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# AGE CHANGES IN THE BODY WEIGHT OF RAM LAMBS OBTAINED FROM EWES OF DIFFERENT BODY TYPES

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*The research was carried out in the production conditions of the private farm "AGRO-DIS" of the Podilsky district of the Odesa oblast with the population of crossbred $F_1$ rams, obtained from the industrial crossing of ewes of the Askaniysky meat-wool breed with crossbred wool of the Odesa inbred type of different body types with Merinolandschaf rams. Changes in body weight of ram lambs from birth to 18 months old were studied according to generally accepted methods. It was established that the type of birth – singles or twins – affects the body weight of crossbred lambs. So, at birth, single lambs, offspring of ewes with a strong body type, had the largest body weight compared to peers of other body types. Their advantage compared to peers obtained from ewes of a slender body type was 1.3 kg or 26.42% (P>0.999), and compared to rams of a corpulent body type, it was 0.59 kg or 10.48% (P>0, 95). However, in later age periods of growth, peers of the corpulent body type dominated in terms of body weight. Crossbred rams (AMO x ME) in all age periods of growth had a high body weight regardless of the type of birth and the body type of the ewes.*

*The difference in body weight of single rams, offspring from ewes of strong and corpulent body type was greater in favor of rams obtained from ewes of corpulent body type with a high degree of probability and amounted to: in 4 months. – 11.54 kg or 26.58% (P>0.999), 8 months. – 9.29 kg or 18.8% (P>0.999), 12 months. –14.26 kg or 23.2% (P>0.999), 16 months. – 10.39 kg or 14.35% (P>0.999), 18 months. – 11.15 kg or 13.93% (P>0.999).*

*Offspring born by ewes with a corpulent body type also prevailed over peers obtained from ewes of a slender body type at all age periods of growth.*

*The obtained results of research indicate the expediency of industrial crossbreeding at farms with the aim of increasing the meat productivity of sheep.*

***Key words**: ewes, rams, body weight, body types, type of birth, singles, twins.*

# ВІКОВІ ЗМІНИ ЖИВОЇ МАСИ БАРАНЦІВ, ОДЕРЖАНИХ ВІД ВІВЦЕМАТОК РІЗНОГО ТИПУ КОНСТИТУЦІЇ

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*Дослідження проведено у виробничих умовах приватного господарства «АГРО-ДІС» Подільського району Одеської області на поголів'ї помісних баранців $F_1$, одержаних від промислового схрещування вівцематок Асканійської м'ясо-вовнової породи з кросбредною вовною одеського внутрішньопородного типу різних типів конституції з баранами породи Мериноландшаф. У баранців вивчали зміни живої маси від народження до 18-місячного віку за загальноприйнятими методиками. Установлено, що на живу масу помісного молодняку впливає тип народження - одинці чи двійні. Так, при народженні найбільшу живу масу мали баранці-одинаки, потомки матерів міцного типу конституції порівняно з ровесниками інших типів конституції. Їх перевага порівняно з ровесниками, одержаними від матерів ніжного типу конституції, становила 1,3 кг або 26,42% (P>0,999), а порівняно з баранцями грубого типу конституції 0,59 кг або 10,48% (P>0,95). Проте у подальші вікові періоди росту домінували за живою масою аналоги грубого типу конституції. Помісні баранці (АМО х МЕ) в усі вікові періоди росту мали високу живу масу незалежно від типу народження і типу конституції матерів.*

*Різниця за живою масою баранців-одинаків, нащадків від матерів міцного і грубого типу конституції була більшою на користь баранців, одержаних від матерів грубого типу конституції з високим ступенем вірогідності і становила: у 4-міс. – 11,54 кг або 26,58% (P>0,999), 8-міс. – 9,29 кг або 18,8% (P>0,999), 12-міс. –14,26 кг або 23,2% (P>0,999), 16-міс. – 10,39 кг або 14,35% (P>0,999), 18-міс. – 11,15 кг або 13,93% (P>0,999).*

*Потомки, народжені матерями грубого типу конституції також превалювали й над ровесниками, одержаними від матерів ніжного типу конституції в усі вікові періоди росту.*

*Одержані результати досліджень свідчать про доцільність проведення промислового схрещування у товарних господарствах з метою підвищення м'ясної продуктивності овець.*

***Ключові слова:*** *вівцематки, баранці, жива маса, типи конституції, тип народження, одинаки, двійні.*

**Introduction.** One of the most important levers for increasing the efficiency of sheep farming is the assessment of the individual characteristics of the growth and development of lambs. Increasing the meat productivity of sheep is a key factor that also determines the level of economic efficiency of the sheep farming industry (Ceccobelli, S., 2023; Vargas Jurado, N., 2022; ZhulinskaO. S., 2020; Ibatulin I.I., 2022;).

Sheep farming is a branch of livestock farming from which raw materials for light industry are obtained: wool, sheepskin, skins, furs, and food products for the population: meat, milk, fat. This is the least energy-consuming branch, as sheep, due to their

biological characteristics, consume about 600 types of plants and most efficiently consume plant fodder on pastures and post-cut residues during 8-9 months of the year.

Sheep farming is unique in terms of the variety and uniqueness of the products obtained from it and the ability to efficiently produce them due to the use of natural feed resources, which are scarce and often completely unavailable for other types of livestock (Asmare, S., 2023; Basdagianni, Z., 2019).

Over centuries, sheep farming has been under the influence of significant natural and social factors, and therefore, its declines and rises occured constantly. The development of sheep farming has always been associated with socio-economic conditions and the state of development of society (AL-Jaryan, I. L., 2023; Balasse, M., 2023; Belhaj, K., 2021; Buckiuniene, V., 2023; Iovenko, Vasyl 2022; Sokol O.I. 2005; Sukharlov V.O., 2007; Sukharlov V.O. 2009; Zsolnai, A., 2023).

At the beginning of the 21st century, sheep farming in most countries of the world, including Ukraine, found itself in a crisis and semi-crisis state due to a drop in demand for wool products, which led to a decrease in the value of wool and a sharp decrease in the number of merino and crossbred sheep and their productivity. Therefore, the primary task of revitalizing sheep farming is to restore the sheep population, increase its productivity, and introduce such technological solutions and methods of production that would ensure the industry's competitiveness. Sheep farming should be competitive, profitable and ensure the food independence of the country and be based on highly productive livestock as the main means of production (Blasco, M., 2019; El Sabry, M. I., 2023; Iovenko V. M., 2021: Iovenko, Vasyl 2022; Iovenko , Vasyl, 2021;). To do this, it is necessary to switch to large-scale production, use high-performance breeds of sheep of foreign and domestic selection, provide animals with optimal feeding and keeping conditions. However, despite the crisis phenomena that led to the decline of the sheep farming industry, it has the potential for revival. The main measures for this are: reorientation to the breeding of meat and dairy breeds of sheep to expand the production of lamb and mutton, the production of sheep's milk cheeses (Cesarani, A., 2022; Kravchuk V., 2020; Zharuk P. H., 2021; Ferreira, V. C., 2015; Heinzen, B.C., 2023).

Optimizing the sheep population is one of the main prerequisites for the intensification of sheep farming, since the industry cannot provide the state with the necessary amount of products if the number of animals is small, and if the number is high, the animals will not be provided with fodder and other technological components, which is inefficient (Aziz, N. 2020; Esrafili, T., 2023; Novichkova A. 2023; Lobachova, 2022; Lobachova I., 2019).

In modern conditions of livestock farming, the efficiency and competitiveness of the sheep farming industry are associated with the use of meat breeds of sheep for industrial crossbreeding (AL-Jaryan, I. L., 2023; Balasse, M., 2023; CloeteJ.J.E., 2005; Khattab, A. S., 2021; Lewis, R. M., 2022; Pokhyl, V. I., 2020).

The efficiency of crossing depends on genetic and paratypic factors, and first of all, on the compatibility of breeds, conditions of feeding and maintenance.

In studies (Asmare, S., 2023; Berry D. P., 2017; V. Iovenko, 2020; Vasyl' Iovenko, 2020; Silva Filho, 2021, etc.), the feasibility of introducing industrial crossbreeding, which is used in commercial flocks of sheep with the aim of increasing meat production already in the first generation crossbreeds, has been proven.

Therefore (Elizalde, H. F., 2019; Talebi, R., 2023), industrial crossbreeding under optimal conditions of feeding and maintenance of crossbred lambs contributes to the increase of its productive qualities, which is crucial for the management of meat and meat-wool sheep farming in terms of increasing meat production. However, there is not enough scientific information on the use of Askaniysky meat-wool ewes with crossbred

wool of the Odesa inbred type (AMO) and breeding rams of the Merinolandshaf breed (ME) in the conditions of the forest-steppe zone of the southern region of Ukraine, and the issues of individual development of crossbred lambs are incompletely covered. which prompted the relevant research.

**The purpose of the research** is to study the age dynamics of the body weight of crossbred rams of the first generation, obtained from the industrial crossing of ewes of different body types of the Askaniysky semi-fine-wool meat-wool breed with crossbred wool of the Odesa inbred type with Merinolandschaf sheep in the conditions of the forest-steppe zone of the southern region of Ukraine.

**Research materials and methods.** The work was carried out at the private farm "AGRO-DIS" of the Podilsky district of the Odesa oblast. Three groups of ewes of different body types (strong, slender, corpulent) were involved in the industrial crossing of ewes of the Askaniysky semi-fine-wool meat-wool breed with crossbred wool of the Odesa inbred type with Merinolandschaf rams. Groups were formed according to the principle of peers, 50 heads each, taking into account age, body weight, number of lambs. The ewes were 4 years old, with a body weight of 50 kg. The rams were 4 years old, body weight 118 kg, strong body type.

Determination of the age dynamics of body weight of ram lambs was carried out at birth and at the age of 2, 4, 8, 12, 16, 18 months. Body weight was determined by individual weighing with an accuracy of 0.1 kg according to the generally accepted method. Biometric processing of experimental data was carried out according to (Kovalenko V.P, 2010). The difference between groups was considered probable at P>0.95.

Before weaning from ewes, 4-month-lambs were reared by the pen-based method, and after weaning – by the pasture-stall method.

**Research results.** The offspring obtained from the crossing of ewes of the AMO breed with rams of the ME meat-wool breed, under the same conditions of feeding and maintenance, were characterized by fairly high indicators of body weight in all periods of growth. The dynamics of the body weight of single ram lambs obtained from ewes of different body types are given in Table 1.

It was established that at birth, single lambs obtained from ewes with a strong body type had the largest body weight compared to their peers with corpulent and slender body types. Thus, compared to peers born from ewes with a slender body type, this difference was 1.3 kg or 26.42% (P>0.999), and compared to peers with a corpulent body type – 0.59 kg or 10.48% (P>0.95). But in the following periods of growth, the advantage in terms of body weight was in the offspring obtained from ewes of corpulent body type.

The difference in body weight of single rams, offspring from ewes of strong and corpulent body type was greater in favor of ram lambs obtained from ewes of corpulent body type with a high degree of probability and amounted to: 4-month-old – 11.54 kg or 26.58% (P>0.999), 8-month-old – 9.29 kg or 18.8% (P>0.999), 12-month-old –14.26 kg or 23.2% (P>0.999), 16-month-old – 10.39 kg or 14.35% (P>0.999), 18-month-old – 11.15 kg or 13.93% (P>0.999).

Offspring obtained from ewes with a corpulent body type also prevailed over peers obtained from ewes of a slender body type at all age periods of growth. This excess was: at birth – 0.71 kg or 14.43% (P>0.95), 4-month-old – 18.64 kg or 51.34%, 8-month-old – 15.28 kg or 35.19% (P>0.999), 12-month-old – 17.81 kg or 30.76%, 16-month-old – 12.21 kg or 17.29% (P>0.999) and 18-month-old – 13.65 kg or 17.61%.

The biggest advantage in terms of body weight was given to ram lambs obtained from ewes of corpulent body type after weaning at the age of 4 months. age compared to peers obtained from ewes of strong and slender types. Therefore, offspring from ewes

of a corpulent type, having larger values of body weight, accumulate more muscle tissue than peers obtained from ewes of strong and slender body types.

*Table 1*

**The dynamics of the body weight of single ram lambs depending on the body type of ewes, kg**

| Age, months<br>Body type of ewes | Body weight, kg | | |
|---|---|---|---|
| | Ẋ±ẋ | ±ϭ | CV,% |
| Body type | **Strong (n=27)** | | |
| At birth | 6.22±0.122***$^{v}$ | 0.625 | 10.0 |
| 4 | 43.41±0.519*** | 2.649 | 6.1 |
| 8 | 49.41±0.459*** | 2.341 | 4.7 |
| 12 | 61.44±1.133* | 5.780 | 9.4 |
| 16 | 72.41±1.080* | 5.507 | 7.6 |
| 18 | 80.00±5155 | 4.472 | 5.6 |
| On average | 51.99±0.772 | 3.937 | 7.7 |
| Body type | **Slender (n=19)** | | |
| At birth | 4.92±0.260 | 1.103 | 22.4 |
| 4 | 36.31±1.482 | 6.289 | 17.3 |
| 8 | 43.42±1.136 | 4.822 | 11.1 |
| 12 | 57.89±1.088 | 4.617 | 7.9 |
| 16 | 70.59±1.145 | 4.436 | 6.3 |
| 18 | 77.50±0.859 | 3.648 | 4.7 |
| On average | 47.96±1.041 | 4.348 | 11.9 |
| Body type | **Corpulent (n=20)** | | |
| At birth | 5.63±0.201$^{+}$ | 0.876 | 15.5 |
| 4 | 54.95±1.123$^{vvv\ +++}$ | 4.893 | 8.9 |
| 8 | 58.70±1.227$^{vvv\ +++}$ | 5.349 | 9.1 |
| 12 | 75.70±1.387$^{vvv\ +++}$ | 6.044 | 7.9 |
| 16 | 82.80±1.695$^{vvv\ +++}$ | 7.388 | 8.9 |
| 18 | 91.15±1.548$^{vvv\ +++}$ | 6.745 | 7.4 |
| On average | 61.49±1.197 | 5.216 | 9.6 |

*Note: * - P>0.95; ** - P>0.99; *** - P>0.999;*

*$^{v}$ - P>0.95; vv - P>0.99; vvv - P>0.999; +- P>0.95; ++ - P>0.99; +++- P>0.999;*

** – the probability of a difference between the indicators of ram lambs obtained from ewes of strong and slender body types;*

*$^{v}$ – the probability of a difference between the indicators of the body weight of the offspring of ewes of strong and corpulent body types;*

*+ the probability of a difference between the indicators of the body weight of ram lambs obtained from ewes of slender and corpulent body types.*

The coefficient of variability of body weight in offspring obtained from ewes of different body types was at a low level, except for ram lambs obtained from ewes of slender body type from birth to the age of 4 months. The offspring of ewes of this body type had a greater discrepancy in body weight, where the coefficient of variability of body weight at birth was 22.4%, and at the age of 4 months - 17.3%, which is more than that of peers obtained from ewes of a strong body type by 12.4 and 11.2%, and compared to offspring from ewes of a corpulent body type by 6.9 and 8.4%, respectively. The age variability of the body weight of twin rams is presented in Table 2.

*Table 2*

**Age changes in body weight of twin ram lambs depending on the body type of ewes, kg**

| Age, months<br>Body type of ewes | Body weight, kg | | |
|---|---|---|---|
| | Ẋ±ẋ | ±ϱ | CV,% |
| Body type | **Strong (n=16)** | | |
| At birth | 4.97±0.171*** v | 0.662 | 13.3 |
| 4 | 38.62±0.506*** v | 1.962 | 5.1 |
| 8 | 43.75±0.709 | 2.745 | 6.3 |
| 12 | 53.12±0.631* | 2.446 | 4.6 |
| 16 | 65.00±1.313 | 5.086 | 7.8 |
| 18 | 79.04±1.735* | 6.722 | 8.5 |
| On average | 47.57±0.747 | 2.895 | 7.1 |
| Body type | **Slender (n=22)** | | |
| At birth | 4.09±0.130 | 0.597 | 14.6 |
| 4 | 29.82±0.537 | 2.462 | 8.2 |
| 8 | 42.91±0.456 | 2.091 | 4.8 |
| 12 | 50.82±0.645 | 2.954 | 5.8 |
| 16 | 68.42±1.332 | 6.104 | 8.9 |
| 18 | 74.63±1.052 | 4.821 | 6.4 |
| On average | 45.59±0.649 | 2.981 | 7.8 |
| Body type | **Corpulent (n=12)** | | |
| At birth | 4.52±0.072++ | 0.239 | 5.3 |
| 4 | 35.67±1.015 +++ | 3.366 | 9.4 |
| 8 | 47.42±0.904vv +++ | 2.998 | 6.3 |
| 12 | 58.92±1.540vv +++ | 5.107 | 8.6 |
| 16 | 78.34±1.235vvv +++ | 4.097 | 5.2 |
| 18 | 84.67±0.965vv +++ | 3.200 | 3.8 |
| On average | 51.59±0.955 | 3.17 | 6.4 |

The obtained data indicate that both single ram lambs and twin ram lambs had differences in body weight depending on the body type of the ewes. The smallest body weight was the offspring obtained from the ewes of the slender type, and the largest – of the corpulent and strong body types. Thus, at the birth of twin lambs, the offspring of ewes with a strong body type prevailed according to this indicator of their peers obtained from ewes of the slender type by 0.88 kg or 21.5% (P>0.999), of the corpulent type by 0.45 kg or 9.9% (P>0.95). At the age of 4 months, the difference between them remained and amounted to 8.8 kg or 29.5% (P>0.999) compared to the same-age offspring obtained from ewes of a slender body type, and in relation to offspring obtained from ewes of a corpulent body type - 2.95 kg or 8.3 % (P>0.999). At the age of 8 months twin ram lambs, the offspring of strong-type ewes had a higher body weight than peers obtained from slender-type ewes by 0.84 kg or 1.9%, but this advantage was statistically improbable (P<0.95). At the same time, they gave ground to peers obtained from ewes with a corpulent body type by 3.67 kg or 8.4% (P>0.99). In the later age periods, the advantage in terms of body weight was in ram lambs obtained from ewes of a corpulent body type, which was compared to peers obtained from ewes of a strong type at the age of 12, 16 and 18 months. respectively: 5.8 kg or 10.92% (P>0.99); 13.34 kg or 20.52% (P>0.999); 5.63 kg or 7.12% (P>0.99), and in relation to peers from ewes of

the slender type: 8.1 kg or 15.94% (P>0.999); 9.92 kg or 14.50% (P>0.999); 7.17 kg or 9.25% (P>0.999). Therefore, the obtained results indicate the positive influence of genetic factors, in particular the body type, on the further development of the meat qualities of the offspring obtained by simple industrial crossing.

The body weight of ram lambs in the process of their ontogenesis was influenced by many factors, including the type of their birth, as the data in Table 3 shows.

*Table 3*

**Age changes in body weight of ram lambs depending the type of the type of birth and body type of ewes**

| Indicator | Type of birth | | | | ± singles and twins | |
|---|---|---|---|---|---|---|
| | n | singles | n | twins | kg | % |
| Age, months | At birth | | | | | |
| Strong | 27 | 6.22±0.122*** | 16 | 4.97±0.171 | 1.3 | 25.15 |
| Slender | 19 | 4.92±0.260** | 22 | 4.09±0.130 | 0.83 | 20.29 |
| Corpulent | 20 | 5.63±0.201*** | 12 | 4.52±0.072 | 1.11 | 24.56 |
| Age, months | 4 | | | | | |
| Strong | 27 | 43.41±0.519*** | 16 | 38.62±0.506 | 4.79 | 12.40 |
| Slender | 19 | 36.31±1.482*** | 22 | 29.82±0.537 | 6.49 | 21.76 |
| Corpulent | 20 | 54.95±1.123*** | 12 | 35.67±1.015 | 19.28 | 54.05 |
| Age, months | 8 | | | | | |
| Strong | 27 | 49.41±0.459*** | 16 | 43.75±0.709 | 5.66 | 12.94 |
| Slender | 19 | 43.42±1.136 | 22 | 42.91±0.456 | 0.51 | 1.19 |
| Corpulent | 20 | 58.70±1.227*** | 12 | 47.42±0.904 | 11.28 | 23.79 |
| Age, months | 12 | | | | | |
| Strong | 27 | 61.44±1.133*** | 16 | 53.12±0.631 | 8.32 | 15.66 |
| Slender | 19 | 57.89±1.088*** | 22 | 50.82±0.645 | 7.07 | 13.91 |
| Corpulent | 20 | 75.70±1.387*** | 12 | 58.92±1.540 | 16.78 | 28.48 |
| Age, months | 16 | | | | | |
| Strong | 27 | 72.41±1.080*** | 16 | 65.00±1.313 | 7.41 | 11.40 |
| Slender | 19 | 70.59±1.145 | 22 | 68.42±1.332 | 2.17 | 3.17 |
| Corpulent | 20 | 82.80±1.695*** | 12 | 78.34±1.235 | 4.46 | 5.69 |
| Age, months | 18 | | | | | |
| Strong | 27 | 80.00±1.155 | 16 | 79.04±1.735 | 0.96 | 1.21 |
| Slender | 19 | 77.50±0.796* | 22 | 74.63±1.052 | 2.87 | 3.84 |
| Corpulent | 20 | 91.15±1.548** | 12 | 84.67±0.965 | 6.48 | 7.65 |

*Note: * - P>0.95; ** - P>0.99; *** - P>0.999;*
*Probability of the difference between the indicators of single and twin ram lambs of each body type.*

As experimental data shows, the advantage in terms of body weight of single ram lambs obtained from ewes of all body types over twins of the same age was observed throughout the entire period of their growth from birth to the age of 18 months, but with varying degrees of significance. The biggest difference according to this indicator was in ram lambs obtained from ewes of corpulent type compared to the peers obtained from ewes of strong and slender body types. So, at birth, single ram lambs prevailed over twins of the same age with a high degree of probability: strong type – by 1.3 kg or 25.15%, corpulent type – by 1.11 kg or 24.56% (P>0.999), slender type – by 0.83 kg or 20.29% (P>0.99). Thus, single ram lambs obtained from ewes of strong body

type had an advantage compared to their peers from ewes of slender type by 0.47 kg or 56.6%, corpulent type – by 0.19 kg or 17.12%.

As the ram lambs of various birth types grew, so did their body weight. In particular, the difference according to this indicator between single lamb rams and twins increased at the age of 12 months and was 8.32 kg or 15.66% in the same age group, obtained from ewes of a strong type, a slender type - 7.07 kg or 13.91%, and a corpulent type - 16.78 kg or 28.48% (P>0.999 in all cases of comparison).

In the subsequent age periods of growth of ram lambs of different birth types, the intensity of the formation of body weight slowed down somewhat, which led to a decrease in the discrepancy between singles and twins according to this indicator. At the age of 18 months, single ram lambs had a higher body weight than twins: of the strong body type by 0.96 kg or 1.21%, of the slender type by 2.87 kg or 3.84% (P>0.95), of the corpulent type by 6.48 kg or 7.65% (P>0.99).

The data on the dynamics of the body weight of crossbred rams, obtained from the industrial crossing of ewes of the AMO breed with breeding rams of the ME breed, are consistent with the biological patterns of individual development of sheep in the age aspect, which is important for increasing the economic efficiency of the sheep farming industry. Taking into account the increased demand for lamb, ram lambs can be raised for slaughter to obtain lamb from the age of 4 months by saving costs for their feeding and growing to an older age of realization, which will contribute to increasing the economic efficiency of the sheep farming industry.

Therefore, the studies show that in the conditions of the forest-steppe zone of the southern region of Ukraine, commercial crossing of ewes of the AMO breed with breeder rams of the ME breed has a positive effect on increasing the body weight of the resulting crossbred lambs. The body type of the ewes also has a certain influence on the growth of the body weight of the offspring. Taking into account the importance of the meat sector in sheep farming in modern conditions, it is advisable to continue such research.

**Discussion.** The obtained research results demonstrate that $F_q$ ram lambs (singles and twins), obtained from the industrial crossing of ewes of the Askaniysky semi-fine-wool meat-wool breed with crossbred wool of the Odesa inbred type with Merinolandschaf rams, have differences in body weight depending on the body type of the ewes. The largest body weight is characteristic of ram lambs obtained from ewes of corpulent and strong body types, and the smallest – of the slender type. This indicates the probable influence of this genetic factor on the future development of meat qualities of ram lambs obtained from ewes of different body types, which is consistent with reports (Zharuk, P. H., 2021; Danylova O., 2019, etc.).

Body weight of lambs in the process of their ontogenesis is influenced by many factors, including the type of their birth. Single ram lambs outnumbered twins of the same age during the entire period of their growth from birth to the age of 18 months, but with varying degrees of significance. The greatest difference was found in the offspring of ewes of corpulent type compared to peers obtained from ewes of strong and slender body types. Therefore, the studies prove that industrial crossing of AMO ewes with ME rams has a positive effect and contributes to the development of future meat qualities of the offspring.

**Conclusions**

1. Industrial crossing of ewes of the Askaniysky semi-fine-wool meat-wool breed with crossbred wool of the Odesa inbred type with breeding rams of the Merinolandschaf breed contributes to increasing the efficiency of the sheep farming industry by increasing the body weight of slaughtered lambs.

2. Ram lambs (AMOxME) $F_1$ at all age periods of growth from birth to 18 months old had a high body weight. At birth, the offspring of ewes with a strong body type had the largest body weight. In single ram lambs, this advantage over the offspring of slender body type was 1.3 kg (P>0.999), corpulent type – 0.59 kg (P>0.95) and, accordingly, in twin ram lambs: over the offspring of ewes of slender type – 0.88 kg (P>0.999), corpulent body type – 0.45 kg (P>0.95),

3. The advantage of single ram lambs, the offspring of ewes with a strong body type, compared to the offspring of ewes of a slender type, was up to the age of 1 month, and with the offspring of ewes of a corpulent type, up to the age of 4 months. Probably, it is P>0.99. In terms of body weight, the offspring of corpulent-type ewes exceeded their peers, the offspring of strong-type ewes from 4 to 18 months of age by 9.29-14.26 kg, and the offspring of slender-type ewes by 12.21-18.64 kg.

4. At birth, twin ram lambs, the offspring of ewes with a strong body type, had the highest body weight and exceeded their peers, the offspring of ewes with a slender body type, by 0.88 kg (P>0.999), corpulent type - by 0.45 kg (P>0 ,95). The offspring of ewes with a strong body type compared to the offspring of ewes with a slender type at the age of 4 months had a higher body weight by 8.8 kg (P>0.999), at the age of 12 months – by 2.3 kg (P>0.95), 18 months – by 4.41 kg (P>0.95). At the age of 16 months, the twin ram lambs, offspring of ewes of strong type were incredibly inferior to the offspring of ewes of slender type by 3.42 kg. Twin ram lambs, offspring of ewes with a corpulent body type, from birth to 18 months old, prevailed over the offspring of a slender type in all periods of growth from 4.51 to 10.04 kg (P>0.999).

5. Single ram lambs, offspring of ewes of different body types, in terms of body weight prevailed over twin ram lambs with the greatest advantage in the offspring of corpulent-type ewes, except at birth, when the offspring of strong-type ewes had a greater advantage.

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