Regional Laboratory Network Workshop on Diagnosis and Characterisation of Influenza A (H7N9) and Priority Swine Diseases; African Swine Fever (ASF), Classical Swine Fever (CSF) and Porcine Reproductive and Respiratory Syndrome (PRRS)

29 July - 9 August 2013
Regional Animal Health Office No.6
Ho Chi Minh City, Viet Nam

1. Background

The Food and Agriculture Organization of the United Nations (FAO) has been collaborating with other international organizations to strengthen regional laboratory capacity development and networking. This aims to assist the national laboratories within the region in fulfilling their roles and responsibilities related to diagnosis and reporting the occurrence of the animal and/or potentially zoonotic diseases in a reliable and timely manner. The FAO regional laboratory capacity development and networking program is supported by the United States Agency for International Development Emerging Pandemic Threat Program (USAID-EPT) and the European Commission Regional Collaborative Program on Highly Pathogenic Emerging Diseases (EU-HPED). The expected outcomes under the regional program are 1) enhanced the capacity of the national veterinary laboratories to detect and diagnose diseases under a quality management system; and 2) strengthened linkages and communication pathways across the national, regional and global levels.

Several activities have been conducted to strengthen the national veterinary laboratory diagnostic capacity and quality assurance. The workshop under the platform of the regional laboratory network focusing on diagnosis of the priority diseases is one of the key activities to enhance the laboratory capacity in providing a quality diagnostic service to the priority diseases within the region. For 2013, the regional workshop on diagnosis of priority diseases will be focused on the regional priority diseases including Avian Influenza (H7N9), Rabies, Newcastle disease, and swine diseases including African Swine Fever (ASF), Classical Swine fever (CSF), and Porcine Reproductive and Respiratory Syndrome (PRRS). The regional workshops will be followed by the proficiency testing activity to ensure the quality diagnostic service of the priority diseases at the participating laboratories.

For the workshop on diagnosis of Influenza (H7N9) and the priority swine diseases, FAO in collaboration with the Department of Animal Health and the Australian Animal Health Laboratory, will organize the workshop at Regional Animal Health Office, No.6 (RAHO6), Ho Chi Minh City, Viet Nam. While the regional workshop at RAHO6 has always been focused on diagnosis of the priority swine diseases, it will be timely useful for the region to use this opportunity to offer the training on diagnosis of the recently emerged Avian Influenza (H7N9).
2. Objectives

To review the diagnostic concept of the available diagnostic assays, and provide hands-on training on diagnosis of Influenza (H7N9), ASF, CSF and PRRS

3. Dates and Venue

29 July – 9 August 2013
Regional Animal Health Office No.6, Ho Chi Minh City, Viet Nam

4. Participants

Up to 18 participants who are laboratory experts directly responsible for diagnosis of swine diseases from the national veterinary laboratories in Cambodia, China, Indonesia, Lao PDR, Philippines, Malaysia, Myanmar, Thailand and Viet Nam

5. Expected Outputs

The participants are expected to gain knowledge through the lectures, hands-on practices and discussion on the following topics:
5.1 Current disease situation for Influenza (H7N9), ASF, CSF & PRRS in the region
5.2 Concept and application of laboratory biosafety and GLP
5.3 Influenza (H7N9), ASF, CSF and PRRS Diagnosis and Diagnosis Algorithm

6. Expected Outcomes

6.1 Increased quality diagnostic services for influenza (H7N9) and the priority swine diseases in the participating laboratories
6.2 Enhanced diagnostic and research activities for influenza (H7N9) and priority swine diseases at the participating laboratories
6.3 Enhanced communication among the laboratory staffs and the regional reference laboratory (AAHL)
Workshop Program

Regional Laboratory Network Workshop on Diagnosis and Characterisation of Influenza A (H7N9) and Pig Diseases; African Swine Fever (ASF), Classical Swine Fever (CSF) and Porcine Reproductive and Respiratory Syndrome (PRRS) Diagnostic Swine Diseases

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Participants will be split into groups for the training. All participants will have hands-on training during the workshop. The workshop will cover Influenza Diagnosis with a focus on H7N9 and pig diseases ASF, CSF & PRRS.

For H7N9 serology participants can bring their own serum samples to test. Training will focus on H7N9 diagnosis and understanding the use of serology and antigen detection tests and the interpretation of the results.

The workshop will review diagnosis of ASF, CSF & PRRS with a focus on ASF. The workshop will cover the establishment of new tests in the laboratory and especially PCR and how to troubleshoot problems and the use of reference controls and current tests in the laboratory to confirm the new test is giving expected sensitivity.

Participants will be given annual Regional Proficiency Test (PT) Panels at the end of the workshop to take back to their laboratories. PT panels will need to be completed on return to the laboratory and laboratories should prepare to complete PT testing by the end of August 2013. All participants need to prepare any paperwork required for them to take reagents (PT samples) back to their laboratory. Paperwork for PT panel will be supplied for customs purposes.
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<th>TIME</th>
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<tbody>
<tr>
<td>8.00 – 12.30</td>
<td>Welcome &amp; Introduction. Completed Laboratory capability questionnaire-collection</td>
<td>H7N9 Influenza A Serology</td>
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<td>H7N9 Influenza A PCR</td>
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<td>Pre-course Questionnaire</td>
<td>Haemaglutination Inhibition Test (HI): Testing of serum samples using screening tests.</td>
<td>Haemaglutination Inhibition Test (HI): Titration of positive serum.</td>
<td>Test samples using Type A H7 &amp; N9 PCR Tests</td>
<td>Interpretation &amp; Analysis of results</td>
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<td>H7N9 overview &amp; Influenza Diagnostic Algorithm</td>
<td>H7N9 Influenza A Virus isolation</td>
<td>Interpretation &amp; Analysis of results</td>
<td>H7N9 Influenza A Virus isolation</td>
<td>Candle eggs</td>
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<td>Biosafety &amp; Class II cabinet demonstration</td>
<td>Inoculation of eggs Biosafety</td>
<td><strong>H7N9 Influenza A Virus isolation</strong> Candle eggs</td>
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<td>1.30 – 4.30</td>
<td>H7N9 Influenza A Serology</td>
<td>H7N9 Influenza A Serology</td>
<td>H7N9 Influenza A PCR</td>
<td>Review of Pig Diseases ASF, CSF &amp; PRRS</td>
<td>H7N9 Influenza A PCR</td>
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<td>Haemaglutination Inhibition Test (HI): Titration of reagents</td>
<td>Haemaglutination Inhibition Test (HI): Interpretation &amp; Analysis of results</td>
<td>Extraction of samples</td>
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<td>Extraction of samples</td>
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| 8.00 – 12.30 | **H7N9 Influenza A & ASF PCR**  
Extraction of samples  
Diagnostic Pathology for Influenza and Pig Diseases. | **Identification of VI sample (H7N9) by HA**  
Using Reference serum  
**ASF PCR**  
SOP for establishing a new test in your laboratory  
Use of QA and IQC reference controls | **H7N9 Influenza A PCR**  
Interpretation & Analysis of results from VI samples  
Review QA and IQC  
Report results with recommendations  
Discussion on trouble shooting | **ASF & H7N9 PCR**  
Further tests set-up  
SOP for Establishing a new test in your laboratory  
Agree on SOP  
Reporting results  
Discuss Problems | Results  
Discussion  
Electronic Copies of Methods, results  
Post-course Questionnaire |
| 1.30 – 4.30 | **H7N9 Influenza A PCR**  
Test VI samples using Type A H7 & N9 PCR Tests | **Identification of VI sample (H7N9) by HA**  
Using Reference serum  
**ASF PCR**  
SOP for establishing a new test in your laboratory  
Use of QA and IQC reference controls | **ASF PCR**  
Interpretation & Analysis of result  
Review QA and IQC  
Report results with recommendations  
Discussion on trouble shooting | **ASF & H7N9 PCR**  
SOP for Establishing a new test in your laboratory  
Using Network and reference laboratories  
Discussions with Epidemiology grp for use of new test and sensitivity and specificity required. | Proficiency Panel delivery  
Instruction on testing required and due date  
Conclusion |