Session: 30 "Animal Nutrition Free Communications"; **Poster:** 22; **E-mail:** homolka.petr@vuzv.cz

In vivo digestibility of dry matter and organic matter a total mixed ration based on concentrate supplementation

Petr Homolka*, Veronika Koukolová, Alena Výborná

Institute of Animal Science, Department of Nutrition and Feeding of Farm Animals, Prague, Czech Republic, *homolka.petr@vuzv.cz

Objective

The current study aimed to determinate the in vivo digestibility of dry matter (DM) and organic matter (OM) of a total mixed ration (TMR) with and without a concentrate supplement.

Methods

In vivo trials were performed with 7 wethers (Romanovské breed, live weight 74±9 kg) in metabolism crates. The control TMR, containing maize and alfalfa silages and without the concentrate supplement (fed at 6.2 kg of TMR/animal/day), was initially evaluated with all animals. Thereafter the experimental TMR, supplemented with 170 g/animal/day concentrate, was fed at 5.3 kg of TMR/animal/day to the same group of animals. This was followed by a complete duplication of the sequence. TMR were offered at 6 a.m. and 6 p.m. each day. Animals had free access to water. Feed intake and the amount of residual feed and feces were measured on a daily basis.

Samples were analyzed for contents of DM, crude protein (CP), ether extract (EE), ash, crude fibre (CF), neutral detergent fibre (NDF) and acid detergent fibre (ADF).

Results

Table 1. Chemical composition (g/kg of DM).

Nutrients	Control TMR	Experimental TMR
	g/kg of DM	
Crude protein	158	156.5
Ether extract	19	17.1
Ash	89.5	88.1
Crude fibre	292.2	259.1
Neutral detergent fibre	450.8	429.2
Acid detergent fibre	349.8	311.8

Table 2. In vivo sheep digestibility (units are in % of absolute DM).

In vivo digestibility coefficients	Control TMR	Experimental TMR
Dry matter (%)	66.8	68.1
Organic matter (%)	70.9	71.2

Conclusion

In vivo digestibility of DM and OM averaged 66.8 and 70.9 %, respectively, for the control TMR, and 68.1 and 71.2 %, respectively, for the experimental TMR. No significant differences ($P < 0.05$) in in vivo DM and OM digestibility were found between the control and experimental TMR. Feed value as describe by chemical composition and in vivo sheep digestibility analysis are essential for feed quality evaluation.

The study was supported by the Ministry of Agriculture of the Czech Republic (NAZV QH81309 and MZE0002701404).