

**Circular No. 45/2010/TT-BNNPTNT of July 22, 2010, providing for conditions on food safety and hygiene-guaranteed intensive tiger shrimp- and white-leg shrimp-rearing establishments and zones**

*Pursuant to the Government's Decree No. 01/2008/ND-CP of January 3, 2008, defining the functions, tasks, powers and organizational structure of the Ministry of Agriculture and Rural Development;*

*Pursuant to the Government's Decree No. 75/2009/ND-CP of September 10, 2009, amending Article 3 of the Government's Decree No. 01/2008/ND-CP of January 3, 2008, defining the functions, tasks, powers and organizational structure of the Ministry of Agriculture and Rural Development;*

*Pursuant to the Government's Decree No. 59/2005/ND-CP of May 4, 2005, prescribing the conditions on a number of fishery production and business lines;*

*Pursuant to the Government's Decree No. 33/2005/ND-CP of March 15, 2005, detailing the implementation of a number of articles of the Ordinance on Animal Health;*

*The Ministry of Agriculture and Rural Development provides for conditions on food safety and hygiene-guaranteed intensive tiger shrimp- and white-leg shrimp-rearing establishments and zones as follows:*

*Chapter I*

**GENERAL PROVISIONS**

**Article 1.** Scope of regulation and subjects of application

1. Scope of regulation: This Circular provides for the conditions on food safety and hygiene-

guaranteed intensive tiger shrimp (*Penaeus monodon* Fabricus, 1798) - and white-leg shrimp (*Penaeus vannamei* Boone, 1931)-rearing establishments and zones.

2. Subjects of application:

This Circular applies to organizations and individuals involved in intensive commercial tiger-shrimp and white-leg shrimp rearing in Vietnam.

This Circular does not apply to organizations and individuals conducting extensive, modified extensive and semi-intensive commercial tiger-shrimp and white-leg shrimp rearing.

3. Commercial tiger shrimp and white-leg shrimp rearing- establishments comply with the general provisions of this Circular and when being inspected under GAP (SQF, VietGAQP, Global GAP,...) process will be granted tiger shrimp and white-leg shrimp rearing certificates of corresponding degree by functional agencies.

**Article 2.** Interpretation of terms

In this Circular, the terms below are construed as follows:

1. Intensive tiger shrimp and white-leg shrimp rearing-establishments (below referred to as shrimp-rearing establishments) are places where intensive tiger-shrimp and white-leg shrimp farming are carried out, which are owned by individuals or organizations.

2. Intensive tiger shrimp and white-leg shrimp-rearing zones (below referred to as shrimp farming zones) are areas where exist one or many intensive tiger shrimp and white-leg shrimp-rearing establishments, with the minimum area of 30 ha each and the common use of supplied water sources.

3. Food safety and hygiene-guaranteed intensive tiger shrimp and white-leg shrimp rearing constitutes a form of conditional shrimp rearing, which satisfies the standards prescribed

in Chapter II of this Circular.

### *Chapter II*

#### CONDITIONS ON REARING ESTABLISHMENTS AND ZONES

##### **Article 3.** General conditions

1. Shrimp rearing-establishments and zones must lie within planned regions; comply with local regulations on shrimp farming. Small and separate shrimp rearing establishments lying outside the planned regions before this Circular takes effect must comply with local regulations on management and supervision.

2. Shrimp rearing establishments must be numbered and registered under regulations of the Ministry of Agriculture and Rural Development.

3. Water source quality satisfy the requirements prescribed in Appendix 1 to this Circular.

##### **Article 4.** Conditions on infrastructure

###### 1. Rearing pond systems

a/ A rearing pond must cover at least 3,000 m<sup>2</sup> of water surface; the minimum depth from pond bed to water surface must be 2 m and the pond banks must be solid and leak-free.

b/ The pond bed must be consolidated by tamping against leaking, the bed foundation must be flat and slant by 8<sup>o</sup>- 10<sup>o</sup> to the sluice gates.

c/ Ponds must be built with solid separate water supply and water drainage sluice gates against leaking. The water supply sluice gates must be built with filter nets to exclude harmful fishes and animals and rubbish when water is supplied into ponds

###### 2. Supplied water and waste treatment systems

a/ Storage (sediment) ponds: which are used to store and clean water before it is supplied into rearing ponds; storage ponds cover an area

accounting for 15- 20% of the total water surface areas of rearing establishments or zones; the pond banks and beds must be solid and leak-free.

b/ Wastewater treatment systems: Shrimp rearing establishments and zones are encouraged to build systems for treatment of wastewater from shrimp ponds before discharge into the environment.

c/ Waste mud storage areas: Shrimp rearing establishments and zones must build waste mud storage areas for treatment of all waste mud volumes after each farming drive and waste mud storage areas must be built with walls to prevent mud and mud water from penetrating into the surrounding environment.

3. Water supply and water drainage canal systems: Shrimp rearing establishments and zones must build separate and solid water supply canals and water drainage canals against leaking, ensuring adequate water supply and drainage when necessary.

4. Areas for post-harvest preliminary processing and preservation of raw materials shrimp, which must be separate from shrimp rearing areas.

5. Support infrastructure systems include lodging houses, working offices, feed storehouses, warehouses for storage and preservation of machinery, instruments, raw materials and materials and other support facilities, depending on each establishment or zone. Support facilities must be separate from rearing pond systems and must be solid, dry and well-ventilated, be structured with raw material and material shelves of at least 15 cm above the floor, with separate compartments for preservation of machinery, fishing gears, feed, fishery veterinary drugs, environment treatment and improvement products, and fuel.

##### **Article 5.** Conditions on special-use equipment, machinery and instruments

1. Shrimp rearing establishments must be adequately furnished with special-use production equipment, machinery and instruments production as prescribed in Appendix 2 to this Circular.

2. In shrimp farming zones mechanical pumps must be furnished and water supply and water drainage systems be built for the entire zones.

3. Machines and equipment used in shrimp farming must satisfy technical requirements against oil and gasoline leaking which cause environmental pollution.

**Article 6.** Conditions on shrimp rearing technological process

1. Rearing pond preparation

a/ Before stocking ponds with shrimp breeds, shrimp rearing establishments shall improve rearing ponds with proper measures in order to remove disease germs and qualitatively improve the pond beds, ensuring the minimum break time of one month after each farming drive.

b/ Water supplied into shrimp ponds must be treated to remove disease germs and harmful animals. The quality of supplied water and shrimp rearing water must comply with Appendix 1 to this Circular.

2. Selection of breeds and breed stocking

a/ Shrimp breeds must satisfy the quality under current Vietnamese standards and regulations of the Ministry of Agriculture and Rural Development, and have quarantine certificates granted by specialized management bodies.

b/ Stocking density

- For intensive white-leg shrimp farming: > 60 shrimps/m<sup>2</sup>.

- For intensive tiger shrimp farming: > 20 shrimps/m<sup>2</sup>.

c/ Stocking seasons: To comply with local annual stocking seasons.

3. Feeds and feed supplements

a/ Feeds and feed supplements must be on the list of those permitted for circulation in Vietnam.

b/ If establishments produce shrimp feeds by themselves, the feed quality must comply with Branch Standard 28 TCN 102 : 2004 Mixed Feeds in Pill for Tiger Shrimps.

4. Drugs, bio-preparations and products for aquaculture environment treatment and improvement must be on the list of those permitted for circulation in Vietnam.

5. Management and tending

a/ Rearing pond water level: To be maintained at 1.4 m as lowest.

b/ Rearing pond environment: Shrimp farm owners shall periodically test the water environment of the pond and pond bed mud under Section I of Appendix 5 to this Circular (*not printed herein*).

c/ Feeding shrimps: Feed rations will be 2-4% of shrimp weight/day; however, shrimp farmers should inspect the level of feed eaten by shrimps for appropriate adjustment; shrimps will be fed 2- 4 times/day.

d/ Waste water and wastes

- Before being discharged into the environment, wastewater from shrimp ponds must be treated up to quality standards prescribed in Appendix 3 to this Circular.

- Solid wastes and pond bed mud must be stored in separate areas and not be discharged into the surrounding environment when they are not yet treated.

e/ Disease prevention for shrimps

- Shrimp rearing establishments shall formulate and strictly comply with plans to supervise the health of reared shrimps under the guidance in Appendix 4 to this Circular (*not printed herein*).

- Diseased shrimps, dead shrimps and wastes from diseased ponds must be promptly gathered and treated.

- Laborers, tools and equipment in direct contact with mud and water, when being moved from one pond to another, must be cleansed to prevent spread of disease germs.

#### 6. Requirements on product harvesting

Shrimp rearing establishments must stop using antibiotics and chemicals before harvesting shrimps under the guidance of producers.

#### Article 7. Conditions on technical personnel

Shrimp rearing establishments of less than 5 ha shall each send at least 1 person to training and refresher courses on conditions on food safety and hygiene- guaranteed intensive tiger shrimp- and white leg shrimp- rearing establishments and zones or to aquaculture training courses.

Shrimp rearing establishments of between 5-20 ha must be staffed each with at least one intermediate-level aquaculture staff.

Shrimp rearing establishments of over 20 ha must be staffed each with at least one aquaculture engineer.

#### Article 8. Conditions on file management

Shrimp rearing establishments shall open and

keep records on shrimp farming activities, made according to forms provided in Section II of Appendix 5 to this Circular (*not printed herein*).

### Chapter III

#### ORGANIZATION OF IMPLEMENTATION

##### Article 9. Responsibilities of agencies

1. The Fishery Directorate shall guide, supervise and inspect the implementation of this Circular nationwide.

2. Provincial-level Departments of Agriculture and Rural Development shall organize the implementation of this Circular in their respective provinces or cities.

##### Article 10. Effect

This Circular takes effect 45 days from the date of its signing.

Any difficulties and problems arising in the course of implementing this Circular should be promptly reported to the Ministry of Agriculture and Rural Development for study and settlement.

*For the Minister of  
Agriculture and Rural Development  
Deputy Minister  
VU VAN TAM*

#### Appendix I. Requirements on shrimp rearing water quality

(*To Circular No. 45/2010/TT-BNNPTNT of July 22, 2010, of the Minister of  
Agriculture and Rural Development*)

No.	Norm	Unit	Optimum level	Permitted limit
1	BOD <sub>5</sub>	mg/l	≤ 20	< 30
2	NH <sub>3</sub>	mg/l	≤ 0.1	< 0.3
3	H <sub>2</sub> S	mg/l	≤ 0.03	< 0.05
4	NO <sub>2</sub>	mg/l	≤ 0.25	< 0.35

5	pH		7.5 ÷ 8.5 8.0 ÷ 8.3	7÷9, fluctuating not more than 0.5 in the day
6	Temperature	°C	20 ÷ 30	18 ÷ 33
7	Specific gravity	‰	10 ÷ 25	5 ÷ 35
8	Dissolving oxygen (DO)	mg/l	≥ 4	≥ 3.5
9	Clarity	cm	30 ÷ 35	20 ÷ 50
10	Alkaline	mg/l	80 ÷ 120	60 ÷ 180

**Appendix 2. Requirements on machinery, equipment and tools for 1 ha of food safety and hygiene-guaranteed intensive tiger shrimp and white-leg shrimp rearing**  
(To Circular No. 45/2010/TT-BNNPTNT of July 22, 2010, of the Minister of Agriculture and Rural Development)

No.	List	Unit	Specifications	Quantity
1	3m <sup>2</sup> - casting net	piece	Net mesh 2 a = 15 mm	1
2	Hand-net for picking up dirt in ponds	piece	Net mesh 2 a = 10 mm	4
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 - 50°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



**Appendix 3. Requirements on quality of wastewater from shrimp ponds***(To Circular No. 45/2010/TT-BNNPTNT of July 22, 2010 of the Minister of Agriculture and Rural Development)*

No.	Norm	Unit	Permitted limit
1	BOD <sub>5</sub>	mg/l	< 30
2	NH <sub>3</sub>	mg/l	< 0.3
3	H <sub>2</sub> S	mg/l	< 0.05
4	NO <sub>2</sub>	mg/l	< 0.35
5	pH		6 ÷ 9
6	Temperature	°C	18 ÷ 33
7	Specific gravity	%0	5 ÷ 35
8	Dissolving oxygen (DO)	mg/l	≥ 3.0
9	Clarity	cm	20 + 50
10	Alkaline	mg/l	60 ÷ 180