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无氮饲料法与饥饿法对测定扬州鹅内源性氨基酸排泄量的影响

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Effects of Nitrogen-Free Diet Method and Fasting Method on Endogenous Amino Acid Losses of *Yangzhou* Geese

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摘要 本试验旨在研究无氮饲料法及饥饿法测定去盲肠鹅及正常鹅内源性氨基酸排泄量的差异。选用成年扬州鹅公鹅12只,随机分成2组,每组6只,对其中一组进行去盲肠手术,采用24 h禁食+24 h全收集法进行试验。结果表明:无氮饲料法测定的内源性氨基酸排泄量中,正常组的丝氨酸、亮氨酸、苯丙氨酸显著高于去盲肠组($P<0.05$),去盲肠组的精氨酸极显著高于正常组($P<0.01$),其余氨基酸差异均不显著($P>0.05$)。饥饿法测定的内源性氨基酸排泄量中,正常组的天冬氨酸与缬氨酸显著高于去盲肠组($P<0.05$),其余氨基酸差异均不显著($P>0.05$)。由此表明,无氮饲料法与饥饿法测定扬州鹅内源性氨基酸排泄量并不完全相同,大部分氨基酸之间存在极显著差异,饥饿法测定的多数内源性氨基酸排泄量低于无氮饲料法。

关键词: 扬州鹅 无氮饲料法 饥饿法 去盲肠 内源性氨基酸

Abstract: Endogenous amino acid losses in intact and caecectomized geese were determined by nitrogen-free diet method (NFD) and fasting method (FAS) in this study and the differences of the two methods were compared. Twelve adult male *Yangzhou* geese were randomly divided into two groups with six birds in each group, and one group was chosen to be caecectomized. The geese were fasted for 24 h and the endogenous amino acid losses were detected by collecting all excrement in 24 h. The results showed that endogenous serine, leucine, and phenylalanine losses in caecectomized group determined by NFD were significantly lower than those in intact group ($P<0.05$), endogenous arginine loss in caecectomized group was extremely significantly higher than that in intact group ($P<0.01$), and the other endogenous amino acid losses determined by NFD were similar ($P>0.05$). The endogenous aspartate and valine losses in intact group determined by FAS were significantly higher than those in caecectomized group ($P<0.05$), and the other endogenous amino acid losses determined by FAS were similar ($P>0.05$). It is concluded that endogenous amino acid losses in intact and caecectomized geese determined by NFD and FAS are different, most of endogenous amino acid losses are extremely significantly different, and all most endogenous amino acid losses determined by NDF are higher than those determined by FAS.

Keywords: *Yangzhou* geese, nitrogen-free diet method, fasting method, caecectomy, endogenous amino acids

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- [1] JONDREVILLE C,VAN DEN B,HODGKINSON S M,et al.The effect of dietary peptide concentration on endogenous ileal amino acids loss in tr growing pigs[J].British Journal of Nutrition,2000,83: 421-461.
- [2] LEMME A,RAVINDRAN V,BRYDEN W L.Ileal digestibility of amino acids in feed ingredient for broilers[J].World Poultry Science Journal,2004,60: 421-435.
- [3] 姚军虎,王康宁,杨凤,等.肉仔鸡内源氨基酸基本损失量测定方法的比较研究[J].动物营养学报,2000,12(4):23-27.
- [4] PEDERSEN C,BOISEN S.Establishment of tabulated values for standardized ileal digestibility of crude protein and essential amino acid in common feedstuffs for pigs[J].Acta Agriculturae Scandinavica Section,2002,52: 121-140.
- [5] LIKUSKI H J,DORRELL H G.A bioassay for rapid determination of amino acids availability values[J].Poultry Science,1978,57:1658-1660.
- [6] GREEN S,BERTRAND S L,DURON M J C,et al.Digestibilities of amino acids in maize,wheat and barley meals,determined with intact and caecotomised cockerels[J].British Poultry Science,1987,28: 631-641.
- [7] 翟少伟,曹平华.两种常用方法测定鸡内源氨基酸损失量的比较研究[J].西北农业学报,2003(2): 10-13.
- [8] 黎观红,翟明仁,朱年华,等.泰和鸡内源氨基酸排泄量的研究[J].动物营养学报,2002,14(1): 42-44.
- [9] PARSONS C M.Effects of dietary carbohydrates and of intestinal microflora on excretion of endogenous amino acids by poultry[J].Poultry Science,1983,62: 483-498.
- [10] 任鹏,杜荣,张宏福.正常及去盲肠鸡对四种蛋白质饲料氨基酸利用率的研究[J].动物营养学报,1997,9(1): 27-34.
- [11] SIBBALD I R.Bioavailable amino acids and true metabolizable energy of cereal grains[J].Poultry Science,1979,58: 934-939.
- [12] 李峰娟,田冬冬,高树华,等.无氮日粮法与饥饿法测定肉仔鸡内源氨基酸损失量的研究[J].中国家禽,2011,33(11):22-25.
- [13] 望丕县,熊军,杨濛,等.测定鸡代谢氨基酸加内源氨基酸排出量方法的比较[J].华中农业大学学报,1991,10(1): 77-80.
- [14] PARSONS C M.Effects of dietary carbohydrates and of intestinal microflora on excretion of endogenous amino acids by poultry[J].Poultry Science,1983,62: 483-498.
- [15] 秦学忠,王和民.营养因素对真代谢能法测定氨基酸利用率的影响[J].畜牧兽医学报,1988,19(3): 155-160.
- [16] RAVINDRAN V,HEW L I,RAVINDRAN G,et al.Endogenous amino acid flow in the avine ileum:quantification using three techniques[J].British Journal of Nutrition,2004,92: 217-223.
- [17] 岳良泉,王康宁.鸡饲料氨基酸消化率的测定及无氮日粮纤维水平对内源氨基酸排泄的影响[J].四川农业大学学报,1996,14: 62-74.
- [18] PARSONS C M.Effects of dietary carbohydrates and of intestinal microflora on excretion of endogenous amino acids by poultry[J].Poultry Science,1983,62: 483-498.
- [19] 史永军.去盲肠及两种内源氨基酸校正方法对鹅饲料氨基酸消化率测定影响的研究.硕士学位论文.扬州:扬州大学,2008.
- [20] 田河山,丁丽敏,计成,等.去盲肠鸡和未去盲肠鸡测定饲料氨基酸消化率的研究[J].中国农业大学学报,2000,5(1): 123-128.
- [21] KHIEU B,BRAIN O,JAN E L,et al.Methods and techniques for the determination of amino acid digestibility:a review. Livestock Research for Development,2002,14(6): .<http://www.lrrd.org/lrrd14/6/boi146.htm>.
- [22] SALTER D N,FULFORD R J.The influence of gut microflora on the digestion of dietary and endogenous protein:studies of amino acid comp of germ-free and conventional chicks[J].British Journal of Nutrition,1974,32:625-637.
- [23] PARSONS C M.Determination of digestible and available amino acids in meat meal using conventional and caecetomized cockerels of chick growthassays[J].British Journal of Nutrition,1986,56: 227-240.
- [24] JOHNS D C,LOW C K,SEDCOLE J R,et al.Determination of amino acid digestibility using caecotomised and intact adult cockerels[J].British Poultry Science,1986,27: 451-461.
- [1] 王信喜,王志跃,杨海明,曹玉娟,朱晓春.饲料能量蛋白质水平与赖氨酸水平对5~10周龄扬州鹅体重和屠宰性能的影响[J].动物营养学报,2012,24(10):1044-1051
- [2] 任立芹,赵峰,谭会泽,张建智,米宝民,赵江涛,张宏福.绝食法与无氮饲料法测定黄羽肉鸡内源性氨基酸排泄量及变异的比较研究[J].动物营养学报,2012,24(12): 2424-2435