ATTEMPT TO ELIMINATE AN ANTHelmINTIC-RESISTANT STRAIN OF 
HAEMONCHUS CONTORTUS FROM A SOUTH DAKOTA SHEEP HERD USING 
A COMBINATION TREATMENT INVOLVING THREE ANTHelmINTICS DRUG CLASSES

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ABSTRACT

Haemonchus contortus is an economically important of gastrointestinal nematode that constrains the survival and productivity of sheep and goats. Eliminating Haemonchus contortus from herds is a primary objective in small ruminant health management programs because anthelmintic resistant H. contortus is a growing problem. This study involved the use of 3 anthelmintics (i.e. moxidectin, albendazole and levamisole according to the manufactures recommended dosage) in an attempt to eliminate egg shedding in a flock of ewes whose H. contortus population had some benzimidazole and avermectin resistance. Pretreatment fecal egg counts (FECs) on 250 ewes that had grazed on pasture the previous season were performed by collecting rectal fecal samples and using the McMaster technique to quantify egg shedding. The mean pretreatment FEC was 3650 eggs per gram (EPG). A week later, the triple anthelmintic treatment was started with moxidectin (Cydectin) at a dosage of 0.2mg/kg, followed 3 days later with albendazole (Valbazen) at dosage of 7.5mg/kg. After another 3 days, levamisole was orally administered at dosage of 7.5mg/kg. Post-treatment FECs were performed 2 weeks after the levamisole treatment using 3g samples and a modified Wisconsin floatation technique. The results showed a 99.99% overall FEC reduction to 0.17 EPG. After treatments, 68% of the animals showed no eggs, 27.6% contained less than 1 EPG, and 4.4% contained between 1 and 2 EPG. These results indicate that while a triple treatment will significantly limit egg shedding, there is still a significant portion of the flock that continue releasing eggs from worms resistant to these 3 classes of anthelmintics.