



Effect of B-Act[®] on performance of broiler chickens experimentally induced with necrotic enteritis

Trial description

1 Set-up

- **Location:** Southern Poultry Research, USA
- **Animals:**
 - 144 Male Cobb broilers
 - 48 birds per treatment divided over 6 replicates
- **Set-up:** Birds were infected to induce necrotic enteritis. Therefore, 2 cc with 10⁸ cfu of *Clostridium perfringens* (CP) per bird were orally administered to all broilers apart from those assigned to the non-medicated, non-challenged group (positive control group) 3 times on day (d) 18, d19, and d20. In addition, all the birds were challenged orally with coccidiosis on d13 (*Eimeria maxima*, approximately 5000 oocysts).

2 Treatments

Birds were randomly assigned to the following treatments:

- Non-medicated, non-infected group (positive control, PC)
- Non-medicated group infected with CP (negative control, NC)
- A group fed a diet containing B-Act[®] at 0.5 kg/mton (1.6*10¹² cfu/mton of feed) infected with CP

B-Act[®] is a probiotic feed additive containing viable spores of a strain of *Bacillus licheniformis* (DSM 28710).

3 Measured parameters

All birds were weighed by cage on d28. Feed was weighed at the beginning of the trial and remaining feed was weight at the end of the trial and feed conversion ratio calculated accordingly.

Results

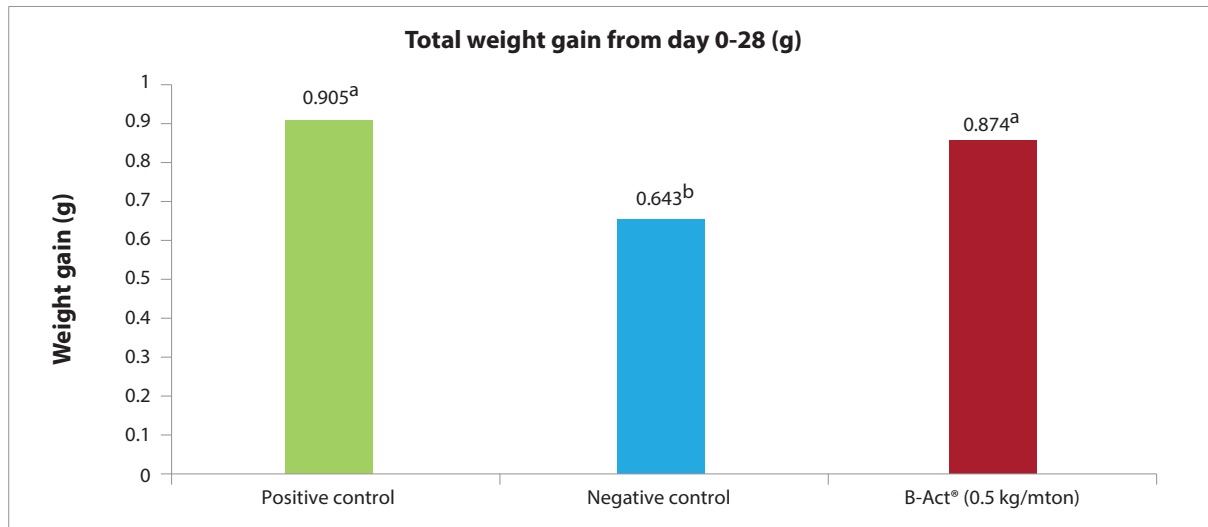
Total weight gain (day 0-28, g), feed conversion ratio and mortality (%) are shown in *Table 1*.

Table 1. Total weight gain (day 0-28, g), feed conversion ratio and mortality (%)

Treatments	Total weight gain from day 0-28 (g)	Feed conversion ratio	Mortality (%)
Positive control	0.905 ^a	1.635 ^a	0.0 ^a
Negative control	0.643 ^b	2.079 ^b	18.8 ^b
B-Act [®] (0.5 kg/mton)	0.874 ^a	1.680 ^a	2.1 ^a

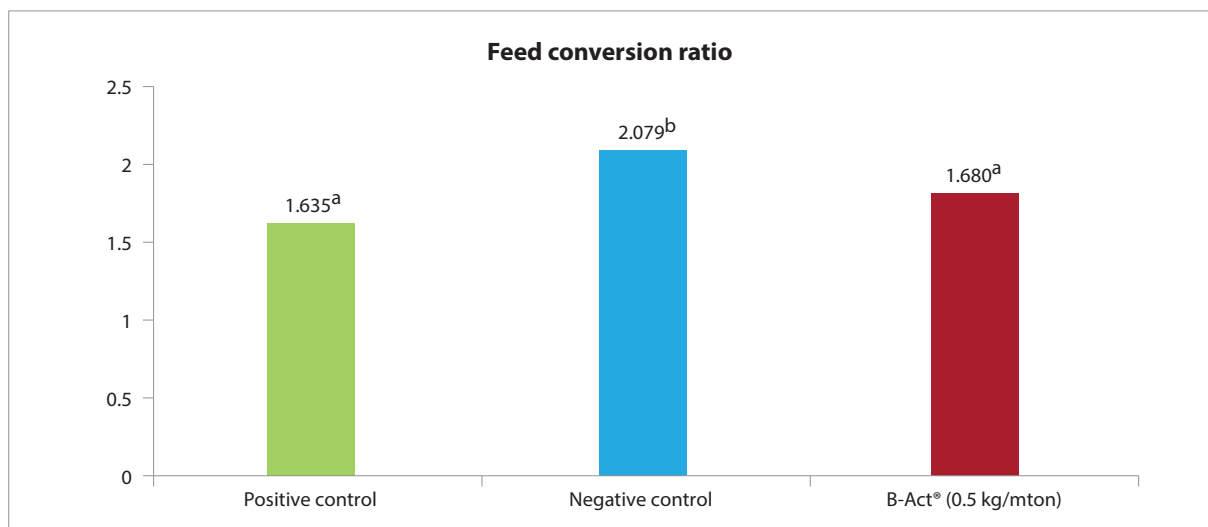
^{a,b} values with different superscripts within a column differ significantly (P<0.05)

Broilers challenged with *Clostridium perfringens* receiving B-Act® (0.5 kg/mton) had weight gain (Figure 1) and feed conversion (Figure 2) equal to the positive control and performance data was significantly ($P < 0.05$) improved compared to the negative control.



^{a,b} values with different superscripts differ significantly ($P < 0.05$)

Figure 1. Total weight gain (g) in broilers challenged with *Clostridium perfringens* from day 0-28



^{a,b} values with different superscripts differ significantly ($P < 0.05$)

Figure 2. Feed conversion ratio of broilers challenged with *Clostridium perfringens*

The CP challenge in the non-medicated group resulted in 18.8% mortality which was significantly ($P < 0.05$) reduced by the addition of B-Act® to the diet as shown in Table 1.

Conclusion

The research shows that under simulated commercial conditions adding B-Act® to the diet at the rate of 0.5 kg/mton in order to supply 1.6×10^{12} spores of *Bacillus licheniformis* per mton of feed was effective over the first 28 days of life in maintaining weight gain, feed conversion, and preventing mortality in broiler chickens challenged with *Clostridium perfringens*.