

# Schontonia Davis, Animal Sciences

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## **Efficacy of turmeric (*Curcuma longa*) to ameliorate the adverse effects of ochratoxin A in broiler chicks**

*S. Davis, J. S. Park, R. E. Kutz, R. Murarolli, D. R. Ledoux, G.E. Rottinghaus, and A. J. Bermudez*

A 21-day feeding study was conducted to assess the effectiveness of turmeric (*Curcuma longa*) powder (TMP), containing a known level of curcumin to offset the adverse effects of ochratoxin A (OA) in broiler chicks. Five pen replicates of 5 chicks each were assigned to each of 6 dietary treatments. Dietary treatments evaluated include: 1) basal diet containing no OA or TMP; 2) basal diet supplemented with 0.67% TMP containing 220 mg/kg total curcuminoids (TCMN); 3) basal diet supplemented with 1 mg/kg OA; 4) basal diet supplemented with 1 mg/kg OA and 220 mg/kg TCMN; 5) basal diet supplemented with 2 mg/kg OA; 6) and basal diet supplemented with 2 mg/kg OA and 220 mg/kg TCMN. The addition of OA to the diet significantly reduced ( $P < 0.05$ ) feed intake, body weight gain, and caused poor feed conversion. Similarly, there was a significant effect ( $P < 0.05$ ) of OA on relative liver weight and relative kidney weight. Results indicated that 220 mg/kg TCMN did not counteract any adverse effects in broiler chicks fed OA at levels of 1 mg/kg and 2 mg/kg. It remains to be seen if OA negatively affected antioxidant status and hepatic gene expression of chicks, and if TCMN will be beneficial in ameliorating any observed adverse effects. Samples are currently being analyzed for antioxidant activity and changes in gene expression.