

Effects of feeding grains naturally contaminated with *Fusarium* mycotoxins with and without a polymeric glucomannan mycotoxin adsorbent on reproductive performance and serum chemistry of pregnant gilts¹

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ABSTRACT: Contamination of animal feedstuffs with *Fusarium* mycotoxins can cause reduced feed intake and hyperaminoacidemia resulting from reduced hepatic protein synthesis. The current study investigated the effects of feeding grains naturally contaminated with *Fusarium* mycotoxins on reproductive performance, serum chemistry, ADFI, and ADG of gilts, and tested the ability of a polymeric glucomannan mycotoxin adsorbent (GMA) to reduce or eliminate the effects of the contaminated feeds. Thirty-six Yorkshire gilts were fed 3 diets (n = 12 gilts/diet) from 91 ± 3 d of gestation until farrowing. Diets included 1) control, 2) contaminated grains, and 3) contaminated grains +0.2% GMA. Diets contaminated with *Fusarium* mycotoxins did not affect ADFI ($P = 0.24$), but ADG ($P = 0.029$) and G:F ($P = 0.047$) were reduced. Serum concentrations of β -hydroxybutyrate, haptoglobin, protein, albumin, globulin, urea, glucose, cholesterol, Ca, Na, Mg, P, K, and Cl, and hepatic enzyme activities were not affected by diet. The frequency of stillborn piglets was greater ($P = 0.03$) for gilts fed contaminated grains compared with that of gilts fed contaminated grains + GMA. The feeding of contaminated grains + GMA also increased ($P = 0.026$) the percentage of pigs born alive compared with gilts fed the contaminated diets. In conclusion, feeding gilts diets that are naturally contaminated with *Fusarium* mycotoxins can increase the incidence of stillborn piglets and this effect can be reduced by dietary supplementation with GMA.

Key words: deoxynivalenol, *Fusarium*, gilt, metabolism, mycotoxin, reproduction

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