Nutritional Value of Rendered Ingredients

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Proteins

- Rendered Proteins are utilized in animal foods to primarily supply amino acids.
- Amino acids are the building block of enzymes, immuno-proteins, and other basic metabolic factors.
- Amino Acids are also the primary building blocks for all tissues including muscle (meat).
- Proteins are still traded on the market based on crude protein values.
- However, nutritionist utilize amino acid digestibility values when selecting the value and allowance of animal proteins used in their formulations.
Fats

- Rendered Fats are utilized in animal foods to primarily supply fatty acids.
- Fatty acids are the building blocks of cell membranes, and other basic metabolic factors.
- Fatty acids are also the primary building blocks for all cell membranes including muscle (meat).
- Fats are traded on the market based on purity, energy value and are typically linked to global energy costs.
- However, nutritionists utilize energy values when selecting the price and allowance of animal fats used in their formulations.
Current Trends

• Anti-biotic free diets- Veggie diets.
  ▪ Trade restrictions?
Current Trends

- Non-nutritive reactions.
  - Better cooker control?

[Diagram of the Maillard Reaction process]
Current Trends

• Oxidation, non-nutritive reactions.
  ▪ Better analysis?

Oxygen Level and Meat Color

HIGH (oxymyoglobin)  LOW (1%) (metmyoglobin)  NONE (deoxymyoglobin)
Current Trends

• Residues.
  ▪ “Better” chemistry?

Livestock Drug Safety:
Drug Residues & Human Food Safety
Current Trends

- Consumer opinion.
  - Combatting misinformation
Current Trends

• Customer opinion.
  ▪ Better dialogue and scientific relationships?
Nutrient requirements

• As producers of proteins and energy supplements, Renderers must be able to understand the application of their ingredients in diets for all species.

• Rendered products for fish, pets, ruminant, poultry, and swine diets are necessary for continued sustainability.

• Both the science as well as the conversation must improve.
Thank You

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