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Authors: L.F. Roza, F. de C. Tavernari, D. Surek, C. Sordi, L.F.T. Albino, D. Paiano, M.M. Boiago, T.G. Petrolli, A. Cunha Júnior



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Metabolizable energy and amino acid digestibility of mash and pelleted diets for broilers determined under different methodologies

L.F. Roza^a, F. de C. Tavernari^{b,*}, D. Surek^b, C. Sordi^a, L.F.T. Albino^c, D. Paiano^a, M.M. Boiago^a, T.G. Petrolli^d, A. Cunha Júnior^b

^a Santa Catarina State University (UDESC), Beloni Trombeta Zanin, 89815-630, Chapecó, SC, Brazil.

^b Brazilian Agricultural Research Corporation – EMBRAPA Swine and Poultry, BR 153 - km 110, 89700-000, Concórdia, SC, Brazil.

^c Federal University of Viçosa – UFV. Peter Henry Rolfs, 36570-900, Viçosa, MG, Brazil.

^d West of Santa Catarina State University (UNOESC), Dirceu Giordani, 89820-000, Xanxerê, SC, Brazil.

*Corresponding author. Phone: 55 (49) 34410400. E-mail: fernando.tavernari@embrapa.br; BR 153, Km 110, 89700-000, Concórdia, SC, Brazil.

Highlights

- Pelleting increases AMEn of diets, but does not affect amino acid digestibility.
- AMEn values vary according to the determination methods and the physical form of diets.
- AIA provides similar AME and AMEn (DM) values of total excreta collection.
- For pelleted diets total excreta collection provides higher value of AMEn (as-fed basis) than AIA, Cr₂O₃ and TiO₂.
- AIA is the most suitable marker for determining the amino acid digestibility coefficients.

ABSTRACT: The objective of this study was to determine the interaction between feed processing and different methodologies for assessing apparent metabolizable energy corrected by nitrogen (AMEn) and standardized ileal digestibility coefficients (SIDC) of amino acids (AA) in broiler diets. A completely randomized design in a 4x2 factorial was used to evaluate AMEn by four methodologies and two physical forms of diet (mash and pelleted). The methodologies were total excreta collection and use of the markers: acid insoluble ash (AIA), titanium dioxide (TiO₂) and chromium oxide (Cr₂O₃). After 5 days of total excreta collection, all the birds were slaughtered and ileal content was assessed for AA. There was significant interaction (P<0.05) between the methodologies and physical form of the diets

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