National Veterinary Services Laboratories (NVSL)
***Leptospira* microscopic agglutination test (MAT)**

Proficiency Test Summary

1. Composition of proficiency test panel: The panel consists of 20 serum samples to be evaluated against five *Leptospira* antigens. Individual samples consist of 0.50 ml of serum provided in bottles with rubber stoppers and aluminum seals. Up to four results are accepted from individual participants at a laboratory.

2. Cost of proficiency test: Click here to view current NVSL Catalog of Reagents

3. Storage conditions: Short term (up to 28 days), store at 4° ± 2° C. Long term, store at <-20° C in a non-frost free freezer.

4. Sample preparation/selection criteria: Samples consist of extensively evaluated sera that have been studied for reproducibility. The panel is assembled by the Bacterial Identification Section of the Diagnostic Bacteriology Laboratory (DBL), NVSL, prior to shipment to participating laboratories to ensure that the samples have measurable results.

5. Panel quality control: Samples are monitored for reproducibility. Bulk volumes of serum are filtered using a 0.45 μm filter prior to bottling.

6. Timing of the proficiency test distribution: The Leptospira MAT is available once every three years.

7. Test method: Performance of the *Leptospira* MAT should be conducted by following the protocol published in the Proceedings of the 1987 United States Animal Health Association. The protocol is available from the NVSL upon request.

8. Submitting test results: Participants are required to submit data for scoring within 30 days of panel distribution. Results are reported to the laboratory director for all participants.

9. Scoring of individual panel samples: The results of each proficiency test participant are evaluated based on identity, accuracy, and total composite score. For the purpose of identity scoring, the median titer value for a sample is determined from the titers provided by all participants. Each time the participant titer matches the median for a sample (in terms of positive = positive or negative = negative) five points are awarded. If a sample is misidentified, 0 points are given. A misidentified sample is one where the median titer for the sample was positive at a titer of 100 or greater, and the participant identified it as negative, or vice versa. In terms of scoring the check test for accuracy, the median titer is determined for each sample and antigen using the responses of all check test participants. If the titer reported by a participant matches that of the median titer, five points are awarded. For each two-fold dilution deviation from the median titer, one point is deducted. A total combined score is determined using identity and accuracy scores.

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10. Laboratory pass/fail criteria: The results from this proficiency test are not used to pass or fail laboratories, but rather to assist them in improving *Leptospira* MAT performance.

11. Reporting laboratory test scores: Results for each participant are reported to their laboratory director. Final results are compiled and reported within 60-90 days of the deadline for receipt of participants' results. Results of individual laboratories are reported only to that laboratory, and summary results from all laboratories are provided with participants listed in an anonymous coded format as part of the final report. Participant and laboratory identity are conserved.

12. Remedial actions required for failing laboratories: The results from this proficiency test are not used to pass or fail laboratories, but rather to assist them in improving *Leptospira* MAT performance.

13. Special requirements: