> IMPRESSUM

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Biomin® *Trials*

Levabon® Rumen E & Mycofix® Select

Effects of Levabon® Rumen E and Mycofix® Select supplementation on growing performance of beef cattle in a commercial farm in Italy

Field trial, Italy

Aim of the trial

Improving feed efficiency is one of the key objectives in beef cattle as it is associated with more favourable economic results. Therefore the objectives of this trial were to evaluate the combined effects of an autolysed yeast, Levabon® Rumen E, and a mycotoxin deactivator, Mycofix® Select, on daily gain and feed efficiency.

Mycofix® controls the harmful effects of mycotoxins on animals while rumen efficiency can be improved by the already known effects of autolysed yeast. At the time of the trial, mycotoxin contamination in Northern Italy was high, with DON, ZEN and Fumonisins averaging 1161 ppb, 631 ppb and 5801 ppb, respectively.

An economic calculation considering the same fattening period for both control and experimental group was also conducted in order to show the higher profitability achieved by the experimental group.

Trial design

The trial was conducted on a farm in Northern Italy with a total of 47 Charolais bulls imported from France with an average age of 15 months after being reared in the field. The bulls were allocated in pens with 7-8 animals. The ration consisted of corn silage, ground corn, CCM and concentrate feed and was fed at a restricted amount of 17.8 kg FM/head/day (9.7 kg DM/head/day). Due to the restricted amount of feed no differences in feed intake were observed. The experimental group was supplemented with Mycofix® Select at a dosage of 20 g/head/day and Levabon® Rumen E at 10 g/head/day. Apart from the supplementation of these products the animals were kept under exactly the same conditions. Live weight of animals was measured at the start and end of the trial and weight gain was calculated as the difference of these Figures. Daily gain was calculated dividing weight gain by number of days in the trial which was 194 days for control and 208 days for the supplemented group.

Results

Total weight gain was higher in the Levabon® Rumen E and Mycofix® Select supplemented group as well as daily weight gain, which was 1.25 kg/day in the control and 1.34 kg/day in the experimental group, respectively (*Table 1 and Figure 1*). Feed efficiency was also improved by supplementation as the dry matter intake needed for 1 kg weight gain was 7.71 kg for the control and 7.23 kg for the treated group (*Table 1* and *Figure 2*).
In order to calculate the economic impact both groups must be standardized to the control group. In *Table 1* the actual measured ADG in the supplemented group is used to calculate the end weight in case the beginning weight and trial duration are the same as control. In the trial the number of feeding days in the groups was 194 and 208 days and the starting weight was 502 and 491 kg, respectively.

Table 1 *- Effect of Levabon® Rumen E & Mycofix® Select on animal performance*

	Control	Levabon® Rumen E & Mycofix® Select*	Difference (%)
FCR	**7.71**	**7.23**	**-6%**
ADG	**1.25**	**1.34**	**7%**
Live weight at start (kg)	502.0	502.0	0%
Live weight at end (kg)	745.2	761.4	2%
Live weight gain (kg)	243.2	259.4	7%

** The starting LW and the duration have been adjusted in order to compare the 2 groups.*

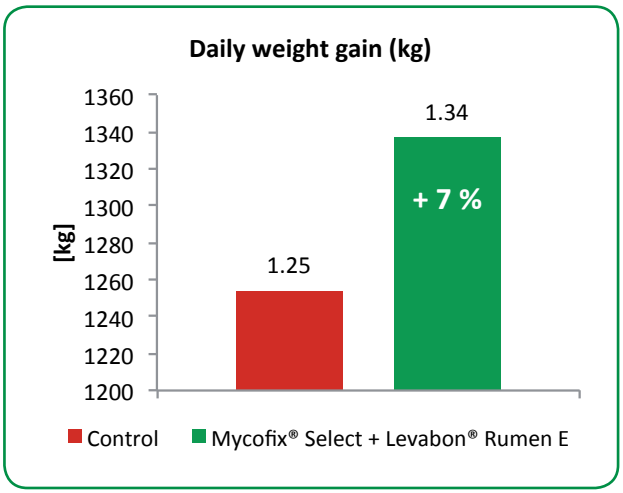

Figure 1. Average daily weight gain (ADG)

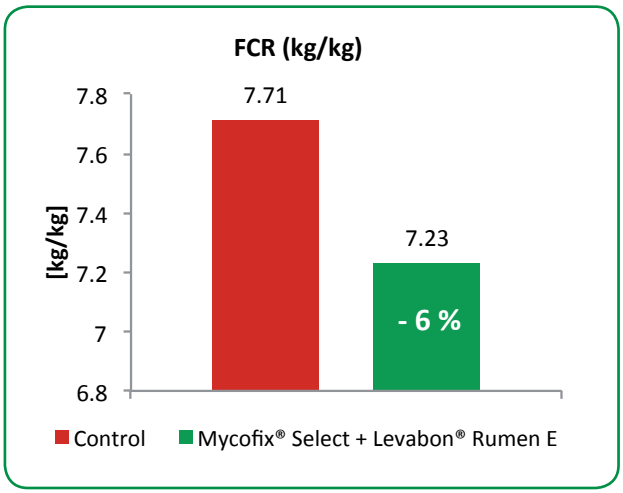

Figure 2. Feed conversion rate (FCR)

Economic analysis

Economic results are also shown with an equal fattening period of 194 days and considering as well the same starting weight for both control and experimental groups. The experimental group supplemented with Levabon® Rumen E and Mycofix® Select showed an additional income of 15 €/head over the profit by the control group.

Table 2 *- Economic analysis*

	Unit	Control	Levabon® Rumen E & Mycofix® Select*	Remarks
Revenue from gain	€/head	€ 620	€ 661	2.55 €/kg live weight (LW)
Feed costs	€/head	€ 419	€ 445	2.16 €/day + cost supplement
Revenue - feed cost	€/head	€ 201	€ 216	
Extra income	€/head		**€ 15**	
Extra income for 23 animals	€/group		**€ 348**	
Breakeven	kg ADG		0.053	

Conclusion

The combination of Levabon® Rumen E and Mycofix® Select demonstrates better performance of beef cattle and improved profitability of the operation:

- improved feed efficiency by 6 %
- higher daily weight gain by 7 %
- increased profitability by 15 €/head