

RumiBio Commercial Beef Monensin Study, South Africa

Trial Number: 201

Summary

RumiBio was evaluated as a potential monensin alternative in a commercial bull finishing unit. No significant differences were observed in animal performance, intakes or carcass measurements.

| | |
|------------------------|---|
| Objective of the Trial | Supplementing the diets with 10g per head per day of RumiBio on a commercial feed lot in South Africa vs a monensin positive control. |
| Trial Duration | 30 days |
| Number of Animals | 60 (Control n=30, Treatment n=30) |
| Stage of Lactation | Finishing 485 kg – 550kg |
| Breed | Bonsmara |
| Diet | Hominy Chop, Maize Meal, Wheat Straw, Molasses, Sunflower Meal, Soyabean Meal, Corn Gluten, Wheat Bran, Urea |
| Summary of Results | No significant differences were observed in animal performance, intakes or carcass measurements against a monensin positive control |

Materials and Methods

Animals were grouped and allocated by weight into three groups (Heavy Group 420kg n=10, Medium Group 380kg n=10 and Light Group 340kg n=10). Each weight group had a positive monensin control (n=10) and a RumiBio (n=10) group (Total positive control n = 30, total RumiBio n = 30). Animals were fed the same diet containing monensin for the first 30 days of the trial. Following that, the RumiBio group received a diet without monensin and including 10g/head/day of RumiBio for the final 30 days of the trial before slaughter. The positive control group continued to receive monensin for the final 30 days before slaughter (see Table 1 for diets). Statistical analysis was carried out using a t-test for global average comparison and a Wilcoxon test for individual performances.

Table 1. Diet composition and analysis

| Diet Composition and Analysis | | |
|-------------------------------|---------------------------------|--------------------------------|
| Composition (%) | 30 first days (Before trial) | 30 last days (During trial) |
| Hominy Chop | 39.7 | 41.9 |
| Maize meal | 29.0 | 29.0 |
| Wheat straw | 9.0 | 6.8 |
| Molasses | 10.0 | 10.0 |
| Sunflower meal | 2.3 | 2.3 |
| Soybean meal | 2.1 | 2.1 |
| Corn Gluten Feed | 2.0 | 2.0 |
| Wheat bran | 2.6 | 2.6 |
| Urea | 1.14 | 1.14 |
| Limestone | 1.5 | 1.5 |
| Salt | 0.4 | 0.4 |
| Premix | 0.17 | 0.17 |
| Diet Analysis | | |
| Protein (%FM) | 12.0 | 12.1 |
| Fiber(%FM) | 6.6 | 5.9 |
| Starch+ Sugar (%FM) | 46.1 | 47.3 |
| Fat (%FM) | 4.9 | 5.0 |
| Ash (%FM) | 5.6 | 5.5 |
| Ca (%FM) | 0.8 | 0.8 |
| P (%FM) | 0.3 | 0.3 |
| UFV (UF/kgFM) | 92.9 | 94.6 |
| PDIA (g/kgFM) | 41.4 | 42.1 |
| PDIE (g/kgFM) | 86.8 | 87.9 |
| PDIN-PDIE (g/kgFM) | -5.0 | -5.2 |
| DM4 (%FM) | 35.8 | 36.5 |

Results

There was no significant difference across all weight groups, between positive control and RumiBio treatments, for daily live weight gain (DLWG) as shown in Figure 1 (2.08kg/day vs 2.16kg/day respectively; ns). There were no significant differences within weight groups, between positive control and RumiBio treatments however, variability was lower in the heavy group fed RumiBio versus the positive control (see Figure 2).

Average dry matter intakes (DMI) showed no significant difference between the positive control and the RumiBio treatments across all weight groups (10.9kg/day vs 11.1 kg/day; ns).

Anecdotally, it was noted that during periods of increased risk of heat stress during the start and end of the trial period, the RumiBio group had higher intakes than the monensin positive control group. Feed conversion ratio (FCR) between the two groups was not significant (5.24 vs 5.15; ns) and carcass yield was not significantly different between the two groups (59.55% vs 59.37%; ns).

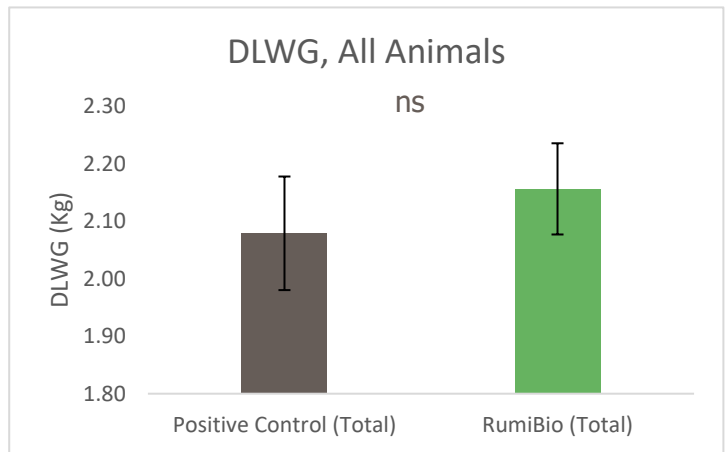


Figure 1. DLWG across all weight groups, between positive control and RumiBio treatments

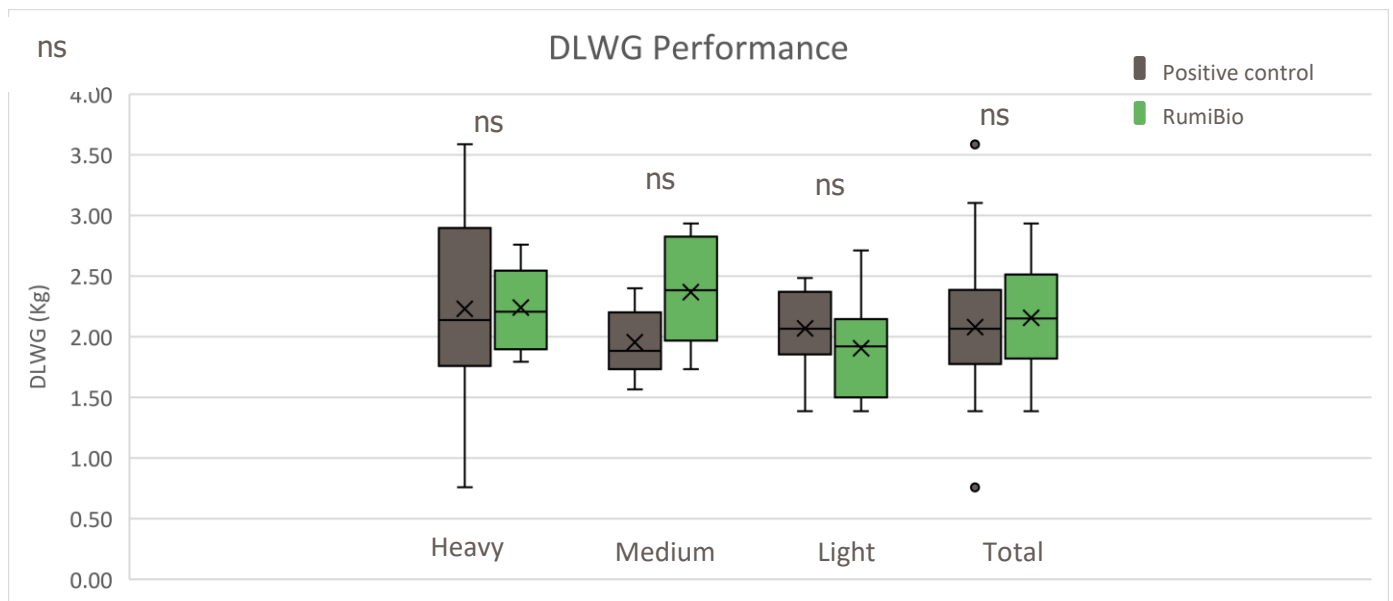


Figure 2. DLWG within weight groups, between positive control and RumiBio treatments

Conclusion

Replacement of monensin with 10g of RumiBio in the diet for the final 30 days before slaughter showed no significant difference in average daily live weight gain, intakes, feed conversion rate or carcass yield. Some observations in the trial showed improved intakes versus the monensin positive control during periods of environmental stress.