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RESOLUTION 24

THE RE-EVALUATION OF THE BRUCELLOSIS RING TEST

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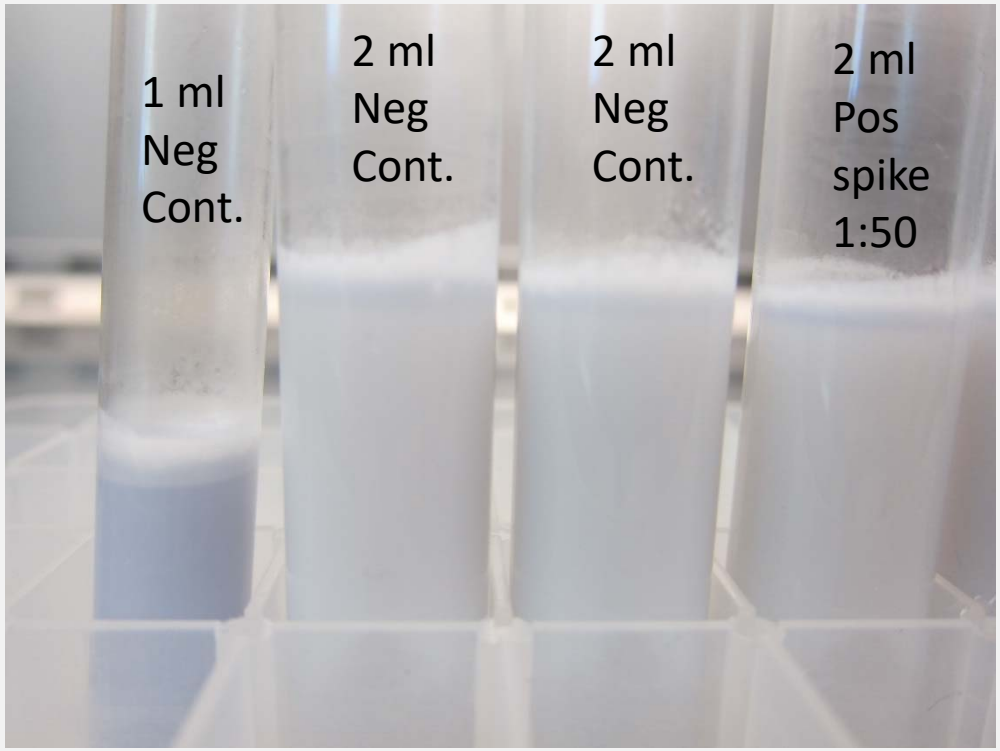
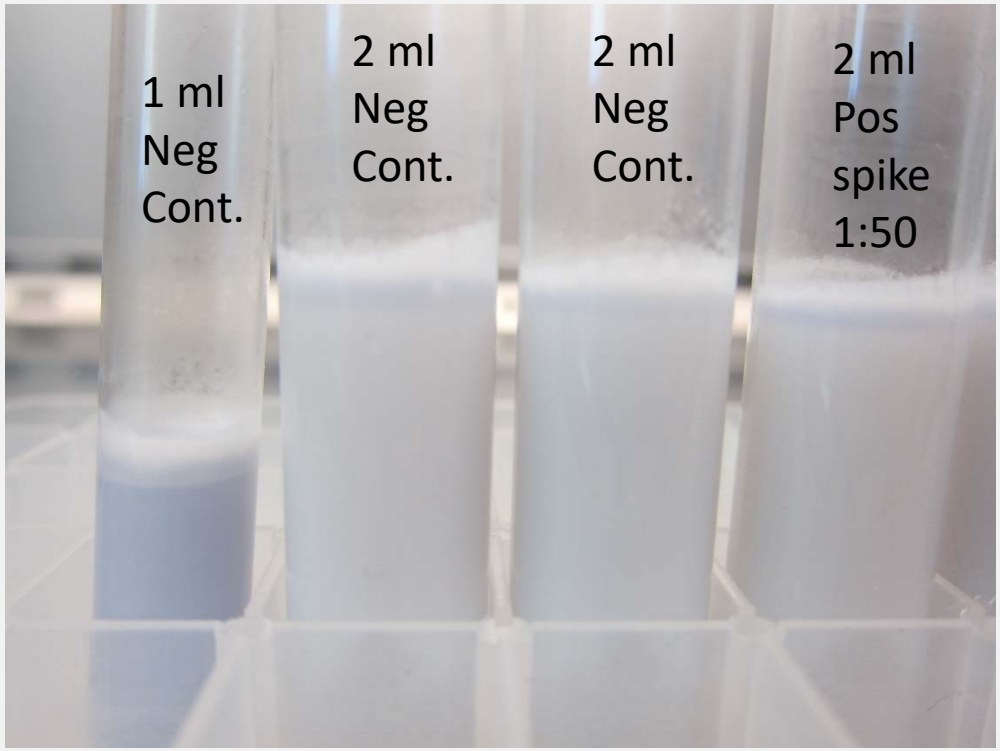
In 2015 results from a BRT –ELISA comparison trial showed problems with use of the BRT, particularly at the 2, 3 and 4 ml volumes.



“Any blue layer at the interface of milk and cream should be considered positive as it might be significant, especially in large herds”.

The BRT failed to detect a spiked sample of 1:50, and was indistinguishable from the negative controls.



<u>"Any blue layer at the interface of milk and cream should be considered positive as it might be significant, especially in large herds"</u>.

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RESOLUTION:

1) Review the process for, and evaluate the production of Brucellosis Ring Test (BRT) antigen.

2) BRT procedures, interpretation, and program use be re-evaluated immediately to determine where discrepancies may exist and solutions be implemented to correct them.

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Part 1 - Review the process for, and evaluate the production of Brucellosis Ring Test (BRT) antigen.

1) NVSL evaluated cell propagation, cell inactivation, cell dye procedures, and pH range of final antigen.
2) Also NVSL produced several lots using different centrifugation parameters and no differences were found.
3) Furthermore Animal Health and Veterinary Laboratories Agency (AHVLA) antigen was evaluated and no improvements in sensitivity and specificity was seen.

Conclusion: it does not appear the quality of the BRT antigen has changed from previous years.

Part 2 - BRT procedures, interpretation, and program use be re-evaluated immediately to determine where discrepancies may exist and solutions be implemented to correct them.

1) NVSL discussed the BRT procedure and interpretation with laboratories performing the test.
   - Negative and positive control use was variable and inconsistent between laboratories.
   - At least two laboratories reported difficulties with specificity at test volumes > than 1 mL, not including NVSL.
   - In general Heat Inactivation Ring Test follow up testing would significantly reduce the false positivity, but low positive controls would occasionally revert to negative, suggesting reduced sensitivity.

In Summary, as laboratories have implemented QA/QC procedures by using standardized controls and interpretation guidelines, the problems with specificity (especially at volumes > 1 mL) have become more apparent.

Pilot side by side testing with the ELISA in some of these problematic herds in collaboration with TAHC suggests the ELISA may be significantly more specific.

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