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Live Weight Indicators of Rabbits Separated from The Nest At 30, 45, And 60 Days of Age in The Experiment

Masharipova Xanshayim Koblanovna
Doctoral student of Karakalpakstan Institute of Agriculture and Agrotechnologies, Uzbekistan

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Abstract: The article presents the results of an experiment conducted under the sharply changing climatic conditions of Karakalpakstan. It investigates the live weight indicators of young rabbits separated from the nest at the ages of 30, 45, and 60 days.

Keywords: Rabbits, live weight, height, age, lactation, climatic conditions.

Introduction: Relevance of the topic. In today's era of steadily growing population, the issue of consistently supplying the population with high-quality livestock products is considered one of the most important matters for everyone.

In our country, rabbit breeding is considered a promising branch of livestock farming. Due to rabbits' rapid maturation and high reproductive rate, it is possible to obtain large quantities of dietary meat — especially valuable for children's nutrition — as well as wool and high-quality fur products for industry, all within a short period. Studying the influence of external environmental conditions and housing factors on the physiological state of rabbits during their maintenance and care in experiments is of great scientific and practical importance. Therefore, during the rearing of young rabbits, identifying the factors affecting their productivity — namely, adapting the organism to the climatic conditions of a particular region and to existing technological factors — serves as a guarantee for increasing the amount and quality of the products obtained from them.

On December 29, 2015, the First President of the Republic of Uzbekistan adopted Presidential Decree No. 2460. Furthermore, the "Program for Further Reform and Development of Agriculture for 2016–2020" was approved by Presidential Resolution No. 03-36-12 dated January 21, 2016. In the section "Development of Rabbit Breeding" of this program, it was instructed to establish rabbit-breeding farms and household-based farms in all regions of the republic. Additionally, it was mandated to import meat and fur-oriented rabbit breeds from foreign countries that are suitable for the climatic conditions of Uzbekistan and to develop scientifically based recommendations for organizing breeding programs in newly established rabbit-breeding farms.

Research Objective

The aim of the study is to examine the growth and development of rabbits under the sharply changing climatic conditions of Karakalpakstan when separated from the nest at different ages.

METHODOLOGY

The dissertation research was conducted during 2021–2023 at the "Samandar Taxiatosh" Limited Liability Company in the Takhiyatosh district of the Republic of Karakalpakstan, using California breed rabbits raised for meat production.

In the study, we examined the growth indicators of rabbit kits born from mother rabbits and separated from the nest at different ages (30, 45, and 60 days), observing their development until the age of 75 days.

For this purpose, based on similarity criteria such as origin, breed, age, and live weight, scientific research was conducted according to the technological schedule of separating rabbit kits from mother rabbits at 30, 45, and 60 days of age. In 2021, Group I followed the technology of separating kits from the nest at 30 days of age; In 2022, Group II followed the technology of separating them at 45 days of age; In 2023, Group III

followed the technology of separating kits at 60 days of age. These studies were carried out using young rabbits obtained from mother rabbits under standardized conditions for each respective year and group.

The live weight of the rabbits was measured individually using an electronic scale at birth and at 21, 30, 45, and 75 days of age, each time before the morning feeding.

The collected data were processed biometrically using the Ye.K. Merkureva method (1970) with the help of Microsoft Excel 2010 software.

RESULTS

In animal husbandry practices, especially in meat production, live weight is one of the most important indicators of the growth and development of agricultural animals. It is considered a key factor in evaluating production efficiency.

In our study, we investigated the growth dynamics of rabbit kits separated from the nest at 30 days (Group I), 45 days (Group II), and 60 days (Group III). The obtained data are presented in Table 1.

Table 1

Live weight (g) of rabbit kits separated from the nest at 30, 45, and 60 days of age in the experiment

Age, day	Separation age of rabbit kits from mother rabbits, day		
	30	45	60
	Group		
	I (n=41)	II (n=32)	III (n=23)
At birth	45,4±1,25	47,7±1,14*	48,1±1,21
21	572,9±2,24***	536,9±2,11**	516,1±1,89
30	820,1±2,12***	794,2±1,89***	751,6±1,56
45	1257,6±2,52***	1202,7±2,62***	1198,4±2,63
60	1899,2±3,12***	1734,5±3,45***	1624,8±2,98
75	2261,9±2,23***	2100,2±3,56***	1970,7±2,62

Note: *P<0,05, **P<0,01, ***P<0,001

Analysis of the data presented in Table 1 and Figure 1 showed that the live weight of rabbit kits in Group III, which were separated from the nest at 60 days of age, was 48.1 g at birth. This was respectively 2.7 g or 5.9% (P<0.05) and 0.4 g or 0.8% higher compared to their counterparts in Group I (separated at 30 days) and Group II (separated at 45 days).

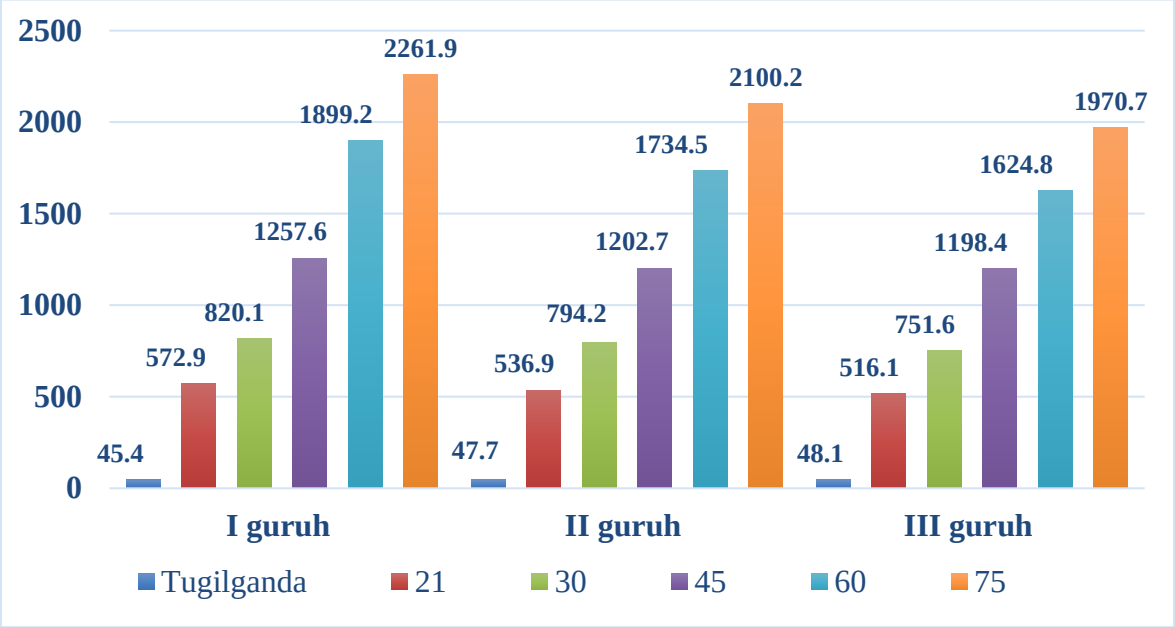

Figure 1. Diagram of the live weight of rabbits separated from the nest at 30, 45, and 60 days of age in the experiment

In the subsequent growth periods, the rabbit kits in Group I (separated from the nest at 30 days) and Group II (separated at 45 days) showed an advantage over their counterparts in Group III (separated at 60 days). Specifically, at 21 days of age, the live weight of rabbit kits in Group I was 572.9 g. This was 36.0 g or 6.7% higher (P<0.001) than those in Group II and 56.8 g or 11.0% higher (P<0.001) than those in Group III, whose live weight was 516.1 g.

Furthermore, the rabbit kits in Group II (separated from the nest at 45 days) had a live weight of 536.9 g at 21 days of age, which was 20.8 g or 4.0% (P<0.05) higher than that of their counterparts in Group III (516.1 g), separated at 60 days. At 30 days of age, the live weight of rabbit kits in Group I (separated at 30 days) was 820.1 g. In comparison, the live weight of rabbit kits in Group II was 794.2 g, which was 25.9 g or 3.3% higher (P<0.001), and 68.5 g or 9.1% (P<0.001) higher than that of Group III rabbits (751.6 g).

In addition, the live weight of rabbit kits in Group II was 42.5 g or 5.7% (P<0.001) greater than that of Group III, showing a clear advantage in early growth.

The same tendency persisted in the later stages of the growth period. Specifically, at 45 days of age, the average live weight of rabbit kits in Group I was 1257.6 g, which was 54.9 g or 4.6% (P<0.001) and 59.2 g or 4.9% (P<0.001) higher than that of their counterparts in Group II and Group III, respectively. Moreover, the live weight of rabbit kits in Group II was 9.3 g or 0.8% higher than that of the rabbit kits in Group III.

As a result of the study, it was found that at 60 days of age, the live weight indicators of rabbit kits separated from the nest at 30, 45, and 60 days remained consistently higher in Group I during the subsequent months of the growth and development period compared to their counterparts in Groups II and III. Specifically, at 60 days of age, the live weight of Group I rabbit kits was 1899.2 g, which was 164.7 g or 9.5% (P<0.001) and 274.4 g or 16.9% (P<0.001) higher than that of rabbit kits in Group II and Group III, respectively. Furthermore, the live weight of rabbit kits in Group II exceeded that of Group III by 109.7 g or 6.8% (P<0.001).

At the end of the experiment, i.e., at 75 days of age, the live weight of rabbit kits separated from the nest at 30, 45, and 60 days also remained highest in Group I compared to Groups II and III. Specifically, the live weight of rabbit kits in Group I was 2261.9 g, which was 161.7 g or 7.7% (P<0.001) and 291.2 g or 14.8% (P<0.001) higher than that of kits in Groups II and III, respectively. Moreover, the live weight of rabbit kits in Group II exceeded that of Group III by 129.5 g or 6.6% (P<0.01), showing a statistically significant advantage.

CONCLUSION

At the end of the experiment, i.e., at 75 days of age, the rabbit kits separated from the nest at 30, 45, and 60 days showed that the live weight of Group I rabbit kits remained higher than that of their counterparts in Groups II and III.

Specifically, the live weight of Group I kits was 2261.9 g, which was 161.7 g or 7.7% (P<0.001) and 291.2 g or 14.8% (P<0.001) higher than the live weight of rabbit kits in Groups II and III, respectively.

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