COUNTRY REPORT

SWINE DISEASE SITUATION, CONTROL AND PREVENTION IN VIETNAM

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Organization: Department of Animal Health
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Structure of Veterinary Services

MINISTRY OF AGRICULTURAL AND RURAL DEVELOPMENT

DEPARTMENT OF ANIMAL HEALTH
Function Divisions:
- Personnel and Administration
- Epidemiology
- Inspection & Quarantine
- Drug & Vaccine Management
- Legislation & Inspection
- Plan (Inter. Cooperation & Science)
- Finance

Provincial Sub-Department of Animal Health

Regional Animal Health Offices (RAHO)
- No. 1
- No. 2
- No. 3
- No. 4
- No. 5
- No. 6
- No. 7

Regional Sub Departments of Animal Quarantine and Inspection

District Veterinary Station

Domestic Inspection Station

Communal Veterinary Team

Join Swine Disease Control in Asia

Professional Centers
- The National Center for Vet. Diagnostics
- The National Center for Vet. Bio-products Inspection 1, 2
- The National Center for Hygiene Inspection 1, 2

National Institute of Veterinary Research

Veterinary Drug and Vaccine Company
Joint FAO/OIE Workshop on Swine Disease Control in Asia
Swine diseases history / situation
List of common diseases in pigs in VN

- Blue ear (PRRS)
- Foot and mouth disease
- Classical Swine Fever
- Pasteurellosis
- Erysipelas
- Salmonellosis
- Leptospirosis
- E.coli
HP-PRRS in Vietnam

- In March 2007, HP-PRRS was found in Hai Duong province in the northern part of Vietnam.
- Clinical and pathological findings similar to outbreaks in China in 2006
- HP-PRRS has become endemic in Vietnam
- However, there seems to be a seasonal pattern in the occurrence of HP-PRRS in Vietnam: winter to spring in the north, and summer to autumn in the south.
Spatial comparison of the distribution of PRRS in Vietnam from 2007-2010
# A summary of PRRS since 2007

*Source: Epi.Div, DAH (2014)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Province</th>
<th>District</th>
<th>Commune</th>
<th>No of infected pigs</th>
<th>Disposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>14</td>
<td>65</td>
<td>324</td>
<td>70,577</td>
<td>20,366</td>
</tr>
<tr>
<td>2008</td>
<td>28</td>
<td>103</td>
<td>982</td>
<td>309,586</td>
<td>300,906</td>
</tr>
<tr>
<td>2009</td>
<td>14</td>
<td>26</td>
<td>69</td>
<td>7,030</td>
<td>5,847</td>
</tr>
<tr>
<td>2010</td>
<td>49</td>
<td>289</td>
<td>2,065</td>
<td>833,641</td>
<td>457,708</td>
</tr>
<tr>
<td>2011</td>
<td>15</td>
<td>49</td>
<td>264</td>
<td>42,317</td>
<td>26,519</td>
</tr>
<tr>
<td>2012</td>
<td>23</td>
<td>74</td>
<td>353</td>
<td>77,482</td>
<td>44,962</td>
</tr>
<tr>
<td>2013</td>
<td>27</td>
<td>68</td>
<td>199</td>
<td>41,262</td>
<td>19,569</td>
</tr>
</tbody>
</table>

No outbreak since August of 2013
Epidemiological characteristics

- PRRS occurred in all three main areas in Vietnam: North + Middle and South.
- PRRS outbreaks indicated that a highly path. PRRS virus is circulating in Vietnam.
- There are other pathogens involved in PRRS infection: CSF, P.multocida, Sal, Myco, Strep.suis, etc
- PRRS epidemic was difficult to control.
- Late detection and reports contributed to the rapid spread and more difficult in control of PRRS outbreaks.
- Uncontrollable/illegal animal movements within and to outside infected areas have been the main pathway for spreading PRRS outbreaks.
- High infection rate + high mortality and sudden deaths
## FMD In pigs

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infected province</td>
<td>24</td>
<td>44</td>
<td>26</td>
<td>5</td>
<td>16</td>
<td>5</td>
<td>35</td>
<td>12</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Infected pigs</td>
<td>7.012</td>
<td>33.468</td>
<td>12.386</td>
<td>67</td>
<td>499</td>
<td>1670</td>
<td>42.134</td>
<td>3.159</td>
<td>1.155</td>
<td>102</td>
</tr>
<tr>
<td>Dead/disposed</td>
<td>1.640</td>
<td>22.478</td>
<td>11.122</td>
<td>39</td>
<td>429</td>
<td>848</td>
<td>31.933</td>
<td>1.365</td>
<td>517</td>
<td>47</td>
</tr>
</tbody>
</table>

(* First 6 month)
Serotype distribution

- **FMDV Type O:**
  - During 1999 – 2004 were topo-types Cathay (*in pigs only*) & Pan Asia.
  - During 2004-2006 with 3 topo-types: ME-SA, SEA -MYA98 & Cathay
  - During 2006-2009 was topo-type SEA-MYA98
  - From 2010 until now: main topo-type Pan Asia.

- **FMDV Type A:** during 2006-2009 belonged to genotype IX (Asia)

- **FMDV Type Asia 1:**
  - During 2005-2006 belonged to Group IV
  - In 2007 belonged to Group V
Other diseases in pig

- **CSF**

- **Pasteurellosis**

- **Erisipelas**

- **Salmonellosis**

- **Leptospirosis**

- **E.coli**
Swine disease control
Swine disease control

- Communication
- Surveillance/early detection and timely report
- Directions for the control of disease
- Animal movement control
- Destruction of infected animals
- Improved pig management, including cleaning and disinfections.
- International cooperation.
- Vaccination
Vaccination

- Strictly applying vaccination, especially those diseases in the list of the Government.
- Supplementary vaccination for new animals in herds (new born, new buying, etc.).

Vaccines used in the first 6 months of 2014 (Unit: Dose)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>1,559,899</td>
</tr>
<tr>
<td>Salmonella</td>
<td>672,255</td>
</tr>
<tr>
<td>Pasteurella</td>
<td>872,506</td>
</tr>
<tr>
<td>Erysipilas</td>
<td>8,120</td>
</tr>
<tr>
<td>Leptospira</td>
<td>10,601</td>
</tr>
<tr>
<td>E. Coli</td>
<td>11,927</td>
</tr>
<tr>
<td>Mycoplasma</td>
<td>1,320</td>
</tr>
</tbody>
</table>
Improvement of laboratory system for diagnostics

- To consolidate Epi Labnet of DAH.
- Investment in infrastructures, equipments, reagents; strengthening training, educating on animal disease diagnosis and testing.
Policies & supports from the Government

- A compensation policy (Decision No. 719/TTg-NN dated of 5 May 2008) was just circulated of which farmers can receive about 70% of market prices for their infected animals that must be culled.

- In the FMD National Programme in 2011 – 2015, the Government subsidize 100% of FMD vaccine to control zone and 50% to buffer zone

- To build National stock of vaccines for emergency which includes FMD and CSF vaccines.
Swine disease management policy

- To submit veterinary laws to National Assembly in 2014
- To implement successfully FMD National Programme
- To prepare National Programmes for PRRS and CSF.
- To join “One Health”, in collaboration with Public health, environmentalists, wildlife experts in focus on zoonoses such as Leptospirosis, Streptococcus suis that in a list of Joint Circular No. 16 between MOH and MARD on zoonotic diseases dated on 27/5/2013.
Swine disease management policy

- To strengthen cooperation and information sharing domestically and internationally.
- To encourage free disease farms and to construct free disease zones.
- To conduct risk assessment to some common swine diseases and to apply risk mitigation measures.
- To strengthen swine disease control throughout information sharing, surveillance, reporting system, disease investigation, etc.
Constraints / suggestions
Constraints

- Incomplete in veterinary regulations such as there is no veterinary laws existed yet in Vietnam.
- Small scales of farms (Back yard production) therefore it is difficult to apply a synchronized disease control measures. (Low biosecurity status)
- Broad circulation of the virus in pig populations, more over weather changing, high humidity which affect to healthy condition of pigs and pathogens could rise up.
- Low awareness of some farmers, some did not report the disease, selling sick pigs or discard pig carcasses to public areas
- Low attention of local authority in disease control and prevention.
- Low coverage of vaccination against dangerous diseases
- Illegal trade is still not under the control strictly.
Suggestions

- Enhance national DAH epidemiology capacity
- Review legislation and regulations
- Upgrade laboratory
- Improve procedures for disease reporting
- Improve vaccination delivery
- Improve field surveillance
- Improve response to outbreaks
- Strengthen research
- Improve biosecurity of pig production and marketing
- Improve international border inspection procedures
Thanks for your attention