

RumiBio Commercial Beef Monensin Study, South Africa

Trial Number: 202

Summary

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

Objective of the Trial	Supplementing the diets on a commercial finishing unit with 10g per head per day of vs a Monensin positive control
Trial Duration	150 Days
Number of Animals	60 Animals. Positive control (n =30) and RumiBio treatment (n=30)
Age/Stage	Finishing
Breed	Bonsmara, DLWG 1.8 – 2 kg/d, Starting LW 240 kg
Diet	Hominy Chop, Maize Meal, Hay, Molasses, Sunflower Meal, Soybean Meal, Wheat Bran, Oil, Urea
Summary of Results	No significant difference in DLWG or FCR between the monensin positive control group or the RumiBio Treatment group

Materials and Methods

Animals were grouped by weight with three groups (Heavy Group 270kg n=10, Medium Group 250kg n=10, and Light Group 200kg n=10) for the monensin positive control and the RumiBio treatment groups. Total positive control n = 30, total RumiBio n = 30.

Positive control and RumiBio animals, in all weight groups, were fed a starter diet for 30 days. This was followed by a grower diet for 90 days and a finisher diet for the final 30 days (all diets are shown in Table 1). Monensin was replaced in the RumiBio treatment group throughout the feeding study (from starter phase through to slaughter) at 10g per head per day via the TMR. Statistical analysis of individual weight group performance was analysed using Wilcoxon test and global averages were analysed by t-test.

Table 1. TMR compositions and chemical analysis for starter, grower and finisher diets.

Composition (%)	STARTER (30d)	GROWER (90d)	FINISHER (30d)
Hominy Chop	43.7	51.5	52.4
Maize meal	12.0	20.8	24.5
Hay	21.9	11.2	7.8
Molasses	8.0	6.2	5.7
Sunflower meal	5.8	3.5	1.7
Soybean meal	5.8	3.8	2.4
Wheat bran	0	0	2.3
Oil	0	0.3	0.4
Urea	0.93	0.9	1.0
Limestone	1.3	1.3	1.3
Salt	0.46	0.4	0.4
Premix	0.19	0.15	0.14
Zilmax	0	0	0.011
Diet characteristics			
Protein (%FM)	15.0	14.0	13.5
Fiber(%FM)	10.0	7.0	5.6
Starch+ Sugar (%FM)	32.2	43.0	46.7
Fat (%FM)	4.4	5.6	7.0
Ash (%FM)	6.4	5.2	4.9
Ca (%FM)	0.7	0.7	0.7
P (%FM)	0.3	0.3	0.3
UFV (UF/kgFM)	90	98	101
PDIA (g/kgFM)	46	45	43
PDIE (g/kgFM)	91	91	89
PDIN-PDIE (g/kgFM)	4	-5	-8
DM4 (%FM)	38	37	37

Results

When compared to the monensin positive control there was no significant difference in average daily live weight gain (DLWG) across all weight groups between the positive control and the RumiBio treatment as shown in Figure 1 (1.73kg/day vs 1.73kg/day; ns).

There was also no difference in DLWG within all weight groups between the positive control and the RumiBio treatment (see Figure 2).

No significant difference in feed conversion ratio was measured across all weight groups between the positive control and the RumiBio treatment as shown in Figure 3 (5.4 vs 5.55; ns). However, intakes within the RumiBio treatment showed a tendency to be higher than the monensin positive control during times of stress (see Figure 4)

Carcass weight and Carcass (57.6% vs 58.0%; ns) dressing were not significantly different between the positive control and RumiBio treatment groups. However, there was smaller variation in carcass weights within the RumiBio treatment groups (see Figure 5).

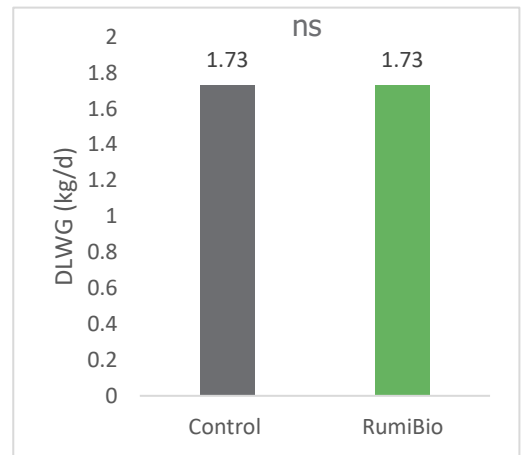


Figure 1. Full trial average DLWG across all weight groups between positive control and RumiBio treatments

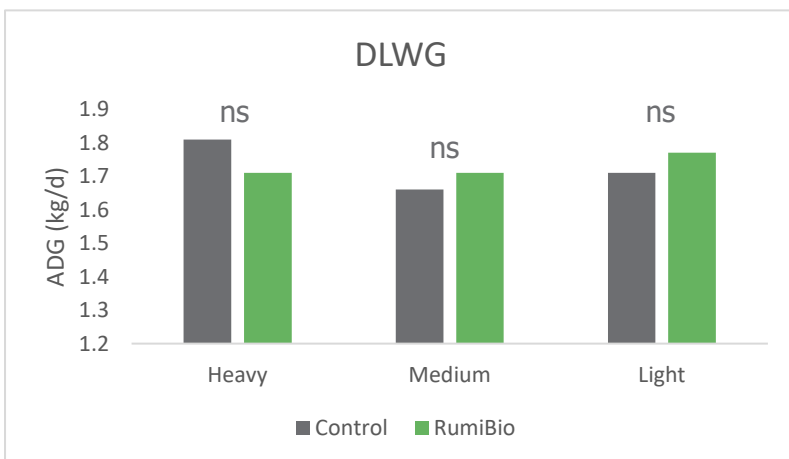


Figure 2. Full trial average DLWG within weight groups between positive control and RumiBio treatments

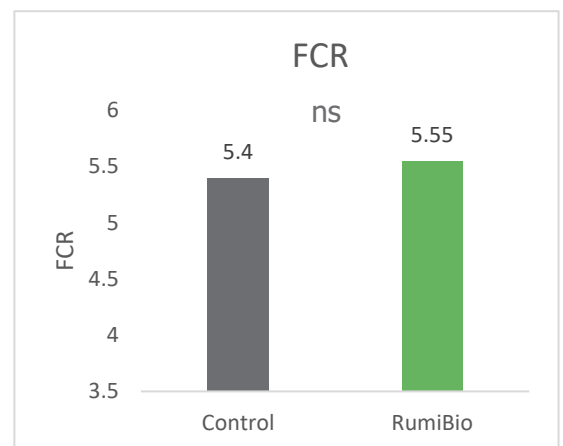


Figure 3. Full trial average FCR across all weight groups between positive control and RumiBio treatments

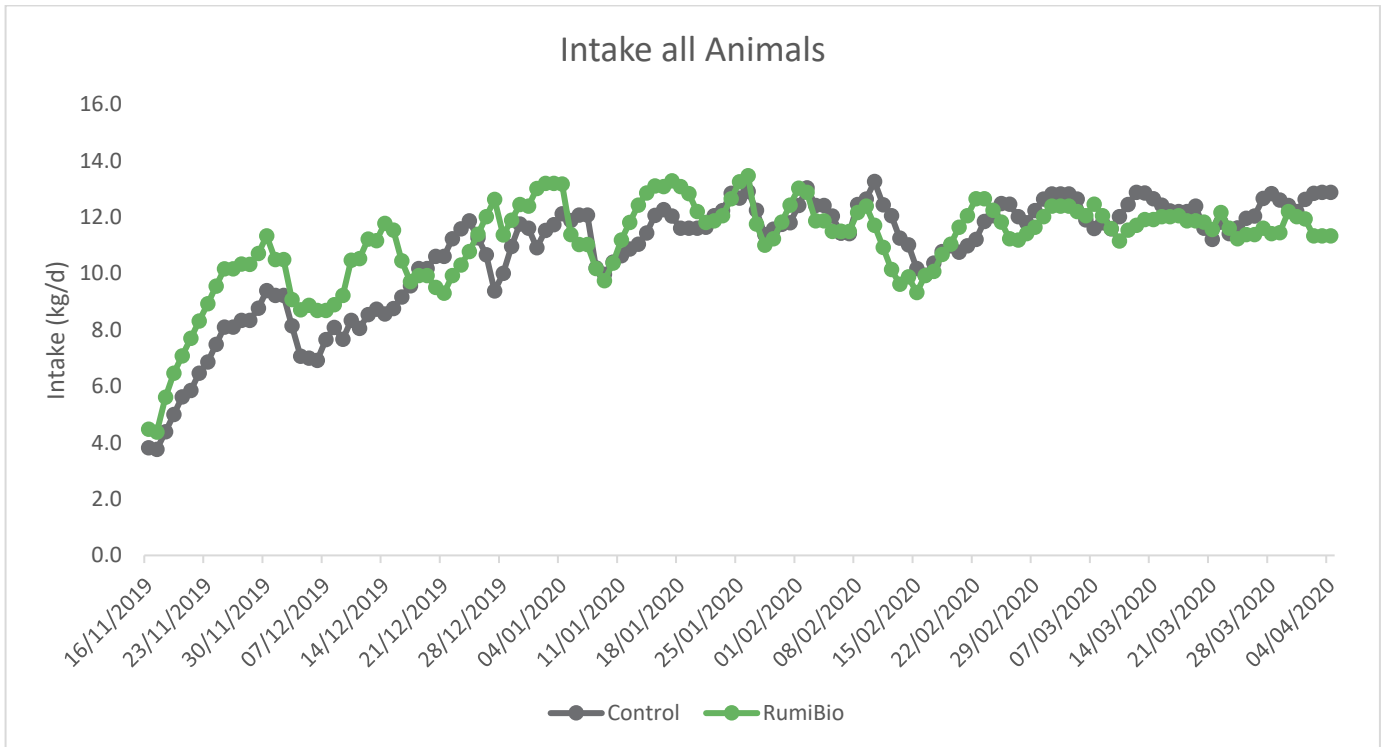


Figure 4. Intakes across all weight groups between positive control and RumiBio treatments.

Conclusion

Replacement of monensin with 10g of RumiBio in the diet showed no significant difference in average daily live weight gain, intakes, feed conversion ratio or carcass yield. Animals fed RumiBio had better intakes through a period of stress during the change from a starter to a grower ration and less variation was observed in carcass weights in the RumiBio treatment. It can be concluded that RumiBio has the potential to replace monensin in the diets of Bonsmara cattle, with no negative impact on performance measures.

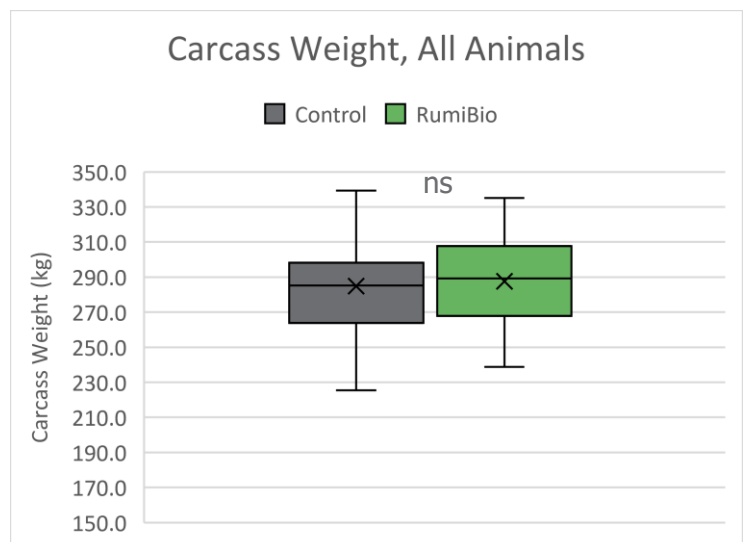


Figure 5. Carcass weights across all weight groups between positive control and RumiBio treatments.