



Food and Agriculture  
Organization of the  
United Nations



## FAO/China Intensive Training Course on Tilapia Lake Virus (TiLV)

Sun Yat Sen University, Guangzhou, China

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### TRAINING COURSE SESSION MODULES SESSION 5 TiLV Control

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## SESSION 5 TiLV Control

### Introduction

Aquaculture is one of the fast growing agricultural sector during the last three decades. To date, aquaculture account close to 50 percent of total fish and shellfish production. However, growing of aquaculture production face many challenges due to the intensive farming, changing of environment, trading of live animals and products and limited natural resource (Murray and Peeler 2005). Such combinations increase the risk of infection especially the introduction of new diseases in aquaculture. Recently, the emergence and spreading of TiLV into 3 continents and 12 countries raise global awareness concerning that the virus can be introduced into new geographical locations (OIE, 2018). Thus, implementation of control measure and regulations should be introduced. Additionally, risk analysis should be evaluated to determine the appropriate control measures such as disinfections and vaccines. There are number of strategies that a tilapia farmer can implement to mitigate production loss from disease, such as the on-farm biosecurity practices, use of disease free brood stock and fingerlings, and vaccination. However, the specific pathogen free (SPF) (TiLV-free) program and vaccines are currently not available. As such, on-farm biosecurity protocols include strict regulation of live fish movement, disinfection of equipment and transport truck (Huang J 2017). Moreover, identifying the risk of TiLV infection is important to reduce the impact of disease. Susceptible of other fish species and different strains of tilapia should be determined to identify carrier or fish that may pose low infection for disease spreading. The eradication of TiLV could be quite difficult for complete removal of the disease from natural environment in both farmed and wild fish. Analysis of risk and risk management measure should be considered when developing national strategies for TiLV health management such as introductions and transfers of live fish in the country between regions of different TiLV status, identify compartments, zone and regions to establish surveillance and monitoring program and increase biosecurity at the farm production level, region, and country level (OIE, 2017).

Trade restrictions and prevention of international spreading must comply with OIE standards e.g. certification procedures, consider of sanitary measures to reduce risk of disease such as regulation of import and export of live fish and products, application and procedures for the management of TiLV-free status (OIE, 2017). Regulation of transportation of aquatic animals and animal products, disinfection and sanitary work, measures at the departure and import area should be implemented. Moreover, the quarantine of live animal movement domestically or internationally should be established (FAO, 2008). Government policy-makers and responsible authorities should determine their need for quarantine capacity and implementation of aquatic animal quarantine under the cost-effective manner that are necessary for efficient biosecurity programs. Also, the authorities may need to set up technical guidance and practical standard for government, private sector and authorities. Improved diagnostic capabilities, emergency preparedness and

### Learning objectives

To allow workshop participants to

- learn how to implement of restrictions in international trades to control the spreading of TiLV
- gain knowledge and learn the biosecurity at the farm level and management of TiLV infection in the farm and area of tilapia culturing farms and areas

## Learning outcomes

At the end of the course module, participants are able to:

- understand the implementation of trade restrictions, requirement for import and export of live fish and tilapia product
- the process to limit the spreading of emerging disease between regions and countries
- understand the role of farm biosecurity to limit or prevent the spreading of TiLV into nearby location or new geographical areas
- apply the implementation and procedures for the management of TiLVD-free farm status

## Module duration

Day 6 (6/23): 08:30-12:00

## Lectures

- Implementation of restrictions in international trade (WS)
- Farm-level biosecurity (TiLVD prevention and management) (WS)
- Quarantine (HL)

## Background documents

- ppt presentations
- video presentations

## Key references

1. Murray and Peeler 2005. A framework for understanding the potential for emerging diseases in aquaculture. *Prev Vet Med.* 67: 223-235.
2. World Organisation for Animal Health (OIE) 2018. Tilapia Lake Virus (TiLV)-A Novel Orthomyxo-like Virus. [http://www.oie.int/fileadmin/Home/eng/International\\_Standard\\_Setting/docs/pdf/Aquatic Commission/A\\_TiLV\\_disease\\_card.pdf](http://www.oie.int/fileadmin/Home/eng/International_Standard_Setting/docs/pdf/Aquatic_Commission/A_TiLV_disease_card.pdf)
3. Huang J 2017. The role of biosecurity in aquatic animal health. [http://www.rr-asia.oie.int/fileadmin/Regional\\_Representation/Programme/I\\_Welfare/2017.12\\_FP\\_AA\\_Qingdao/2-2. Huang Biosecurity role for aquatic animals.pdf](http://www.rr-asia.oie.int/fileadmin/Regional_Representation/Programme/I_Welfare/2017.12_FP_AA_Qingdao/2-2_Huang_Biosecurity_role_for_aquatic_animals.pdf)
4. OIE, Aquatic Animal Health Code 2017. <http://www.oie.int/standard-setting/aquatic-code/>
5. FAO 2008, Procedures for the quarantine of live aquatic animals. <http://www.fao.org/3/a-i0095e.pdf>