

DIGESTIBILITY OF NUTRIENTS BETWEEN THE PERIOD OF TWO WOOL-CUTTINGS OF
ANGORA RABBITS

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INTRODUCTION

After having cut the wool of angora rabbits the hair began to grow fastly and the appetite of animals is also increasing. /Csákváry, 1985./. According to numerous observations the feed intake considerably decreases when the time of next wool-cutting approaches. It is likely related to the effect of heat insulation of wool and to the animals can not get rid of the heat increment when the temperature of the micro-environment is durably above the comfort zone /10 - 14 °C/. If the feed intake is low then the digestibility of nutrients should have to be logically risen. To examine, how the feed intake of angora rabbits and digestibility of nutrients alter during the wool-growing period, trials were accomplished. This paper will show the results of the experiments.

METHODS

First experiment. The same growing male angora rabbits /N=6/ were ad libitum fed by the pelleted compound feeds from the one wool-cutting to the another. Meantime on the third, seventh and eleventh weeks the faeces and urine of rabbits were collected and the soft-faeces was carefully cleared away from the hard ones.

Each kg of compound feed contained 350 g of wheat, 100 g of oat, 250 g of alfalfa-meal, 180 g of extracted sunflower meal, 70 g of wheat-bran and 50 g of minerals and vitamins; 11,33 MJ DE, 187 g crude protein, 115 g crude fiber and 8.3 g methionine+cistine.

Second experiment. At the seventh week after the wool-cutting 2x6 young male rabbits were used for examination of digestibility of nutrients in a high energy /11,14 MJ/kg/, normal protein /161 g/kg/ and high S-amino-acid /9.2 g/kg/ /HEPS/ and in a lower energy /10,64 MJ DE/kg/, higher protein /177 g/kg/ and high S-amino acid /9,3 g/kg/ /LEPS/ containing feed.

The trials were accomplished according to Fekete and Gippert /1983./ description except the duration of collection time which took for 6 days.

Feeds and faeces samples were analysed by MNOSZ 6860 /Hungarian Standard/.

N-retention was also calculated in both experiments. Details of the methods have described elsewhere /Henics et al, 1987./.

RESULTS

In the First experiment the feed intake of rabbits was 19.5 percent lower at the seventh week and 51,8 p.c. lower at the eleventh one than at the third one. /Table 1./

Table 1. Feed intake of angora rabbits
and digestibility of nutrient between the time of two wool-
cutting measured at the third, seventh and eleventh weeks

	W e e k s		
	3	7	11
Feed intake g/d	154.0	123,9 ^a	74.3 ^a
Apparent digestibility of			
crude protein	77.1	75.2 ^b	77.4 ^c
crude fat	70.8	70.2 ^c	83.4 ^a
crude fiber	39.3	15.2 ^a	26.2 ^a
N-free extract	84.0	80.0 ^c	80.6 ^c
DM	74.0	68.2 ^c	69.7 ^c
OM	75.1	70.7 ^c	72.0 ^c
N-retention	27.9	25.4 ^c	20.0 ^b

a = P < 0.01 b = P < 0.05 c = no significant

DM = dry matter, OM = organic material

At the seventh week digestibility of crude protein and fiber, at the eleventh week those of crude fiber decreased significantly. Digestibility of N-free extract, DM and OM tended to decrease in both measuring time but less at the eleventh week when the feed intake of rabbits was minimum. N-retention also decreased when the time was approaching to the time of next wool-cutting.

In the second experiment the rabbits ate more of lower energy containing feed, but the difference is insignificant. /Table 2./

Table 2.

Digestibility of nutrients at the seventh week after
wool-cutting of rabbits

	HEPS	LEPS	
Feed intake g/d	118.2	120.1	NS
Apparent digestibility of			
crude protein	74.8	75.5	NS
crude fat	82.3	60.44	P < 0.01
crude fiber	15.7	14.5	NS
N-free extract	79.7	74.5	P < 0.01
DM	70.0	63.3	P < 0.01
OM	71.4	65.5	P < 0.01
N-retention	21.6	13.7	NS

HEPS = High energy, normal protein, high S-amino acid

LEPS = Lower energy, higher protein, high S-amino acid

DM = dry matter,

OM = organic material,

NS = no significant

Digestibility of crude protein tended to increase and those of crude fiber tended to decrease. At the same time the rabbits digested the fat, N-free extract, DM and OM in lower energy containing feed significantly worse.

Summarized the results it can be concluded that the wool-producing male angora rabbits eat less and digest worse in the last third part of the wool-growing period. Because of these facts rabbits should feed two complete feeds at least between the two wool-cutting period. In its first part when the intake is high and the digestion of rabbits in normal the usual pelleted compounds would be good. Later in the last third part of the wool-growing period rabbits should feed with higher quality and more digestible pelleted compounds.

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Two trials were carried out on Angora rabbits to gain data of how the rabbits digest the same feeds between the period of two wool-cutting. The trials were designed by a 3x6 arrangement and by a 3x2x6 arrangement /on 3rd, 7th and 11th weeks after previous wool-cutting, six animals in each groups/. Results indicated that going to the next wool-cutting time of Angora rabbits, the voluntary feed intake of animals gradually decreased. Parallel with it the digestibility of protein didn't change, that of crude fat significantly increased, that of crude fiber and nitrogen-free extract decreased but not considerably.

VERDAULICHKEIT DER NÄHRSTOFFE BEI ANGORA-KANINCHEN ZWISCHEN
ZWEI SCHUR-PERIODEN

Es wurden 2 Untersuchungen durchgeführt, um die Verdaulichkeit der Nährstoffe bei Angora-Kaninchen zwischen 2 Schur-Perioden feststellen zu können. Die Versuche wurden in 2 Anordnungen /3 x 6 und 3 x 2 x 6/ in der 3., 7., 11. Woche nach der vorigen Schure mit 6 und 2 x 6 Tieren durchgeführt. Aus den Ergebnissen ging hervor, dass sich die Futteraufnahme ad libitum - sich der Schurzeit nähernd - verminderte. Gleichzeitig veränderte sich die Verdaulichkeit des Rohweisses nicht. Die Verdaulichkeit der Rohfaser und der N-freien Extr.-stoffe verminderte sich. Die Verminderung war jedoch nicht signifikant. Die Verdaulichkeit des Rohfettes erhöht sich signifikant.

