Rooster Digestibility Study

Four processing methods of chicken were evaluated with a precision-fed cecectomized rooster assay to determine true amino acid digestibility.

Hypothesis:

Processing methods significantly impacts amino acid (AA) digestibility in pet food, with excessive heat reducing digestibility. While raw pet food is often considered more digestible, Freshpet hypothesizes that steaming protein at controlled temperatures yields an improved digestibility.

Objective:

To evaluate the amino acid digestibility of chicken-based ingredients processed under different conditions, using the precision-fed cecectomized rooster assay. This research was conducted by University of Illinois Department of Animal Sciences.

Conclusion:

Fresh diets using steamed chicken are more digestible than kibble, providing better amino acid availability. Steam-cooking facilitates easier digestion compared to other processing methods.

What we evaluated:

Raw chicken
Frozen

Steamed chicken
Cooked to ~93 °C and held for 10 min at ~93 °C, cooled, and frozen

Canned chicken

Rendered and dried chicken meal

The experiment:

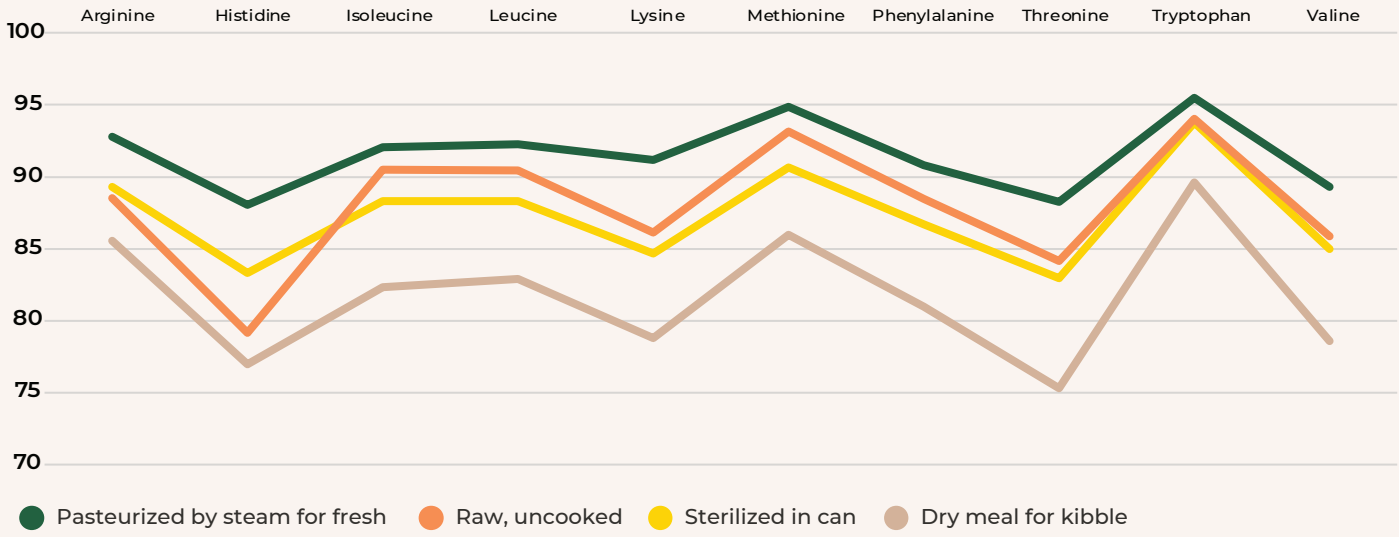
16 roosters received test ingredients.

After a 24-hour fast, each bird was fed 24 grams of test material. Excreta were collected for 48 hours post-feeding. Standardized digestibility of amino acids was calculated.

Findings:

Steamed chicken showed the highest amino acid digestibility overall, with superior hydrolysis. Chicken meal consistently ranked lowest for amino acid digestibility.

Cooking processes affect protein needs



Source: Ingredient Processing Affects Amino Acid Digestibility Study – June 2019, J. Anim. Sci. 2019. 97:998-1009 doi: 10.1093/jas/sky461

Read full study here:
bit.ly/RoosterDigestibilityStudy

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