PARASITIC DISEASES

Identifying when anticoccidial metaphylaxis should be applied in Spanish dairy and meat sheep flocks

Lourdes Brandariz-Amores[1], Jorge Gutiérrez[2], José Luis Blasco-Castello[2], Laura Elvira[2], Luis Miguel Ortega-Mora[1], Ignacio Ferre[1]

INTRODUCTION

Ovine coccidiosis is a worldwide parasitic disease with high economic impact. Infected lambs experience diarrhea and low growth rates. Its control has been based in prophylactic treatments. However, with the new European legislation on veterinary drugs (Regulation (EU) 2019/6) only metaphylaxis with authorized drugs can be used.

OBJECTIVE

The aim of this study was to investigate the *Eimeria* spp. infection dynamics in lambs from representative dairy and meat Spanish farms to identify clinical and parasitological criteria useful to decide the optimal moment for metaphylactic treatment.

MATERIALS AND METHODS

- Three dairy and three meat sheep flocks were included in the study. The inclusion criteria were: **a)** veterinarian involved, **b)** representative management, and **c)** treatment with diclazuril (Vecoxan®) against coccidiosis.
- Information on management and risk factors were collected through on-farm surveys.
- In each farm, seven sentinel lambs were selected for fecal sampling and collection of clinical data (body condition, fecal consistency and staining of the back end) at weaning, 10-15 days after weaning and five days after metaphylactic treatment, as well as 20 days before weaning in meat farms. Additional samples were collected at any moment if clinical signs appeared. *Eimeria* oocyst counts were performed using the modified McMaster technique; and species identification was performed in positive samples. Diclazuril administration was based on laboratory analysis and clinical signs.

Monitoring parasitological and clinical parameters in a group of sentinels is an interesting tool to determine the optimal time to apply metaphylactic treatment with diclazuril and management strategies.

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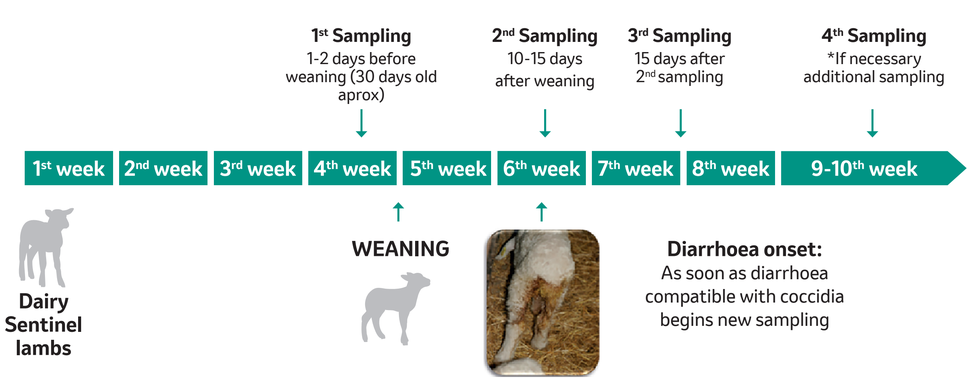
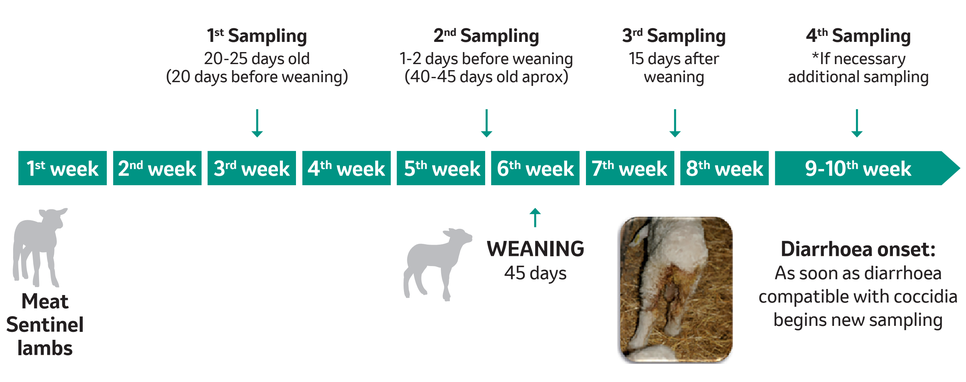




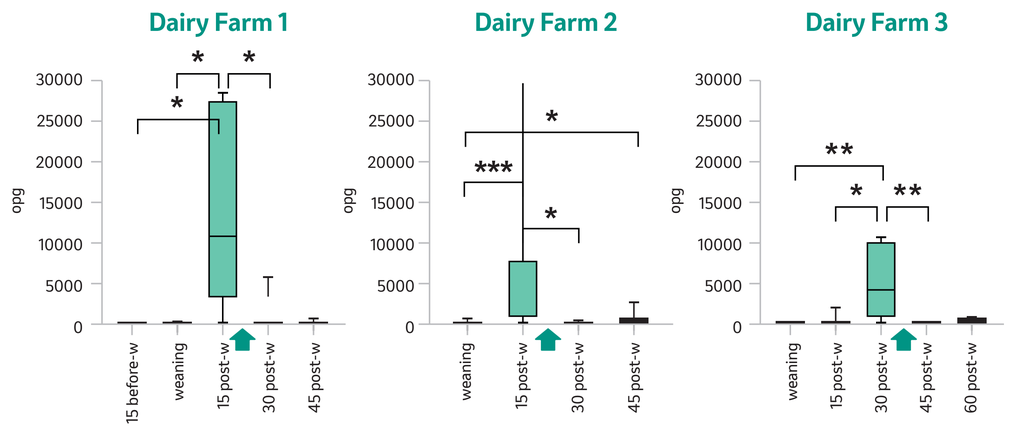
RESULTS

In dairy sheep farms, no *Eimeria* oocysts and no clinical signs compatible with coccidiosis were detected at weaning, most likely due to the strict hygienic conditions in nursing facilities. Infection was detected after weaning but with different clinical impact by farm, mainly due to the hygienic measures of facilities where lambs were kept after weaning. Diclazuril was administered and its efficacy was proven five days after treatment (reduction of oocyst and clinical).

RESULTS

In meat sheep farms, only a farm where lambs were reared outdoors showed fecal oocysts 15 days before weaning. However, higher oocyst counts were detected after weaning compared with dairy farms, possibly due to the poorer hygienic conditions and housing with adult sheep. After weaning, diclazuril administration caused very low oocyst counts and improvement of clinical signs. Pathogenic *Eimeria* species were detected in all meat and dairy farms, always with other non-pathogenic species.

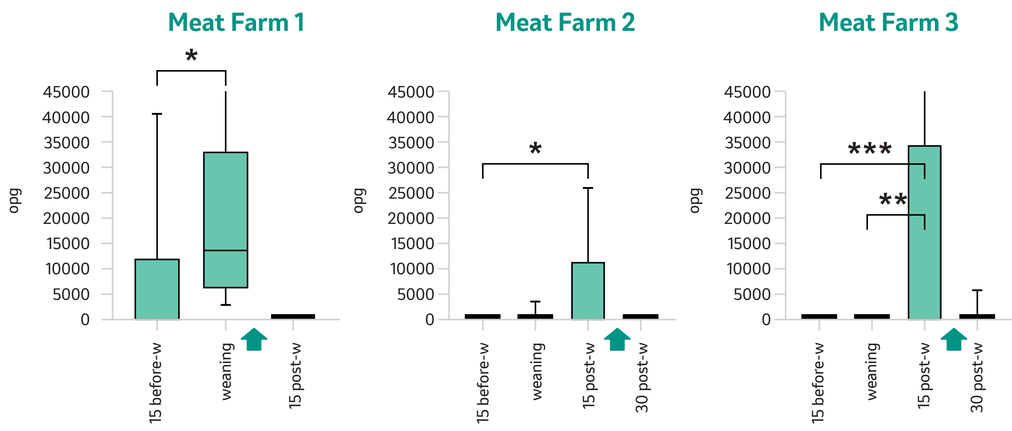
FIGURE 1. Oocyst count (opg) in dairy sheep farms through the follow period.



Before-w: days before weaning. Post-w: days post weaning.
** P<0,01. **** P<0,0001.

Diclazuril treatment

FIGURE 2. Oocyst count (opg) in meat sheep farms through the follow period.



Before-w: days before weaning. Post-w: days post weaning.
** P<0,01. **** P<0,0001.

Diclazuril treatment

AUTHORS' AFFILIATION

1. SALUVET, Animal Health Department, Faculty of Veterinary Sciences, Complutense University of Madrid, Ciudad Universitaria s/n, 28040 Madrid, Spain.
2. MSD Animal Health, Polígono Industrial El Montalvo, C/Zeppelin, 6—Parcela 38, Carbajosa de La Sagrada, 37008 Salamanca, Spain.

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