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ACCEPTED MANUSCRIPT

Mycotoxin binder increases growth performance, nutrient digestibility and digestive health of finisher pigs offered wheat based diets grown under different agronomical conditions

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Highlights:

- Low quality wheat increased the expression of intestinal *TNF* and *CLDN2* genes
- The mycotoxin binder improved performance and increased nutrient digestibility
- The mycotoxin binder modified the expression of intestinal *PEPT1* and *SGLT1* genes

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Abstract

The objective of this study was to investigate the effect of a wheat-based diet, exhibiting different levels of mycotoxin contamination and the presence of a mycotoxin binder on growth performance, nutrient digestibility and digestive health in finisher pigs. Sixty-four pigs (38.7 kg (SD 3.48 kg)) were assigned to one of four dietary treatments: (T1) low quality wheat diet, (T2) low quality wheat diet containing 2 g/kg of a mycotoxin binder, (T3) high quality wheat diet, (T4) high quality wheat diet containing 2 g/kg of a mycotoxin binder. The inclusion of wheat was 500 g/kg. The mycotoxin binder used was a Hydrated Sodium-Calcium-Aluminum-Silicate, which also included calcium propionate and calcium formate. The low quality wheat grain had a higher level of zearalenone (233.02 vs. 33.36 µg/kg), aflatoxin (4.08 vs. 2.94 µg/kg)

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