

# Economic Decision Analysis of Control Strategies for Anaplasmosis in Beef Herds

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## **Abstract**

Anaplasmosis is an infectious disease of cattle causing significant economic loss in affected herds. Although several different options exist for control programs, present information is inadequate for determining the best choice among the alternatives. Economic decision analysis techniques provide the opportunity for evaluating costs and expected returns under varying conditions of risk so that improved decisions can be made with regard to the choice of a herd control program for anaplasmosis.

The purpose of this study was to evaluate the relative economic merits at the herd level of various anaplasmosis control programs for beef cattle in Okla-

homa. Economic decision analysis techniques will be used to compare three basic alternative strategies: 1) no control program; 2) medication during vector season; 3) vaccination. Within each of these strategies, critical factors will be varied to conduct a sensitivity analysis in order to determine which factors have the most significant influence on the decision outcome. Information from this research will provide increased understanding about the importance of uncertainty and risk, such as variation in exposure levels and control program efficacy, and how these factors influence disease control decisions for anaplasmosis. Furthermore, this study will be useful for determining the potential value of enhanced control methodologies such as an improved or "ideal" vaccine.