The Use of Spray-Dried Animal Plasma to Mitigate Negative Effects of Deoxynivalenol (DON) in Late Nursery Pigs

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Grain infected with *Fusarium* fungi is a widespread problem in Western Canada and livestock producers must be aware when purchasing feeds of the potential for mycotoxin contamination. A common mycotoxin is deoxynivalenol or DON. Low levels of DON in the diet reduce feed intake and Agriculture Canada recommends swine diets not contain more than 1 ppm DON. This level however, may be difficult to achieve and thus it is important to find ways to mitigate the negative effects of DON.

The objective of this study was to determine if adding sprayed-dried animal plasma (SDAP) and/or activated clays (binder) to DON contaminated diets would mitigate the effect of DON during the nursery phase of production. Pigs (6.9 ± 0.92 kg, mean ± SD) were assigned in pens of five (n = 8 pens per trt) to one of five treatments [a) negative control, 0.3 ppm DON; b) DON positive control; c) trt b with 0.2 % binder d) trt b with 0.8 % SDAP and e) trt b with binder and SDAP] for a 21 day experiment. Trts b to e contained an average of 3.9 ppm DON.

Overall, relative to the negative (no DON) control, ADG and ADFI of pigs fed trt b was reduced by 60 and 100 g/d respectively ($P < 0.05$). ADFI of the pigs fed DON contaminated feed plus a binder (trt c) was improved relative to the positive control but was less than the negative control ($P < 0.05$). ADG of pigs consuming DON contaminated diets plus binder was similar to the DON positive control ($P > 0.05$). ADFI and ADG of pigs consuming DON contaminated diets with SDAP was similar to the negative control ($P > 0.05$). Feed efficiency (feed:gain) averaged 1.27 and was unaffected by DON, SDAP or the binder ($P > 0.05$). Inclusion of SDAP improved ADFI and alleviated the negative effects of DON. In this experiment, SDAP was more effective than the clay binder at alleviating the negative effects of DON.

Implications: SDAP animal plasma should be added to nursery diets if DON contamination is determined or suspected.