To vaccinate or not to vaccinate:
using modelling to evaluate FMD control options
(Component 1.1.)
Frascati, Italy – From 29 November to 2 December 2016

AGENDA

Objectives:
This workshop is intended to expose participants to the use of epidemiological modelling and socio-economic analysis in decision-making for FMD contingency planning and response. The participants will evaluate the decision-making process concerning FMD control strategies from an epidemiology perspective using the Australian Animal Disease Model as a decision-support tool. Strategies will also be evaluated from a socio-economic perspective by exploring spreadsheet models and participatory multi-criteria decision analysis to measure costs and account for stakeholder concerns and other factors of importance.

Learning Outcomes:
At the end of the workshop, the participants should be able to:

- Understand the different factors to consider for both epidemiological and socio-economic evaluation of FMD control options.
- Understand the limitations and strengths of decision-support tools used for FMD decision-making.
- Design modelling studies to explore various questions related to FMD control.
- Understand important factors to evaluate when selecting a model to address key questions.
- Understand the types of expertise necessary to include on your team when addressing questions.
- Design simple studies to evaluate the socio-economic aspects of FMD decision-making.
- Have insight into those factors that have a large impact on the choice of a preferred strategy.
- Understand options for initiating the use of modelling in own country, resources and expertise required, and resources available to assist.
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<thead>
<tr>
<th>Day</th>
<th>Objecive for the day</th>
<th>Assignment/Continuation</th>
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<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td><strong>Defining the problem and building teams</strong>&lt;br&gt;<strong>Objectives for this day:</strong>&lt;br&gt;- Provide a recap of the material covered in the e-learning&lt;br&gt;- Introduction to the workshop and Game&lt;br&gt;- Introduction to tools that will be used in the workshop: epidemiological modelling and socio-economics</td>
<td><strong>Assignment 1:</strong> Defining the questions (plenary group discussion)</td>
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<td><strong>Day 2</strong></td>
<td><strong>Study design, scenario building and modelling</strong>&lt;br&gt;<strong>Objectives for this day:</strong>&lt;br&gt;- Introduction to the economic tool that will be used, and identify data to use&lt;br&gt;- Finalize the scenarios that will be explored using AADIS and start model runs</td>
<td><strong>Assignment 2:</strong> Introduction to the scenarios&lt;br&gt;<strong>Assignment 3:</strong> Run the planned control scenarios in AADIS&lt;br&gt;<strong>Assignment 4:</strong> Economic analysis</td>
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<td><strong>Day 3</strong></td>
<td><strong>Analysing results</strong>&lt;br&gt;<strong>Objectives for this day:</strong>&lt;br&gt;- Finalize model runs and start analysis of results&lt;br&gt;- Complete list of socio-economic parameters and factors to consider in analysis&lt;br&gt;- Build socio-economic analysis model or application&lt;br&gt;- Discussion of results obtained and the considerations for communicating results</td>
<td><strong>Assignment 3 &amp; 4 (continued)</strong>&lt;br&gt;<strong>Assignment 5:</strong> Use participatory multi-criteria analysis to evaluate the different control strategies.&lt;br&gt;<strong>Assignment 6:</strong> Prepare a presentation summarizing your results.</td>
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<td><strong>Day 4</strong></td>
<td><strong>Communicating Model Results and next steps</strong>&lt;br&gt;<strong>Objectives for this day:</strong>&lt;br&gt;- Teams present their findings and interpretation of results&lt;br&gt;- Close of workshop/next steps</td>
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### Day 1 - Tuesday

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<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator(s)</th>
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| 9.00 - 9.30 | Welcome  
Workshop purpose and expectations  
Introductions                               | M. McLaws  
M. Hovari  
M. de la Puente                      |
| 9.30 - 10.30 | **Introduction to Modelling** - review of e-learning material                               | M. McLaws  
M. Hovari  
M. de la Puente                      |
| 10.30 - 11.00 | Coffee break                                                                                 |                           |
| 11.00 - 11.30 | **Socio-economics and disease control: overview**                                           | R. Bergevoet             |
| 11.30 - 12.00 | **Introduction to the workshop GAME** (teams and team names)                               | M. McLaws  
M. Hovari                      |
| 12.00 - 13.00 | **Assignment 1: Defining the questions (plenary group discussion)**                        |                           |
| 13.00 - 14.00 | Lunch                                                                                       |                           |
| 14.00 - 15.30 | **Introduction to AADIS**  
- Overview of Australian environment, livestock production, jurisdictions and animal health systems, emergency disease response and the importance of modelling to support disease planning and response  
- How AADIS was constructed to meet the challenges of providing an effective decision-support for disease managers in terms of complex regional heterogeneities in environment and livestock production systems, multiple jurisdictions, and a range of FMD management measures  
- AADIS demonstration                             | G. Garner and  
R. Bradhurst                      |
| 15.30 - 16.00 | Coffee break                                                                                 |                           |
| 16.00 - 17.30 | Group work: **AADIS tutorial**                                                              |                           |

### Day 2 - Wednesday

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<td>9.00 - 9.30</td>
<td><strong>Introduction to the scenarios and Assignments 2 &amp; 3</strong> - overview of the three outbreak scenarios which will form the basis of the modelling work. Description of areas where FMD starts, seed herds and seasonal conditions and control measures that will be applied.</td>
<td>G. Garner</td>
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</tbody>
</table>
| 9.30 - 17.00 | **Assignments 2, 3 & 4**  
Continuous work, each team at own pace, interspersed with presentations and discussions as per below                               |                           |
| 10.30 - 11.00 | Coffee break                                                                                 |                           |
### Introduction to the socio-economic methodology to be used in the workshop and Assignment 4

**R. Bergevoet**

**Lunch**

**FMD Impact calculator**

**M. McLaws**

**Coffee break**

**Plenary session**
- each team to report progress to CVO, discuss any questions or issues that might arise

**AADIS Under-the-Hood (optional)**

**R. Bradhurst**

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### Day 3 - Thursday

**9.00 - 17.00**

**Assignments 3 & 4 (continued), 5 & 6**
- Continuous work, each team at own pace, interspersed with presentations and discussions as per below

**9.00 – 10.30**

**Analysis and evaluation of socio-economic results**
- **Introduction to Assignment 5**
  - R. Bergevoet

**10.30 - 11.00**

**Coffee break**

**13.00 - 14.00**

**Lunch**

**14.00 - 14.30**

**Communicating modelling results: Introduction to Assignment 6**
- G. Garner

**15.30 - 16.00**

**Coffee break**

**16.30-17.00**

**Plenary session**
- each team to report progress to CVO, discuss any questions or issues that might arise

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### Day 4 - Friday

**9.00 – 9.30**

**Finalize presentations**

**9.30 - 12.00**

**Group presentations to CVO**
- (30 mins per group, including time for discussion)

**10.30 - 11.00**

**Coffee break**

**12.00 - 13.00**

**Facilitated discussion:**
- limitations that were found and the anticipated impact these had on the results
- application of these results to other countries
- use of models in peace-time vs during outbreak
- data to collect to inform contingency plans and parameterize models

**R. Bergevoet/G. Garner**
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<tr>
<td>13.00 - 14.00</td>
<td>Lunch</td>
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<tr>
<td>14.00 - 14.30</td>
<td>How can veterinary services develop a modeling program: what expertise is required, institutional relationships</td>
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<td>- CroBoDiMo project</td>
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<td>- What next? How will you use what you learned in this workshop?</td>
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<td>- What are National and European gaps?</td>
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<td>- Suggestions, ideas, next-steps, course feedback forms</td>
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<td>14.30-15.00</td>
<td>R. Bergevoet/G.Garner</td>
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<td>M. McLaws</td>
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<td>M. de la Puente</td>
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<td>M. Hovari</td>
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