ACTA AGRARIA KAPOSVÁRIENSIS *(2022) 26 (2), 27–39; DOI: 10.31914/aak.2946*
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Article

Effect of restricted feeding on productive and carcass traits of rabbits

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ABSTRACT – The study examined the age-dependent feed restriction on growing rabbits' growth and carcass traits. Three groups of weaned rabbits (5 weeks of age, n=243)) were established: AL=control group: *ad libitum* feeding during the whole fattening period (n=81), RF65 group: 65% of the feed consumption of AL during the first two weeks after weaning, 80% in the third, 100% in the fourth week and *ad libitum* afterward (n=81), RF70 group: 70% in the first two weeks, 80% in the third, 100% in the fourth week and *ad libitum* till slaughtering (n=81). Feed consumption was in line with the planned level during the feed restriction period. After finishing the restriction at 100%, the feed consumption increased rapidly, and it was higher between 9 and 11 weeks of age than that of the AL group (P<0.001). Daily weight gain of restricted groups was lower between 5 and 7 weeks of age (47.7 vs. 28.9 and 25.2 g/day in AL, RF70, and RF65, respectively, P<0.001). The differences in body weights were highest at seven weeks of age, and later the differences decreased (body weight at 11 weeks, AL: 2710 g, RF65: 2637 g, RF70: 2655 g, P <0.05). In the first week, the feed conversion rate was better in the AL group, while between 7 and 10 weeks of age, it was better in the restricted groups (P<0.001). Significant differences were found in mortality but independent of treatment. The feed restriction had a slight effect on carcass traits. The weight of the fore part of the carcass was higher in the AL group (P=0.053), while the liver was heavier in the restricted rabbits (84.2 vs. 80.1 g, P=0.388). The perirenal fat content was the lowest in RF65 rabbits (16.9 g) and the highest in the AL group (21.6 g, P<0.05). A stricter and then milder feed restriction after weaning and *ad libitum* feeding in the final fattening stages could be preferred.

Keywords: growing rabbit, feed restriction, growth performance, carcass traits

INTRODUCTION

The first experiments to study the effect of restricted feeding (RF) in growing rabbits were performed several decades ago (*Szendrő et al.,* 1988). Summarizing the relevant results, *Gidenne et al*. (2012) published a detailed review article. The actuality of this subject is shown by the fact that more than ten papers

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on this topic were presented at the World Rabbit Congress in 2021 (*WRC*, 2021).

Regarding RF, two methods are known: in one, the amount of feed offered to the animals is reduced (*Gidenne et al.*, 2009; *Birolo et al*., 2017), and in the other, the time to allow the rabbits to consume the feed is limited (*Szendrő et* al., 1988; *Birolo et al*., 2020). Initially, the amount of feed or feeding time was limited throughout the fattening period. However, due to the occurrence of RHD (Rabbit Haemorrhagic Disease) and the associated high mortality, the feed was restricted only in the post-weaning period, then switched to *ad libitum* feeding during the final stages of fattening. This allows rabbits to compensate for lower weight gain after the restriction (*Gidenne et al.,* 2003). The goal and one of the main benefits of feed restriction are to reduce morbidity and mortality. Its additional benefits are rabbits consume less feed, and the feed conversion rate (FCR) is improved in the whole fattening period (*Gidenne et al*., 2012). Unfortunately, switching from restricted (RF) to *ad libitum* (AL) feeding can increase mortality, and the previous benefit can be lost. In addition, the rabbits cannot fully compensate for the lower weight gain (BWG) after the restriction period. Therefore they are sold to slaughterhouses at a slightly lower weight (BW). Finally, finding an ideal method with automated feed distribution is difficult. The feed restrictions for growing rabbits are commonly used in France (*Gidenne et al*., 2012).

The question may arise as to why this issue needs to be addressed for decades, why it is not possible to develop a uniform method? That is because slaughter weight and thus slaughter age can vary between countries. For example, in Spain, rabbits are usually slaughtered at a weight of 2.0-2.2 kg at nine weeks, in France at 2.3-2.5 kg, at ten weeks, in northern Italy at over 2.5 kg, at 11 weeks (*Nielsen et al*., 2021). Rabbits are most often weaned at 4 or 5 weeks of age. For this reason, the fattening period varies between 4 and 7 weeks. The length of the feed restriction and compensation (*ad libitum* feeding) period varies depending on these factors. Naturally, the composition of diet with or without medication, breed (hybrid), and several other factors (e.g., season) also influence the method used.

Our experiment aimed to investigate the effect of stricter and then milder feed restrictions after weaning and then *ad libitum* feeding at the end of the fattening period on Pannon White rabbits' production and slaughter properties.

MATERIAL AND METHODS

The trial was carried out in Kaposvár with Pannon White rabbits (n = 243) weaned at five weeks (81 rabbits/group). Animals were randomly divided into three groups and housed in fattening cages (3 rabbits/cage). The temperature was kept at 16-18 ° C, and the daily lighting was 16 hours. The rabbits received a commercial pelleted diet (after weaning, medicated diet, and from 7 weeks of age without medication; energy: 10.3 and 10.6 MJ DE/kg, crude protein: 14.5 and 16.0%; crude fiber: 17.5 and 16%, respectively). All rabbits were handled according to the principles stated in the European Directive 2010/63/EU regarding the protection of animals used for experimental and other scientific purposes (*EC*, 2010) and according to the Hungarian legal requirements (32/1999. /III. 31./ and 178/2009. /XII. 29./).

One group was fed *ad libitum* throughout the experiment (AL); the other two groups (RF70 and RF65) were fed restrictively between week 5 and week 8. The RF70 group received daily portion equal to 70% and 80% of *ad libitum* in week 5-7 and in week 7-8, respectively. Rabbits in RF65 treatment received daily portion equal to 65% and 80% of *ad libitum* in week 5-7 and in week 7-8. From week 8 until the slaughter all rabbits had free access to feed (*Table 1*).

Table 1
Planned feeding regime of the experimental groups

Groups	Age, weeks					
	5-6	6-7	7-8	8-9	9-10	10-11
AL[1] (n=81)	*ad libitum*	*ad libitum*	*ad libitum*	*ad libitum*	*ad lib.*	*ad lib.*
RF70[2] (n=81)	70%	70%	80%	100%	*ad lib.*	*ad lib.*
RF65[3] (n=81)	65%	65%	80%	100%	*ad lib.*	*ad lib.*

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption

The feed intake (FI) of the rabbits was measured twice a week, and the daily amount of feed for the restricted groups (RF65, RF70) was calculated in relation to the amount of feed consumed by the AL group. (The first weekly limit was based on data from a previous experiment.) Between 8 and 9 weeks of age, the same intake (100%) as in the AL group was justified since rabbits should not suddenly consume too much feed after finishing the restriction. BW was measured individually, FI per cage was measured weekly, and mortality was

recorded daily. In addition, BWG and FCR were calculated. At the end of the experiment (at 11 weeks of age), the rabbits were transported to a slaughterhouse 200 km from the farm and slaughtered after 6 hours of starvation. The carcasses were chilled in a room at 4°C for 24 hours. The slaughtering and cutting of carcasses were processed according to the recommendation of the World Rabbit Science Association (WRSA) (*Blasco and Ouhayoun*, 1996).

Data were evaluated by one-way analysis of variance using the SPSS 10.0 software using Tukeys's test. The mortality of the groups was compared with the chi^2 test.

RESULTS

Rabbits of the RF groups consumed slightly different amounts of feed than planned (*Table 2*). This may be due to the calculation method (based on the previous 3-4 days intake) and a lower FI may also change since the onset of diarrhea. Despite a one-week transition period, the following week, rabbits of RF groups consumed 17–19% more feed than those in the AL (P<0.001). Their FI was slightly higher in the last week of the experiment, but the difference was no longer significant. FI may also have changed since the onset of the disease.

Table 2
Feed intake of growing rabbits fed *ad libitum* or restricted (g/day)

Age, weeks	Groups				Prob.
	AL[1]	RF70[2]	RF65[3]	SE	
5-6	96.5^c	73.3^b	63.8^a	1.83	<0.001
6-7	125^c	85.6^b	79.0^a	2.43	<0.001
7-8	154^b	126^a	126^a	1.74	<0.001
8-9	155	151	153	0.87	NS
9-10	149^a	174^b	177^b	2.34	<0.001
10-11	162	169	171	1.74	NS
5-11	**140**	**129**	**126**	**2.18**	**<0.001**

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption, $^{a, b, c}$ – values in rows with different letters differ significantly (P<0.05)

When the 100% feeding was over (weeks 8), the FI of rabbits in the two restricted groups increased to around 200 g on the first day and was about 190 g for the next two days. It also exceeded the FI of AL group in the latter days, ranging from 160 to 170 g (*Figure 1*).

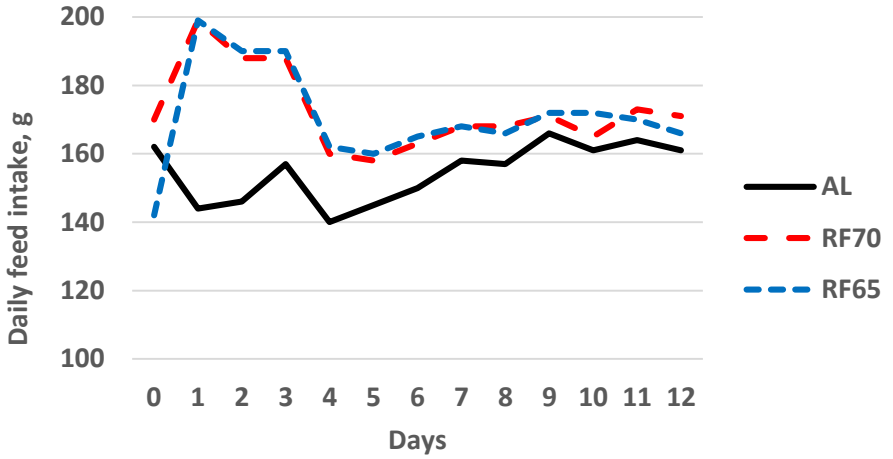

Figure 1. Daily feed intake of rabbits after finishing the restricted feeding period
AL: *Ad libitum*; RF70: Restricted feeding starting with 70% of *ad libitum* consumption; R65: Restricted feeding starting with 65% of *ad libitum* consumption; [a, b, c] P<0.05

Between 5 and 7 weeks of age, the BWG of RF70 and RF65 groups was lower by 40% and 47%, respectively, compared with AL rabbits. (*Table 3*). However, compensatory growth was observed in the next two weeks. There was already a slight difference with increasing FI in the week of the 90% consumption limit, but especially at 100% consumption. The BWG of RF70 and RF65 rabbits exceeded the AL group by 18 and 19%, respectively. There was no significant difference between the groups in the last week and during the entire fattening period (weeks 5-11).

Table 3
Weight gain of growing rabbits fed *ad libitum* or restricted (g/day)

Age, weeks	Groups				Prob.
	AL[1]	RF70[2]	RF65[3]	SE	
5-6	47.8[c]	30.0[b]	22.3[a]	1.06	<0.001
6-7	47.6[b]	27.7[a]	28.1[a]	0.83	<0.001
7-8	49.9[a]	51.6[ab]	53.5[b]	0.46	0.006
8-9	45.3[a]	53.4[b]	54.1[b]	0.84	<0.001
9-10	35.3[a]	52.7[b]	53.8[b]	1.25	<0.001
10-11	38.1	38.4	40.5	0.53	NS
5-11	**44.2**	**42.4**	**42.9**	**0.55**	**NS**

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption, [a, b, c] – values in rows with different letters differ significantly (P<0.05)

During the stricter restriction period, up to 7 weeks of age, the difference in BW between the AL and the restricted fed groups increased (*Table 4*). The following week, the difference decreased slightly and then more significantly due to compensation, and at 11 weeks of age, the differences between groups (AL vs RF70 was 73g and AL vs. RF65 was 55g, P<0.1) almost disappeared.

Table 4
Body weight of growing rabbits fed *ad libitum* or restricted (g)

Age, weeks	Groups				Prob.
	AL[1]	RF70[2]	RF65[3]	SE	
5	899	899	896	6.3	NS
6	1233[b]	1109[a]	1079[a]	9.6	<0.001
7	1567[b]	1303[a]	1279[a]	12.6	<0.001
8	1917[b]	1664[a]	1654[a]	12.9	<0.001
9	2234[b]	2038[a]	2032[a]	13.0	<0.001
10	2481	2407	2411	13.3	0.051
11	2710	2637	2655	14.1	0.095

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption, [a, b] – values in rows with different letters differ significantly (P<0.05)

FCR between the ages of 5 and 7 weeks were significantly worse in the RF groups than that of AL rabbits (*Table 5*), which may have been due to their very poor BWG. However, in the next two weeks, the AL group received 90 and 100% amount of feed, and in the week after switching to *ad libitum* feeding, when their BWG exceeded that of the AL group, RF70 and RF65 rabbits had significantly better FCR.

Table 5
Feed conversion ratio of growing rabbits fed *ad libitum* or restricted

Age, weeks	Groups				Prob.
	AL[1]	RF70[2]	RF65[3]	SE	
5-6	2.02[a]	2.44[b]	2.53[b]	0.05	<0.001
6-7	2.61[a]	3.10[b]	2.81[a]	0.06	<0.001
7-8	3.07[b]	2.45[a]	2.36[a]	0.04	<0.001
8-9	3.42[b]	2.86[a]	2.83[a]	0.05	<0.001
9-10	4.21[b]	3.30[a]	3.29[a]	0.08	<0.001
10-11	4.26	4.40	4.23	0.06	NS
5-11	**3.16**	**3.05**	**2.98**	**0.06**	**NS**

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption, [a, b] – values in rows with different letters differ significantly (P<0.05)

Between 5 and 6 weeks of age, only one rabbit from the AL and RF70 groups and three from the RF65 group died. However, one rabbit from the latter group also died between 6 and 7, and between 10 and 11 weeks of age, so the overall

mortality in the three groups (AL, RF70, and RF65) was 1.2%, 1.2%, and 6.1%, respectively.

Except for the perirenal fat weight, no significant difference was obtained among groups in BW at slaughter and in the weight of different body parts (*Table 6*). The dressing out percentage (DoP) of RF rabbits was 0.4-0.6% lower than that of the AL group (in the order of the table: 62.3%, 61.7%, and 61.8% based on warm carcass and 60.3%, 59.9%, and 59.7% for the chilled carcass, respectively) which may be since these rabbits received less feed during the intense growth phase of muscle tissue (*Cantier et al*., 1969). The ratios of the fore part to the reference carcass were higher in AL rabbits (24.0%, 23.5%, and 23.5% in AL, RF70, and RF65, respectively), and the ratios of the hind part were higher in the RF groups (31.4%, 31.7% and 32.0% in AL, RF70, and RF65, respectively). In contrast, the ratio of the intermediate part did not differ. The weight of perirenal fat and its ratio to reference carcass (1.34%, 1.34%, and 1.07%) in RF65 rabbits was significantly lower than in the other two groups.

Table 6
Carcass traits of growing rabbits fed *ad libitum* or restricted (g)

Traits	Groups				Prob.
	AL[1]	RF70[2]	RF65[3]	SE	
Body weight at slaughter	2679	2645	2649	11.2	NS
Warm carcass	1670	1632	1636	8.6	NS
Chilled carcass	1615	1585	1582	9.1	NS
Fore part of the carcass	387	372	371	3.1	NS
Intermediate part of the carcass	437	434	425	4.6	NS
Hind part of the carcass	507	503	506	3.8	NS
Perirenal fat	21.6[b]	21.3[ab]	16.9[a]	0.8	0.029

[1]*Ad libitum*; [2]Restricted feeding starting with 70% of *ad libitum* consumption; [3]Restricted feeding starting with 65% of *ad libitum* consumption, [a, b] – values in rows with different letters differ significantly ($P<0.05$)

DISCUSSION

In our experiment, after the restriction, FI increased abruptly, and BWG and FCR improved from the period of 80% of AL. At the end of the fattening period, compensation was almost complete. Concerning the whole fattening period, FI decreased significantly, and FCR improved slightly compared to the AL group.

The worsen FCR between the ages of 5 and 7 weeks in the RF groups may be due to the relative change in proportion of maintenance energy needs in the daily ration. A substantial amount of energy was needed to cover maintenance from dietary energy supply in RF treatment, much higher rate than in AL

group, thus a very poor BWG was obtained in restricted rabbits. According to the review of *Gidenne et al.* (2012) after weaning (during the restricted period), BWG decreased in parallel with FI. FCR improved in several cases or did not change significantly but sometimes even deteriorated. After the transition to *ad libitum* feeding, FI varied, increased, decreased, or remained unchanged. Nevertheless, BWG of RF rabbits increased in almost all cases; the tighter the restriction, the greater the compensatory growth. FCR clearly improved. For the entire fattening period, both FI and BWG decreased; there was no full compensation. However, the FCR of RF rabbits improved in all cases.

An interesting feature of the experiment by *Alabiso et al.* (2017) was that the effect of feed restriction was studied with both medicated and non-medicated feed. FI was limited to 65% compared to AL rabbits for three weeks after weaning. The experiment lasted longer than usual and ended at 92 days of age. BWG was significantly reduced during the restriction period. Although the order of the groups reversed after *ad libitum* feeding, this was not enough to compensate for their weight loss. This may be partly because AL rabbits consumed more feed during this period, i.e., the better BWG of the RF groups was clearly due to the better FCR. Finally, there was a significant difference in BW at 92 days of age: 2839 g and 2826 g in the RF rabbits of non-medicated and medicated groups, respectively, and 2977 g and 2971 g in the AL group (non-medicated and medicated, respectively). It was irrelevant whether rabbits consumed medicated or non-medicated feed. The results show that five weeks of *ad libitum* feeding were short for compensation. *Birolo et al*. (2020) limited FI in time: they reduced the eating time to 14 hours after weaning and then to eight hours with a gradual reduction of five days, which remained unchanged for eight days. After that, eating time was increased by one hour per day for 15 days, remaining 24 hours until the end of the experiment, at 71 days of age. In practice, this meant that FI decreased from 80% to 65% in the first five days compared to AL rabbits and then to 78% in three days, which did not change for five days, and it increased to 100% in the next three days. Thus, the average daily feed consumption did not differ much from our experiment. During strict restriction, two weeks after weaning, the FI of FR rabbits was 24% lower than in the AL group. Due to the continuous increase in eating time over a long period, FI never rose above the AL group, so the digestive system was not overloaded. This phenomenon could be hazardous because feed usually switches from medicated to non-medicated during this period, critical for digestive diseases. BWG of RF rabbits decreased compared to the AL group in the first two weeks, and then a compensatory growth was observed in the next two weeks, partly due to improved FCR during this period. Compensation was incomplete

because the difference in BWG was significant throughout the fattening period (31-73 days) (47.7 g and 46.5 g), and the BW was 2819 g and 2767 g at 73 days of age in the two groups. *Gidenne et al*. (2003), *Gidenne and Feugier* (2009) and *Gidenne et al*. (2009) also restricted FI to 60, 70, 80, and 90% and 60, 70, and 80%, respectively. The experiments lasted until 11 and 10 weeks of age. After weaning, BWG decreased in proportion to FI, but there was no difference in FCR. Rabbits could only partially compensate for lower BWG during the restriction period after switching to *ad libitum* feeding. As there was no difference in FI during this period, better FCR may have played a role. Only at 90 and 80% restriction did the difference between the AL and restricted groups decrease as much as our experiment.

The 70% limit for two or three weeks seems too strict and long, and there was not enough time for compensation. By giving two different feeds, *Knudsen et al*. (2017) set the eating time so that RF rabbits could consume 75% of the AL group for four weeks after weaning. During this period, BWG decreased significantly, and FCR improved. During the *ad libitum* feeding period, FI increased by 14-17%, BWG by 22-27%, and FCR also improved. During the whole period, the results developed as expected. Although the compensation was not complete, the FI decreased significantly and FCR spectacularly. According to *Crepso et al.* (2020), who restricted FI to 80 and 70% of the *ad libitum* level, BWG decreased, and FCR deteriorated in parallel with FI. FI increased as a result of *ad libitum* feeding, but even more BWG and, as a result, improved FCR. The compensation was not complete in their case either, the 61-day BW was 2122, 2085, and 2019 g, respectively, but this required less feed and improved FCR. Even in our experiment, the BWG and FCR of RF rabbits improved when their consumption reached 80% of the AL group. Organic matter and protein digestibility of restricted-fed rabbits may also have played a role in the result (*Gidenne et al*., 2012). We demonstrated that FI increased abruptly and significantly exceeded the AL group for a few days in the week after the restriction. Before switching to *ad libitum* feeding, weekly consumption levels in the RF groups were similar to that of the AL rabbits. Overall, it seems a good solution to reduce FI sharply in the two weeks after weaning and then increase FI weekly. Based on the experiment of *Birolo et al*. (2020), an even more gradual transition would be beneficial. However, in another experiment, *Birolo et al*. (2021) did not receive any differences between the slow and fast refeeding groups. In the case without a transition, FI may suddenly increase (*Thwaites*, 1989), overloading the digestive system and sometimes causing diarrhea and death in more severe cases.

In our experiment, only the RF65 group had significantly higher mortality. Since the mortality of the AL and RF70 groups was completely identical, it cannot be demonstrated that the feeding method affected mortality. In the experiment of *Birolo et al*. (2020), although more rabbits died from the RF group than in the AL group (10.9% and 6.6%), the difference was insignificant. While we increased the FI weekly in the RF groups, *Birolo et al*. (2020) moved very slowly to 24-hour feeding by increasing the feeding time with one hour per day.

Alabiso et al. (2017) observed no difference in mortality between rabbits consuming medicated and non-medicated feed during the restriction period, but mortality was significantly reduced in both groups compared to AL rabbits. There was no difference in mortality after switching to *ad libitum* feeding. Although 4-7% fewer rabbits died in the RF groups throughout the fattening period, this could not be statistically confirmed. In the *Pascual et al*. (2021) experiment, both AL and RF groups had lower mortality when rabbits were given medicated feed. However, the mortality in RF groups was not significantly reduced in either the medicated or non-medicated group throughout the fattening period. *Gidenne et al*. (2009) found that a 30 and 40% reduction in FI significantly reduced mortality, but there was no longer any difference between groups during *ad libitum* feeding. Throughout the whole experimental period, only the difference between the 20% and 40% vs. 10% reductions was significant. *Knudsen et al*. (2017) recorded 14.7% and 12.9% mortality in feeding the diet without antibiotics and coccidiostat during the restriction period (AL groups) and 7.7% and 8.8% in the RF groups (75% of *ad libitum* level). As mortality was around 1% in each group during the *ad libitum* feeding period, the difference was significant between the groups for the entire fattening period. In the experiment of *Crepso et al*. (2020), RF rabbits were given 80 and 70% of the feed consumed by the AL group after weaning. They did not find significant differences between groups during either restriction or *ad libitum* feeding period. According to the previous result, it can be concluded that the effect of feed restriction generally reduced mortality after weaning. Still, this difference remained or even reduced over the whole period, indicating that the switch to *ad libitum* feeding increased mortality in several experiments (*Gidenne et al*., 2012). This phenomenon could be due to the discontinuation of feeding medicated feed and the sudden increase in consumption after the switch, which could be due to digestive overload.

In our experiment, DoP based on warm and chilled carcass was reduced by 0.4–0.6% in the RF groups compared to AL rabbits was likely due to a limited muscle development by the lower feed consumption during the intensive

growth phase of muscle tissue. *Alabiso et al*. (2017) report slightly lower DoP in RF rabbits, but the difference was insignificant. *Birolo et al*. (2020) and *Gidenne et al*. (2009) also received 0.5% and 0.7-1.4% lower DoP in the RF groups. In rabbits fed a limited amount of feed after weaning, DoP may be reduced because after switching to *ad libitum* feeding, they can consume more feed than the AL rabbits, resulting in a higher proportion of the full gastrointestinal tract. This is evidenced by the experiment of *Alabiso et al*. (2017), who received significantly higher content in the gastrointestinal tract. In contrast, *Crepso et al*. (2020) found no difference in either ratio of the gastrointestinal tract or DoP.

The differences in the ratios of different parts of the reference carcass are not clear. In our experiment, the ratio of fore part increased in RF rabbits compared to AL group. However, in the experiment of *Alabiso et al*. (2017), it decreased slightly in the medicated group and significantly in the non-medicated group. A similar tendency was found in the proportion of the hind part, which increased in our trial and decreased in the experiment of *Gidenne et al.* (2009). For the middle part, no one noticed any change.

Logically, the rabbits fed restricted diets (RF65 group) have lower body fat deposition. Still, it is also possible that the better BWG during the compensation period is accompanied by a higher rate of fat deposition (RF70 group). Based on the majority of experiments (*Gidenne et al*., 2012), it is clear that the amount of fat depot and its ratio to carcass weight decrease as a result of post-weaning restriction, even if it was not significant in all cases (*Gidenne et al*., 2009; *Alabiso et al*., 2017). The greater the severity and the longer the feed restriction, the more significant the decrease (*Perrier*, 1998). The former is in line with our experiment, in which the RF65 group showed a significant reduction in weight and percentage of perirenal fat. In any case, it is beneficial that the rabbits build up less abattoir-loss fat from their feed.

CONCLUSIONS

According to the feed restriction method used in the experiment, giving 70% of the AL group in the two weeks after the weaning, then increasing the feed ration by 10% per week and adding a transition period of one week before *ad libitum* feeding, we obtained a favorable result. Although the compensation was not completed, the rabbits consumed less feed, the FCR improved, mortality was low, and there were minor differences in slaughter traits. The method could be further refined with less stringent restrictions after weaning and a more prolonged one-week compensation (*ad libitum* feeding). It would also be advisable to investigate this method using non-medicated feed.

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