XTRACT® 6930 enables similar performance to a shuttle program of bacitracin and virginiamycin in broilers

**INTRODUCTION AND OBJECTIVES**

Meta analytical tools demonstrated that XTRACT® 6930 improved performance of broilers at the same level as antibiotic used as growth promoters (AGP). This was then confirmed in a trial in which XTRACT® 6930 supplementation enabled performance at least similar to the AGP zinc bacitracin, (see Pancosma Technical Bulletin 709). However, little information is available regarding a comparison of XTRACT® and a program involving more than one AGP. Therefore the objective of this trial is to evaluate the effect of XTRACT® 6930 compared to a shuttle program of bacitracin and virginiamycin in a typical American context.

**MATERIAL AND METHODS**

The trial was set up at the facilities of Virginia Diversified Research Corp., VA, USA

- 900 Cobb broilers aged of 1 day at start,
- Housed for 42 days in 30 floor pens of 30 birds each,
- Treatments and feeding program
  - Diet based on corn and soybean meal
  - Salinomycin added at 50 g/t in starter and grower diets

<table>
<thead>
<tr>
<th></th>
<th>Starter (20.5% CP, 3041 kcal/kg ME)</th>
<th>Grower (17.7% CP, 3107 kcal/kg ME)</th>
<th>Finisher (15.1% CP, 3151 kcal/kg ME)</th>
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</thead>
<tbody>
<tr>
<td>Negative Control</td>
<td>No supplementation</td>
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<tr>
<td>Positive Control</td>
<td>50 g/t BMD (Zinc bacitracin)</td>
<td>20 g/t Virginiamycin</td>
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<tr>
<td>XTRACT®</td>
<td>125 g/t XTRACT® 6930</td>
<td>100 g/t XTRACT® 6930</td>
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- Measurements:
  - Performance: feed intake, body weight, feed conversion ratio (FCR), survival rate, mortality-adjusted FCR calculated as follow:
    \[
    \text{Mortality adj. FCR} = \frac{\text{Total pen feed intake}}{\text{Total pen live weight} - \text{Mortality weight}}
    \]
  - Economical figures:
    - Feed cost : 333 $/t; whole bird price (75% carcass yield): 1.53$/kg; XTRACT® supplementation 2x cheaper than AGP supplementation
    - Feed cost, Gross income, Net Income calculated as the difference between gross income and feed costs, Return on Investment calculated as follow:
      \[
      \text{ROI} = \frac{\text{Net Income of Supplemented group} - \text{Net Income of Negative control group}}{\text{Feed Cost of Supplemented group} - \text{Feed Cost of Negative control group}}
      \]
- Statistical analysis by ANOVA and paired treatments means analyzed by use of a 2-tailed distribution basic T-test model with equal variances assumed.
RESULTS AND CONCLUSION

Effect of XTRACT® on broiler performance

Feed intake was not affected by the treatments (mean: 4.11 kg/hd, \( P > 0.20 \)). Birds supplemented with the AGP or with XTRACT® exhibited significantly higher body weight and final body weight, and reduced mortality-adjusted FCR compared to animals fed the negative control (respectively -2.2% and -2.1%, \( P < 0.05 \); see figure).

![Graph showing final body weight and mortality adjusted FCR](image)

In addition, XTRACT® enabled a level of performance similar to the Positive Control in terms of body weight gain, final body weight and feed conversion ratio.

Effect of XTRACT® on economical parameters

Birds supplemented with the AGP or with XTRACT® exhibited significantly higher body feed costs, but also gross income compared to animals fed the negative control (\( P < 0.05 \); see figure). In addition, net incomes of the Positive Control and XTRACT® were significantly greater than the Negative Control group (\( P < 0.05 \)).

![Graph showing feed cost and net income](image)

However, XTRACT® and the AGP supplementation permitted similar economical benefits (Gross Income and Net Income; \( P > 0.20 \)). Calculated ROI of XTRACT® supplementation reached 3.1:1, while it was of 1.7:1 for the Positive Control.

**XTRACT® 6930 can be a good alternative to an aggressive AGP treatment, both in terms of performance and return on investment**