

COMPARISON BETWEEN GEESE, PEKING DUCKS AND MALLARDS IN ABILITY TO DIGEST COMMON RYE-GRASS

H. Jeroch¹, R. Timmler¹ and G. Guy²

¹ Institute of Animal Nutrition and Planned Crop Storage, Martin-Luther-University Halle- Wittenberg, Emil-Abderhaldenstr. 24 b, 06108 Halle/S., Germany

² Institut National de la Recherche Agronomique (INRA), Artiguères, 40280 Benquet, France

ABSTRACT

The aim of this digestibility experiment was to observe the differences between geese, peking ducks and mallards to digest common rye-grass (*Lolium perenne* L.). Adult birds were used for the trials. The grass was frozen after harvesting, stored until the experimental period and fed in fresh constitution. The birds were reared in special single cages and had free access to water and grass. Geese have the best adapted digestive tract of all waterfowl species to consume and digest high-fibre feedstuffs. Peking ducks are able to consume a lot of grass and it seems the digestibility values are similar to geese. The acceptance of mallards for grass is low but the feed value appears not strongly different from geese and peking ducks.

INTRODUCTION

Semi-intensive or extensive fattening methods are used more and more in the fattening of geese. These methods are connected with a longer fattening period but the results are also higher slaughter performance, better carcass quality and lower feeding costs. These special fattening methods for geese also have potential for ducks. The aim of the experiment was to determine the ability of different waterfowl species to digest common rye-grass and to estimate the feed value of this feedstuff.

MATERIAL AND METHODS

The digestibility trials were created as direct trials. Five adult birds for each experiment were reared in special single cages for waterfowl and had free access to water and grass. The temperature of the experimental room was 20°C and the air humidity was 60 %. The common rye-grass was cut (4 cm long particles) and frozen after harvesting until the experimental period and fed in fresh constitution twice a day. The pre- and collecting period took 6 days for each. The content of metabolizable energy in the grass and the digestibility of crude protein, crude fibre and neutral detergent fibre was estimated. The determination of gross energy in the grass and excrement was done by Calorimeter IKA C 4000 and EPSON HX 20. Crude nutrients were estimated by Weender feedstuff analysis (Lengerken et al., 1991). The method for the digestibility trials was created by Gesellschaft für Ernährungphysiologie (1973) and by World Poultry Science Association (1989).

RESULTS AND DISCUSSION

For geese few digestibility data are available for different crop plants especially for grass, clover and lucerne (TIMMLER, 1995; GUY and TIMMLER, 1996). The AMEN-content in this former experiments ranged from 4.9 - 6.7 MJ/kg DM. This variation depends on the kind of the grass, the age and the chemical composition. The influence of fibre content is very important. The basis for digestibility data for both duck species is only one experiment each. The variation between the ducks within the trial was strong and the observed values for AMEN-content seems too high. That means it will be necessary to carry out more trials with larger amount of animals to increase the data base. These digestibility values are only a first result and further research in this direction is necessary to be statistically accurate.

REFERENCES

- Gesellschaft für Ernährungphysiologie: Richtlinien zur Durchführung von Bilanzversuchen mit Hühnern, Arch. Geflügelk., 2 (1973)
- Guy, G. and R. Timmler. 1996. unpublished
- Lengerken, J.V. and K. Zimmermann. Handbuch der Futtermittelprüfung, Dt. Landw.- Verlag Berlin 1. Aufl. (1992), 210-230
- Timmler, R. 1995. Dissertation, Martin-Luther-Universität Halle-Wittenberg

Table 1

Composition of common rye-grass (g/kg DM)

Dry Matter (%)	Crude Protein	Crude Fibre	Crude Ash	NDF	Cross Energy (kg/g DM)
17.18	157	252	139	479	16.0

Table 2Digestibility of common rye-grass (%) and AME_N-content

	Organic Matter	Crude Protein	Crude Fibre	NDF	AME _N MJ/kg DM
Geese	39.5	54.1	16.3	21.4	6.1
Peking ducks	39.6	28.2	21.1	28.3	7.2
Mallards	45.8	19.1	22.1	26.1	6.7