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COMPARATIVE STUDIES REGARDING FORAGE INTAKE AT *CHINCHILLA* FUNCTION OF APPLIED BREEDING SYSTEM AND IT'S TECHNOLOGICAL INVOLVES

STUDIU COMPARATIV PRIVIND APRECIEREA CONSUMULUI DE FURAJE LA *CHINCHILLA* ÎN FUNCȚIE DE SISTEMUL DE ÎNTEȚINERE ŞI IMPLICAȚIILE TEHNOLOGICE

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The aim of this paper it is to help quantifying the forage consumption in Chinchilla farms function of breeding system. The two breeding systems adopted worldwide by the breeding farms, are on wire netting floor and bedded cages. All data's we found in literature about forage standards for this species, it's too old, (1981, 1982, 1986), and the new data's quoting the oldies, without making a laboriously experiment subject. In this order we consider opportune to bringing up them to date. In this way, at the wire netting floor system we pursue the roughage (grass-clover hay) and the complete mixed pelleted forage consumption, collecting the rests bellow the cages, separated them in parts, and calculate the difference. At the bedded system we weight the rests every day, ad the difference were considered the consumption. After drawing and processing data's we obtained a bigger pellet consumption at the adult animals kept on wire net floor with 48.66% comparing to the bedded cages system. In a case of youths the situation is exactly inverse, the weaned animals kept in bedded cages had bigger pellet consumption with 28.93% compared to the wire net floor system.

Key words: *Chinchilla*, comparative forage intake, breeding system, technology.

Introduction

The motivation of an elaborately study meaning the forage intake of the *Chinchilla* in different breeding systems is that, in the last few years in Romania it has developed the systematic breading of this specie because of the presence of some firms, which conclude stead agreements on medium and long term, in this way the selling been ensured. The breading of this species lend its self for family farms, as a secondary activity which ensure an additional income and for setting up big (intensive) farms, being a principal activity with substantial incomes. These farms using different breeding cages, on wire net floor and bedded cages with some differences in cage dimensions described in the next chapter.

Also the second reason of these studies is to evidence if the animals preferring bedded cages or wire net floor, as a sign of wellness/animal welfare.

Materials and Methods

The experiment took place in June –July 2007 in two farms, using as subjects 5 families (5 tronsons) and 5 tronsons with weaned young animals with different ages from the standard variety of *Chinchilla lanigera*.

One of these farms is located in Cluj county. The breading system of these animals is in harem, kept on wire netting floor. The sex ratio is 5:1, a family constituting by 5 females and 1 male. The cages placed on 3 levels have standard dimensions of 40 x 40 x 40 cm, the visiting passage for male have 17 x 17 cm. One tronson dedicated to a family is making up of 5 cages, and for the young animals the tronson is also made by 5 cages. The cages material is a zinc-coated wire net, soldered in dots, with 2 mm diameter and with 1.5 x 6 cm stitches. Cages are provided with paletted feed trough and with tunnel for rough forage. On the door, that is placed on the front part of the cage, is hanged the sand dust bath tray. The cage is provided with nipple type waterer.

The shelter is built on blind shed method, with 8 hour/day artificial light program from 06:00 a.m. to 02:00 p.m. The air refreshing is solved by the ventilation openings placed on the junction of the wall and the ceiling and ventilator placed on the bottom of the entrance door of the hall.

It's a one time/day feeding system, practiced during the lighting program, in the morning hours. The adult animals get 66 g mixed pellet forage/cage/day and 32 g/cage for young's/day. The mixed pellet forage administrated to youth have a pelleted form, with a 15 mm length with 3 mm diameter, and the adults forage have 31 mm length and 19 mm diameter, with a yellow-green colour, both of them have the same nutritive characteristics, showed in the Table 1.

It is necessary to use these two different dimension types of forages to diminish as possible as can the forage waste. These two dimensions of pellets provide a better prehension for animals in function of age category.

The roughage as a grass-clover hay is administrated in quantity of 280 g/tronson once at two days.

For forage intake appreciation from those 5 tronsons adult animals, entering 30 rearering animals with 5 males and 25 females and 5 tronsons with youth, entering 45 animals, we recovered, separate on components and weighing daily, the rests below the cages, during a week in 2 repetitions. Therefore we could calculate de forage intake, calculating the differences between administrated forage and the waste. For weighing the interested components we used an electronic balance with a 1-5000 g weighing domain and 1 g resolution.

At the second farm, located in Reghin, Mureş county were the animals are kept in bedded cages, the cages dimensions are: 40x50x40 cm, with the same other characteristics like at the first farm. In this farm the adult and youth animals are

feed with same dimensions of pellets (15 mm length with 3 mm diameter). In this farm the hay are feed two times a week.

Data's were processed using the variation analyze, MS Office 4.2 (1994).

Table 1.

Nutritive characteristics of mixed pellet forage for Chinchilla (BUD and ŞTEFAN, 2006)

Crt. nr.	Specification	M.U.	Quantity
1.	Maximum moisture	%	14.400
2.	Crude protein	%	18.510
3.	Maximum D.E.	MJ/kg	10.550
4.	Maximum cellulose	%	9.200
5.	Maximum fat	%	3.100
6.	Crude ash	%	4.800
7.	Minimum Ca	%	1.050
8.	Minimum P	%	0.910
9.	Minimum Na	%	0.220
10.	Vitamin A	U.I./kg	9990.000
11.	Vitamin D_3	U.I./kg	2025.000
12.	Vitamin E	mg/kg	80.000
13.	Minimum Lysine	%	0.810
14.	Minimum Methionine	%	0.328

Results and Discussions

For tehnical consideration we could not appreciate and compare the hay consumption. On the farm from Mureş county the hay is administrated two times a week without a precise program and dose, actually they get a next portion after they consuming the entire quantity they get before. Therefore we studied just a pellet consumption and compare them between the two breeding system.

Table 2.

Chinchillas pellet consumption function of age and breeding system

Crt. nr.	Animal category	Breeding system	M.U.	Quantity of pellet intake
1.	Adults	Bedded	g/day	35.18±4.33
		Wire net floor	g/day	52.30±6.34
2.	Youths	Bedded	g/day	23.68±2,76
		Wire net floor	g/day	16,83±5.26

After drawing and processing data's we obtained bigger pellet consumption at the adult animals kept on wire net floor with 48.66% comparing to the bedded cages system. In a case of youth's the situation is exactly inverse, the weaned animals kept in bedded cages had bigger pellet consumption with 28.93% compared to the wire net floor system.

At the youth a problem of exact forage consumption can be the age category, were in one of the lots can be more older an in the other more younger animals, because of the interval of 2 till 7 months.

Actually LANSZKI and HORVÁTH (1996), obtained some same results at young chinchillas (2-7 months old) bigger pellet consumption with 2-15% at the bedded cages compared with wire net system.

The differences in pellet consumption is significant (P<0.05- 0.0001) at the adults and youth's also. Adult animals kept on wire net floor consumed more pellets with 17.12 g comparing to bedded cages system. In youth's situation the pellet consumption is bigger on bedded cages with 6.85 g compared with net floor system.

Forage necessary, for a year, in a *Chinchilla* farm, applied a net floor system, it were calculated by BOTHA et. all (2007), including the consumption + wastes.

Conclusions

The forage consumption evaluation, function of age and breeding system it is necessary to could elaborate forage intake standards.

We expected bigger forage consumption in bedded cages system because of animal wellness, as it is heard in breeding community, but our studies shows that this is not available in practice. Actually we obtained at the adult animals almost a 50% more pellet intake in wire net floor system comparing to the bedded cages.

The young animals have bigger pallet consumption with almost 30% in bedded cage system. An explication can be that the energy full youth's are looking around in bed and consuming the wasted pellets also. Actually the waste in a net floor system is really significant (BOTHA et. all, 2007).

As our experiment shows in this case the breeding system do not influence in the same way the forage intake at youth's and adults also.

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