examined in roosters

In experiment 3, the four dietary treatments were: (1) a negative control diet formulated to contain conventional corn plus soybean meal (CCSM), (2) the negative control plus 500 FTU of microbial phytase per kilogram of diet (CCSM500) analyzed to contain 523 FTU/kg, (3) the negative control plus 5,000 FTU of microbial phytase per kilogram of diet (CCSM5000) analyzed to contain 5,075 FTU/kg, and (4) PTC plus microbial phytase transgenic corn (PTCSM5000) analyzed to contain 5,146 FTU/kg and (4) PTC plus microbial phytase transgenic corn (PTCSM5000) analyzed to contain 5,075 FTU/kg.

The experimental protocol for experiment 3 was the same as for experiments 1 and 2.

The results of experiment 3 are shown in Table 5.

The addition of microbial phytase to the conventional corn at levels of 500 and 5,000 FTU/kg significantly and incrementally reduced phosphorus excretion from 277.30 mg to 255.32 mg and 232.02 mg per bird per 48 hours, respectively.

The calculated TPU increased from 49.88% to 60.27% and 72.76%, respectively. The calculated AP content of the conventional corn increased from 0.23% to 0.27% and 0.33%, respectively, with the addition of 500 and 5,000 FTU/kg of exogenous microbial phytase.

The results for the PTCSM5000 treatment were similar to the results for the CCSM5000 treatment: 237.16 mg versus 232.02 mg of phosphorus excretion, 76.23% versus 72.76% TPU and 0.31% versus 0.33% AP.

The researchers said there was no difference in digestibility of phosphorus in roosters fed corn-based phytase or microbial phytase at 5,000 FTU/kg of diet.

Stay tuned. My December column will review more research on PTC.

The Bottom Line
Transgenic phytase expressed in corn appears to be as efficient as comparable microbial phytase at releasing phytate phosphorus in corn/soybean meal diets. Whether it will be cheaper or more economical than the use of commercially available phytase supplements remains to be seen. However, it is clearly another innovative option and another potential tool in the nutritionist’s toolbox.

Reference

In 60 seconds

Hatchery probiotic: Pacific Vet Group USA has launched FloraStart, a probiotic product developed specifically for use in broiler hatchery operations. The company said the product is designed specifically for the needs of neonatal chicks. FloraStart is a blend of two proprietary lactic acid bacteria isolates — Lactobacillus plantarum TY006 and Enterococcus faecium MF109 — selected for their ability to solely colonize the gastrointestinal tracts of day-old chicks. FloraStart is formulated for automated application in the hatchery via mycro spray. The formulation was developed to minimize having to wet chicks and to optimize preening behavior so virtually all of the chicks will be effectively colonized within 10 minutes of administration, the announcement said.

BVD vaccine: Elanco announced that the U.S. Department of Agriculture has issued a veterinary biological license for its Viralign 6, the first combination modified-live virus vaccine to provide targeted protection against bovine viral diarrhea (BVD) virus 1b — the most predominant BVD virus strain in the U.S. The vaccine also provides protection against BVD viral strains 1a and 2, bovine respiratory syncytial virus, infectious bovine rhinotracheitis virus and parainfluenza-3 virus. This first-of-its-kind vaccine enables low-volume, subcutaneous administration in cattle five months of age or older. Viralign 6 is available in 10-dose and 50-dose packages through veterinarians and animal health distributors.

Dietary emulsifier: Europe-based feed additive company Orffa and its global subsidiary Excentials have launched a new type of nutritional emulsifier for the global animal nutrition market under the brand name Excentials Energy Plus. The nutritional emulsifier is added to animal diets to improve fat digestibility, particularly for broiler, turkey and aquaculture production. Within Europe, the product will be marketed via Orffa, and outside Europe, the product will be launched via the Excentials network.

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