



## ***Efficacy of B-Act® in controlling Necrotic Enteritis in coccidia vaccinated broilers***

### **Trial description**

#### **1 Set-up**

- **Location:** Southern Poultry Research, USA
- **Animals:**
  - Male Cobb 500 broilers
  - 400 birds per treatment divided over 8 replicates
- **Set up:** Birds were infected to induce necrotic enteritis. Therefore all broilers were vaccinated at hatch with a commercial live coccidiosis vaccine. On day 19, 20 and 21 all birds, except the UUC were challenged in the feed with *Clostridium perfringens* ( $1 \times 10^8$  cfu/bird).
- **Trial duration:** 42 days

#### **2 Treatments**

- **Uninfected Untreated Control (UUC):** birds were not infected and fed a commercial diet
- **Infected Untreated Control (IUC):** birds were infected and fed a commercial diet
- **Infected Treated Group (B-Act®):** birds were infected and fed a commercial diet + 2 kg B-Act®/mton of feed ( $6.4 \times 10^{12}$  cfu *Bacillus licheniformis*/mton of feed) during starter, grower and finisher period

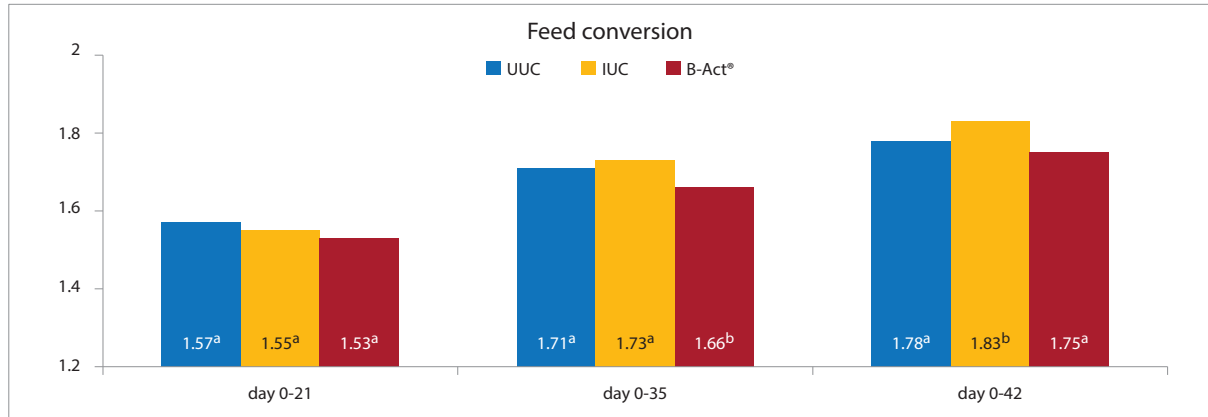
#### **3 Measured parameters**

- Bird weights and feed consumption were measured on day 21, 35 and 42. Feed conversion was calculated.
- On day 21 and 28 five birds from each pen were sacrificed for scoring of necrotic enteritis lesions. The scoring was based on a 0 to 3 score as follows:
  - Lesion score 0 = Normal
  - Lesion score 1 = Slight mucus covering small intestine
  - Lesion score 2 = Necrotic small intestine mucosa
  - Lesion score 3 = Sloughed and blood small intestine mucosa and contents
- A gross necropsy was performed on all dead birds to determine the cause of death.

### **Results**

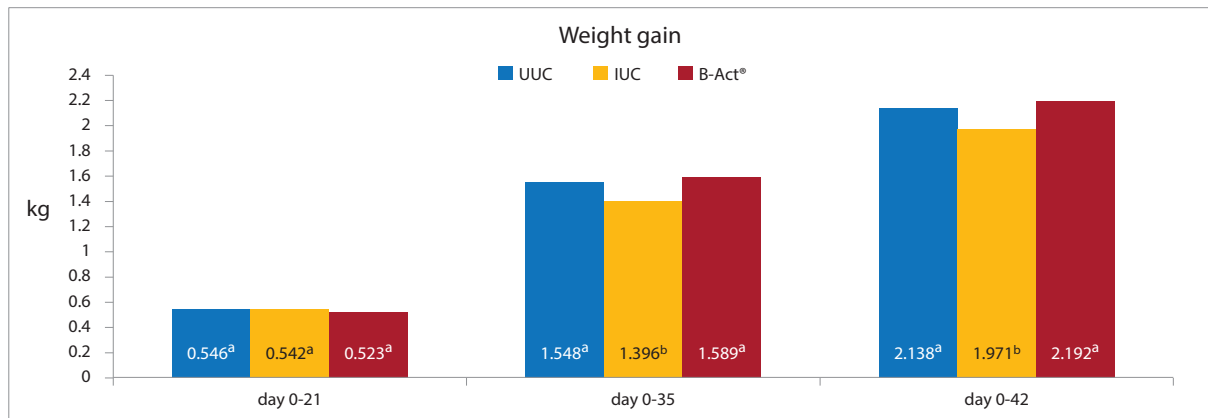
- Feed conversion at all weigh periods were significantly improved for B-Act® compared to IUC (Fig1). On day 35 and 42 B-Act® birds showed significant increased weight gain compared to the infected untreated birds (Fig2).
- FCR and weight gain of B-Act® fed birds were statistically equivalent to the uninfected group at day 42.

Fig. 1



Different letters mean statistically different at  $p < 0.05$ .

Fig. 2



Different letters mean statistically different at  $p < 0.05$ .

- Feeding B-Act® significantly lowered necrotic enteritis induced lesions and reduced mortality versus IUC (Table 1).

Table 1

Treatments	D21 NE Lesions	D28 NE Lesions	% NE Mortality
Uninfected Untreated Control (UUC)	0.00 <sup>c</sup>	0.53 <sup>ab</sup>	1.9 <sup>b</sup>
Infected Untreated Control (IUC)	0.83 <sup>a</sup>	0.70 <sup>a</sup>	9.7 <sup>a</sup>
Infected + B-Act® (B-Act®)	0.58 <sup>b</sup>	0.30 <sup>b</sup>	1.9 <sup>b</sup>

Different letters mean statistically different at  $p < 0.05$ .

## Conclusion

Supplementing B-Act® to broilers induced with necrotic enteritis demonstrates:

- Significant improvements in performance
- Significant reduction in necrotic enteritis induced lesions and mortality