FREE CHOICE OF GROWING RABBITS BETWEEN DEEP LITTER AND WIRE NET FLOOR IN PENS

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ABSTRACT

The free choice of rabbits between deep litter and wire net floor was investigated. The floor of a 2.89 m^2 pen was divided into two parts; one part was made of wire net, while the other one was covered with deep litter. Twenty-three, 35 or 46 rabbits, weaned at the age of 5 weeks were placed into one pen (8, 12 and 16 rabbits/m^2, resp.). A 24-hour video recording was performed every week; the number of rabbits on the deep litter or on the wire net was counted every half-hour. During the whole experimental period (between 5 and 10 weeks of age) 18, 14 and 14% of all rabbits was found on the deep litter, depending on the number of rabbits in one pen (23, 35 or 46, resp.). The feed intake was lower from the feeders placed to deep litter (28, 18 and 16% of the whole feed intake, respectively). According to the results, at normal temperature (16-18°C) rabbits prefer wire net floor, compared to deep litter.

Key words: rabbits, deep litter, wire net, free choice.

INTRODUCTION

In the past, numerous works focused on the determination of ideal environmental conditions for rabbit rearing, with a special attention on animal welfare. The ideas of animal welfare specialists and farmers often are in conflict, since the first group prefers the large-group keeping on deep litter, while the other prefers fattening cages, with economical aspects. From the viewpoint of the rabbits deep litter seems to be more advantageous; however, MORISSE *et al*. (1999) found that 84 and 77% of the rabbits chose wire net, instead of deep litter, at 7 and 10 weeks of age. According to BESSEI *et al.* (2001), the choice also depends on the temperature: at higher temperatures rabbits prefer the wire net, while at a lower one they prefer deep litter. In the present experiment the free choice of rabbits was investigated under a normal temperature (16-18°C). Wire net and deep litter was applied, and the effects of stocking density and age on the free choice were investigated.

MATERIAL AND METHODS

The experiment was carried out on Pannon White rabbits weaned at 5 weeks of age. Twenty-three, 35 or 46 rabbits (8, 12 or 16 rabbits/m^2, resp.) were placed into a 2.89 m^2 pen (measured without feeders). One half of the floor of each pen was wire net, while the other half was covered with straw litter. Eight nipple drinkers and a 240 cm long feeder line (6 x 40 cm feeders) was placed into one pen; one half was placed to the wire net and the other to the deep litter. The deep litter was recovered with new straw when it was needed about once a week. The temperature in the building was 16-18°C, and a 16-hour light period was applied. A 24-hour video recording was performed once a week, the number of rabbits on the wire net and on the deep litter was counted every half hour. The feed consumption was measured weekly in all the 3 pens. Data was evaluated by the Chi-Square method by means of the SPSS 10.0 program package.

RESULTS AND DISCUSSION

The proportion of rabbits on wire net and on deep litter is shown in Table 1.

Our results are highly similar to those of MORISSE *et al.* (1999); on average 15% of the rabbits chose the deep litter while 85% the wire net. The choice was not influenced by the age, since the highest (22%) and lowest value (11%) for the deep litter was found at 5-6 weeks of age. This value ranged between 14 and 17% on average of all stocking densities, independent of the age.

Table 1. Proportion of rabbits on deep litter and on wire net floor (%).

Age, weeks	Stocking density (rabbits/m^2)							
	8		12		16		Together	
	Wire net	Deep litter	Wire net	Deep litter	Wire net	Deep litter	Wire net	Deep litter
5-6	78	22^{C}	89	11^{A}	86	14^{B}	84	16
6-7	85	15^{AB}	88	12^{A}	85	15^{B}	86	14
7-8	80	20^{B}	86	14^{A}	86	14^{A}	84	16
8-9	86	14	87	13	86	14	86	14
9-10	81	19^{B}	82	18^{B}	86	14^{A}	83	17
Mean	82	18^{B}	86	14^{A}	86	14^{A}	85	15

^{A,B} different superscripts indicate significant differences between groups (P<0.05)

The stocking density had a significant influence on choosing the floor type: summarizing all observations, deep litter was the most preferred (18%) at a density of 8 rabbits/m^2; the results for the other two densities were – with minor alterations – identical (14%). These results prove that rabbits were not forced by a higher stocking density to choose a less preferred floor, the deep litter. At a density of 16 rabbits/m^2 on average 86% of the kits chose the wire net floor, which means 27.5 rabbits per 1 m^2 on the wire net floor at the last week of the experiment. In contrast, only 4.5 rabbits/m^2 were found on the deep litter in the same period.

The feed consumption was found similar to the place choice (Table 2.). Seventy-two to 84% of the total feed consumption was from the feeders on the wire net. This proved that in case of similar feeding space rabbits did not choose deep litter even for feeding more often than it was indicated by the data of floor type choice. The greatest difference between floor type choice (18%) and feed consumption (28%) on average of all weeks was found at the stocking density of 8 rabbits/m^2. It is not presumed that rabbits had to choose a feeder on the deep litter as a consequence of the little feeder-place on the wire net floor.

A slightly higher number of rabbits were counted on the deep litter only 1-3 hours after recovering the litter with new straw. This may purely be attributed to the curiosity of rabbits.

Table 2. Proportion of feed consumption of rabbits on deep litter and on wire net floor (%).

Age, weeks	Stocking density (rabbits/m^2)							
	8		12		16		Together	
	Wire net	Deep litter	Wire net	Deep litter	Wire net	Deep litter	Wire net	Deep litter
5-6	70	30	76	24	71	29	72	28
6-7	74	26	72	28	77	23	74	26
7-8	56	44	79	21	88	12	74	26
8-9	76	25	90	10	91	9	85	15
9-10	86	14	88	12	89	11	88	12
Mean	72	28	82	18	84	16	79	21

CONCLUSIONS

On the basis of the experiment performed at 16-18°C it can be concluded that in case of free choice growing rabbits prefer the wire net floor rather than deep litter.

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