

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PERFORMANCE OF GROWING RABBITS WITH OR WITHOUT FEED RESTRICTION

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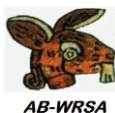
Resumo: Estratégias que reduzam os custos de alimentação são fundamentais para que haja maximização dos lucros em uma granja cunícula. Este trabalho objetivou avaliar o efeito da restrição alimentar em dois períodos sobre o desempenho produtivo de coelhos da raça nova zelândia branca. Foram utilizados 24 animais divididos em dois tratamentos, sendo alimentação a vontade e restrição alimentar de 45g/dia na semana de 35-42 dias de idade e 85g/dia na semana de 56-63 dias. A restrição alimentar proporcionou menor ganho de peso diário nos dois períodos de restrição, havendo ganho compensatório no período seguinte, chegando ao final do experimento com peso semelhante ($P>0,05$). Considerando todo o período experimental o consumo diário de ração e a conversão alimentar não foram influenciados pelo uso da restrição. Dessa maneira a restrição alimentar pode ser uma importante ferramenta a ser aplicada nas granjas cunículas.

Keywords: productive efficiency, rabbit production, cost reduction

Introduction

Rabbit breeding can be considered a strategic activity from the point of view of social, economic and environmental sustainability. In order to increase profits in this activity, it is fundamental to research for new technologies that reduce the feeding costs, which represent about 60-70% of the general costs.

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In this sense, the feed restriction of growing rabbits appears as a strong tool capable of reducing the feeding expenses and it can improve the intestinal health of these animals and reduce the mortality rate after weaning (Rosell, 2000, Alabiso et al., 2016). The animals that suffered feed restriction are adapted physiologically to a lower nutrient content, being able to have greater nutritional efficiency in the period later as well as compensatory gain (Gidenne et al., 2009). Positive results were found by Di Meo et al. (2007), Oliveira et al. (2012) and Alabiso et al. (2016). In addition, the nutrient digestibility can be improved (Ahamed et al., 2015). This work aimed to evaluate the effects of the feed restriction in two periods on the productive performance of growing rabbits.

Material and methods

This research was carried out at the Minas Gerais Federal Institute, Bambuí Campus. The approval of the ethics committee for the use of animals was registered under opinion 003/2017. During the period considered, the average temperatures were 13.3°C and 31.4°C and the average humidity was 61.5%. Twenty-four white New Zealand rabbits weaned at 35 days of age were housed in 60 x 60 cm galvanized steel cages equipped with semi-automatic feeder and automatic drinker.

Commercial feed for growing rabbits was used (17.73% of crude protein, 17.17% of ADF and 2450 kcal of digestible energy per kilogram). For the reference treatment, the feed was offered *ad libitum* to animals in all growing period. For the restriction treatment 45 g and 85 g per day were offered for each animal in the periods 35-42 and 56-63 days respectively, and outside of these two periods the feeding was given *ad libitum*.

There were evaluated the parameters of alive weight at 35, 42, 56, 63 and 84 days, weight gain, feed intake and feed conversion being these last three parameters considering the periods of 35-42, 42-56, 56-63 and 63-84 days of age. A completely randomized design with two treatments and six replicates was used. The

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experimental unit consisted of a cage with two rabbits. For statistical analysis the level of 5% was considered and the computational resources of the Statgraphics Centurion program were used.

Results and discussion

The animals that suffered feed restriction were always lighter than others animals at the end of the two restriction periods (table 01). However, these animals arrived at 84 days with similar weight ($P>0,05$). Ahmed et al. (2015) and Alabiso et al. (2016) applied a severe restriction when compared to the present study and verified a decrease in the final weight of the animals. It was observed that the feed intake of the periods 42-56 and 63-84 are similar between the treatments, being this observed too for the feed intake of all period (35-84 days).

Table 01 – Performance of growing rabbits with and without feed restriction

Parameters	Without feed restriction	With feed restriction	P value	CV (%)
Alive weight at 35 days (g)	809,0	812,2	0,8701	4,03
Alive weight at 42 days (g)	1174,8	946,2	0,0001	5,72
Alive weight at 56 days (g)	1821,5	1698,7	0,0534	5,52
Alive weight at 63 days (g)	2103,7	1839,2	0,0004	4,41
Alive weight at 84 days (g)	2758,3	2601,2	0,1347	6,24
Daily feed intake 35-42 days (g)	98,33	45,00	0,0000	10,44
Daily feed intake 42-56 days (g)	126,0	123,5	0,8121	14,22
Daily feed intake 56-63 days (g)	138,5	85,00	0,0000	8,66
Daily feed intake 63-84 days (g)	140,6	153,8	0,1469	13,32
Daily feed intake 35-84 days (g)	129,3	119,8	0,1968	10,51
Daily weight gain 35-42 days (g)	52,26	19,14	0,0000	14,26
Daily weight gain 42-56 days (g)	46,19	53,75	0,0155	9,00

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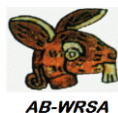
Daily weight gain 56-63 days (g)	40,31	22,22	0,0001	18,93
Daily weight gain 63-84 days (g)	31,17	36,28	0,0682	12,84
Daily weight gain 35-84 days (g)	39,78	36,51	0,0946	8,05
Feed conversion 35-42 days	1,89	2,49	0,0544	21,87
Feed conversion 42-56 days	2,72	2,29	0,0104	9,54
Feed conversion 56-63 days	3,44	4,07	0,2175	39,36
Feed conversion 63-84 days	4,41	4,24	0,4307	20,64
Feed conversion 35-84 days	3,21	3,28	0,3838	9,79

Although the daily weight gain of restricted animals is lower in the two periods of restriction, it can be seen that in the period following the restriction these restricted rabbits are extremely efficient to gain weight, which suggests the occurrence of compensatory gain, as verified also by Alabiso et al. (2016). It is noticed that the feed conversion is better for the animals that suffered the restriction in the first period, thus suggesting that there was a physiological adaptation in favor of a better feed efficiency. The improvement of feed conversion in restricted animals was verified too by Ahmed et al. (2015) and Alabiso et al. (2016). In the present work, considering all experimental period, there is a similarity in the feed conversion of the two treatments. This information is very interesting from the practical point of view for this technology to be applied in the rabbit farm.

Conclusion

The feed restriction of 45 g per animal at period 35-42 days and 85 g per animal at period 56-63 days of age did not result in a decrease in the productive performance of growing rabbits, suggesting that it is possible to use it in the rabbit farms.

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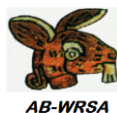
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