Malaysia

National action plan elements
Location of the government hatcheries, tilapia culture sites, diagnostic labs

- Lake Kenyir
- Lake Pergau
- Lake Pedu
- Lake Temenggor
- Pahang River
- Tunjang lab
- NaFisH
- Lake Perkau
- Biosec Lab Kuantan
- Biosec lab Bintawa
- KLIA BioLab
- DOF HQ
- Biosec Lab Johor FRI GP lab
- Batang Ai River
- DVS lab

Government hatchery (tilapia breeding centre)
Culture systems – cage, earthen ponds, tanks system
13 Gov. hatcheries, 8 tilapia, 150 private hatch
Wild in lakes, dam, ex mining pool, local consumption
Average production per year = 20,000 – 30,000 MT (2011 – 2015)
Fry importation : 3 – 4 mil in values /year
Suspected case of TiLV

Chairman of the response team (HQ)

Chairman of the response team (state fisheries)

State response team

Lab

SOP, accreditation

PCR & sequencing (TiLV Ref lab)

Report to state fisheries & HQ response team

Diagnosis & Retesting by NaFisH (crosscheck)

Field investigation SOP

Samples & Data collection

Instruct & manage the action by the state response team

Checklist and forms

Instruct the chairman of state response team

Notification

Diagnostic Reports

Report by stakeholders on mass mortality of tilapia at a culture site

Control & prevention strategies
TiLV reports in Malaysia (NaFisH/Biosecurity Division Database)

Kedah - 2017
3 related cases at 3 different culture sites

2017 Lake/wild

2018 Lake Cages

2017 River culture sites
Surveillance strategy

1. Objective: prevalence & possible risk factors in ......
2. All the susceptible species of tilapia (young, adults stages and broodstocks) in hatchery and wild population.
3. Throughout year in wild and every quarterly at hatcheries
4. Develop the correct case definition
5. Samples randomized designed in wild and hatchery ponds at unit level
6. Testing all the samples with molecular techniques, histopathology, and other relevant test (if possible)

<table>
<thead>
<tr>
<th>Sampling cost</th>
<th>Per trip</th>
</tr>
</thead>
<tbody>
<tr>
<td>daily allowance/average per person</td>
<td>45</td>
</tr>
<tr>
<td>lodging</td>
<td>100</td>
</tr>
<tr>
<td>chemicals (alcohol)</td>
<td>90</td>
</tr>
<tr>
<td>viral transport media</td>
<td>50</td>
</tr>
<tr>
<td>bacterial media</td>
<td>10</td>
</tr>
<tr>
<td>buffered formalin</td>
<td>10</td>
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<tr>
<td>other consumables</td>
<td>100</td>
</tr>
<tr>
<td>car rentals</td>
<td>300</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Lab cost</th>
<th>Per sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCR</td>
<td>50</td>
</tr>
<tr>
<td>histopathology</td>
<td>20</td>
</tr>
<tr>
<td>bacteriology</td>
<td>30</td>
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<tr>
<td>cell culture isolation</td>
<td>100</td>
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Total cost/day/trip: RM905

RM1 = USD4.2
Currently, Malaysia has developed the general contingency plan and several SOPs and forms that can be downloaded in the DOF website: [www.dof.gov.my](http://www.dof.gov.my)
What needs to be done

• Review and approve rules and regulations to effectively contain and mitigate the outbreak of TiLV
• Review and add in the TiLV as a national disease list pathogen
• Conduct surveillance starting at the hatchery level to know the true status of TiLV in the country for control and prevention strategies and for reporting
• Increase number of trained staff at field and at lab, local and international level
• Review the SOP for live movement of tilapia locally and internationally
• Increase awareness of TiLV at all levels
• Simulation exercise
TERIMA KASIH

謝謝