# Tilapia lake virus infection in fingerlings of tilapia, Kerala

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Globally, tilapia (*Oreochromis* spp.) has occupied the second position as a species of importance in the aquaculture trade. Tilapia contributes to the nutritional security of the economically low-income group. The first incidence of tilapia lake virus (TiLV) infection was documented in Israel during 2013 and subsequently in Ecuador (Eyngor *et al.*, 2014; Ferguson *et al.*, 2014). Later the disease was reported in many parts of the world and caused substantial economic loss to tilapia fish farming. The incidence of TiLV in India was reported in 2018 (Behera *et al.*, 2018).The mortality due to the virus varies between 20 to 80% and TiLV has emerged as a major viral pathogen that causes serious risk to the tilapia industry. TiLV is a negative-sense, single-stranded RNA virus. TiLV has been identified as the causative agent in diseased tilapia in the continents of Asia, America, and Africa. TiLV-related fish deaths have been reported in wild tilapia (*Sarotherodon galilaeus*),x farmed tilapia (*Oreochromis niloticus*), and commercial hybrid tilapia (*O. niloticus* X *O. aureus*) (Ferguson *et al.*, 2014; Eyngor *et al.*, 2014; Bacharach *et al.*, 2016). They can infect tilapia including fingerlings and adults. Mortality was mostly reported in tilapia fingerlings. The disease gets transferred within ponds and between ponds and both horizontal and vertical transmission has been documented (Eyngor *et al.*, 2014;Yamkasem *et al.*, 2019). Clinical presentations associated with TiLV infections can vary between regions (Jansen *et al.*, 2019).Clinical signs include lethargy, ocular alterations, skin erosions, discolorations and abnormal behavior.

In this report, TiLV infection from a fin fish farm in Kerala is reported. In the month of June, 2020, Tilapia fingerlings were brought to ICAR-Central Institute of Fisheries Technology, Cochin laboratory to check the quality of seeds (Fig 1). The gills, liver and kidney from individual fish were pooled together and Trizol reagent was used to extract RNA from the samples. RevertAidH minus first strand cDNA synthesis kit was used to synthesize cDNA from the extracted RNA (Thermo scientific, USA).

***Fig.1*** *Seeds tested with TiLV*

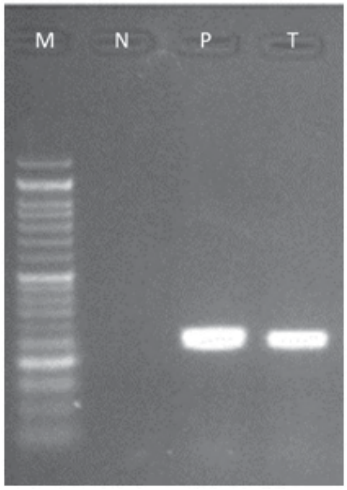


***Fig.2*** *PCR picture showing TiLV positive tissue (Lane M: DNA Ladder, Lane N: Negative Control, Lane P: Positive control. Lane T- seed sample)*

PCR was carried out using the cDNA of the 8 samples using TiLV ME1 and TiLV ME2 primers as described by Eyngor *et al*. (2014). All the positive PCR products were subjected to DNA sequencing analysis and the sequences showed 100% similarity to TiLV sequences. Based on this study it is recommended that the broodstock of tilapia used for breeding and tilapia seeds used for culture have to be screened for the presence of TiLV for the control of TiLV infection.

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