

Sodium sulfite (SoS) detoxification of deoxynivalenol (DON)-contaminated maize and its impact on performance and plasma mycotoxin patterns in fattening pigs.

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The aim of this study was to examine the detoxification of DON-contaminated maize with SoS and its impact on the performance of fattening pigs.

Material and Methods: Background-contaminated (CON) and Fusarium-contaminated (DON) maize kernels (44.4 mg DON/kg maize) were treated with one of three SoS-levels (0, 2.5, 5.0 g/kg maize) and wet-preserved with 15 g/kg propionic acid (20% moisture content) for 63-70 d. These different maize batches were included at 10% in a barley-wheat-soybean meal based diet, resulting in six groups. Ninety-six Barrows (BH2P, n=16/diet) with an initial body weight (BW) of 32.5 ± 3.4 kg were equally assigned to one of six diets and housed individually in floor pens for 10 weeks. Besides different performance parameters, DON and DONS (DON sulfonates) concentrations in blood and feed were determined. Data were statistically analyzed with PROC MIXED (SAS 9.4).

Results: Mean DON concentrations decreased by 30% in diet DON2.5 and 65% in diet DON5.0. This was also reflected in DON plasma concentrations. Pigs receiving diet DON- demonstrated the lowest performance, which was recovered to control levels by both SoS-treatments.

Conclusion: Wet-preservation of DON-contaminated maize with SoS successfully reduced DON concentration in the feedstuff.

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