FMD and SVD Combined Proficiency Test Studies 2011

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Introduction

- The European Reference Laboratories (EURLs) are directed to organise annual proficiency testing for the National Reference Laboratories (NRLS) of EU Member States.
- The WRL at Pirbright also fulfils this function for other regions for the control of FMD.
- This enables the harmonisation of testing between national and international reference laboratories.

Aim

- To complete a proficiency testing study for diagnostic methods for FMD and SVD during 2011.
- To enable a clear picture of the scale of activities, the state of QA accreditation and the tests being used by Member States during 2010/2011 to be compiled.

Sample preparation

Four panels were prepared for those labs requesting them:

- Panel 1 : infectious material for virus detection
- Panel 2 : non-infectious material for virus genome/antigen detection.
- Panel 3 : non-infectious material for FMD serology
- Panel 4 : non-infectious material for SVD serology
- Ten panel sets were tested in order to set up the criteria to assess all the labs' performances.
- Each sample was randomly assigned a number and labelled accordingly.

Sample Testing

- The priority serotypes were O and Asia 1.
- Particular tests were not specified, but labs were invited to select tests and interpret results.
- Participating labs were asked to answer which samples were FMD/SVD positive or negative in which tests. Also an overall interpretation for each sample.
- Labs were asked to supply us with copies of the standard operating procedures (or methodologies) for the tests carried out.

Conclusions

- Many of the results from the labs corresponded well.
- There were some discrepancies - e.g. due to sensitivity or specificity issues.
- Generally a very good response from labs that are keen to monitor the quality of their diagnostic testing.

Participation and Sponsorship

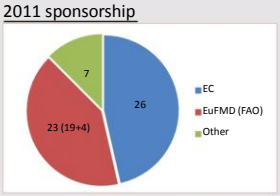
2010

- Countries invited = 78
- Total participants = 52

2011

- Countries invited = 80
- Total participants = 56

2011 sponsorship



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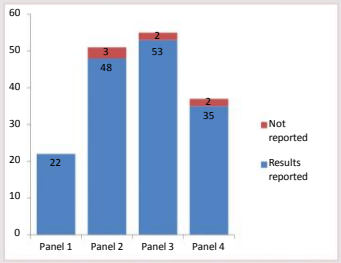
Participation

Panels supplied and results reported



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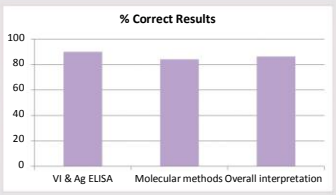
Panel 1

Panel 1 : infectious material from 2 cases of suspected vesicular disease for virus detection

Tests:

- Virus Isolation
- Antigen ELISA
- Molecular methods - e.g. RT-PCR



VI & Ag: n=20

Molecular methods: n=19

Overall Interpretation: n=22

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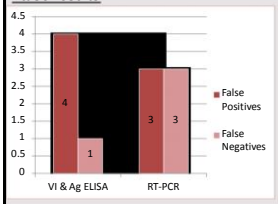
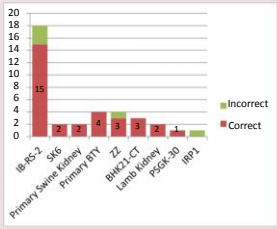
Results - Panel 1

False results



Cell culture system used



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Panel 2

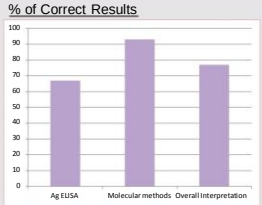
Panel 2 : non-infectious material from cattle or pigs for virus genome/antigen detection.

Tests:

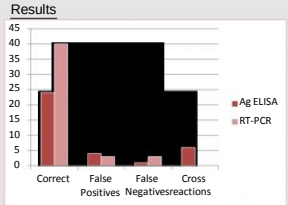
- Antigen ELISA
- Molecular method - e.g. RT-PCR

Ag ELISA : n=36
Molecular Methods : n=43
Overall Interpretation : n=35

% of Correct Results



Results



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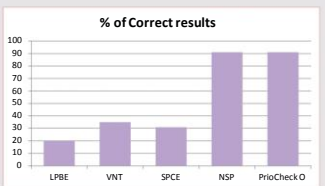
Panel 3

Panel 3 : non-infectious material for FMD serology

Tests:

- Liquid Phase Blocking ELISA (LPBE)
- Virus Neutralisation Test (VNT)
- Solid Phase Competition ELISA (SPCE)
- Non Specific Protein ELISA (NSP)
- PrioCheck O ELISA



LPBE : n=25

VNT : n=20

SPCE : n=13

NSP : n=55

PrioCheck O : n=22

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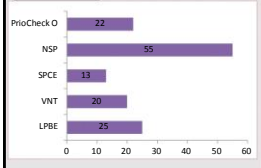
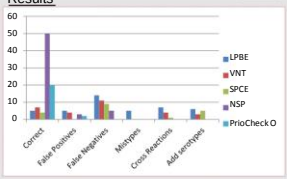
Results - Panel 3

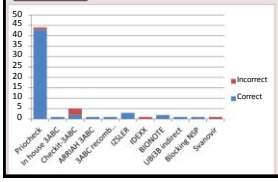
Choice of test



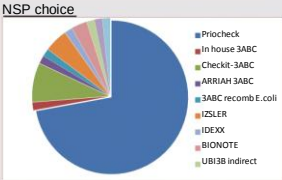
Results



NSP results



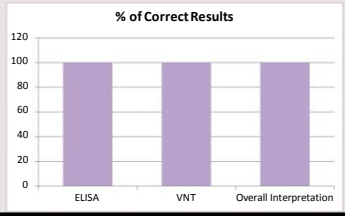
NSP choice



Panel 4

Panel 4 : non-infectious material for SVD serology

Tests:
- ELISA
- Virus Neutralisation Test (VNT)
- Overall Interpretation



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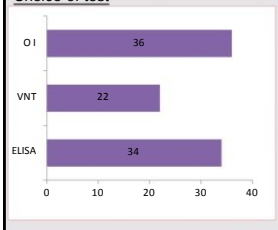
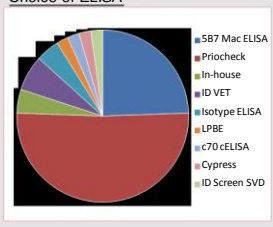
Results - Panel 4

Choice of test



Choice of ELISA



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Conclusion

- Some labs did not send the results back as requested.
- Many of the results from the labs corresponded well, especially panel 4.
- There were some discrepancies - e.g. due to sensitivity or specificity issues, leading to false results or mistyping.
- In some labs there may be the need to establish certain tests, or certain serotypes/SVDV within a test.
- A number of QA systems are used by the labs, including ISO 9001, 17025 and in-house systems.
- Generally a very good response from labs that are keen to monitor the quality of their diagnostic testing.

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Future Work

PTS 2013

- Results template - features a drop down menu, leaving less chance for error, and a more unified input.

Future PTS

- Development of computerised system to assist the conduction of the studies and analysis of the results. Also to monitor the performance from each test and each laboratory.

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A

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