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Subject: [EXTERNAL] - FW: Call for Abstracts --- Submission Details
Date: Friday, October 13, 2023 at 11:39:18 AM Eastern Daylight Time
From: Stephan A Wildeus
To: Jessica C Queen, Mackenzie A Robertson, Javin J. Davis
CC: Dahlia J. O'Brien, Kwame Matthews

Dear All,

Attached is the abstract submission information for the Bioworma abstract you co-authored.

Regards,

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AMERICAN SOCIETY OF ANIMAL SCIENCE
SOUTHERN
ASAS Southern Section 2024 Meeting
January 27-30, 2024
Louisville, Kentucky

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Abstract Category
UNDERGRADUATE STUDENT COMPETITION

Abstract Type:
Oral

Abstract Status:
Complete

Abstract ID:
1661370

Abstract Title:
The Efficacy of a Natural Fungus (Duddingtonia flagrans) in Reducing Gastrointestinal Nematode Indicators in Lambs

Author(s)

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Abstract Submission

Submission Type (for Student Competitions only)

Abstracts

Sustainable and profitable small ruminant production in the US is affected by infections with gastrointestinal nematodes (GIN), especially the blood sucking GIN, *Haemonchus contortus*. The overuse and mis-use of available drug classes has led to multi-drug resistant GIN that pose significant challenges to parasite control on many farms. The objective of this study was to evaluate the effectiveness of a natural fungus (*Duddingtonia flagrans*; Bioworma®, International Animal Health) in reducing GIN larval counts and other GIN indicators in hair sheep wethers. Eighteen St. Croix (n = 9) and Barbados Blackbelly (n = 9) wethers (227 ± 1.4 days of age and 29.7 ± 0.6 kg BW) were dewormed (d 0) with a combination of levamisol (Prohibit®; 8 mg/kg BW) moxidectin (Cydectin®; 0.2 mg/kg BW) and albendazole (Valbazen®; 7.5 mg/kg BW) prior to the start of feeding according to the manufacturer's recommendations for feeding BioWorma®. At this time, lambs were separated into two treatment groups (n = 9/group), split into 3 replications per treatment group and placed on six pasture paddocks (0.06 ha; n = 3 per paddock) after accounting for breed, initial fecal egg count (FEC) and BW. Lambs were then fed daily either a grain supplement ration (corn and soybean meal) with Livamol with Bioworma® (LIV) or without (CON) at 2% of their BW for 98 d. LIV was added to the ration based on total lamb BW/paddock. To evaluate the effect of LIV treatment, BW and body condition scores (BCS) were recorded every 2

weeks for 98 d. Blood and fecal samples were also collected for determination of packed cell volume (PCV) and FEC. Pooled treatment group feces (d 0 – 98) were collected and cultured to determine GIN genera. A subset of animals/treatment (n = 3) will be harvested to determine abomasal worm counts. Data were analyzed using repeated measures in a mixed model, and FEC were log transformed prior to analysis. Following deworming (d 0), FEC were reduced by 100% by d 14. There was a mixed population of GIN at the start of the study (averaging 54%, 42%, 1.2% and 1.8% for *H. contortus*, *Tricostrongylu*s spp., *Oesphagostomum* spp. and *Nematodirus* spp., respectively). LIV with Bioworma® supplementation had no impact on BW, BCS, PCV or FEC in this study averaging 34.2 ± 0.3 kg, 2.5 ± 0.04, 34.7 ± 0.5% and 150.9 eggs per gram, respectively. Under the conditions of this study, Bioworma® supplementation had no influence on GIN indicators measured up to 100 d of grazing. This research will be continued during subsequent grazing seasons to determine the effect of continued supplementation on lamb parasite load and performance as well as pasture infestation levels.

Keywords

Duddingtonia flagrans
Lambs
Parasite s

The abstract process closes Friday, October 13, 2023, 11:59 PM
