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ABSTRACT BOOK

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The commonest species/genera identified were *Oesophagostomum venulosum* and *Ostertagia leptospicularis* in both the farmed and wild deer. Diversity was greater in the wild deer with at least 12 different species being identified with *Ostertagia ostertagi*, *Trichostrongylus axei* and *T. colubriformis* predominating the additional species. Egg count and species composition differed between deer species and may reflect their grazing preferences. Genes for BZ-r were only detected in a small number of populations, but in a number of different species. The large parasite diversity in wild deer suggests they could disseminate multiple nematode species to livestock. However, they currently appear to play only a limited role in the spread of BZ resistance and may actually provide a source of refugia.

Red Blood Cell Characteristics in Texel Sheep: Implications for Anemia Diagnosis in *Haemonchus contortus* infection

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Parasitic infections are the main cause of losses in sheep production, especially due to the occurrence of severe anemia. Therefore, its accurate and rapid identification is crucial for handling the clinical infection. The aim of this study was to compare different methods to detect anemia in White Dorper (DO), Texel (TX) and Santa Inês (SI) sheep breeds. 151 lambs (42 DO, 44 TX and 65 SI) were raised in an endemic area for *H. contortus* infection. The lambs were monitored for faecal egg counts (FEC) and packed cell volume (PCV) from 63 to 189 days of age. At 105 and 189 days of age, complete hemogram was assessed. The criteria for anthelmintic treatment (AHT) were $PCV \leq 24\%$ and $FEC \geq 10,000$, or $PCV \leq 22\%$, and for anemic status were $PCV < 24\%$ or red blood cell counts (RBC) < 8 million/mm³. The correlation between PCV by microhematocrit and complete hemogram (Ht) was 0.85. However, PCV and Ht were 0.88 and 0.95 correlated to RBC. 56 lambs were considered anemics based on RBC, but 12 (7 TX – 58.3%) and 9 (6 TX – 66.7%) presented globular volume $>24\%$ by Ht and PCV, respectively. Among these divergent measurements, we observed 2 TX with 25% and 30% PCV at D105, but 21% (criteria for AHT) at D126. TX animals presented corpuscular volume means (VCM) and hemoglobin concentration means (CHM) higher ($p < 0.001$), but concentration of corpuscular hemoglobin mean (CHCM) lower ($p < 0.001$), compared to SI and DO breeds. To our knowledge this is the first report pointing out for differences in erythrocyte sizes among sheep breeds. Since TX present higher VCM compared to the other breeds, the identification of anemic animals through globular volume, as PCV or Ht, may fail, and consequently some animals requiring AHT may be missed. Therefore, the cut-point of globular volume for



this breed may require a review, aiming to avoid death due to parasitic infections.

Survival analysis of lambs from different breeds after worm replacement with a susceptible isolate of *Haemonchus contortus*

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Multiple anthelmintic resistance of the *Haemonchus contortus* populations occurs worldwide. The objective of this study was to evaluate the effect of worm replacement on survival of White Dorper (DO), Santa Inês (SI) and Texel (TX) lambs. Ewes from the three breeds in the final third of gestation, and naturally infected with resistant *H. contortus*, were divided into three groups: Control (C), Partial Replacement (PR) and Total Replacement (TR). The PR and TR ewes were dewormed and artificially infected with 3,000 L3 of a *H. contortus* susceptible isolate (Echevarria1991), and divided into two paddocks: one naturally contaminated with resistant parasites (PR) and another free of contamination (TR). Group C was not submitted to worm replacement or anthelmintic treatment, and animals were allocated into a naturally-contaminated pasture. Lambs born in each group in two birth seasons (85 C, 67 PR,

and 75 TR, totaling 227 animals) were phenotypically monitored for fecal egg count (FEC), packed cell volume (PCV), weigh gain and anthelmintic treatments from day 42 to day 189, every 21 days. Lifesaving treatment with albendazole and levamisole was applied to animals with $FEC \geq 10,000$ and $PCV \leq 24\%$, or with $PCV \leq 22\%$ independently of FEC. Kaplan-Meier survival analysis was performed considering the number of lifesaving treatments within each group and breed. Throughout the 189 day-period, the survival curve analysis revealed significantly lower ($p < 0.001$) number of lifesaving anthelmintic treatments in lambs from PR and TR compared to C group and in SI compared to DO and TX breeds. The proportion of the lambs surviving at 189 days post-lifesaving anthelmintic treatment were 7%, 12%, and 14% in the C, PR, and TR groups, respectively. At the same time point, survival among breeds were DO: 2%, SI: 41% and TX: 6%. Thus, these results reinforce the potential uses of worm replacement and Santa Inês breed as sustainable strategies for controlling *H. contortus* infections in sheep.

Characterization of gastrointestinal nematode egg shedding in dairy goats from Mexico

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Nematodosis can affect the health and productivity of dairy goats. Control is challenging