Veterinary Services Careers Program:
Basic Epidemiology for Animal Health Technicians

March 4-7, 2008

Ft. Collins, Colorado

OBJECTIVES

After active listening to the lectures and finishing the exercises, course participants will be able to complete the following activities:

Topic: Introduction to Veterinary Epidemiology

1. Define epidemiology and veterinary epidemiology.
2. List and describe three important epidemiological activities.
3. List the benefits of a "field" approach in veterinary epidemiology.
4. Examine the role of an AHT in a field epidemiology operation.

Topic: Basic Epidemiology Concepts

5. Identify and describe the relationships among agent, host and environmental factors in the causation of disease in animal populations.
6. Identify and describe the factors important in infectious disease transmission within animal populations.
7. Apply animal, place and time categorizations to an animal population.
8. Explain the dynamics of disease transmission and the concept of herd immunity.

Topic: Measuring Disease Occurrence & Risk

9. Differentiate a ratio, a proportion, and a rate.
10. Distinguish and calculate measures of prevalence and incidence.
11. Calculate common measures of mortality and morbidity and explain their meaning.
12. Differentiate the concept of risk from measurements of risk.
13. Calculate common measures of risk and explain their meaning.

Topic: Clinical & Serological Testing

14. Explain the principles of a serological test.
15. Differentiate a screening test from a diagnostic test.
16. Evaluate a test in terms of its sensitivity, specificity, and overall misclassification.

Topic: Sampling & Statistics

17. Explain the importance of obtaining a random sample.
18. Select an appropriate random sample from an animal population to investigate a specific disease outcome or animal health characteristic.
19. Design a data collection spreadsheet in Microsoft Excel.
20. Describe and summarize qualitative and quantitative data.

21. Calculate a point estimate for the population mean and explain an associated confidence interval.
22. Calculate a point estimate for the population proportion and explain an associated confidence interval.