American Journal Of Agriculture And Horticulture Innovations

VOLUME Vol.05 Issue04 2025
PAGE NO. 15-17
DOI 10.37547/ajahi/Volume05Issue04-04

Changes in Live Weight Across Age Dynamics of Offspring Obtained from Mating Camelus Dromedarius And Camelus Bactrianus Camels

Turganbaev. R.U.

Scientific supervisor, Doctor of Agricultural Sciences, Professor at the Nukus branch of Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology, Uzbekistan

Ko'charov. S.Y

Doctoral student at the Tashkent branch of Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology, Uzbekistan

Received: 26 February 2025; **Accepted:** 22 March 2025; **Published:** 25 April 2025

Abstract: This article determines and draws conclusions on the changes in live weight across age dynamics of offspring obtained from mating Camelus dromedarius and Camelus bactrianus camels in various pasture conditions of the Ustyurt Plateau in the Republic of Karakalpakstan.

Keywords: Ustyurt Plateau, pasture conditions, Camelus dromedarius, Camelus bactrianus, camels, mating, offspring, age dynamics, live weight.

Introduction: Today, Australia, Mongolia, Argentina, Afghanistan, Namibia, and the Republic of South Africa are among the countries primarily engaged in camel husbandry on a global scale. The worldwide population of two-humped camels exceeds 2 million. In the aforementioned countries, a considerable number of scientific studies have been conducted to investigate camel biology, increase their productivity, and improve their breeding characteristics. In recent years, milk and meat products obtained from camel husbandry have become crucial in addressing food security concerns. Consequently, focusing on the quantitative and qualitative indicators of camel products and utilizing modern innovative feeding methods remain highly relevant [4. https://24.kz/ru/news/economyc/item].

Determining the age, sex, constitutional types, and dependence of productivity on pasture types, as well as proper feeding, plays a crucial role in enhancing the breeding potential of camels [1.p.6–22].

In the Republic of Uzbekistan, including Karakalpakstan, camel breeding thrives in desert areas with vast natural fodder lands that are largely inaccessible to other livestock. The two-humped camels raised in this region are notable for their wool productivity, enabling effective utilization of these characteristics. Simultaneously, developing and implementing efficient technologies for camel product production is essential for ensuring food security, elevating the population's living standards, and generating new employment opportunities [2.p. 14–27].

Experimental site: The experimental work for the dissertation titled "Selective characteristics of offspring obtained from mating Camelus dromedarius and Camelus bactrianus in the conditions of the Ustyurt plateau" was conducted from 2024 to 2026 at the specialized camel farms "Ata-Mura" and "Konratli Aq niyet," which belong to the Ustyurt rural community in the Kungrad district of the Republic of Karakalpakstan.

Research objective: To study the live weight in age dynamics of offspring obtained from mating Camelus dromedarius and Camelus bactrianus camels.

METHODS

The live weight of camels was determined with an accuracy of ±5.0 kg using autoplatform scales under

farm conditions. In summer pasture conditions, where the use of autoplatforms was not possible, the live weight of camels was determined using a formula based on the methodology from the bonitation manual by Baymukanov D.A. (2001). In this case, the determination of the camels' live weight was carried out using a special formula that took into account the age coefficient. The study of growth and development was conducted by identifying specific parameters at predetermined times. Monitoring the growth rate of young camels was carried out during the newborn period (1 day old), at 1 month of age, and throughout the subsequent age dynamics.

RESULTS

Increasing the productivity of one- and two-humped camels can be achieved by utilizing their biological potential, primarily based on the laws of growth and development. Growth patterns are determined by the quantitative growth of tissues, organs, and the entire organism during ontogenesis, the increase in cell numbers, and the intensity of cell mass multiplication. These patterns are influenced by the organism's hereditary characteristics, age, physiological state, and environmental conditions. The growth and development indicators of camels differ from other animals but follow general biological principles [3.p. 279–285].

Based on the results of our experimental work, we studied the changes in live weight of young camels at different ages under the conditions of the Ustyurt plateau. These data are summarized in Table 1 below.

Table 1

Dynamics of live weight changes, kg

Age	n	C.Bactrianus	C. Dromedaries	Hybrid 2/1
		X±Sx		
During the time of birth	10	35,6±3,13	33,2±32,9	34,5±32,9
In 1 month	10	53,6±4,7	44,5±4,1	48,3±4,7
In 2 months	10	72,3±6,3	57,3±5,8	62,4±5,8
In 3 months	10	90,1±8,7	70,8±7,2	77,1±7,6
In 4 months	10	107,5±9,8	84,9±8,9	92,7±8,9
In 5 months	10	127,3±11,4	99,3±9,7	110,4±10,3
In 6 months	10	149,2±12,2	114,4±11,9	129,6±11,8

Analysis of the data in Table 1 shows that different indicators can be observed depending on the camel breed. At birth, the weight of C. Bactrianus calves was 35.6±3.13 kg, while for C. Dromedarius calves, it was 33.2±32.9 kg. This indicator in the hybrid offspring obtained from these breeds was 34.5±32.9 kg. If C. Dromedarius calves are taken as a baseline of 100, then C. Bactrianus calves showed a 7.2% advantage, and the hybrid offspring showed a 3.9% advantage.

This trend was also observed in younger animals. At 6 months of age, the live weight of C. Bactrianus calves was 21.9±2.1 kg, while C. Dromedarius calves weighed 114.4±11.9 kg, and the hybrid offspring obtained from these species reached 129.6±11.8 kg. Maintaining the aforementioned trend, C. Dromedarius calves showed a 30.4% advantage, and the hybrid offspring demonstrated a 13.3% superiority.

It can be stated that in terms of live weight, young calves of C. Bactrianus demonstrated more rapid growth compared to C. Dromedarius calves, while hybrid offspring occupied an intermediate position.

The absolute growth indicators of young calves play a significant role in the development of their future meat, milk, and wool productivity. The manifestation of these indicators is primarily and directly related to their adequate nutrition.

The absolute growth indicators from our experimental work are presented in Table 2 below.

Table 2

Dynamics of absolute growth change, kg

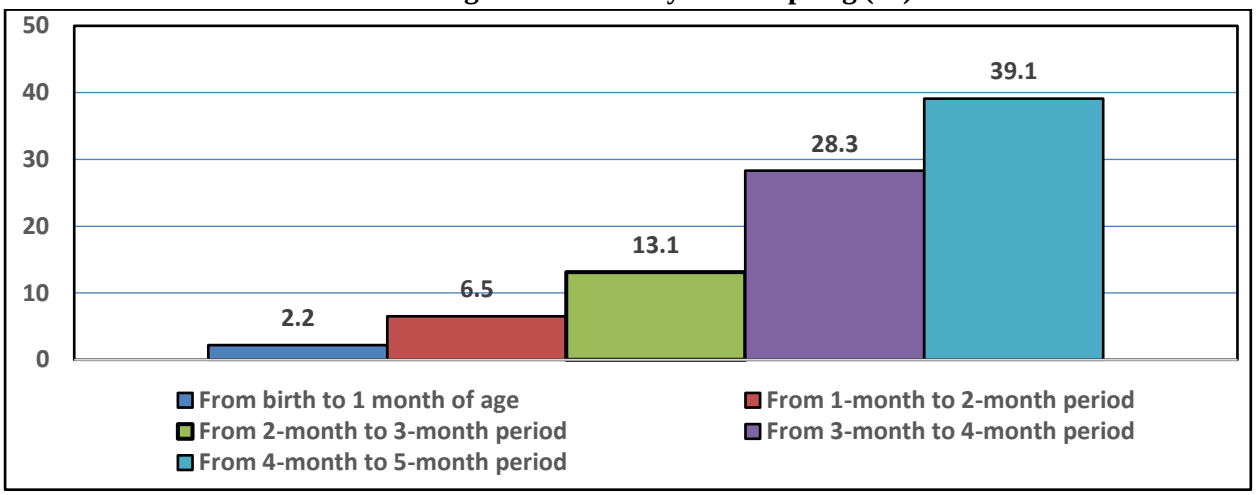
Age	n	C.Bactrianus	C. Dromedaries	Hybrid 2/1
		X±Sx		
From birth to 1 month of age	10	18,0±1,2	11,3±1,2	13,8±1,3
From 1-month to 2-month period	10	18,7±1,4	12,8±1,2	14,1±1,4

From 2-month to 3-month period	10	17,8±1,3	13,5±1,3	14,7±1,4
From 3-month to 4-month period	10	17,4±1,3	14,1±1,3	15,6±1,5
From 4-month to 5-month period	10	19,8±1,5	14,4±1,2	17,7±1,6
From 5-month to 6-month period	10	21,9±2,1	15,1±1,4	19,2±1,8

According to the data in Table 2, from birth to 1 month of age, C. Bactrianus calves weighed 18.0±1.2 kg, while C. Dromedaries calves weighed 11.3±1.2 kg, and the 2/1 hybrid generation occupied an intermediate position at 13.8±1.3 kg. This trend persisted in subsequent age dynamics, with C. Bactrianus calves showing a slight advantage in growth rate. The 2/1 hybrid generations maintained an intermediate position across all age groups. It should be noted that from the 4-month period onward, the growth rate of all experimental calves accelerated. It is during this period that the demand for roughage increases.

Figure 1.

Absolute growth rate of hybrid offspring (%)



In hybrid camel calves, the absolute growth indicators (Figure 1) primarily showed an intensive increase in live weight from 3 months to 6 months of age. From birth to 3 months of age, a change of 2.2-13.1% was observed. From 4 months of age, the growth rate increased by 28.3%, and from 6 months of age, it rapidly increased by 39.1%.

CONCLUSION

In the age-related weight dynamics of offspring obtained from mating Camelus dromedarius and Camelus bactrianus camels, the calves of Camelus dromedarius demonstrated superior growth rates in terms of live weight compared to the calves of Camelus bactrianus. The hybrid offspring of 2/1 generation occupied an intermediate position in this indicator.

REFERENCES

Baimukanov, D.A., A. Baimukanov, O. Alikhanov, D.A. Doshanov, K.Z. Iskhan, and D.S. Sarsenbai. 2018. Genetics of the productive profile of camels of different genotypes of the Kazakhstan population. Bulletin of National Academy of Sciences of the Republic of Kazakhstan 1 (371): Almaty.6–22.

2.Baimukanov, D.A., A. Baimukanov, M. Tokhanov, U.A. Uldashbaev, and D. Doshanov. 2016. Breeding and genetic monitoring of dromedary group camels of south Kazakhstan population. Bulletin of National Academy of Sciences of the Republic of Kazakhstan 5 (363): Almaty 14–27.

3.Bartosiewicz, L., and J. Dirjec. 2001. Camels in antiquity: Roman period finds from Slovenia. Antiquity 75: 279–285.

https://24.kz/ru/news/economyc/item.