvesting.
	- Records of routine assigned aquatic animal health specialist visits are in place: records of visiting dates, comments, conclusions and treatment methods of the aquatic animal health specialist.
	- Frequency and methods of removal of sick and disposal of dead animals: record as described in Table 12 and following the guidance of the aquatic animal health specialist.
	- Screening program for infected ponds: describe methods of screening and isolating the infected ponds such as use of canvas, separate equipment, separate water intake or disinfect shared equipment; apply disinfection procedure or specify tasks for each pond; prevent contamination from movement of crustaceans, birds and other organisms between the pond, etc.
	- Other prevention plans where applicable: describe the prevention method which can be applied, such as using SPF seed, vaccination, use of

Standard	Guidelines
	recirculation system, prevention of leaking in rearing ponds, etc.
	- Procedures for transportation of seed and harvested fish: for shrimp transportation use industry standard 28 TCN 95-1994; for shrimp or other current national standards can be applied.
	- Mechanism for responding to disease outbreaks, including reporting disease outbreaks to the aquatic animal health specialist and to others as appropriate: follow guidance of the aquatic animal health specialist and MARD regulations.
	- Protocols for preventing disease spread (e.g. through water discharge and fish): follow guidance of the aquatic animal health specialist and MARD regulations.
3.1.2	Technical staff and farm workers must be trained in disease treatment of aquatic animals as planned in the Aquatic Animal Health Plan (AAHP) (refer to section 3.1.1 of these Guidelines). The treatments applied must be recorded (see Part 3 Table 9) to prove that they are consistent with current regulations and in accordance with the plans (AAHP). Farmers must show understanding when being interviewed.
	Those activities should be instructed by a specialist.
3.2	Seed & feed
3.2.1	Certificate of hatchery license (approved by the competent authority) must be present when seed purchased. All the documents related to seed purchasing (contracts, invoices or receipts) must be kept and recorded as described in Table 6.
	Quarantine certificate by competent agencies must be checked and a copy of this document must be kept when buying seed. Only negative infections of the following diseases are accepted:
	- For tiger shrimp: negative result for white spot, yellow head and the other new infectious diseases specified in the list (if any).
3.2.2	- For white leg shrimp: negative result for white spot, yellow head, Taura syndrome and other new infectious diseases included in the list published by the DAH (if any).
	- For pangasius: liver disease negative for BNP/ESC (Bacillus Necrosis Pangasius/Enteric Septicaemia of Catfish) and other new infectious diseases included in the list published by the DAH (if any).
	According to current TCVN, minimum size of white leg shrimp and tiger shrimp must be equivalent to PL12 and PL15 respectively. For pangasius, seed must fulfill the industry-standard 28 TCN 170: 2001.
3.2.3	Feeding monitoring systems in place could be feeding trays (for shrimp) or visual observation when feeding or using an instrument to check the feed redundant (for pangasius). Shrimp and pangasius should be fed properly

Standard	Guidelines
	based on their needs. Do not confuse when using feed for shrimp and catfish nor cattle feed.
	An approved rearing protocol (including feed and feeding management techniques) must be applied. The protocol can be approved by the Ministry of Agriculture and Rural Development or issued by a recognized research institution (e.g. Can Tho University or the RIA 1, 2, 3).
	The feeding schedule must be guided by the manufacturer or the protocol as mentioned above. The feeding schedule can be printed in the manual or hanging on the wall for reference.
	All feed and feeding information must be recorded as described in Table 7.
	The list of approved compound feed manufacturing (CFM) (currently Circular 13/2010/TT-BNNPTNT though note that this Circular is updated periodically) must be present for reference and to avoid the purchase of low quality feed. The certificate for the feed circulation must be checked when buying feed and a copy of this certificate must be kept when buying CFM. All the related information must be recorded as described in Table 3 for traceability.
3.2.4	For home-made feed, the ingredients and their source must be recorded as described in Table 4 and documents included proving the feed satisfies the industry-standard or updated TCVN (if any):
	- For pangasius: home-made feed quality must satisfy industry standard 28 TCN 188: 2004 feed pellets for pangasius.
	- For tiger shrimps: home-made feed quality must satisfy industry standard 28 TCN 102: 2004 feed pellets for tiger shrimp.
3.2.5	All additives utilized in feeds must be recorded as described in Table 5. Only additives in the list approved by competent agencies can be used (check the license of circulation permits and keep a copy).
3.2.6	Farm staff and workers must be trained in the storage and use of feed including medicated feeds (training can be undertaken and certified by the consultant (as defined in Standard 3.1.1). Related training documentation such as training pictures, contract of the trainers, training certificates, etc. should be kept.
	Use and maintenance of feed should be as trained or as per the manufacturers guidance. Related information should be recorded as described in Tables 5 and 7.
3.3	Treatments
3.3.1	To conform with this compliance criteria antibiotics should be listed and doses used and recorded as described in Table 9.
3.3.2	To conform with this compliance criteria records should be kept as described in Tables 5, 8, 9.

Standard	Guidelines							
3.4	Monitoring of mortality							
3.4.1	The number, average weight rearing density and biomass of each pond and the whole farm must be measured and evaluated periodically. Random sampling and standard measuring methods as prescribed should be applied and documented as described in Table 10.							
3.4.2	To conform with this compliance criteria records should be kept as described in Table 2.							
3.4.3	Dead fish and shrimp should be removed and documented as described in Tables 2 and 12. Workers must demonstrate their understanding when being interviewed.							
3.4.4	The veterinary staff of the commune / ward must be informed as soon as any epidemics occur, as regulated in Ministerial Circular No.36/2009/TT-BNNPTNT. A record of the announcement must be kept.							
3.4.5	Dead fish and shrimp should be removed, treated and documented as described in Tables 2 and 12.							
4	Environmental integrity							
4.1	Environmental impact management							
	Farms must undertake one of three EIA reports as follows: a) Aquaculture projects established after 1 st July, 2006 falling under Annex II of Decree 29/2011/ND-CP dated 18 th April, 2011 shall successfully implement an Environmental Impact Assessment subject to: + Shrimp or catfish projects in the form of intensive and semi-intensive culture and the cultured areas are larger than 10 ha;							
	+ Shrimp or catfish projects in the form of improved-extensive culture and the cultured areas are larger than 50 ha;							
4.1.1	+ Shrimp projects in sand areas where the cultured area is larger than 10 ha. Follow the guidance of Decree No. 29/2011/ND-CP and Circular No. 05/2008/TT-BTNMT for detailed instructions on Environmental Impact Assessment.							
	b) Aquaculture projects established after 1 st July, 2006 not falling under Annex II of Decree 29/2011/ND-CP dated 18 th April, 2011 shall successfully implement an Environmental Protection Commitment subject to:							
	+ Shrimp or catfish projects in the form of intensive and semi-intensive culture and the cultured areas are smaller than 10 ha;							
	+ Shrimp or catfish projects in the form of improved-extensive culture and the cultured areas are smaller than 50 ha;							
	+ Shrimp projects in sand areas where the cultured area is smaller than 10 ha. Follow the guidance of Decree No. 29/2011/ND-CP and Circular No.							

Standard	Guidelines
	05/2008/TT-BTNMT for detailed instructions on Environmental Protection Commitment.
	c) Aquaculture projects established before 1 st July, 2006 must successfully implement Environmental Protection Projects (see also Decree 21/2008/ND and Circular No. 04/2008/TT-BTNMT-CP of the Ministry of Natural Resources and the Environment). Farms should contact the local authorities (Department of Natural
	Resources and the Environment) for details.
4.1.2	According to the RAMSAR Convention, ratified by the United Nations in May 1999, all mangrove ecosystems or wetland areas with ecological significance should be protected. Therefore the date (month and year) when farms were established must be certified by the local authority. If farms have been built since May 1999 the commune/ward must provide
4.1.2	written certification about the state and land use during the period from May 1999 to the date of the farm establishment (clearly stating that the land did not belong to an area of mangrove ecosystems or wetland areas with ecological significance as outlined in the EIA).
4.1.3	Farms must have certification from the commune/ward or district/town People's Committee that they are outside of a national or international conservation area (sections Ia to IV of the IUCN), or areas defined by international conventions (e.g. RAMSAR or World Heritage Site).
	Farm owners should contact the district or provincial Department of Natural Resources and the Environment or a nature conservation organization for guidance and support in implementing this Standard.
4.2	Use and discharge of water
4.2.1	The protocol description (including diagrams) of water supply, discharge and water resource management must demonstrate that the supply/discharge system is separate and will not pollute the water intake.
4.2.2	Annual water supply must be recorded in the unit of cubic meters (m ³). Effluent from the rearing ponds into the environment after treatment must satisfy the quality parameters specified in Part 3 Annex 3A (for black tiger shrimp and white shrimp) and Appendix 3B (for catfish). Information about test results of water quality intake, water in rearing ponds and waste water during the cultivation process must be kept.
4.2.3	In accordance with national regulations, tap water and ground water should not be used to reduce salinity in rearing ponds. Ideally, only natural freshwater resources (lakes, rivers and streams) should be used to reduce salinity in the shrimp. This standard need not apply to pangasius farms.
	1

Standard	Guidelines
	The risk assessment for rearing animal health (e.g. lack of oxygen, low pH, low alkalinity, high NH ₃ or H ₂ S gas, salinity reduction, etc.) should be based on a water quality monitoring system.
4.2.4	To conduct a risk assessment, water quality indicators such as temperature, salinity, clarity, dissolved O2, pH, alkalinity, NH ₃ , H ₂ S must be measured as described in Part 3 Table 11. The sampling locations, frequency, methods and analysis must comply with the regulations of the competent authorities. In the absence of regulations, published methods from prestigious institutions (e.g. RIA 1, 2, 3; Can Tho University, Nha Trang University, HCMC University of Agriculture and Forestry) can be applied. The water quality is considered a hazard if the parameters exceed the level specified in Annex 1A (for shrimp) and Annex 1B (for pangasius).
	Evidence to prove that the farm does not discharge saline water into freshwater bodies includes:
4.2.5	- A description of the structural basis of the farm such as width, slope, the strength of the dams; canvas lining on bottom and edge; the strength/solidity of the pond bottom and low leakage possibility.
	- Salinity is recorded (by measuring the monthly salinity) in the freshwater bodies around the farm such as rice fields, freshwater canals, orchards and sewage sludge dump locations (pond dams, garden houses, etc.) and recording the results.
	This standard need not be implemented by pangasius farms.
4.2.6	Should salinity occur, shrimp farms must notify local authorities in writing and ask for confirmation that they have received the notice. This standard need not be implemented by pangasius farms.
4.2.7	Sludge should be properly collected and stored. Mud/sludge collection can be done manually or using machines to avoid adversely affecting the environment. Mud/sludge should be properly contained and located to avoid general contamination of watercourses. Appropriate treatment (using lime or probiotics) can be applied if necessary. Mud/sludge can be stored in pond dams or orchards but farm owners need to ensure it does not flow back into ponds during rain or that the soil or ground water does not become salinated (using canvas can help in this). The storing of mud/sludge collected must not cause ecological damage, such as killing or damaging the habitat of an animal species listed in the Vietnam Red Book.
4.3	Predator control
4.3.1	Workers must be instructed not to use equipment, chemicals and instruments that can kill animals while controlling predators for shrimp and pangasius. Regular inspections must be performed.

Standard	Guidelines
	Predator control devices/methods for shrimp and pangasius must ensure wild animals safety, except during the pond preparation period when aquatic organisms harmful to fish and shrimp should be killed.
	To ensure the safety of wild animals, farms are not allowed to use lethal methods such as guns, deadly traps, poison, etc. Only preventive methods such as purse seine or a puppet can be applied to prevent birds/storks from eating shrimp and fish.
4.3.2	The species listed in the Vietnam Red Book should be known to workers through training or reading. Species listed in the Vietnam Red Book often occur in or near the farms and need to be documented.
	If these species are detected in the farms, they are not allowed to be killed and appropriate protection methods should be applied instead.
5	Socio-economic aspects
5.1	General working conditions
5.1.1	The compliance criteria should be followed strictly and employer information completed in Table 14.
5.1.2	If farms employ workers from 15 to 18 years old, daily work schedules must be established, stating the work of each day. Tasks for this age group must be light and simple, such as feeding shrimp and fish, cutting grass, removing dead fish and shrimp, etc. This age group must not be assigned heavy or hard work, like lifting heavy feed, carrying paddle-wheels, touching toxic chemicals, pulling electricity wires, etc.
5.1.3	Farm owners must sign labor contracts with employees in accordance with the provisions of the Labor Law. Out of working time, employees are free to manage their time, leave the farm and do other things as they want. The owner is not allowed to retain workers' salaries, bonuses (even a small portion), property or personal papers to force them to keep working in the farm. Labor contracts must specify these terms.
	Farm workers have the right to set up or join unions/ associations to protect their rights, such as trade unions or collective agreements which may benefit employees, in accordance with the Labor Law.
5.1.4	A collective labor agreement is a written collective agreement between workers and employers on labor conditions and the rights and obligations of both parties in labor relations. Collective agreements by representatives of labor collectives and the employer must be negotiated on the principles of voluntariness, equality and transparency.
5.1.5	Internal rules stating the terms of anti-discrimination based on race, caste,

Standard	Guidelines
	place of origin, religion, disability, gender, age or any conditions that may be causes of discrimination must be established. Internal rules must be posted in plain sight and a copy delivered to each worker to read and understand them in detail.
5.1.6	Farm owners must make and follow the commitment to respect workers, not beating, cursing, despising, or insulting workers; nor deducting employees' wages if they make mistakes. They can only apply other forms of discipline. Inspection results should confirm that there is no evidence of owners violating workers' bodies, ethics, or spirituality, except for violations of labor regulations.
5.1.7	Workers are not forced to work overtime, unless they volunteer. There must be an overtime work schedule. Overtime work occurs only in exceptional conditions. Regular checks will be made to ensure the total work hours do not exceed the hours prescribed by the current Labor Law (which stipulates that overtime work must not exceed 200 hours/person/year). Overtime work must be paid and the rate of pay for each overtime hour must be specified in labor contracts.
5.1.8	Farms must be equipped with facilities for hand washing, drinking, dining room, kitchen and food hygiene, and cleanliness for employees.
5.2	Health & safety
	The rules of work health and safety protection are in accordance with the conditions of the farms and must be available such as: workers must wear protective suits when working, workers must wear gloves and masks when mixing drugs / chemicals or cleaning, etc.
	There must be a risk assessment and solutions for worker health and safety. It should be updated each time if there is any change. The contents of the risk assessment should include:
	- The main hazards or risks to worker health or safety have been identified, such as floods, hurricanes, fire, lightning, electrocution, etc.
5.2.1	- Solutions to deal with accidents must be written in the form of procedures. For example, should an accident occur, first aid is bandaging wounds and bleeding. Workers should then be taken to hospital by car, boat, etc. If the accident occurred at the farm, there must be a report in accordance with the Labor Law.
	- Solutions and procedures to deal with emergencies, backup plans and labor protection equipment must be in writing and include assumptions and plans to cope if risks actually occur.
	- Backup plans for when accidents occur, the loss of health and safety, hazards, etc. must be written into the procedures.

Standard	Guidelines
5.2.2	Boiled drinking water or sterilized drinking water must be made available for employees. Accommodation for employees (if any) must be safe and free from hazards, e.g. well-constructed, without mold or other harmful organisms, free from snakes, toxic insects, etc. In the case of female workers, doors must be
5.2.3	Farm owners must train workers (once documentation is standardized) or hire professional staff to give guidance on worker health and safety. Labor protection equipment must be located in accessible places for employees to use when working at the farm. Employees must demonstrate proficiency through visual assessment. Documentation or evidence of the training / work safety instructions must be available at the farm.
5.2.4	Whenever an accident occurs, the farm owner must write minutes indicating the date, type of accident, severity, problem-solving action (for example, went to the hospital, bandaged in place, invited doctors, or employees reimbursed from owner for drugs, hospital charges, etc.) Evidence of all actions farms take to solve problems after accidents (e.g. paying drugs bills, providing insurance cards, etc.) must be retained. Employees should be trained or regularly reminded. As a result, they are expected to answer fully, truthfully and responsibly when being interviewed.
5.3	Contracts and wages
5.3.1	The owner must sign labor contracts for full-time workers according to the Labor Law. The contract must be made in two copies, each side keeps one copy. The owner has responsibility to explain to the workers each clause in the contract so that they fully understand it before signing.
5.3.2	The maximum probation period is 01 month and this must be specified in labor contracts as regulated in the Labor Law.
5.3.3	The owner has to pay workers not less than the minimum wage provisions of the Government for each period worked. Wages must be specified in the employment contract and in the table of salary expenses. All labor contracts and wage bills must be retained and employees must confirm that the information recorded is consistent with the fact they have been paid.
5.3.4	Timekeeping and attendance records must list the number of hours worked by each employee.
5.3.5	The owner has to pay salaries to employees in cash or in the most

Standard	Guidelines
	convenient way for employees. Salaries must not be paid in kind e.g. by product (such as shrimp, fish, potatoes, rice, etc) without employees' express agreement.
5.4	Communication
5.4.1	There must be a complaint box at the farms. Through this, employees can express their desires, aspirations and problems. Every day, the owner must check the complaint box, collect and record complaints, and resolve to address the complaints. Owners must not take revenge against workers who complain.
5.4.1	If there is no complaint box, the owner can hold monthly meetings with workers and record minutes of dialogues to resolve issues related to labor rights and farm working conditions. Minutes of meetings and letters sent to the complaint box must be kept for
	checking and confirming the information when being interviewed.
5.4.2	There must be a register to record all employees' complaints collected during meetings or through the complaint box. Information in the register must be detailed with date, time and comments. All the farm owners' answers, feedback and solutions for workers' complaints must be written in the register.
5.5	Community issues
	Farm owners must hold annual meetings for surrounding farmers or farmers who have been negatively affected by farming activities (e.g. in cases where salt water from the farm has contaminated nearby rice fields, effluent water from the farm has polluted a nearby water source or where there are conflicts between hired labor and local youth, etc.) For such community meetings, there should be specific agendas and meeting minutes. Minutes must be signed by representatives of the relevant
5.5.1	local authority and at least one civil society organization of good standing (e.g. trade union).
	Meetings should be based on mutual respect, building a spirit of compromise. The owner must have the commitment and action to resolve any conflicts or offer compensation for neighboring farmers and surrounding communities (if any).
	Meeting minutes, commitments and action points to resolve the dispute must be kept. In cases where the information is being checked, e.g. through interview, the surrounding communities will be asked to confirm that information in the minutes is accurate.

Part Three Recording forms and Annexes

1. Gener	ral informatio	on						
- Farm	name	•••••	Vie	tGAP registe	r code	•••••		• • • • • • • • • • • • • • • • • • • •
- Full n	ame of farm o	wner		•••••		•••••		• • • • • • • • • • • • • • • • • • • •
- Addre	ess:	Villa	ge	•••••		•••••		• • • • • • • • • • • • • • • • • • • •
Commu	ne			•••••		•••••		• • • • • • • • • • • • • • • • • • • •
District.						•••••		•••••
Province	<u></u>			•••••		•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
- Phone	number			•••••		•••••		• • • • • • • • • • • • • • • • • • • •
- Total f	arm area (m²)	•••••		•••••		•••••		• • • • • • • • • • • • • • • • • • • •
- Total p	ond area (m ²))		•••••		•••••		• • • • • • • • • • • • • • • • • • • •
- Site lo	cation (attach	the pond	diagra	am)				
- Culture	e species							
- Produc	ction year			Culture	durati	on		
2. Form	s of record							
Table 1	. General info	ormation	of th	e rearing po	nds			
Pond No.	Areas	Code of		the Date of see		Stock	king	Size of
1 ond 1vo.	Aicas	Pone	d releasin		g Den		sity	seed
1								
2								
Table 2	. Pond diary:	Pond No	0					_
Date/Month/ Year	Number of nimals	Animal health		ime of water apply (m ³)		nber of a arded, de		Notes
Table 3	. Record of fo	ormulate	d feed	l used				
Date Month	Feed type,	Amount		me of seller/	D	ate of	Expiry	
Year	manufacture	(kg)				ufacture	date	Batch No.
		<u> </u>						

Table 4. Record of ingredients of home-made feed

Date Month Year	Ingredients	Amount (kg)	chan and the	Date of manufacture	Expiry date	Visual test

Table 5. Record of drugs/ feed additives used

Date Month	Feed	Drug/ feed	Mixing	Drug	Staff member	Treating
Year	type	additives	ratio	amount (g)	responsible for mixing	pond

Table 6. Record of seed stocking

Date Month Year	Number (tail)	Sellar, adres	Seed age (day)	Certificate Agency	Release to pond No.	Notes

Table 7. Record of feed consumption. Pond No...

Date Month Year	Feed type	Manuf acturer	Estimated biomass (kg)	Feeding ratio (%)	Ration (kg)	1 st feeding (kg)	2 nd feeding (kg)	(kg)	Notes
							·		

Table 8. Record of veterinary drugs, chemical and probiotic input

Date Month Year	Items (chemicals, drugs, probiotics)	Amount used (dose, kg, package)	Name of seller/ shop and the address	Batch No.	Expiry date	Preservation method (in fridge/store)	Notes

Table 9. Record of chemicals, drugs and probiotics used

Date Month Year	Pond No.	Cause/ Symptom	Averag esize	Total biomass	Name of drug	Dose usage	Resp.	Result	Date ofharvest	Aquatic animal health specialist

Table 10. Growth rate and survival: Pond No...

No. inspection	Date Month Year	Average density (tail/m²)	Average size (g/ind.)	Growth rate in comparison with previous (%)	Survival rate (%)	Notes

Table 11. Inspection of pond environment: Pond No...

Date		(mg/l)		Н	Turbid	Salinity	пс	NH	Alkalinit
Month Year	Morning	Afternoon	Morning	Afternoon	ity	(%)			y (mg/l)

Note: Salinity measurement is applicable only to shrimp farms. Salinity monitoring must be conducted in the surrounding areas such as water supply channels, the nearest rice fields, orchards, areas where sewage sludge is dumped (pond, or garden house, etc.).

Table 12. Records of disposal of dead animals, waste, expired chemicals

Date Month Year	Items (dead animal, waste, expired chemicals)	Number/ weight	Treatment method	Staff member responsible
	Weak animals			
	Dead animals			
	Feed bags			
	Chemical bottles			
	Waste			·
	Expired chemicals			

Table 13. Records of harvesting and selling

Date Month Year	Pond No.	Total harvested production (kg)	` 1 1	Harvestin g method	Buyer/ company, address	Notes

Table 14. List of workers

No.	Name	Address	Identity No.	Date of birth	Gender	Qualifications	Task

3. Annexes

Annex 1A. Water quality for intensive shrimp farming (Circular No. 45/2010/TT-BNNPTNT)

Order	Parameters	Unit	Optimum	Acceptable Range
1	BOD_5	mg/l	<u>≤</u> 20	< 30
2	NH ₃	mg/l	≤ 0.1	< 0.3
3	H_2S	mg/l	≤ 0.03	< 0.05
4	NO_2	mg/l	≤ 0.25	< 0.35
5	рН		$7.5 \div 8.5$	$7 \div 9$, variation < 0.5
3	pm		$8.0 \div 8.3$	
6	Temperature	$^{\mathrm{o}}\mathrm{C}$	20 ÷ 30	18 ÷ 33
7	Salinity	%o	10 ÷ 25	5 ÷ 35
8	DO	mg/l	≥ 4	≥ 3.5
9	Turbidity	cm	30 ÷ 35	20 ÷ 50
10	Alkalinity	mg/l	80 ÷ 120	60 ÷ 180

Annex 1B. Requirements of water quality for intensive pangasius farming (Circular No. 44/2010/TT-BNNPTNT)

Order	Parameters	Unit	Optimum	Acceptable Range	Notes
1	BOD ₅	mg/l	≤ 20	< 30	
2	NH ₃	mg/l	≤ 0.1	≤ 0,3	Toxic when both pH and temperature high
3	H ₂ S	mg/l	< 0.02	≤ 0.05	Toxic when pH low
4	pН		$7.0 \div 8.5$	7 ÷ 9	Day variation < 0.5
5	DO	mg/l	≥ 3.0	≥ 2.0	
6	Alkalinity	mg CaCO ₃ /l	80 ÷120	60 ÷ 180	

Annex 2. Requirements of machine, equipment, tools for 1 ha intensive shrimp farming (Circular No. 45/2010/TT-BNNPTNT)

Order	Items	Unit	Size	Number
1	3m ² - casting net	piece	Net mesh $2 a = 15 mm$	1
	Hand-net for collecting dirt from ponds	piece	Net mesh 2 a = 10 mm	4

Order	Items	Unit	Size	Number
3	Feed-checking screen	piece	Diameter of 0.8 m	8
4	Water-flashing fan of 6-8 wings	piece	Output of 2.5 KW/h	8
5	Air compressor	piece	Output 3.2 KW/h	1
6	Water pump	piece	8- 15 CV	1
7	pH meter	piece	Index 0- 14	1
8	Dissolving oxygen meter	piece	0- 10 mg/l	1
9	Specific gravity meter	piece	0 - 100% measurement	1
10	Depth measure	piece	With graduated scale in cm	1
11	Shrimp length measure	piece	With graduated scale in mm	1
12	Secchi disk	piece	Diameter of 25 cm	1
13	Thermometer	piece	0 - 500 C measurement	1
14	Small technical scale	piece	For maximum weight of 500 g	1
15	Big scale	piece	For maximum weight of 100 kg	1
16	Boat	piece	Tonnage of 0.5 ton	1
17	Plastic basin	piece	Capacity of 5 - 10 liters	1
18	Plastic bucket	piece	Capacity of 10 - 15 liters	1

Annex 3A. Requirements of effluent from intensive shrimp farming after treatment (Circular No. 45/2010/TT-BNNPTNT)

Order	Parameters	Units	Acceptable Range
1	BOD_5	mg/l	< 30
2	NH ₃	mg/l	< 0.3
3	H_2S	mg/l	< 0.05
4	NO_2	mg/l	< 0.35
5	рН		6 ÷ 9
6	Temperature	°C	18 ÷ 33
7	Salinity	%o	5 ÷ 35
8	DO	mg/l	≥ 3.0
9	Turbidity	cm	20 ÷ 50
10	Alkalinity	mg/l	60 ÷ 180

Annex 3B. Requirements of effluent from intensive pangasius farming after treatment (Circular No. 44/2010/TT-BNNPTNT)

Order	Parameters	Formula	Units	Acceptable Range
1	Ammonia	NH_3	mg/l	<u>≤</u> 0.3
2	Phosphate	PO ₄ ³⁻	mg/l	< 10
3	Carbon-dioxide	CO_2	mg/l	< 12
4	Hydrogen sulfide	H_2S	mg/l	≤ 0.05
5	Turbidity	SS	mg/l	< 100
6	Biochemical Oxygen demand	BOD5	mg/l	< 30
7	Dissolved Oxygen	DO	mg/l	≥ 2.0
8	рН	pН	-	5-9
9	Oil	-	-	No oil
10	smell	-	-	No smell

Annex 4. List of chemicals and antibiotics not permitted for use in aquaculture (Circular No. 15/2009/TT-BNN and Circular No. 20/2010/TT-BNNPTNT)

Order	Name of chemical/ antibiotics	Which must not be used in any of the following	
1	Aristolochia spp and related products	Food, drugs, chemicals,	
2	Chloramphenicol	environmental treatment, detergents, disinfectants,	
3	Chloroform	detergents, disinfectants, preservatives, skin creams, hands in	
4	Chlorpromazine	all stages of seed production,	
5	Colchicine	aquaculture.	
6	Dapsone		
7	Dimetridazole		
8	Metronidazole]	
9	Nitrofuran (including Furazolidone)		
10	Ronidazole		
11	Green Malachite]	
12	Ipronidazole		
13	Other Nitroimidazole		
14	Clenbuterol		
15	Diethylstilbestrol (DES)		
16	Glycopeptides		

Order	Name of chemical/ antibiotics	Which must not be used in any of the following
17	Trichlorfon (Dipterex)	
18	Gentian Violet (Crystal violet)	
	Group Fluoroquinolones (banned from use in manufacturing and trading of aquatic products exported to the U.S. and North America)	
20	Trifluralin and Trifluralin containing products in the categories defined in Ministry of Agriculture and Rural Development Circular 64/2010/TT-BNNPTNT dated 4th November, 2010	

GPXB: số 153/QĐ-GTVT cấp ngày Inbản, khổ 21x29.7cm 64 trang.