

# An Estimated Prevalence and Distribution of Anaplasmosis in a Subpopulation of Alabama Cattle

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## Introduction

A prospective survey was conducted to estimate the prevalence and geographical distribution of cattle infected with *Anaplasma marginale* throughout Alabama to gain a greater understanding of the risk anaplasmosis poses to the Alabama cattle industry.

## Materials and Methods

Serum samples from 68 herds located in 31 of Alabama's 67 counties were analyzed for anaplasmosis using a commercial competitive enzyme-linked immunosorbent assay (Anaplasma Antibody Test Kit, cELISA; VMRD, Inc., Pullman, WA, USA) with 95% sensitivity and 98% specificity. Herds that submitted serum samples to the Alabama Department of Agriculture and Industries Thompson-Bishop-Sparks State Diagnostic Laboratory between February 2008 and February 2009 for diagnostic serology other than *Anaplasma marginale* cELISA were selected for participation in this survey. Following completion of all requested diagnostic serology, serum samples were then assayed for *Anaplasma*

*marginale*. In accordance with the manufacturer's instructions, test sera having  $\geq 30\%$  inhibition were considered positive.

## Results

Of the 7,524 samples submitted, 73 (0.97%) were positive for anaplasmosis. Of the 68 survey herds, 22 (32.35%) were seropositive in 17 out of 31 counties, representing diffuse geographical distribution. Of the 22 seropositive herds, 10 herds had only one seropositive animal, five herds had 2-3 seropositive animals, and seven herds had four or more seropositive animals. The average number of seropositive animals per infected herd was 3.3. Average herd size for positive herds was 175, ranging from 12 to 1,263 animals per herd.

## Significance

Our interpretation is that anaplasmosis is not recognized in many cattle herds throughout Alabama, suggesting undocumented clinical and subclinical losses associated with anaplasmosis.