



DECTOMAX-PARASITES

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The use of anthelmintics in livestock is an important issue to livestock producers. There are two categories of dewormers; injectable and drench. Pfizer Incorporated discovered an injectable solution that is a fermentation-derived avermectin called doramectin. The soil organism, *Streptomyces avermitilis*, has fermentations of selected strains in which doramectin is isolated.

This doramectin product is currently being marketed as Dectomax. It is an injectable solution given either by subcutaneous or intramuscular injection at the rate of 1 ml/110 lb. body weight in cattle. This drug has been approved by the FDA for use in cattle but has not yet been approved for use in sheep. This research project has been done to determine the safety of using doramectin with sheep and how well it controls internal sheep parasites.

Research Objectives

The objectives of this study were to determine the safety and the effect of doramectin (Dectomax) on internal lamb parasites in pastured sheep.

Results and Discussion

It was found in this study that lambs treated with doramectin had lower parasite levels and a higher rate of gain. The control lambs that were not dewormed had higher parasite levels and a lower rate of gain.

NEMA TODIRUS: The control group has a higher level of infection, although both groups have a continual increase in infection throughout the study. The end of the study resulted in the control group having an extremely high infection level with the doramectin treated group's final infection level being smaller than the control's initial level of infection. The doramectin was effective for three weeks after injection and then parasite load gradually increased in number. The same results were found in North Carolina and Idaho with cattle and in France with swine.

STRONGYLOIDES: The control group has a higher level of infection than the doramectin-treated group. It has a four week cycle. The level of infection increased for four weeks, then dropped. This cycle was represented four times in this study. The doramectin-treated group had low levels of infection throughout the study with a slight increase towards the end. This demonstrates that the doramectin was effective at controlling the Strongyloides infection level for longer periods of time than other anthelmintics. Doramectin was found to have the same effect in horses at Louisiana State University by Dennis French.

TRICHOSTRONGYLE: The control group had very high levels of infection throughout the study, whereas the doramectin-treated group had low levels of infection for four weeks post treatment. There was a slight increase in infection levels with a greater increase in weeks six, seven and eight. This demonstrates that doramectin was effective. The study by Larry Ritzhaupt found that doramectin was absorbed quickly and had a slower body clearance which was represented here as well.

TRICHURIS: The control group had a continuous increase in the level of infection. The doramectin-treated group did not have any infection until the sixth week after treatment. The control group had moderate levels of Trichuris infection until mid-September, when numbers significantly increased the last two weeks of September. Doramectin was shown here to have a longer protection period. This was also found in another study done in Florida, Idaho and Minnesota by Rew.

TOTAL PARASITES: Doramectin was effective in reducing levels of infection for five weeks post treatment and then gradually increased in numbers. However, the doramectin treated group did not approach the level of infection of the control group at any point in the study. Research done in India by Sisodia found the same results.

SUMMARY: This study provides evidence that doramectin, when used as an anthelmintic in sheep, is safe and effective. It decreases the infection level of Eimeria, Nematodirus, Strongyloides, Trichostrongyle Type, and Trichuris. In addition, the mean average daily gain was higher for those sheep injected with doramectin. Experimental animal numbers, the ages at which the sheep were injected, the pasture location, and weather conditions are all factors that could have influenced the conclusions reached in this study. Further investigation needs to be done before being approved by the FDA for use in sheep.