Informal Nutrition Symposium:
Towards Resolving Unsettled Issues in Poultry Nutrition

Chair: Douglas R. Korver, University of Alberta

The presentation will include a discussion of apparent versus standardized digestibility values for feed ingredients, and the most appropriate method or endogenous correction to use for standardized values. The most common methods for determining amino acid digestibility or bioavailability and their advantages and disadvantages will be discussed in addition to the best methods to use for determining the effect of feed enzymes on amino acid digestibility. The effects of bird age on amino acid digestibility and how to deal with this issue in practical feed formulation will also be covered. The topic of digestible amino acid requirements for commercial feed formulation will also be addressed.

1:00 pm  Introduction – Topic #1 – Total vs digestible nutrients. How can nutritionists use precision nutrition?
Rosalina Angel, University of Maryland

1:10 pm  Digestible amino acids
Carl M. Parsons, University of Illinois
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1:50 pm  Matching nutrient digestibility data with practical feeding strategies
Martin J. Zuidhof, University of Alberta
Over the long history of animal nutrition, immense effort has been applied to characterize nutrient availability of feedstuffs (supply side), nutrient requirements (demand side), and optimal blending to most closely match nutrient supply to nutrient demand. These efforts have been applied at the flock level and have made chicken and egg production more efficient and profitable. However, we know that nutrient requirements of individual birds depend on their specific genome, environment, and stage of life. In the not too distant future, it will be possible to adjust nutrient intake to more closely match nutrient supply to individual birds based on their state-specific needs. This approach promises transformational benefits for sustainable production.

2:30 pm  Symposium summary, speaker panel discussion
Douglas R. Korver, University of Alberta
3:30 pm  **Introduction – Topic #2 – Precision nutrition: Reconciling theoretical approaches with real-world limitations**
Rosalina Angel, University of Maryland

3:30 pm  **Matrix values for exogenous enzymes**
Michael R. Bedford, AB Vista

*Exogenous enzymes are employed commercially as a result of their ability to improve the nutritive value of a diet via several mechanisms. In most cases the cost of the enzyme is more than offset by assignment of a nutrient matrix relevant for the activity of the dose of enzyme employed. The actual nutrient release in any one instance is influenced by ingredient choice, nutrient density, husbandry conditions and bird related factors and as a result any matrix employed needs to be robust and deliver if shortfalls in performance are to be avoided. In many cases the nutrient matrix is estimated through a variety of techniques including digestibility, performance and carcass trials. The final application of the matrix by the end-user most often uses performance of the animal as measured by weight corrected FCR or even carcass yield of high value portions as the metric of success. Optimum commercial performance of an exogenous enzyme is achieved when as challenging matrix as possible is applied with no performance losses (or better still a slight uplift in animal performance). A matrix value of an enzyme therefore has to be evaluated over a significant number of trials in order to minimize the likelihood of a failure in delivery.*

4:00 pm  **Precision nutrition – Applying enzyme matrix values in the real world**
Aaron Cowieson, DSM Nutritional Products

*There is growing interest in improving the precision of delivery of digestible nutrients to poultry in order to improve economic and environmental sustainability. As with any feed ingredient, feed enzymes carry a degree of ambiguity into feed formulation with respect to overlapping matrices, variability and the breadth of effect across multiple nutrient domains. This presentation will consider some of the major factors that may influence feed enzyme response with the objective of improving precision in feed enzyme use in poultry production systems.*

4:30 pm  **Symposium summary, speaker panel discussion, Life Mentors awards**
Douglas R. Korver, University of Alberta

Meeting rates will go up on June 1, 2019. If you have not yet registered to attend, make sure to register for the meeting before this date to save on registration rates. Visit the [PSA Annual Meeting website](https://www.psaannualmeeting.com) for more information.