

мөлшерінің артуы болып табылады. Қазіргі заманғы азық базасы жануарларды толыққанды және теңгерімді азықтандыруды ұйымдастыруға мүмкіндік бермейді, бұл мал өнімділігінің генетикалық әлеуетін тек 40-60% - ға пайдалануға әкеп соғады.

Мақалада май өңдеудің экструдталған қалдықтарынан жемшөп қоспасын қосу арқылы жануарларды тамақтандыру рационын теңдестіруге мүмкіндік беретін зерттеулердің нәтижелері келтірілген. Зерттелген зығыр қалдықтарының химиялық құрамында 21,7% - ға дейін ақуыз, 32,4% - ға дейін шикі май бар деп айтуға болады, оны сүт өнімділігін арттыру үшін жануарларды тамақтандыру рационында қолдануға болады.

РЕЗЮМЕ

Важнейшим условием повышения продуктивности сельскохозяйственных животных, реализации их генетического потенциала, сохранения здоровья и получения высококачественной продукции животноводства считается создание прочной кормовой базы, позволяющей сбалансировать рационы по основным питательным, минеральным и биологически активным веществам. Одной из актуальных проблем в сельском хозяйстве является большое количество не утилизированных отходов масличных культур, а в молочном скотоводстве – повышение содержания жира и белка в молоке. Современная кормовая база не позволяет организовать полноценное и сбалансированное кормление животных, что влечет за собой использование генетического потенциала продуктивности скота только на 40-60%.

В статье изложены результаты проведенных исследований, которые позволили сбалансировать рацион кормления животных с добавлением кормовой добавки из экструдированных отходов масличной подработки. Можно сказать, что в химическом составе исследованных отходов льна отметили достаточное количество протеина до 21,7%, сырого жира до 32,4%, которое можно использовать в рационах кормления животных для повышения молочной продуктивности.

УДК 636.32/38:675.5

МРНТИ 68.39.19.68.39.31

DOI 10.56339/2305-9397-2022-2-2-52-59

Irzagaliyev K., doctor of Agricultural Sciences, Associate Professor, Senior Lecturer, **the main author**, <https://orcid.org/0000-0003-3553-5307>

Atyrau University named after H. Dosmukhamedov, Atyrau, E-mail: kosybek@inbox.ru

Davletova A., master of Agricultural Sciences, <https://orcid.org/0000-0002-3178-3277>

NJSC «West Kazakhstan Agrarian and Technical University named after Zhangir khan», Uralsk, st. Zhangir khan 51, 090009, Kazakhstan, DavletovaAinura@mail.ru

Abdrakhmanov R., master of veterinary science. <https://orcid.org/0000-0003-3310-7691>

NJSC «West Kazakhstan Agrarian and Technical University named after Zhangir khan», Uralsk, st. Zhangir khan 51, 090009, Kazakhstan, abdrakhman_r@mail.ru

Kalieva A., master, senior lecturer, <https://orcid.org/0000-0001-7966-2821>

Atyrau University named after H. Dosmukhamedov, Atyrau, Maxf79@mail.ru

Sultanov C., candidate of Agricultural Sciences, <https://orcid.org/0000-0002-0900-2665>

Director of the Kurmangazy breeding plant sabyrzhan_sultanov@list.ru

RESULTS OF COMPARATIVE SLAUGHTER INDICATORS OF EDILBAY SHEEP BREED

ANNOTATION

Sheep of edilbay breed and type with whitt and light-grey wool raised in “Suyindyk” and “Kurmangazy” stud farms in Atyrau oblast are characterized with high slaughter and meat qualities that are attributes of the best breeds of the fat-rumped sheep for meat-fat production. It is determined that in 4-4.5 and 16 months old ram lambs live weight right before slaughter, carcass weight with rump and dressing weight were $\frac{1}{3}$ and $\frac{3}{4}$ of the one in adult rams respectively. This is evidence of fast maturing of young animals of the named breed and type. It was also determined that outcome of the carcass's flash in young animals in the above mentioned groups increases with the age while outcome of the bones and tendons reduces. These indicators at 4-4.5 months of age were 80.0-80.5 and

19.5-20.0%, at 6.5-7 months – 80.3-80.8 and 19.2-19.7%, at 16 months of age – 81.5-81.8 and 18.2-18.5% respectively. It was determined that absolute mass of the muscle tissue increases with the age, at the same time comparative share of the muscle tissue in the carcasses of the ram lambs increases too: these indicators at 4-4.5 months of age were 10.3-11.11 kg and 56.8-57.5%, at 6.5-7 months – 10.94-11.89kg and 56.3-56.7%, at 16 months of age – 19.57-20.90 kg; 59.1-59.4%. Obtained data evidence that fat tissue grows more intensively during the period from 4-4.5 till 6.5-7 months of age while muscle tissue grows more intensively during the further period. It could be concluded that such development of the mentioned tissues in the carcass composition is a characteristic of the fat-rumped sheep adapted to pasture management.

Key words: *edilbay sheep, adult ram, meat productivity, carcass weight, slaughter weight, meat-fat.*

Introduction. Such scientists as A. A. Veniaminov, A. A. Mgilets and others scientists wrote about the needing for the development of precocious sheep breeding of meat productivity on a large scale in their works.

This seems possible, given the fact that today sheep breeding has a huge pedigree gene pool, which is characterized by significant heterogeneity in the severity of individual traits and properties.

Special attention in this direction should be paid to the breeds of the meat-fat direction of productivity, due to their biological and productive features, as well as the geography of the area (southern CIS Republics).

Fat-tailed sheep, regardless of the quality of wool, are outstanding producers of meat and lard. P.N. Kuleshov wrote that in cultured breeds 3/4 or more of the feed consumed goes to the formation of the body's meat content.

Therefore, the greatest attention is paid to the study and improvement of the biological characteristics of fat-tailed sheep, aimed at the predominant development of their meat production.

D. Hammond argues that lamb meat is tender even in the absence of intermuscular fat, since their connective tissue is thinner and softer. English researchers point out that lean meat is currently the most important quality. Meat is in demand by the consumer as a product containing protein, but at the same time it should be tender and juicy.

Academician M.F. Ivanov has definitely shown that the lamb meat of Kazakh fat-tailed breeds in the London market is rated as first-class meat and can compete in quality with the meat of Australian or American lambs.

K.V. Radionov, V.I. Semenov, M.N. Yakovlev, P.F. Kiyatkin, A.G. Nephews, A.T. Beisembekov, A.S. Rashev, S.S. Rakhmanov, K. Irzagaliev wrote about the high quality of the meat of fat-tailed sheep in their works.

According to E. V. Nikitchenko «Selection for growth, stimulates the proliferation of myoblasts and the formation of muscle fibers, which is manifested in meat breeds of sheep», the fibers are thinner, which makes the meat more tender. According to N.P. Roldugina et al., the meat of Edilbaevsky lambs should have outstanding taste qualities (juiciness and tenderness) due to a larger number of fat cells forming clusters between secondary, primary and even inside muscle bundles.

A.G. Nephews writes that the quality of meat also changes significantly with age in young sheep. At the same time, the largest amount of full-fledged proteins is contained in lamb meat during the suckling period, and subsequently their content decreases somewhat.

As the young sheep grow, significant physiological, morphological and chemical transformations occur, which significantly change the nutritional value of mutton: the content of muscle tissue increases, the number of the most valuable cuts increases, the relative content of bones decreases, the caloric content of meat increases, etc.

Documentary data on the origin of sheep of the edilbay breed has not been found. In 1928, the Moscow Zootechnical Institute conducted an expedition survey of fat-tailed sheep breeding, according to the results of which M. F. Ivanov pointed out that edilbay sheep are very similar to kalmyk sheep and, apparently, originated from the crossing of fat-tailed kalmyk sheep with fat-tailed kazakh sheep. Based on such morphological indicators as live weight, wool quality and exterior features I. N. Popov, A. I. Zhanderkin also comes to the conclusion that edilbay sheep are the product of crossing kazakh fat-tailed sheep with kalmyk fat-tailed sheep.

The wool of kalmyk sheep, according to I. N. Popov, is somewhat coarser due to the significant content of awn and greater fiber tone. One of the early types of edilbay sheep had such a coarser coat.

The great similarity in the general features of the physique and coat of these breeds is a serious argument in favor of the assumptions about their close genetic relationship. At the current level of scientific development, this assumption has been confirmed. The data of microsatellite DNA analysis of sheep of various breeds, conducted by Gladyr E. A. et al., indicate a relatively close relationship of sheep of the edilbay and kalmyk kurdyuk breeds. The genetic distance between the breeds, calculated according to Nei (1978), was 0.1148.

Historical facts, according to I. N. Popov, can be a confirmation that the edilbay sheep originated from the crossing of local kazakh fat-tailed sheep with kalmyk ones. During the great jute in 1879, the majority of kazakh cattle breeders of the southern regions of the Ural region migrated south, up to the volga delta, where the kalmyk large, heavy-bodied sheep was bred. This time coincides with the time of the creation of edilbay sheep.

According to another scientist N. A. Popov, the edilbay sheep was created at the end of the XIX century (1880-1899) in the southern districts (Zhanakala, Kaztalov, Furmanov, Zhanibek, Orda) of the West Kazakhstan region as a result of natural selection and folk selection. Their territory is located in a strip of rich pasture and flood hayfields, most of which are located in the watershed of the two steppe rivers Bolshoy and Maly Uzen.

The name edilbay sheep comes from a combination of the kazakh words «edilbay sheeps», which in translation into russian means sheep bred on the Volga coast (the Volga river in kazakh is Edil). The words «edilbay sheeps» when pronounced are very similar to the words «edilbay sheeps». Apparently, the first words eventually lost their shape and the name «edilbay sheeps» became stronger.

There is an assertion that the edilbay sheep are the result of the factory work of experienced sheep breeders of the kazakh tribal group edilbay (hence, allegedly, they got their name), and were created on the basis of local kazakh fat-tailed sheep. The statement has not received strong documentary confirmation, but it cannot be categorically denied, since there were large fat-tailed sheep and other offspring in Kazakhstan.

Back in the 30s of the twentieth century, academician V. A. Balmont divided the entire array of kazakh fat-tailed sheep by height and live weight into large and medium-sized offspring. He considers edilbay, chizhino-solomakhinsky, kustanai, tersakkan to be large and medium-sized: chuisky, karakalpak, zaisan, balkhash, adayev and turkmen-shymkent. The height at the withers and the live weight of adult queens of these offspring ranged, respectively, in the range of 63.3-72.4 cm and 55.6-62.6 kg.

M. I. Morozov described other large offspring of kazakh fat-tailed sheep: baganalinsky and besatinsky (karkaralinsky). Sheep of these offspring were in great demand on the market, because the animals had a large size, their height reached 88 cm. When fattening, the live weight reached 160 kg, the weight of the chicken was more than 16 kg.

According to K. Kanapin, A. Akhatov, only the edilbay offspring remained clean, all other large offspring of kazakh fat-tailed sheep were covered by other breeds. In any case, the southern regions of the Ural region (Dzhangala, Kaztalov, Furmanov, Dzhanibek, Orda) are the homeland of edilbay sheep. They are located in a strip of relatively rich vegetation of pasture and flood hayfields, most of the territory is located on the watersheds of two steppe rivers – the Bolshoy and Maly Uzen.

These areas are located in the southwestern part of the region, which are entirely part of the Caspian lowland. The flat nature of the relief and geographical location of these areas largely determines their climate: hot summers and cold long winters, with frequent and strong blizzards.

Edilbay sheep were created in relatively harsh soil-climatic and fodder conditions. Usually at home, edilbay sheep graze almost year-round in the snowy winters. In dry years and with poor provision of hay, sheep, being on poor pastures in winter, lose 25-30% of their weight, the growth and development of young animals is greatly delayed and after wintering its live weight is almost equal to that which was when beating off queens. However, pastures and hayfields in the homeland of edilbay sheep are quite nutritious, which was one of the determining conditions for their precocity and large size.

In a market economy, one of the most pressing issues is the provision of the population with livestock products, including meat. In solving this problem, a significant role is given to sheep with bristle-tailed tails, increasing their number and increasing productivity.

In Kazakhstan, the share of mutton in the total cost of sheep breeding products is 80-90%, which leads to an increase in the role of sheep breeding and, accordingly, attention to its development.

In a market economy, the genetic potential of meat production of tailed sheep is in demand [1. 2].

Cities and large settlements have a priority year-round, as well as to provide foreign markets with mutton and to meet the needs of the industry in raw materials, meat and fat sheep [3].

As meat is the main source of income for fat-tailed sheep, significant work has been done in Kazakhstan to form and increase the meat productivity of lambs and young calves [4-6].

At the age of 5-6 months, the growth of lambs slows down and sometimes even stops. It is known that at this stage the body of lambs undergoes structural changes only due to the transition to a larger diet [7-10].

In the study of the production of bristled sheep, it is known that healthy twin lambs are smaller than single-breasted lambs and grow more slowly. And if they are well cared for from 3-4 months, at 18 months they will be the same as their peers [11].

Agricultural lands with fodder reserves, which make up more than 68% of the country's vast natural pastures, are suitable for sheep breeding. It should be noted that desert and semi-desert pastures are best used by camels, caracols and tailed sheep [12].

In terms of economic efficiency in the desert, semi-desert and arid regions of the Republic of Kazakhstan, the role of meat and fat sheep in the production of sheep products is special. As a result of the biological properties of tailed sheep, it is possible to rationally use low-fertility, low-grass pastures and produce mutton at low cost [13-14].

Such pastures make up 70% of the agricultural land of Atyrau region. Tail sheep bred in the region have a strong physique, are prone to local conditions, in harsh conditions of nature in the desert, in low-grass areas, use dry pastures. Not to mention the differences in the quality of products of sheep in this region, they also differ significantly in the color and live weight of meat and fat products and wool, as well as in the wool produced (produced) [15].

In the territory of Kurmangazy district mainly edilbay breed of one type of Kazakh tailed sheep is bred.

These sheep were obtained from the hybridization of Edilbay rams brought from zhanakala district of West Kazakhstan region to the tempting branch of local kazakh tailed sheep. In Kazakh tailed sheep bred on the private farms of the local population, you can find sheep with colored wool only from the beginning, head and sometimes up to the neck, and white wool with the rest of the body.

Edilbay sheep bred in Atyrau region are of average physical condition and have a slightly lower maturity than edilbay sheep bred in Western Kazakhstan [16-21].

Materials and methods. In order to study the slaughter and meat properties of edilbay sheep in the Atyrau region, control slaughter of calves at each stage was carried out in the production cooperatives «Suindik, Makash» (table 1). The subjects of the study were the tail type of sheep, the Makash sheep and the Kurmangazy white sheep.

The resulting offspring were kept in the same herd under the same conditions of feeding and care. Meat productivity and meat quality were studied by slaughtering male lambs and lambs at each stage to control 3 heads from each group. During slaughter, carcass and tail weight, carcass weight and yield, carcass morphological composition, carcass coefficients were determined by VIJ method.

Research results. The average carcass weight of male lambs of the suyindyk plant type at the age of 4-4.5 months was 19.75 kg. 7.1 ($P > 0.95$)% more, and at 6.5-7 months these figures are respectively 21.43 kg, 3.4; 7.8 ($P > 0.95$)%, at 16 months - 35.78 kg, 3.0; showed 6.5 ($P > 0.95$)%.

The level of development of the meat properties of sheep was determined by the ratio of the type of meat to the bone and meat [18].

The predominance of calves of the suyund type was determined in the same way by tail, belly fat and slaughter weights.

Makash sheep and kurmangazy plant-type lambs were basically at the same level in terms of slaughter. This suggests that the meat and slaughtering properties of white-wool edilbay sheep are not inferior to others.

According to K. Kanapin [17], the share of fat in the carcass is due to a decrease in muscle mass. Carcass weight and slaughter weight of lambs at the age of 4-4.5 months were much higher than 1/3 of such slaughter rates of adult rams: 38.0-43.1 and 35.7-39.6%, respectively.

This indicates that the growth rate of ewes during lactation is very high. Slaughter weight and tail weight of male lambs at 6.5-7 months are 38.5-43.3, respectively, compared to the level of adult rams; 38.7-43.4; 36.1-50.0%, at 16 months - 64.8-72.3; 65.2-72.6; 62.5-78.1%.

It can also be concluded that the pre-slaughter, carcass, slaughter and tail weights of edibay ewes at 4-4.5 months of age were more than 1/3 of the slaughter rates of adult rams, and at 16 months of age it was about $\frac{3}{4}$.

The carcass consumption of carcasses of edibay and akkarabas in different factory herds showed that the consumption of meat increases as they grow, and the proportion of bones and tendons, on the contrary, decreases. Such indicators are 80.0-80.5 and 19.5-20.0%, respectively, in 4-4.5 months of lambs, 80.3-80.8 and 19.2-19.7% in 6.5-7 months, respectively.

During the 16-month period - 81.5-81.8 and 18.2-18.5%. Among the study groups, the highest grade of meat-bone ratio was the lamb of the plant type. The level of this indicator in this group at the slaughter period of 4-4.5 months was 4.4, at 6.5-7 months - 4.5, at 16 months - 4.7.

The average value of this indicator is 4.3; 4.4; 4.7 ewes were described. According to the above results, the quality of meat and bone ratios in the carcasses of lambs of edibay sheep increases with age. That is, as you grow older, a piece of meat grows faster than a piece of bone.

The absolute amount of adipose tissue in the carcasses of male lambs increases with age, reaching 4.2-4.4 kg at 4-4.5 months, 4.6-5.0 and 7.4-7 at 6.5-7 and 16 months, respectively., Up to 8 kg. The proportion of adipose tissue at the stated age is 22.9-23.2; ranges from 24.0 to 24.1 and 22.3 to 22.4%.

As can be seen from the above results, there are not many differences between the study groups in terms of the specific weight of fat loss at certain age groups. It was found that the amount of muscle in the carcass of lambs also increases with age, and the relative weight of the muscle is generally higher: 10.3-11.1 kg at 4-4.5 months; 56.8-57.5%; at the age of 6.5-7 months - 10.9-11.8 kg; 56.3-56.7%; At 16 months - from 19.5 to 20.90%.

The large amount of carcass in the muscle tissue has always been characteristic of calves of the suind type, the average size of calves: respectively 11.11 kg; 11.8 kg; 20.90 kg and 10.6; 11.5; 20.2 kg.

A similar pattern was observed in the proportion of muscle in the carcass. The weight of adipose tissue in the carcasses of male lambs is 1.11-1.14 times in 6.5-7 months compared to the age of 4-4.5 months, 1.7-1.79 n 16 months, and 1.07 in muscle. -1.08 and 1.88-1.90, bone tissue - 1.06-1.07 and 1.70-1.73.

The data showed that the carcasses develop mainly rapidly between the ages of 4-4.5 and 6.5-7 months. It was found that muscle and bone tissue develop at approximately the same rate between 4-4.5 and 6.5-7 months.

The degree of improvement in meat productivity of animals is assessed by increasing the value of muscle-bone ratio in the carcass [18].

This figure is 3.0-3.1 when calves are deprived of their mothers; at 6.5-7 months it was in the range of 3.0-3.1, and at 16 months it increased to 3.4.

It was found that the musculoskeletal system of edibay sheep calves is stable at the period from weaning to 6.5-7 months, regardless of their level of fatness. The increase in the number of lambs for a period of 16 months is explained by the rapid growth of muscle tissue in this period compared to bone tissue: 188.1-190.0 and 169.9-172.7%, respectively.

The moisture content of carcasses at the time of weaning of male lambs, depending on the group of sheep in the study, was 63.52-63.80%, the fat content was 18.8-19.2%, at 6.5-7 months - 63.02-63.32 and 19, respectively. 52-19.92%, at 16 months - 62.1-62.3 and 20.87-21.12%. There were no significant differences in protein and ash content between the groups studied and at comparable ages, ranging from 15.89 to 16.48 and 0.87 to 0.91.

It was found that the energy digestion of lamb meat increases with age in animals: this figure is 11.3-11.4 MJ at the time of weaning, at 6.5-7 months - 11.5-11.6 MJ and at 16 months - 12.0- Was 12.1 mJ.

Lambs of the suindik type differed from their peers in other research groups by several higher levels. The 1: 1 ratio of fat and protein in meat is considered to be characteristic of meat with the most favorable biological value [19-21].

In other words, the quality of meat in the carcasses of lambs of edibay sheep satisfies this level of demand at all ages, especially in the case of weaned lambs with the most favorable level of this indicator - 1.14-1.18.

Table 1 – Slaughter rates of different types of edilbay sheep

Indicators	Age of calves, months			Adult ram
	4-4.5	6.5-7	16	
Suindik type				
n	3	3	3	1
Pre-slaughter weight, kg	37.4 ± 0.46	41.2 ± 0.60	68.2 ± 0.84	88.0
Carcass weight (with tail), kg	19.75 ± 0.26	21.43 ± 0.32	35.78 ± 0.44	49.9
Airfare,%	52.8	52.0	52.5	56.7
Tail weight, kg	3.0 ± 0.12	3.2 ± 0.14	5.0 ± 0.18	6.4
Belly fat weight, kg	0.22 ± 0.06	0.24 ± 0.08	0.30 ± 0.10	0.60
Loss of abdominal fat,%	0.6	0.6	0.4	0.7
Slaughter weight, kg	19.97 ± 0.36	21.67 ± 0.40	36.08 ± 0.48	50.5
Slaughter cost,%	53.4	52.6	52.9	57.4
Edilbay sheep of makash farm				
n	3	3	3	1
Pre-slaughter weight, kg	36.2 ± 0.44	40.0 ± 0.60	66.4 ± 0.82	84
Carcass weight (with tail), kg	18.90 ± 0.22	20.73 ± 0.30	34.72 ± 0.42	48.0
Airfare,%	52.2	51.8	52.3	57.1
Tail weight, kg	2.8 ± 0.10	3.0 ± 0.12	4.7 ± 0.18	6.30
Belly fat weight, kg	0.20 ± 0.04	0.23 ± 0.08	0.27 ± 0.08	0.16
Loss of abdominal fat,%	0.5	0.6	0.4	0.2
Slaughter weight, kg	19.10 ± 0.34	20.96 ± 0.38	34.99 ± 0.46	48.16
Slaughter cost,%	52.7	52.4	52.7	57.3
Edilbay sheep akkarabas				
n	3	3	3	1
Pre-slaughter weight, kg	35.0 ± 0.42	38.4 ± 0.56	64.4 ± 0.80	92
Carcass weight (with tail), kg	18.44 ± 0.24	19.88 ± 0.28	33.59 ± 0.42	51.8
Airfare,%	52.7	51.8	52.2	56.3
Tail weight, kg	2.16 ± 0.08	2.6 ± 0.10	4.5 ± 0.16	7.2
Belly fat weight, kg	0.16 ± 0.04	0.20 ± 0.06	0.35 ± 0.10	0.25
Loss of abdominal fat,%	0.4	0.5	0.5	0.3
Slaughter weight, kg	18.6 ± 0.34	20.08 ± 0.36	33.94 ± 0.46	52.05
Slaughter cost,%	53.1	52.3	52.7	56.6

Research results in conclusion, the offspring of different breeds of edilbay sheep bred in the Atyrau region are characterized by high levels of meat and fat productivity and meat properties, which are characteristic of the most significant breeds of sheep in the country.

REFERENCES

- 1 Kanapin K. Edilbaevskaya sheep./ K. Kanapin // Almaty, 2009.– 184 p. Selection of fat-tailed coarse-haired sheep with bleached wool/K. Kanapin, A. Akhatov, K. Esengaliyev//Sheep breeding. –1989. – № 6. – S. 29-31.
- 2 Davletova A.M. Productive qualities of fat-tailed sheep of the West Kazakhstan region/ Davletova A.M., D.B. Orenburg. – 2020. – № 2 (82). – P.267-271.
- 3 Slaughter and meat indicators of lambs of the Edilbaev breed and Edilbai-Gissar hybrids/ A.A. Alekseeva, T.A. Magomadov, Yu.A. Yuldashbaev // Chief livestock specialist. – 2018. – №7 – S. 32-37.
- 4 Ataibekov B.Y. Productive qualities of breeding rams of fat-tailed coarse-haired breeds in the conditions of the South-East of Kazakhstan / B.Y. Ataibekov // Higher School of Kazakhstan. – 2019.–№4. –P.222-225
- 5 Davletova A.M. Feeding and meat qualities of young sheep of the Edilbay breed with

different selection by live weight / Davletova A.M., Traisov B.B., Yuldashbaev Yu.A., Yesengaliyev K.G., Gubina A.V. // Sheep, goats and woolen business, Moscow. – 2021. – №4. – S. 30-33.

6 Erokhin A.I. On the age of sheep at slaughter / A.I. Erokhin, E.A. Karasev, S.A. Erokhin// Sheep, goats, woolen business. – 2016. – №3. – P.40-43

7 Esengaliyev K.G. Constitutionally productive types of sheep the edilbay breed/ K.G. Esengaliyev, A.M. Davletova// Science and education, ZKATU named after Zhangir Khan, Uralsk. - 2018. – №. 1 (50). – P.31-33.

8 Meat qualities of lambs of the Edilbaev breed / V.I. Kosilov, F.M. Radjabov, Z.A. Galieva., A.M. Davletova //Kishovar, Z-A (84) Dushanbe. –2019. – S. 168-172.

9 Edilbaevskaya breed - the trend of sheep breeding in West Kazakhstan/D.B. Smagulov, A.M. Davletova, A.K. Arystanova// Engineering sciences: problems and solutions. Mater. XXVIII int. scientific-practical. Conf.: - Moscow: Internauka. – 2019. – №10 (26). – S. 29-32.

10 Edilbay sheep of different genotypes of Western Kazakhstan / B.B. Traisov, Yu.A. Yuldashbaev, D.B. Smagulov and others // Sheep, goats and woolen business, Moscow. – 2018. – №1. – S. 17-19.

11 Yuldashbaev Yu.A. Prospects for the development of meat sheep breeding in Russia on the example of the Edilbaev breed of sheep / Yu.A. Yuldashbaev, A.A. Alekseeva//Scientific and practical journal «Science». –2016. – №4. –S.8-10.

12 Edwina, Campos, Jorge Cuellar, Filipe Pereira. The genetic diversity and phylogeography of Mexican domestic sheep Small Ruminant Research /Edwina Campos, Jorge Cuéllar, Filipe Pereira// Volume 187. – 2020. –P.106-109

13 Characteristics of autochthonous breeds of russia and kazakhstan by micronuclear test /Marzanov.N. Marzanova, S, Baitlessov. Y, Bozymova, A, Davletova A // Periodico tche quimica. – Volume 17. – Numero 34 – 2020 ISSN 2179-0302. P.181-187.

14 Molchanov A.V., Sazonova.S.O., Kozin. A.N. The effect of feed additives enriched with essential microelements on the growth and meat productivity of lambs of the Edilbaev breed // Sheep, goats, woolen business. –2020.– №3.– 2020.– P.36-38.

15 Maslovskaya N.A., Zinchenko, I.O. The use of the Edilbaevskaya breed is a way to increase the meat productivity of sheep // Achievements and prospects in the field of production and processing of agricultural products: materials of the national scientific and practical conference. - BSAU named after V.Ya. Gorina.December 10, 2020.

16 Irzagaliyev, K.S. Productive qualities of edilbay breeds of sheep / K.S. Irzagaliyev, M.K. Kusanov // Vestnik s.kh. science of Kazakhstan. – 2000. – №9. – P. 9-10

17 Kanapin K A. New type of fat-tailed coarse-wooled sheep with white wool //Kazakhstan Respublikasy agroonerkasip kesheni salalarynan zhai-kuyi men orkendetu keleshegi. Khalykaralyk gylymi-practical conference materialdary / K. Kanapin, K. Irzagaliyev, E. Abdoshev//Almaty: Bastau. -2006. –B. 119-121

18 Magomadov, T.A., Dvalishvili, V.G., Erokhin, A.I., Yuldashbaev, Yu.A., Amerkhanov, Kh.A., Gishlarkaev, E.I., Karasev E.A., Milchevsky V.D. , Khataev, S.A. The meat content of sheep of the Edilbaev breed depending on the level of feeding // Sheep, goats, woolen business. – 2020. –№2.–P.25-29

19 Muratova, V.V., Molchanov, A.V. Meat qualities and optimization of slaughter of lambs of the Edilbaev breed depending on their pre-slaughter mass. Agrarian scientific journal. – 2019.–№5. –S.60-65.

20 Kirichenko, I.S. Slaughter qualities of lambs of the Edilbaev breed at different ages// Contribution of young scientists to agrarian science. Materials intl. scientific practice conf.. 2019. Ed. SSAU, Kinel.

21 Kosilov, V.I. Nutritional value of sheep meat of different genotypes/V.I. Kosilov, E.A. Nikonova, B.B. Traisov and others // «Sheep, goats, woolen business». – 2018. –№3. – P. 25-26.

ТҮЙІН

Атырау облысының «Сүйіндік» ӨК, «Мақаш» және «Құрманғазы» атындағы асыл тұқымды мал зауыттарының табындарында өсірілетін еділбай тұқымды қойлар етті-майлы

өнімділік бағытындағы қылшық жүнді қойлардың үздік тұқымына тән жоғары сою және ет сапасымен сипатталады. 4-4, 5 ай екендігі анықталды. сояр алдындағы тірі салмағы, ұшаның құйрығымен салмағы және сойыс салмағы $1/3$ – тен асады, ал 16 айлық кезеңде-ересек қошқарлардың $3/4$ деңгейінде, бұл жас Еділбай қойларының ерте жетілгендігін көрсетеді. Сондай-ақ, зерттелген топтардың жас малдарындағы қаңқаның шығуы жасына қарай артып, сүйектер мен сіңірлер, керісінше, төмендейтіні анықталды. Бұл көрсеткіштер 4-4,5 айлық жаста кесу кезінде тиісінше 80,0-80,5 және 19,5-20,0%, 6,5-7 айлық – 80,3-80,8 және 19,2-19,7%, 16 айлық – 81,5-81,8 және 18,2-18,5% шегінде ауытқиды.

Бұлшықет тінінің абсолютті массасы жасына қарай артады, ал қозылардың қаңқасындағы бұлшықет тінінің салыстырмалы үлесі артады: бұл көрсеткіштер 4-4, 5 ай. 10,3-11,11 кг; 56,8-57,5%; 6,5-7 айда – 10,94-11,89 кг; 56,3-56,7%; 16 айда – 19,57-20,90 кг; 59,1-59,4%.

Алынған мәліметтер 6-45 айдан 6,5 – 7 айға дейін куәландырады. Жас мөлшері қойдың қаңқаларында негізінен майлы тін қарқынды өседі, ал келесі кезеңде 16 айға дейін. бұлшықет тінінің жасы 4,5-тен 6,5-7 айға дейін анықталады. Бұлшықет пен сүйек тіндерінің өсуі шамамен бірдей қарқындылықпен жүреді. Қаңқаның құрамындағы аталған тіндердің мұндай дамуы жайылымға бейімделген құйрықты қойларға тән деп қорытынды жасауға болады.

РЕЗЮМЕ

Овцы эдилбайской породы, разводимые в стадах племязаводов ПК «Суиндикский», ПК «Макаш» и имени Курмангазы Атырауской области, характеризуются высокими убойными и мясными качествами, свойственными лучшим породам грубошерстных овец мясо-сального направления продуктивности. Установлено, что у 4-4,5 мес. баранчиков при отбивке предубойная живая масса, масса туши с курдюком и убойная масса составляют более $1/3$, а у 16 месячных – примерно на уровне $3/4$ показателей взрослых баранов, что говорит о высокой скороспелости молодняка эдилбайских овец. Установлено также, что выход мякоти туши у молодняка исследуемых групп с возрастом повышается, а костей и сухожилий, наоборот, снижается. Эти показатели в 4-4,5 месячном возрасте при отбивке колеблются соответственно в пределах 80,0-80,5 и 19,5-20,0%, в 6,5-7 месячном – 80,3-80,8 и 19,2-19,7%, в 16 месячном – 81,5-81,8 и 18,2-18,5%.

Установлено, что абсолютная масса мышечной ткани с возрастом увеличивается, при этом возрастает и сравнительная доля мышечной ткани в туше баранчиков: эти показатели в 4-4,5 мес. возрасте составляют соответственно 10,3-11,11 кг; 56,8-57,5%; в 6,5-7 месяцев – 10,94-11,89 кг; 56,3-56,7%; в 16 месяцев – 19,57-20,90 кг; 59,1-59,4%. Полученные данные свидетельствуют о том, что в период с 4-45 до 6,5 – 7 мес. Возрастов в тушах баранчиков, в основном, более интенсивно растет жировая ткань, а в последующий период до 16 мес. возраста мышечная ткань. Определено, что в период с 4,5 до 6,5-7 мес. Возрастов рост мышечной и костной тканей происходит примерно с одинаковой интенсивностью. Можно заключить, что такое развитие названных тканей в составе туши свойственно курдючным овцам, приспособленным к пастбищному содержанию.

УДК 636.06:636.32/.38

МРНТИ 68.39.31

DOI 10.56339/2305-9397-2022-2-2-59-68

Ибадуллаева А., магистр технических наук, **основной автор**, <https://orcid.org/0000-0003-2955-4034>

НАО «Казахский национальный аграрный исследовательский университет», г.Алматы, проспект Абая, 8, 050010, Казахстан, akerke.ibadullayeva@gmail.com

Хамзина А., PhD докторант, магистр технических наук, <https://orcid.org/0000-0003-2211-0377>

НАО «Западно-Казахстанский аграрно-технический университет имени Жангир хана», г. Уральск, ул. Жангир хана, 51, 090009, Казахстан, aigerim.khamzina55@gmail.com

Бейшова И., к.с.-х.н., <https://orcid.org/0000-0001-5293-2190>

НАО «Западно-Казахстанский аграрно-технический университет имени Жангир хана», г. Уральск, ул. Жангир хана, 51, 090009, Казахстан, indira_bei@mail.ru