

Short Communication

A FIELD SURVEY OF BOVINE ANAPLASMOSIS, BABESIOSIS AND TICK VECTOR PREVALENCE IN THE EASTERN PLAINS OF COLOMBIA

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The eastern plains of Colombia have traditionally been used for extensive cattle ranching and form a major cattle-producing area in the country. The present survey was conducted to determine the prevalence and distribution of anaplasmosis, babesiosis and tick vectors across a large region of the eastern plains.

MATERIALS AND METHODS

The survey was conducted in that part of the eastern plains which lies south of the Upia and Meta rivers, extending along the piedmont of the eastern Andean cordillera and eastward through the department of Meta into the comisaria of Vichada. The region was divided into the piedmont, serrania and savannah zones, based on differences in ranch management practices and in ecological features. Thirty-seven ranches, 18 of which were located in the piedmont zone, six in the serrania and 13 in the savannah were visited during the wet season.

A total of 3,035 serum samples was collected, representing 10 per cent of the herd on each of the 37 ranches. The serum was tested for anaplasmosis using the complement-fixation (CF) screen test (Anon., 1958).

Serum samples from calves six months of age and younger were tested for antibodies against *Babesia bigemina* and against *B. argentina* using a modification (Todorovic, Vizcaino and Adams, 1971) of the CF test as developed by Mahoney (1962). Serum samples from cattle older than six months were tested for each of the two *Babesia* species using a modification (Todorovic and Long, 1976) of the indirect fluorescent antibody (IFA) test as described by Leeflang and Perie (1972).

Tick counts were made on each animal sampled as described by Harley and Wilkinson (1964). Ticks were also collected from cattle on 23 ranches for classification.

RESULTS

The mean herd prevalence and range of *A. marginale*, *B. bigemina* and *B. argentina* reactors among the 37 herds was 74 per cent (48-98), 62 per cent (38-92) and 13 per cent (0-43), respectively. The prevalence of reactors was equally distributed over the piedmont, serrania and savannah zones. Sixty-nine per cent of the 6-month-old calves tested were *anaplasma* reactors while 57 per cent were *B. bigemina* and/or *B. argentina* reactors.

Boophilus microplus was identified on each of the 37 ranches and was the only tick species equally distributed over the piedmont, serrania and savannah zones. Ticks classified as *Amblyomma cajennense* and *Amblyomma triste* were collected from cattle

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on two ranches in the savannah zone, while *Anocenter nitens* was collected from two ranches in the savannah and from one ranch in the piedmont.

DISCUSSION

The high prevalence of reactors observed in this survey indicates that *A. marginale*, *B. bigemina* and *B. argentina* are endemic across a large part, if not all, of the eastern plains. The majority of calves are apparently exposed to infection at an early age. *Boophilus microplus* is, at present, the principal tick vector in the region. The wide range of both *Anaplasma* and *Babesia* reactors among the 37 ranches would indicate that in many herds a sizable percentage of cattle remains uninfected and thus susceptible which may account for the occurrence of sporadic outbreaks reported by ranchers. The necessity for providing protection to susceptible cattle which may be introduced into the region is evident.

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