



## FEEDING ORIGINAL XPC™ TO BROILERS DURING A COCCIDIOSIS CHALLENGE: EFFECTS ON PERFORMANCE AND INTESTINAL LESIONS

Researchers<sup>1</sup> challenged broilers with *Eimeria* species and found that feeding Original XPC resulted in lower intestinal lesion scores and better performance, and that feeding a combination of XPC and salinomycin further improved performance.

### RESEARCH SUMMARY

- 320 day-old male Cobb broilers were raised in battery brooders.
- Bird weight gain and feed consumption was measured at 0, 21, and 27 d.

TABLE 1: TREATMENT DESIGN

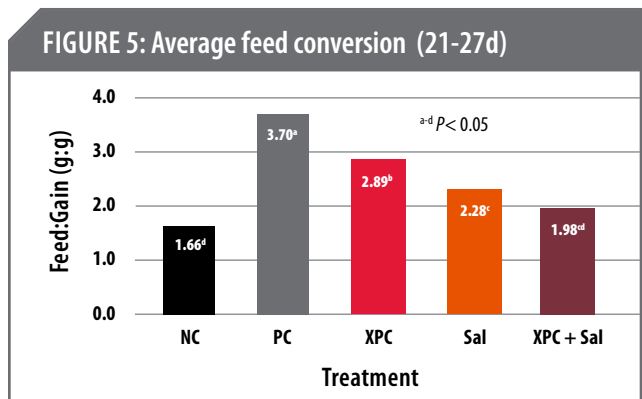
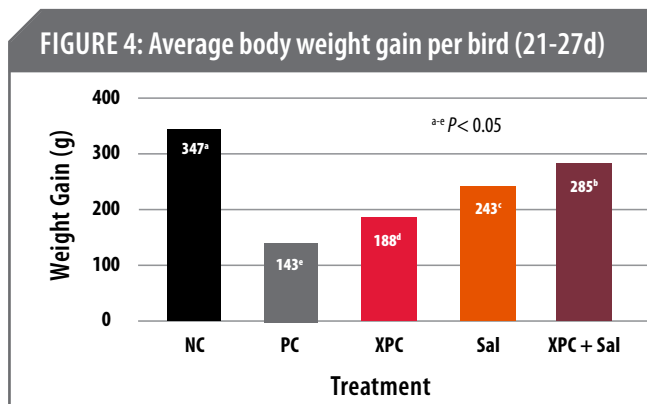
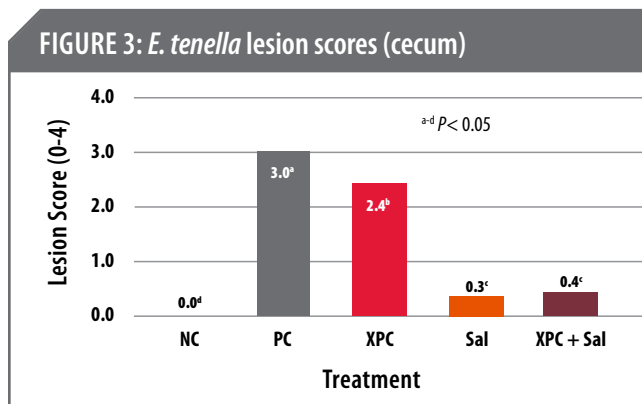
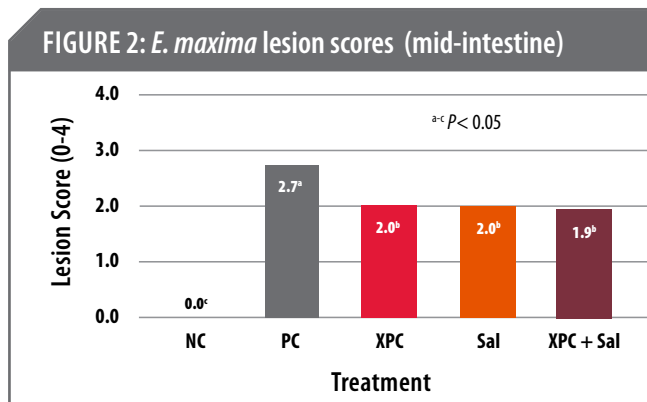
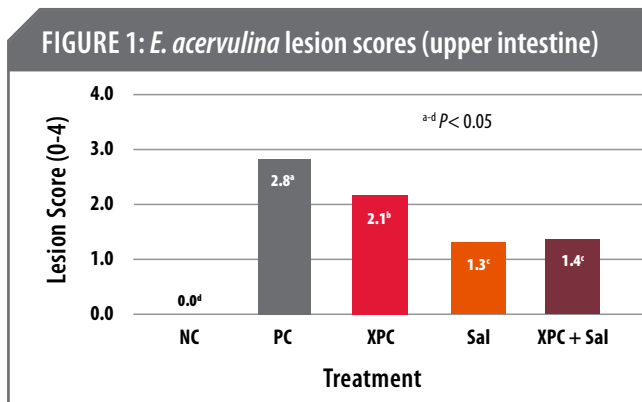
Treatment	Treatment Code	No. Replicate Cages	Birds/Cage	Coccidia Challenge 21 d	Necropsy & Lesion Scored 27 d
Negative Control	NC	8	8	No	Yes
Positive Control	PC	8	8	Yes	Yes
PC + XPC	XPC	8	8	Yes	Yes
PC + salinomycin	Sal	8	8	Yes	Yes
PC + XPC & salinomycin	XPC + Sal	8	8	Yes	Yes

- Feed additives were fed from day 1-27 and were included in the diet with Original XPC at 1.25 kg/metric ton and salinomycin at 60 g/ton (66 ppm).
- All birds in challenged groups were orally gavaged with coccidia inoculum on 21d.
  - Oocytes/bird: 75,000 *Eimeria acervulina*; 25,000 *Eimeria maxima*; 75,000 *Eimeria tenella*
- At 27d, all birds were euthanized and intestinal lesions scored.
  - Upper (*E. acervulina*), middle (*E. maxima*), and cecal (*E. tenella*) intestinal regions

### RESULTS

- *E. acervulina* (Figure 1), *E. maxima* (Figure 2), and *E. tenella* (Figure 3) intestinal lesion scores were all significantly reduced ( $P < 0.05$ ) when Original XPC was included in the feed.
- Dietary inclusion of salinomycin also significantly reduced ( $P < 0.05$ ) lesion scores, with similar effects to XPC for *E. maxima* lesions and a further reduction compared to XPC for *E. acervulina* and *E. tenella* lesions.
- Weight gain (Figure 4) and feed conversion (FCR; Figure 5) were severely decreased when birds were challenged (PC vs. NC;  $P < 0.05$ ).
- During the challenge, feeding Original XPC significantly improved ( $P < 0.05$ ) body weight gain and FCR, with a further improvement from salinomycin.
- The combination of Original XPC and salinomycin resulted in an additive performance response, providing the greatest weight gain and best FCR of the challenged groups.

RESULTS (continued)



**CONCLUSIONS**

- Feeding Original XPC significantly reduced *E. acervulina*, *E. maxima*, and *E. tenella* lesions and improved performance during the coccidia challenge.
- Combining Original XPC with salinomycin resulted in further protection against the negative performance effects caused by the coccidia.

<sup>1</sup> McIntyre, D., J. Broomhead, G. F. Mathis, and B. Lumpkins. 2013. Effects of feeding Original XPC™ and salinomycin during a coccidia challenge in broilers. Poul. Sci. 92 (E-Suppl. 1):59-60.

If you would like more information on this study, please contact your local Diamond V representative.

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