



THE FORMATION OF MEAT PRODUCTIVITY IN ABERDEEN ANGUS CALVES.

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Abstract: Increasing the production of livestock products is one of the most important issues in agricultural science and practice. One of the main directions for solving this problem is meat production, especially beef cattle production, which accounts for more than half of the country's meat balance.

Keywords: exterior, interior, slaughter yield, constitution, ration, selection, experimental, profitability.

Introduction: Aberdeen Angus cattle are distinguished by their high meat productivity, early maturity, meat quality, and marketability. They are a breed adapted to low-cost management conditions, capable of efficiently utilizing feed and ensuring high slaughter yields in a short period. Studying the productivity indicators of Aberdeen Angus bulls under Uzbek climatic conditions and developing methods to improve these indicators has not only scientific but also practical significance. The relevance of this research lies in contributing to the satisfaction of domestic meat demand, reducing import volumes, and developing local beef cattle production.

In accordance with the Resolution of the President of the Republic of Uzbekistan No. PQ-121 dated February 8, 2022, "On measures for further development of animal husbandry and strengthening the fodder base," in cooperation with the State Committee for Veterinary and Livestock Development, during 2022–2023 it is planned to establish at least one enterprise for the production and processing of meat and dairy products in each district. These enterprises will supply livestock to households through a cooperative system, as well as organize the processing and sale of produced products. In districts with a shortage of irrigated land for fodder production, cooperative-based production and processing of meat and dairy products will be introduced to fully meet consumer demand.

Research methods: The study was conducted in Raim Bo'riyev neighborhood of Muzrabot district, Surkhandarya region, with the aim of increasing the production of high-quality beef and heavy hide raw materials and improving the profitability of beef cattle farming. In the experiment, Aberdeen Angus bulls were raised under three different feeding systems, and their meat quality, fatty acid composition, and



organoleptic properties were evaluated. Nearly 1000 bulls aged 18 months were raised under the following feeding systems:

Research results: Taste and odor of meat: Meat from bulls raised on natural pasture had a distinctive taste and smell and was highly rated by consumers.

Fatty acid composition: Meat from pasture-raised bulls contained a higher level of Omega-3 fatty acids, which is considered beneficial for human health.

According to Elliot J. (2022), in Scotland, the most efficient bull consumed 1.13 kg less feed per 1 kg of weight gain; according to Elliot from Roxburgh in Kelso, this reflects feed efficiency measured by electronic feed systems. The most efficient bulls achieved nearly a 3:1 feed conversion ratio, meaning 3 kg of dry matter intake per 1 kg of live weight gain was saved. The November trial showed that the best bull required 1.13 kg less feed than the average.

The study also included slaughtering at 18 and 21 months of age to compare meat quality, marbling level, and economic indicators. Sixty bulls (15 in each age group) were fattened intensively on the same ration. Main results:

**Slaughter age (months) – Slaughter weight (kg) – Carcass yield (%) –
Marbling score**

Tenderness (WB shear) – Profit (AUD)

12 months	–	455 kg	–	58.1%	–	3.1	–	38.2 mm/s	–	+120
15 months	–	530 kg	–	59.5%	–	3.8	–	33.4 mm/s	–	+185
18 months	–	610 kg	–	61.2%	–	4.6	–	29.5 mm/s	–	+220
21 months	–	645 kg	–	62.0%	–	4.9	–	28.1 mm/s	–	+215

Conclusion: In summary, 18 months of age showed the most balanced indicators of meat quality:

High marbling

Low tenderness value (meaning the meat is the most tender)

The most economically profitable

At 21 months, meat quality was good, but additional feeding costs reduced profitability. At 12 months, meat quality was low and did not fully meet market demand. The optimal slaughter age is 17 months, when both meat quality and economic profitability are high.

Discussion: According to the scientific and farm experimental design, Aberdeen Angus calves were divided into two groups, each consisting of 10 animals: Group I – calves of German origin, Group II – calves of Russian origin.



The experimental bulls were raised under identical feeding and housing conditions from 6 to 17 months of age. The animals were kept in a fattening facility with standard beef cattle production technology (at the “Agra Chorva Baraka” livestock complex in Muzrabot district).

The growth and development of young animals were evaluated by weighing them at birth, and at 7, 9, 12, and 17 months after the feeding period. Live weight was measured in the morning before feeding at the end of each month, and at 17 months the average live weight was determined by weighing on two consecutive days. Based on live weight dynamics, average daily gain, absolute gain, and relative growth rate were calculated.

Results: Comparative analysis of live weight dynamics of experimental bulls showed a statistically significant advantage of Group I over Group II during the growth and fattening period. Thus, at 17 months of age, at weaning, live weight of German-origin calves was 524.8 kg, while that of Russian-origin cattle was 513.7 kg. A similar trend in favor of Group I was observed in average daily and absolute weight gains.

At the final stage, evaluation of body conformation showed that bulls in Group I exceeded Group II by 1.7 cm in height at the hock joint, 1.1 cm in oblique body length, 2.2 cm in chest width, 2.0 cm in chest depth, and 1.4 cm in chest girth.

Conclusion: It is recommended for agricultural enterprises and beef cattle farms to use bulls of German selection within the standard technology of raising and fattening Aberdeen Angus cattle. This increases live weight gain and improves the profitability of beef production.

References:

1. Resolution of the President of the Republic of Uzbekistan No. PQ-121 dated February 8, 2022, “On measures for further development of animal husbandry and strengthening the fodder base.”
2. Resolution No. PQ-4254 “On organizing the activities of the State Committee for Veterinary and Livestock Development of the Republic of Uzbekistan,” Tashkent, March 28, 2019.
3. Resolution No. PQ-4576 “On additional measures for state support of the livestock sector,” Tashkent, January 29, 2020.
4. Bagriy, B.A. Meat productivity of different types of bulls / B.A. Bagriy, E. Karab // Animal Husbandry. – 1980. – No. 5. – pp. 7–9.
5. Garmaev, D.Ts. Technology of beef cattle production in the Republic of Buryatia: monograph / D.Ts. Garmaev. – Ulan-Ude, 2007. – 178 p.



6.Zelenov, G.N., Avilov, Ch.K. Compliance of beef quality obtained from cattle with meat industry requirements // Meat Industry. – No. 1. – 2010. – pp. 44–47.