NUTRITION NOTES
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PHYTASE SUPPLEMENTATION IN HOME FRESH® POULTRY

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As a way to optimize nutrient utilization and sustainability, we have been using supplemental phytase in pig and poultry feeds for many years. Plant-origin feed ingredients such as corn, soybean meal, distillers dried grains with solubles, wheat middlings and corn gluten meal contain an antinutrient named phytate or phytic acid. Phytate binds phosphorus, calcium, and other minerals as well as amino acids and starch, which makes them less available to be utilized by poultry. By breaking down the phytate in feed ingredients, these nutrients become more bioavailable to the bird, especially phosphorus. This allows us when formulating diets to use less nonrenewable inorganic phosphate sources (which are mined, require transport and expensive) when diets are supplemented with phytase., Adding phytase to diet formulas reduces diet costs and improves sustainability by helping to reduce environmental pollution from less undigested phosphorus and nitrogen (from the proteins or amino acids) being excreted and ending up in soil and water supplies. By breaking down starch, there is also a small increase in energy availability which can increase bird performance.

When formulating poultry diets, it is important to maintain a margin of safety for phosphorus levels even when adding phytase in order to minimize the chance of health and performance related issues occurring due to phosphorus deficiency. In 2022, we conducted a trial at the Kent Research Farm using 1,056 mixed sex meat-type chicks. We evaluated a high level of a new generation phytase (681 FYT/lb) with reduced phosphorus supplementation to diets without phytase and high levels of supplemental phosphorus. We found huge cost savings by using the high phytase diets with no complications observed such as weak bones or decreased performance. Thus, bone mineralization and bone health were maintained. In this study, phosphorus levels were lower than any starter diets we market as Home Fresh®. Based on this research, we know we can reduce phosphorus levels in all poultry feeds by utilizing a higher level of this new generation phytase.

Here are the changes to the Kent Nutrition Group poultry programs:

- Previous phytase source and level: 454 FYT/lb of complete feed
- New phytase source and level: 681 FYT/lb of complete feed
- Reduction in phosphorus guarantees: Decrease of 0.05%[1]

[1]example with Home Fresh® Layer – phosphorus guarantee was 0.60% with 454 FYT/lb of phytase added; with the newer phytase source at 681 FYT/lb, the phosphorus guarantee is now 0.55% on the tag.

Summary: Reducing the phosphorus guarantees on all poultry diets through using a higher level of added phytase saves diet costs, contributes to environmental sustainability and maintains our reputation for high performing poultry products.