Epidémiol. santé anim., 1997, 31-32

COST EFFECTIVENESS OF TOPICAL IVERMECTIN IN YEARLING FEEDLOT STEERS

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Nous avons effectué une étude clinique dans l'ouest canadien afin de déterminer l'avantage économique de l'administration d'une solution topique d'ivermectine à des bovins âgés d'un an au moment de leur arrivée au parc d'engraissement suite à la saison de pâture. À l'arrivée au parc d'engraissement, la moyenne géométrique des comptages en oeufs de nématodes dans les fèces était de 14,7 OP5G et de 16,6 OP5G pour le groupe ivermectine et le groupe témoin respectivement. Les bovins du groupe ivermectine ont eu un meilleur rendement (p<0.05) selon le gain de poids total, le gain de poids moyen quotidien et le ratio de la consommation en matières sèches versus le gain de poids que les bovins ayant reçu une solution topique de fenthion (groupe témoin). Cette amélioration significative du rendement s'est traduite par un avantage économique de 4,20 dollars canadiens par tête pour le groupe ivermectine.

INTRODUCTION

The administration of ivermectin to recently weaned calves at entry to the feedlot in the fall of the year is well established as a cost-effective management practice (1,2). However, there have been no reports to date of well conducted studies in western Canada to determine if such practice would also be cost-effective when applied to yearling (12- 18 months of age) cattle entering the feedlot in the fall of the year.

MATERIALS AND METHODS

A field trial was conducted in western Canada to determine the cost-effectiveness of administering topical ivermectin to yearling beef steers arriving at the feedlot after the summer grazing season. Six thousand eight hundred and eighty-three mixed breed, yearling, beef steers weighing between 251 kg and 581 kg were randomly allocated upon arrival at the feedlot to one of two experimental groups as follows: IVOMEC, which received topical ivermectin (IVOMEC® Pour-On for Cattle, Merck AgVet, Kirkland, Quebec, Canada) at a dose of 1 mL/10 kg body weight, or CONTROL, which received topical fenthion (Spotton®, Bayer Inc., Etobicoke, Ontario, Canada) at a dose of 12 mL/295 kg body weight. At the time of allocation, fecal samples were collected from a random 10 % of animals for fecal egg count determination. Animals in each experimental group were housed in separate pens which contained up to 270 animals. There were fifteen pens in each experimental group.
The outcome variables measured to assess feedlot performance were final weight, weight gain, days on feed, daily dry matter intake (DDMI), average daily gain (ADG), and the dry matter intake to gain ratio (DM:G).

RESULTS

The geometric mean fecal egg counts at the time of allocation were 14.7 EP5G and 16.6 EP5G for the IVOMEC and CONTROL groups, respectively. The weight gain, ADG, and DM:G were significantly ($p<0.05$) improved in the IVOMEC group as compared to the CONTROL group. There were no significant ($p\geq0.05$) differences in initial weight, final weight, days on feed, or DDMI between the experimental groups. In the economic analysis, the significant improvements in feedlot performance in the IVOMEC group resulted in a net economic advantage of $4.20 CDN/animal.

CONCLUSIONS

The results of this study demonstrate that the use of IVOMEC® Pour-On for Cattle in yearling cattle entering the feedlot after the summer grazing season is a cost-effective management strategy as compared to the use of topical fenthion.

Table I
Performance data summary by experimental group

Performance Parameter	IVOMEC	CONTROL	p-value
Initial Weight (kg)	399.8 ± 0.6	401.0 ± 0.6	>0.10
Final Weight (kg)	607.9 ± 1.5	603.3 ± 1.5	0.051
Weight Gain (kg)	206.6 ± 1.3	199.7 ± 1.3	<0.01
Days on Feed	100.4 ± 0.1	99.8 ± 0.1	>0.10
Daily Dry Matter Intake (kg/day)	11.44 ± 0.04	11.36 ± 0.04	>0.10
Average Daily Gain (kg/day)	1.85 ± 0.01	1.79 ± 0.01	<0.01
Dry Matter Intake to Gain Ratio	6.17 ± 0.05	6.34 ± 0.05	0.018

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