TOXO-XL maintains broiler performance and protects organs during mycotoxin challenge

Conclusion

- TOXO-XL maintains animal performance in the starter phase at moderate mycotoxin challenge

The contamination of animal feed with mycotoxins represents a significant negative economic impact for farmers due to the detrimental effects mycotoxins pose on animal health and performance. In poultry production, this can lead to direct increase in production costs by increasing time to market resulting from feed conversion inefficiency and additional costs for medications.

TOXO-XL contains purified smectite clays, which have shown to be very effective in binding multiple toxins such as aflatoxins, fumonisins and ergot alkaloids. To offer support against mycotoxins that are not bound effectively, specific glucose biopolymers and activated β-glucans are included which help to maintain gut integrity and a healthy immune system during (mycotoxin) challenges. Supplementation of multiple mycotoxin-contaminated feeds with TOXO-XL helps to maintain animal performance during multiple mycotoxin contamination to commercial challenge levels.

Does TOXO-XL maintain broiler performance during moderate mycotoxin exposure?

TOXO-XL was able to maintain body weight until day 13 (Figure 1). Furthermore, TOXO-XL maintained average daily gain (ADG) during the first 3 weeks (Figure 2) and was also able to improve the feed conversion ratio (FCR) compared to the mycotoxin contaminated group (Figure 3). The mycotoxin challenge level was relatively mild, which is reflected by the absence of a significant difference between treatments.
This trial demonstrates that the inclusion of mycotoxins in the diet at low levels has a negative impact on broiler performance. TOXO®-XL maintained performance under controlled conditions, in particular during the starter phase by increasing bodyweight.

In future mycotoxin challenge studies, higher mycotoxin levels and the application of other stress factors may be necessary to see more evident effects of mycotoxins and the protective effects of products such as TOXO-XL. This would also be a better representation of problems experienced in practice by poultry producers.

Discussion

Materials and methods

The experiment was performed with 1200 male broiler day-old chicks at the Nutreco Poultry and Rabbit Research Centre in Spain. The animals were divided over four treatments, with 12 pens per treatment and 25 birds per pen. Body weight and feed intake were measured.

Treatment table

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mycotoxin concentration (ppb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON</td>
<td>Negative control (low mycotoxin contamination)</td>
</tr>
<tr>
<td>TOX</td>
<td>Negative control + 2 kg/t TOXO®-XL</td>
</tr>
<tr>
<td>MYC</td>
<td>Positive control (EU max. levels of DON, ZEA and OTA)</td>
</tr>
<tr>
<td>MYCTOX</td>
<td>Positive control + 2 kg/t TOXO-XL</td>
</tr>
</tbody>
</table>

Trial Summary

Animal species: Poultry, broilers
Main subject: Zootechnical performance
Product: TOXO-XL
Inclusion rate: 2 kg/t
Country: Spain
Type of trial: R&D trial, in vivo

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