

ProsperEO™ Controls *Clostridium perfringens* Induced Necrotic Enteritis in Broilers

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Research was conducted at Southern Poultry Feed & Research, Inc. to determine the effects of ProsperEO on broiler health, performance, intestinal lesion scores and mortality.

RESEARCH SUMMARY

The inclusion of ProsperEO in broiler diets improved performance in birds challenged with necrotic enteritis (NE). ProsperEO significantly reduced mortality, improved intestinal lesion scores, body weight and adjusted feed conversion.

BACKGROUND

Necrotic enteritis is an enteric disease of poultry that has been estimated to cost the global poultry industry up to \$6 billion annually. The movement to reduce or remove subtherapeutic antibiotics and anticoccidial medications from poultry production has increased the incidence and severity of necrotic enteritis. This reduction in antibiotics, including No Antibiotics Ever (NAE) production, has increased the demand for alternative natural prevention and control strategies for NE.

For years, Ralco's Strong Animals® products have been successfully used in the field to help prevent and manage necrotic enteritis in poultry. This study was designed to evaluate the effects that ProsperEO had in necrotic enteritis challenged birds. Mortality, lesion scores, body weight and adjusted feed conversion were measured.

MATERIALS AND METHODS

- 1,200 1-day-old Cobb male broilers were housed in 24 pens starting with 50 birds per pen. There were 3 dietary treatments and 8 replicates per treatment.
- Broilers were randomly assigned to pens and each pen was randomly assigned to one of the 3 dietary treatments.
- Birds were challenged with *Eimeria maxima* (coccidia) on Day 14 and then challenged with *Clostridium perfringens* on Days 19, 20 and 21.
- Birds were weighed on Days 0, 21, 35 and 42. On Day 21, 3 birds per pen were randomly selected for NE lesion scoring.

TREATMENTS

1. Uninfected/Untreated Control
2. Infected/Untreated
3. Infected/ProsperEO (0.85 lbs. per ton)

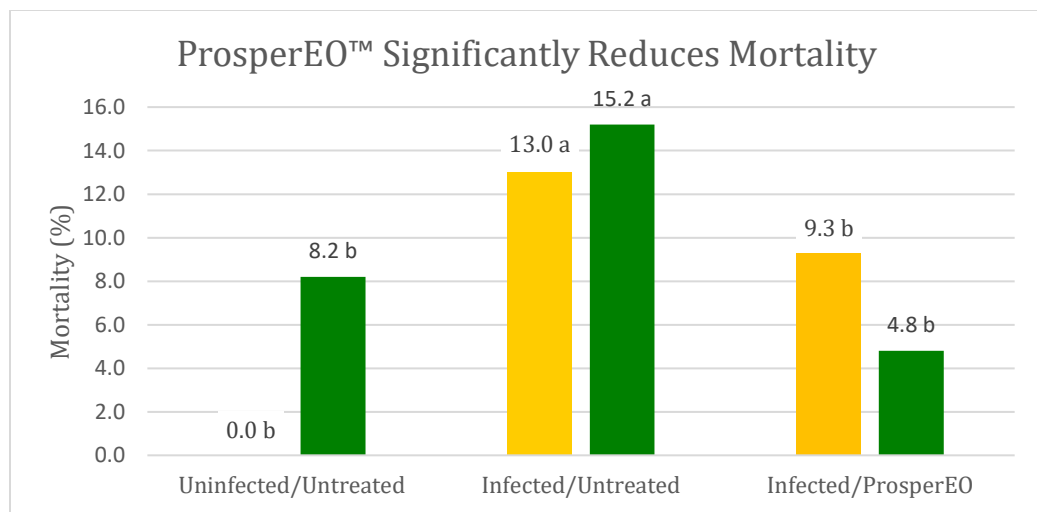


RESULTS

Mortality and Necrotic Enteritis Mortality and Lesion Scores

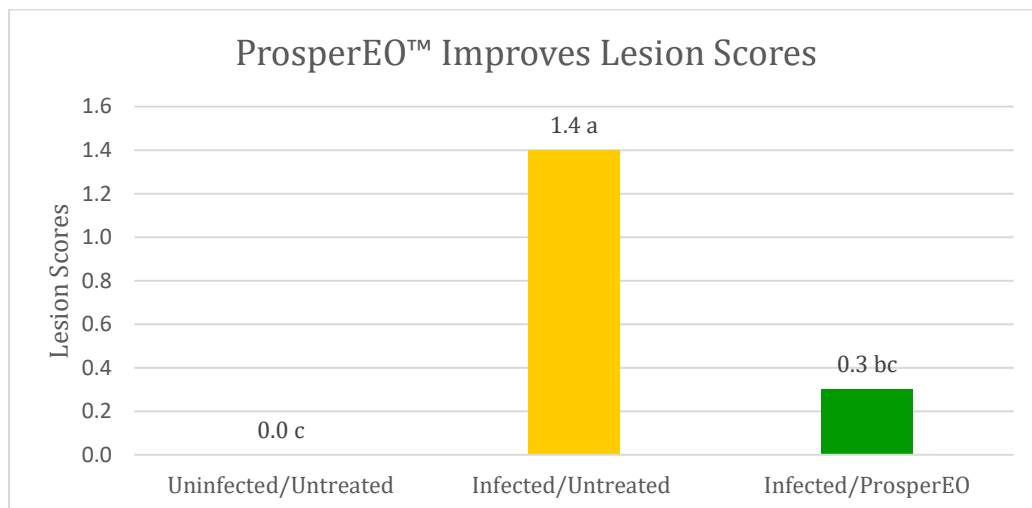
All broiler chickens in this study, except the uninfected/untreated were challenged with *E. Maxima* and *Clostridium perfringens*. This challenge produced medium to severe necrotic enteritis in the infected/untreated birds. The ProsperEO treatment significantly reduced cumulative mortality and mortality due to necrotic enteritis (Figure 1).

Figure 1 MORTALITY



When examining intestinal integrity, ProsperEO improved lesion scores over the infected/untreated control birds. (Figure 2)

Figure 2 LESION SCORES



Broiler Performance

ProsperEO supplemented birds were heavier than the infected/untreated birds in this study (Figure 3). In addition, ProsperEO supplemented birds had significantly better adjusted feed conversions rates than the infected/untreated birds, though they did not out preform the uninfected/untreated birds (Figure 4) in feed conversation rates.

Figure 3 BODY WEIGHT

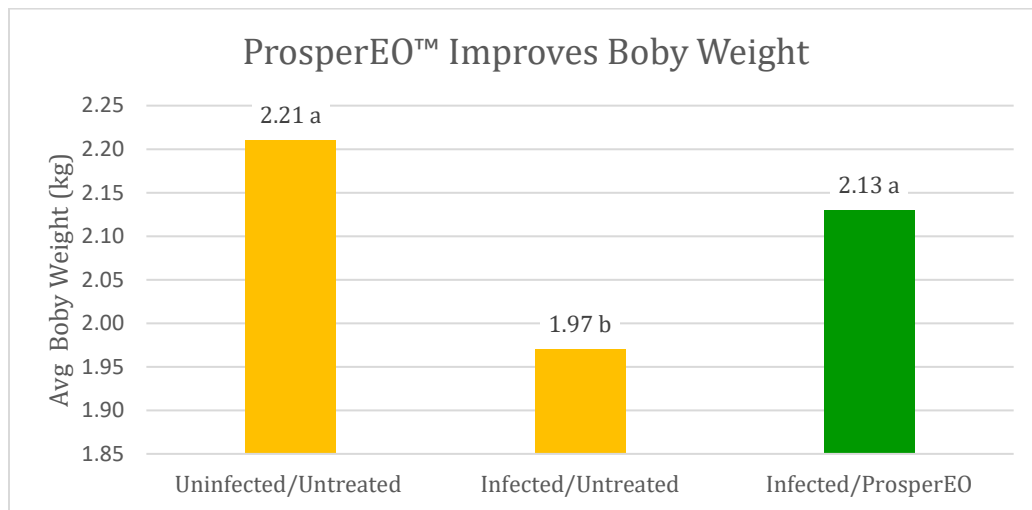
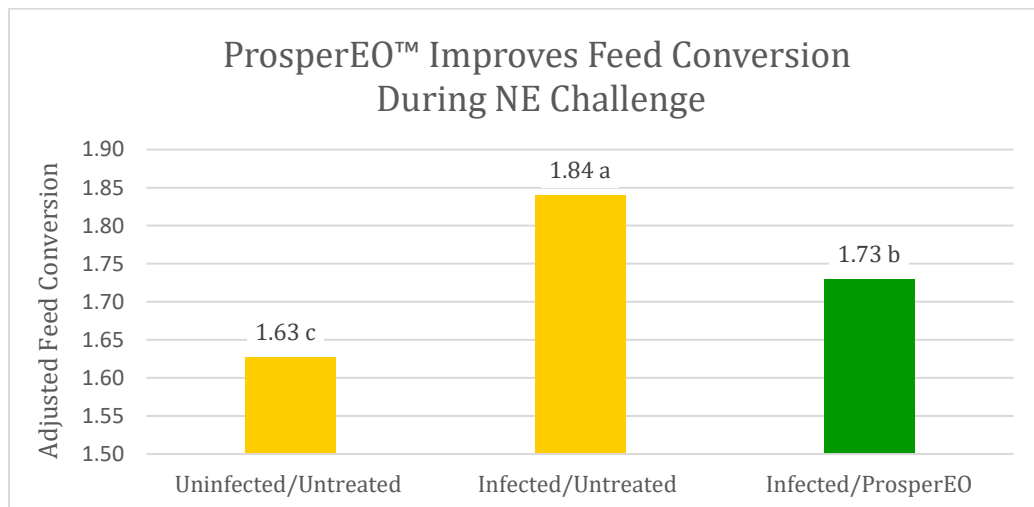


Figure 4 ADJUSTED FEED CONVERSION



CONCLUSION

In this study, ProsperEO decreased the severity of a NE challenge. Lesion scores were significantly reduced by ProsperEO, indicating an improvement in gut integrity. Subsequently, NE mortality was significantly decreased in challenged broilers fed ProsperEO.

ProsperEO exhibits potent antimicrobial activity which aids in maintaining gut health during severe disease challenges.

Additionally, ProsperEO improved overall broiler performance. Body weight and feed conversion rates improved compared to untreated, infected broilers. ProsperEO is an effective treatment for NE as it lessens the severity of the disease, significantly improving livability and performance of the challenged flock.

ProsperEO is also OMRI listed for organic use.

