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RELATIONSHIP BETWEEN AGE AND TWO SPECIES OF PROTOZOA IN CATTLE IN THE ECUADORIAN AMAZON

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Abstract:

Agriculture is a viable option in the Amazon so long as the technologies used generate social, environmental and economic benefits without changing the ecology of the system. In the Amazon region, different studies have been carried out that show the distribution, geographical presence and incidence of different parasitic genera that affect cattle. The objective of this study was to evaluate the association between protozoa and age in cattle in free grazing conditions in Arosemena Tola Canton, Napo Province, Ecuador. A total of 147 bovine faeces were sampled during March 2011 and November 2012. Faeces were collected during the first hours of the morning and were obtained directly from the rectum of each animal under study. Copro-parasitological analyses were carried out using the Mcmaster technique in the Chaco-Ecuador Laboratory of Veterinary Parasitological Diagnosis. The sampled animals were divided into two groups: ≤ twelve months of age (31) and ≥ twelve months of age (116). The relationship between protozoa and age was evaluated, with a homogeneity test based on the Chi-square statistic ($P < 0.05$) and hypothesis test for continuous variables using the Student t-test ($P < 0.05$). In both types of parasites, coccidia and balantidium, there are significant differences (Chi2 ($P < 0.0001$) between animals less than twelve months of age and those over twelve months. The presence of protozoa, especially coccidia, is more dangerous during the animals' first year of life, so it is positive that 20% of them in that period had none. However, the presence of coccidian in the cattle in general was high, with a percentage of 58.1. One can conclude that there is an association between the presence of protozoa and the age of cattle. In the same way, we must take into account not only the presence but also the parasitic load, since it is necessary information for an upcoming study.

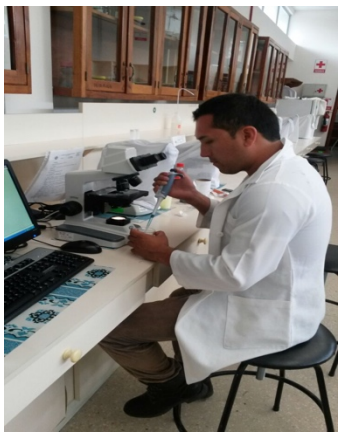
Keywords: protozoa, cattle, age

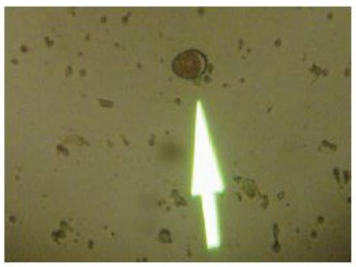
Introduction:

Agriculture is a viable option in the Amazon, so long as technologies that generate social, environmental and economic benefits are used, without modifying the ecology of the system. In the Amazon region, different studies have been carried out that show the distribution, geographical presence and incidence of different parasitic genera that affect cattle. The objective of this study was to evaluate the association between protozoa and age in cattle in free grazing conditions.

Materials and Methods:

The study was carried out in the Arosemena Tola Canton, Napo Province, Ecuador.
A total of 147 bovine faeces were sampled during March 2011 and November 2012.
Faeces were collected during the first hours of the morning and were obtained directly from the rectum of each animal under study. Copro-parasitological analyses were carried out using the Mcmaster technique in the Chaco-Ecuador Laboratory of Veterinary Parasitological Diagnosis.





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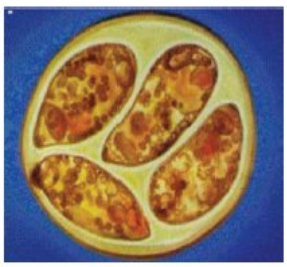

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Results and Discussion:

The sampled animals were divided into two groups: ≤ twelve months of age (31) and ≥ twelve months of age (116). The relationship between protozoa and age was evaluated, with a homogeneity test based on the Chi-square statistic ($P < 0.05$) and hypothesis test for continuous variables using the Student t-test ($P < 0.05$). In both types of parasites, coccidia and balantidium, there are significant differences (Chi2 ($P < 0.0001$) between animals less than twelve months of age and those over twelve months.

The presence of protozoa, especially coccidia, is more dangerous during the animals' first year of life, so it is positive that 20% of them in that period had none. However, the presence of coccidian in the cattle in general was high, with a percentage of 58.1.

Conclusions:

One can conclude that there is an association between the presence of protozoa and the age of cattle.
In the same way, we must take into account not only the presence but also the parasitic load, since it is necessary information for an upcoming study.

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