Exterior Indicators and Meat Productivity of Domestic Sheep Meat-Sebaceous (Edilbaev, Kazakh Fat-Tailed Coarse-Wooled and Kazakh Fat-Tailed Semi-Coarse-Wooled) Breeds

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Abstract: Sheep breeding in Kazakhstan – is the most ancient and well-developed industry of animal husbandry. In the past and now, this was facilitated by the presence of large areas of natural pastures. In addition, sheep and misrepresented the number of highly productive breeds, bred in the years of Soviet power, are perfectly suited for year-round grazing. All the best, accumulated by the experience of the people, is used nowadays. Currently, more than 20 breeding species of sheep are bred in Kazakhstan. Among of them, there are Edilbaev, Kazakh fat-tailed coarse-wooled and Kazakh fat-tailed semi-coarse-wooled breeds [1].

Key words: Sheep breeding · Edilbaev breed · Kazakh fat-tailed coarse-wooled · Semi-coarse wooled · Meat productivity · Meat-sebaceous breed

INTRODUCTION

In the modern market economy indicators of productive efficiency, competitiveness for domestic breeds of sheep in accordance to their quality and international standards should be prioritized. Today, sheep farming has shown an intense growth in the livestock industry. This shows that this industry has great potentials. It consists of forage and large areas of natural pastures. Deep phased study of meat and the quality of sheep in domestic breeds is of great importance. This study includes questions involving sheep fattening and development of evidence-based methods and techniques of selection which improves the quality of mutton, wool and sheep skin.

Constitution; this involves biological stability and adaptability of the animal to the environment where it is bred and reproduced. Its breed features its productivity to some extent and this can be seen on exterior indicators.

Exterior of sheep meat - sebaceous breeds have features that require comprehensive study. Fat-tailed sheep grown in arid and semi-arid zones are characterized by strong constitution, strong bones, large size and long legs.

At the present stage of meat development - greasy sheep breeding is of the greatest economic significance. Its body weight, size and shape of the tail, yield of carcass and more valuable parts of the carcass are also of great economic significance. Therefore the priority of breeders is to improve breeding and productive qualities of fat-tailed sheep. First of all, these basic economic - valuable traits through a targeted selection and individual selection is maintained and its adaptive qualities in the natural habitat together with its feeding conditions in their breeding area are well understood.

This article presents the results of the study of 2012 on meat-grease productivity, growth and development of young domestic sheep breeds that are a fundamental element in raising meat productivity and will help strengthen the economy of sheep farms and reduce the cost of sheep breeding products.

MATERIALS AND METHODS

The material for this work was the herd of Edilbaev, Kazakh fat-tailed coarse-wooled and Kazakh fat-tailed semi-coarse-wooled sheep breeds of interbred (zone) type such as "Bayys" experienced like interbreed of Kazakh

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fat-tailed semi-coarse-wooled sheep breed, approved in 1994 by the Ministry of Agriculture.

Growth and development of the obtained posterity was examined by weighing and taking basic measurements in different age periods. Live weight of the sheep was examined in the following age periods: at birth, at ablactation (3 - 4 months), at the formulation and when removed from feeding or feeding with bonitation (18 months). Adult sheep - producers are weighed in the spring during bonitation and in the autumn before tupping.

Animals of breed herd are weighed without exception. The animals are weighed in the morning before watering and feeding. Precision of weighing at birth and ablactation - 0.1 kg, in other age periods - 0.5 kg.

For characteristics of body forming, seven key measurements are taken including the need for more detailed study of the exterior - much more measurements are taken. For taking measurements we need a measuring tape, measuring range and ready-made notebooks to record taken measurements.

The procedure of taking seven basic measurements is further explained. Animals are placed on a smooth surface without bending the legs, back or head. Then measurements are made with appropriate tools.

Processing of the data is carried out by variation statistics.

Meat-sebaceous productivity has been studied by means of a control of anima slaughter at the age of four months. Pre-slaughter live weight was identified by individual weight of animals after a 24 - hour hunger, weight of doubled carcass without tail fat, fat tail mass, visceral fat mass and weight at slaughter and the output of these products of slaughter. By results of the dissection of chilled carcass without fat tail, that is, separation of flesh from the bones, morphological composition and the carcass beefiness coefficient are established.

Morphological composition of carcasses was determined by dissection of separate kinds and cuts with the release of flesh and bones and then by the total weight of the flesh and the bones in the carcass which was installed. While dissection was done on chilled carcasses their weight was reduced by 200 - 300g.

RESULTS AND DISCUSSION

Sheep are premature animals, puberty occurs at the age of 5-6 months. The average fertility of most breeds of sheep is 120-150%, the maximum - in the Romanov breed - 250-300%. High precocity and unpretentiousness of these animals allow you to recoup the invested funds very quickly. The average daily gain of live weight before churning is 250-300 grams and can reach up to 600 grams per day! By 4 months of age, the live weight of young animals reaches 50% of the live weight of adult animals and by the age of 80-90%.

According to the nature of the coat, the sheep are divided into fine-wooled, semi-fine-wooled, coarse-wooled and half-coarse-wooled [2].

Type	Direction	Breeds
Fine-wooled	Meat-wool	Prekos, Kazakh fine-wool, Dagestan mountain, Kazakh Arharomerinos, Georgian fat-tailed, Vyatka
Semi-fine-wooled	Meat-wool long-haired	Romney-march, Kuibyshev, North Caucasian meat-wool, Tien Shan
	Meat-wool short-haired	Gorkova, Latvian dark-headed, Lithuanian black-headed, Estonian dark-headed and white-headed, German black-headed, Oxfordshire, Suffolk, Hampshire, Shropshire
Coarse-wooled	Meat-sebaceous-wool	*Kazakh fat-tailed coarse-wooled*, Sarajin, Tadjik, Altaic
Semi-coarse-wooled	*Meat-sebaceous*	*Edilbaev, Kazakh fat-tailed semi-coarse-wooled,* Gissar, Jaydar and other fat-tailed breeds
	Sheep-meat	Romanov
	Meat-wool	Kuchugurov, Volosh, Mokhnov, Cherkass, Darvaz

In the framework of this study, we are interested in considering coarse-wooled and half-coarse-wooled meat-sebaceous breeds.

Breeding work in meat-sebaceous fat-tailed sheep breeding should be aimed at improving early ripeness in raising meat-and-salvage qualities of animals, high adaptability to the conditions of their breeding areas, for better utilization and payment of feed for them. Improvement of wool qualities should be carried out without sacrificing basic meat-and-

vegetable productivity and early maturity, as well as high adaptability to local natural and climatic conditions. The principle of large-scale breeding should be based on the principle of large-scale breeding, covering the breed as a whole, with the division of farms and intra-farm divisions according to the level and tasks of pedigree work, the rational creation and use of tribal resources and the application of the most expedient breeding methods, taking into account the intra-breed structure [3].

Meat-sebaceous sheep breeding is the sheep breeding of desert and semi-desert regions of the south, southeast and western regions of the Republic of Kazakhstan. Distinctive feature of sheep meat-sebaceous breeds is good fitness for year-round pasture content in the most extreme conditions. In our country, the share of mutton in the total cost of sheep production is 80-90%, which naturally leads to an increase in the role of meat sheep breeding and, accordingly, attention to the problems of its development. In the conditions of a market economy, the genetic potential of meat production of sheep fattens is in demand. In Kazakhstan, including in the territory of the West Kazakhstan region, they breed the Edilbaev breed and some offspring of Kazakh sheepskin sheep, from which they receive meat with high taste qualities. In meat-sebaceous sheep breeding, the main source of lamb production is growing young. The main indicators of the meat productivity of the Edilbaev meat-sebaceous sheep are slaughter mass and slaughter yield. The meat of 4,5-month-old lambs has sufficient caloric content and is of great value for dietary nutrition. It should be noted that fat in meat 4.5-month-old lambs is less than in adult sheep.

On the basis of the analysis of the results of the research, slaughter of lambs for meat at 4 months of age is considered expedient, since the weight of their carcass conforms to the standards for young mutton. Literary data indicate that with an increased level of feeding, the growth rate of the young grows and the yield of pulp in the carcass rises by 4-7% and the slaughter yield - from 44.79 to 47.84% [4]. Studying the feeding and fattening qualities of Stavropol breeds from 3 to 6 months of age. Rudnev *et al*. [5] found that animals that received fattening green mass and final mixed feed grew more intensively than their counterparts, which were on the foraging without additional fertilizing with concentrates.

Meat productivity of sheep is closely interrelated with the size of body weight and slaughter qualities, which in turn is due to the degree of intensity of body tissue growth that form carcass meat [6, 7]. The issues of increasing the production of meat in the country should be solved by selling flesh to the meat in the year of their birth. Young lamb in its taste qualities and because of its relatively low fat content belongs to the best kinds of meat [8]. It is known that in the life of the body important is the fat tissue, which participates in the body's water metabolism and performs a protective function. In addition, fat is an energy reservoir and is used by the body under adverse environmental conditions [9].

Also, the fat content in the carcass is an important indicator of the quality of the meat, which depends on the breed. These differences are both in places of adipose tissue in animals and directly in the amount of fat [10].

Meat productivity of sheep is characterized by the value of live weight, the yield of carcass, slaughter mass and slaughter yield, the ratio of muscles, fat and bones, the coefficient of meat and other indicators. Lamb differs from the meat of other types of farm animals low in cholesterol: in obese fat it is less than in beef and pork, 2.5 - 4.5 times.

Meat of sheep is also divided into 2 categories. The meat of adult sheep is called lamb and the meat of lambs killed in the year of their birth is lamb. Meat is produced from sheep of all breeds, but sheep of Romanov breed possess the greatest meat productivity. Meat-wool and meat-and-fat animals also have good meat productivity [11].

Farmers, who have long been engaged in sheep breeding, often prefer to see in their household great meat-sebaceous animals, of which in addition you can get a good coat and enough milk. Experienced breeders know that all these indicators are perfectly corresponded by unpretentious Edilbaev breed of sheep. These animals are well adapted to the dry and windy conditions of the wilderness and are able to gorge their fat-tail, even with a poor nutritional diet. Edilbaev breed of sheep is fat-tailed kind of meat-sebaceous direction, whose productivity is high enough. That's why today this breed reaches more and more popularity. They were derived in Kazakhstan, by selecting the most resistant individuals.

Edilbaev sheep, as a breed, have appeared about two hundred years ago, when breeders of people in western Kazakhstan decided to select the best fat-tailed animals and cross them with overall coarse relatives from the Astrakhan land.

Until the XIX century in the steppes of Kazakhstan people were mostly nomadic. Accordingly, the animals were forced to adapt to the nomadic life. This factor has allowed them easily to adapt to transitions over long distances.

Before the mass breeding of Edilbaev sheep, their fat-tailed ancestors grazed on the pastures scarce, often burn out under the scorching sun in the almost desert conditions.

The almost complete absence of water, thermal conditions and constant search for food tempered animals. In succession for Edilbaev fat-tailed sheep, they gave the ability to endure harsh climatic extremes and in spite of the scarcity of nutritious diet fully to grow and provide valuable meat and tallow products.

Edilbaev breed of sheep is notable by its endurance and fast adaptation to the harsh climatic conditions. This is caused by genetics, because their homeland is Kazakhstan and a selective choice when creating this type was sufficiently thorough. Sheep have a rough coat. This type is kept thanks to meat productivity and a special kind of fat. The design of the body of animals is very strong; they have long legs, which allow overtaking the herd over long distances. Body type of Edilbaev sheep is right; the fat tail begins with the first three vertebrae and is very well developed. Edilbaev rams and ewes don't have horns.

Edilbaev breed of sheep and is a fat-tailed. The older the animal is the more developed bag of lard it has. The height of sheep is pretty decent and sometimes is up to 85 cm at the withers. The body length is about 80 centimeters. Chest girth often comes to hundreds of centimeters. Their body type is notable by strength. The rounded shape indicates a good nutritional status. Rams of Edilbaev breed are well fed at a time when, examining them and torso muscles, the farmer is not detectable beneath the ribs. Weight of sheep is 110-120 kg; the record live weight is 160 kilograms. Live weight of Edilbaev sheep is from 70 to 100 kg. Edilbaev sheep are distinguished by their precocity and rapid growth. Lamb birth weight varies from 5 to 6 kg. Until the age of 1.5 years rams already gain 85 kg and sheep – 65 kg. Thanks to the rapid fattening ability daily gain from 200 to 250 grams. These figures show that most of the progress of the growth is in the young age of the animal.

Edilbaev breed of sheep are usually bred to produce meat products and fat of sheep. Besides the mass breeding of these animals (20 goals) can turn to the hard-working farmer with a good profit from the sale of wool and dairy products.

The fertility of ewes is low and in a year they may bring one or two lambs (rarely - three), but the milk yield from 124 liters to 184 liters. After lambing sheep milk should be at least four months. Milk is used for cooking ayran - Kazakh national dairy products, cheese "primchika" and "kurta", as well as oil. Fat content of milk obtained from Edilbaev sheep can range from 3 to 9%.

Still Edilbaev breed of sheep is prized primarily for its meat and fat indicators. Since this breed of sheep belongs to the fat-tailed, it is not surprising that grow up to four months to about 40 kilograms, the animal lay in the back of the body about 4-kg rump. At the same time a good pasture daily average growth of young animals is about 195 grams.

Carcass yield of four-monthly lamb of Edilbaev breed reaches 20-24 kg. Well-fed fat-tailed sheep after slaughter yield up to 40-45 kg and 12-14 kg of fat. In general the slaughter yield is 50-55% [12, 13].

In the meat-sebaceous sheep breeding zone, as a result of prolonged mass breeding with the use of the Edilbaev rams, a large array of improved Kazakh fat-tailed coarse-wooled sheep was formed.

Animals are of a strong constitution, with well-developed skeleton and proportional physique. The head is of medium size, the profile is straight and slightly hunchbacked. Most animals are cloddy. The neck is of medium length, the chest is wide (the withers are sharpened) and deep. The back is straight; the sacrum is wide and somewhat flattened. Kurdyuk is big, medium and smart. Legs are long, strong, correctly set with firm, strong hoofs, adapted for tebenevka and long distance travel.

Wool is with pronounced large and medium braids. The awn is of average thickness and extends considerably above the down. Dry and dead hair is found in a small amount. The coat is brown, red, gray and black, the most desirable - brown, red and gray with early graying of fleece.

The main directions of breeding work are: increasing early maturity, meat-and-fat and wool productivity, increasing the number of sheep of the desired type with clarified wool while maintaining the fortress of the constitution.

Kazakh fat-tailed semi-coarse-wooled breed of sheep, bred in the Central and Western regions of the republic, depending on the method of breeding and the zone of their breeding are divided into three types: Kargalinsk, Aktyubinsk and Baiysk semi-coarse-wooled.

The Karganli type was obtained as a result of crossing the uterus-crossbreeds Edilbaev+local Kazakh fat-tailed with rams of Sarajin and Degeres meat-wool breeds of sheep with the subsequent breeding of the hybrids "in themselves". This work has been carried out for a number of years on the experimental farm named after Mynbayev of Almaty region and the breeding farms "Nurinsky", "Balyktykul", "Amantau" named after Amangeldy Zhezkazgan of Karaganda regions.

The Aktyubinsk type is derived by crossing the Temirian offspring of the fat-tailed sheep with the sheep of the Sarajin breed with the subsequent breeding of the hybrids of the second and third generations "in themselves." They are bred in the farms of the Irgiz and Karabutak districts of the Aktobe region.

The Bayysk type was derived on the basis of cross-breeding of crossed Edilbaev-Kazakh fat-tailed uteri with rams of the Tajik meat-sebaceous--wool breed and breeding of the desired type of hybrid "in itself". Semi-coarse sheep of this type became widespread in the farms of the Zharma region of the East Kazakhstan region.

Animals are of a strong constitution, with well-developed skeleton and quite satisfactory meat-sebaceous forms of body type. The head is of medium size, the profile is straight or slightly hump-nosed. Uterine are hornless and among the sheep there are animals with rudiments of horns. The neck is medium and muscular. The withers are wide, the back is straight and the sacrum is wide. The body is deep and wide. The legs are strong and correctly placed. Kurdyuk is large or medium-sized, smart, by rams some descent is allowed.

Wool is a semi-coarse, non-uniform, skeleton structure, light gray and white. Braids consist of a predominant mass of down and longer transitional and osteal fibers, as well as a small amount of colored, dry and dead hair. Head overgrowth to the level of the occipital crest, in some animals bangs occur. The coat is brown, red and gray in various shades.

The main direction of breeding work with this breed of sheep is the increase of early maturity, meat-sebaceous qualities and increase of cutting and improvement of quality of wool, while maintaining high adaptability to pasture conditions [3].

The physique and the exterior is an important indicator of breeding and productive qualities of farm animals. Therefore in practical, serious attention is paid to the accuracy and objectivity in assessment of the animals on these indicators of breeding.

Table 1 shows the indicators of body measurements of sheep at a desired type at birth, 4 months and 18 months, describing their growth and development. The sheeps are owned by the farm "Akbastau", "Akzhar - Ond³r³s" LTD, farm "Aimautova."

Study of exterior features of animals showed that during the growth and development of gimmers from birth to one and a half-year-old age rapid growth is noted in the following measurements: chest depth and girt, breadth in hook bones which increased for the accounting period almost twofold, but lower intensity growth is characterized by subsequent measurements of gimmers: metacarpus girt, height at the shoulder an at hips, which within one and a half year development increased only on 56.1 - 72.7%. Along with this, we noted that in some periods of individual development of gimmers the rank

Table 1: Exterior body measurements of sheep of desired type, cm

| | **Kazakh fat-tailed semi-coarse-wooled breed** | | |
| | Age | | |
Indicators	At birth X± м	4 months X± м	18 months X± м
Number of animals	20	18	16
Height at the shoulder	35.7±0.44	56.8±0.72	59.0±0.64
Height at hips	36.9±0.31	57.5±0.73	60.2±0.71
Chest depth	10.3±0.25	25.9±0.60	31.4±0.31
Chest breadth	8.6±0.15	18.2±0.38	20.3±0.42
Breadth in hook bones	7.7±0.20	18.4±0.32	19.8±0.31
Chest girt	37.4±0.40	70.5±0.88	95.4±1.12
Metacarpus girt	5.12±0.14	7.5±0.15	8.8±0.15
Oblique body length	30.8±0.41	58.6±0.83	69.7±0.74
	Kazakh fat-tailed coarse-wooled breed		
	Age		
Indicators	At birth X± м	4 months X± м	18 months X± м
Number of animals	30	27	24
Height at the shoulder	34.4 ± 0.41	59.6±0.75	72.5±0.81
Height at hips	35.6±0.32	60.0±0.77	73.5±0.82
Chest depth	9.8±0.30	25.4±0.62	30.2±0.54
Chest breadth	8.4±0.14	18.0±0.40	20.8±0.44
Breadth in hook bones	7.9±0.22	19.2±0.35	20.3±0.42
Chest girt	38.2±0.42	71.6±0.90	92.3±1.12
Metacarpus girt	5.7±0.15	7.3±0.19	8.2±0.10
Oblique body length	31.2±0.41	60.6±0.86	75.2±0.86
	Edilbaev breed		
	Age		
Indicators	At birth X± м	4 months X± м	18 months X± м
Number of animals	23	19	15
Height at the shoulder	36.7±0.44	66.0±0.72	74.3±0.23
Height at hips	37.9±0.31	64.4±0.70	74.2±0.29
Chest depth	11.3±0.25	27.9±0.60	33.0±0.16
Chest breadth	9.6±0.15	16.9±0.40	19.7±0.16
Breadth in hook bones	7.7±0.20	16.6±0.35	19.8±0.31
Chest girt	39.4±0.40	74.5±0.92	86.7±0.25
Metacarpus girt	5.2±0.14	7.8±0.16	8.5±0.11
Oblique body length	29.5±0.41	58.1±0.80	74.2±0.30

position of growth intensity measurements of body changes. So, if before ablactation at the age of 4 - 4.5 months, the rate of growth breadth of hook bones and chest depth was on the first place, from 4 to 18 months, chest girt over shoulder blades is characterized by the highest increase. On the contrary, the lowest growth rate before ablactation was recorded in the metacarpus and from 4 to 18 months - breadth in hook bones, height at the shoulder and hips is of high increase.

A more complete and clear idea of the type of body-build of young stock gives a relative comparison to a number of pairs of anatomically related measurements, that is, body-build indexes (Table 2).

In gimmers of studied breeds, during the post-uterine period, the depth of the chest grows more intense as opposed to the height and the shoulder, resulting to a decrease in the index of long legs from 69.2 - 71.5 to 46.8 - 58.3%.

Due to the more rapid growth in the body length of the Kazakh fat-tailed semi-coarse-wooled gimmers, the animals become more stretched with advancing age. Because of the intensity of growth of chest breadth and depth during the development from the ablactation period to one and a half year, the girth behind the shoulders increases significantly. This explains the improvement in the compactivity of animals at older age. Due to the fact that with advancing age the gimmers` cylindrical bones grow less rapidly in diameter than at length, index of bone massiveness with advancing age tends to decrease.

Breeders are required to meet the requirements of the ever-increasing need of the population for meat and the need to produce it at the lowest cost for food and money. This involves getting fast-growing animals at a young age with meat of the best quality. The main source of meat production becomes rearing young livestock.

In the production of meat, it is necessary to strive for the possibility of a growing animal to increase its body weight at a young age, which is mainly due to the increase in muscle mass. The marketing value of carcass is largely dependent on the development of muscle which is the pulp and because of its taste and nutritional quality is the most important part of the carcass.

This year some of the indicators of meat productivity of 4 months ram of different breeds have been studied. From meat productivity, indicators of lamb body weight before slaughter, weight at slaughter, slaughter yield, proportion of bones and flesh, proportion of meat and fat are the most valuable. The results of the control slaughter are shown in Table 3.

Lambs of different breeds have a fairly high pre-slaughter live weight of 38.7 kg to 40.6 kg. According to the results of the slaughter, carcass weight is 15,8-16,7 kg, the yield of the carcass was an average of 41.0-41.1%. Higher slaughter yields belong to rams of Edilbaev breed - 50.5%.

In practice, the slaughter of animals uses such indicators as "net body weight." To achieve the smallest error in the calculation of indices of slaughter, the contents of the gastrointestinal tract is subtracted from the value of pre-slaughter live weight and all calculations are made on the base of the received indicator of body weight (Table 4).

Table 2: Indices of gimmers body-build, %

Index	At birth	4 months	18 months
Kazakh fat-tailed semi-coarse-wooled breed			
Age			
Long legs	71.1	54.4	46.8
Length	86.2	103.0	118.1
Blockiness	121.4	120.2	136.9
Proportionality	103.4	103.3	102.0
Bone massiveness	14.6	13.0	14.9
Massiveness	105.0	124.1	161.7
Kazakh fat-tailed coarse-wooled breed			
Age			
Long legs	71.5	57.3	58.3
Length	90.6	101.6	103.7
Blockiness	122.4	118.1	122.7
Proportionality	103.5	100.6	101.3
Bone massiveness	15.1	12.4	11.3
Massiveness	111.0	120.1	127.3
Edilbaev breed			
Age			
Long legs	69.2	57.7	55.5
Length	80.3	88.0	99.8
Blockiness	133.5	128.2	116.8
Proportionality	103.2	97.6	99.8
Bone massiveness	14.1	11.8	11.4
Massiveness	107.3	112.8	116.6

Minus the contents of the gastrointestinal tract, pre-slaughter live weight of lambs decreased by 16,8-17,5%. Carcass yield increased by breeds on 8,1-8,1%, slaughter yield, respectively on 9,8-12,0%. Lambs of all breeds have different nutritional state, as seen on fat tail yield and the visceral fat, respectively 7,8-8,3% and 1.4-1.5%.

One of the most important elements of stock breeding with the breed of meat-sebaceous productive direction is an increase in flesh content of muscle tissue fraction, especially in the carcasses of young animals. This problem is by far more difficult and complex than the percentage increase in fat (Table 5).

As can be seen from the data presented in Table 5, the yield of edible meat ranges from 72.6% to 73.9%. In terms of the ratio of muscle, fat, bone and the coefficient beefiness interbreed significant differences were observed.

In the study of meat, the quality of rams pays particular interest to the absolute mass of individual organs. The degree of development of the internal organs of the body is dependent on livelihood. This therefore influences the productivity of the animal.

Table 3: Slaughter aspects of 4 monthly rams of different breeds (n = 3 animals)

Breed	Preslaughter live weight	Carcass		Fat tail		Visceral fat		Weight at slaughter	
		kg	%	kg	%	kg	%	kg	%
Edilbayev	40.6	16.7	41.1	2.8	7.0	0.517	1.3	21.0	50.5
Baiys' Kazakh fat-tailed semi-coarse-wooled	38.7	15.8	41.0	2.5	6.5	0.471	1.2	18.7	48.3
Kazakh fat-tailed coarse-wooled	39.5	16.2	41.0	2.6	6.6	0.466	1.2	19.2	48.6

Table 4: Slaughter aspects of 4 monthly rams of different breeds (n = 3 animals)

Preslaughter live weight, kg	Gastrointestinal tract contents		Live weight at slaughter		Mass of carcass without fat tail		Fat tail mass		Visceral fat mass		Weight at slaughter	
	kg	%	kg	%	kg	%	kg	%	kg	%	kg	%
Edilbayev breed												
40.6	7.0	17.2	33.6	82.8	16.7	49.7	2.8	8.3	0.517	1.5	21.0	62.5
Baiys' Kazakh fat-tailed semi-coarse-wooled breed												
38.7	6.5	16.8	32.2	83.2	15.8	49.1	2.5	7.8	0.471	1.5	18.7	58.1
Kazakh fat-tailed coarse-wooled breed												
39.5	7.0	17.5	32.5	82.5	16.2	49.8	2.6	8.0	0.466	1.4	19.2	59.1

Table 5: Morphological composition of carcasses of 4-monthly rams of different breeds (n = 3 animals)

Breed	Chilled carcass mass without fat tail, kg	Flesh						Proportion Meat:Bones:Fat	Beef coefficient
		Muscles		Fat		Bones			
		kg	%	kg	%	kg	%		
Edilbayev breed	16.1	9.3	57.6	2.6	16.3	4.2	26.1	3.6:1.6:1.0	2.8
Baiys Kazakh fat-tailed semi-coarse-wooled breed	15.2	8.7	57.4	2.5	16.2	4.0	26.4	3.5:1.6:1.0	2.8
Kazakh fat-tailed coarse-wooled breed	15.6	8.9	56.8	2.5	15.8	4.2	27.4	3.6:1.7:1.0	2.7

Table 6: Proportion of body parts in the carcasses of 4 monthly rams of different breeds (n = 3animals)

Indicator			Breed		
			Edilbaev breed	Kazakh fat-tailed semi-coarse-wooled	Kazakh fat-tailed coarse-wooled
Chilled carcass mass		kg	16.10±0.60	15.20±0.27	15.60±0.28
		%	100.0	100.0	100.0
Fore limbs		kg	2.80±0.15	2.70±0.10	2.80±0.15
		%	17.53	17.90	18.30
Hind legs		kg	4.50±0.10	4.10±0.30	5.50±0.15
		%	28.20	27.12	28.60
Rib		kg	1.70±0.15	1.80±0.01	1.80±0.05
		%	10.63	11.70	11.62
Keel bone		kg	0.70±0.05	0.80±0.05	0.80±0.05
		%	4.60	5.24	5.00
Peritoneum		kg	1.70±0.01	1.80±0.02	1.70±0.10
		%	10.34	11.60	10.62
Central body (neural axis)	neck	kg	3.60±0.01	3.70±0.05	4.10±0.01
		%	22.80	24.20	26.80
	breast	kg	5.70±0.02	5.20±0.20	5.90±0.05
		%	35.20	33.90	34.83
	coupling	kg	5.80±0.15	5.50±0.10	5.00±0.10
		%	35.90	36.30	32.17
	urosacral part	kg	0.98±0.02	0.85±0.03	0.97±0.03
		%	6.10	5.60	6.20
	total (central body)	kg	4.30±0.16	3.90±0.18	3.90±0.13
		%	26.40	25.46	24.80
Trimmings meat		kg	0.37±0.05	0.15±0.04	0.16±0.14
		%	2.30	0.98	1.06

Better development of the internal organs characterizes rams meat-sebaceous different breeds as pets with a more intense occurrence of metabolic processes which further affected the best indicators of their meat production.

Parts of the carcass which consists of flesh are considered the most valuable and the elucidation of their release are the most important criteria in the evaluation of carcasses of slaughtered lambs. We investigated the proportion of body parts in the carcass of 4 monthly rams of different breeds (Table 6).

According to our data, a high yield of the most valuable parts of the front and back are characterized lambs of Edilbaev and Kazakh fat-tailed coarse-wooled,

18.3 - 28.6% and 17.53 - 28.20% respectively. According to the yield of central body, regular interbred differences are not established.

Thus, the results of slaughter of lambs of different breeds characterize them as the best animals with slaughter qualities; in their meat there is less fat and a higher yield of the most valuable parts of the carcass.

CONCLUSION

Kazakhstan has large areas of natural pastures with sheep breeding as the leading and most efficient livestock industry. Sheep breeding, especially of meat-sebaceous direction has productivity which allows the use of grasslands and semi-arid zones most effectively.

In the conduct for selection and breeding work with fat-tailed sheep, special attention should be paid to the preservation of physique and improvement of exterior qualities.

It has long been known that the evaluation of the animals on the exterior and determination of their economic value on appearance is important in breeding herds. Animals of different directions have different forms. Borisenko E.Ya. wrote that "the doctrine of the exterior should be understood as the study of external forms of farm animals in relation to their biological characteristics and economic value, that is, as the doctrine of the evaluation of animals by their appearance." Many constitutional productive features of fat-tailed sheeps are marked in the works of Ermekov M.A., Golodnov A.V. [14], Medeubekov K.U. [15] and others. They noted that the Kazakh fat-tailed sheep are perfectly adapted for climatic and feeding conditions of vast areas of arid steppes, deserts and semi-deserts, harsh winter cold and summer drought and maintained year-round pastures [15-17].

External indicators to some extent, can be seen on the physique, that is, biological resistance and adaptation of animals to the environment where they are bred and multiplied, their breed features, as well as productivity.

Exterior of the sheep of meat-sebaceous direction has features that require comprehensive study. Fat-tailed sheep, grown under conditions of desert and semi-desert areas, are characterized with strong physique, strong bones, large size and long legs [18-21].

Study of the growth according to the individual items of the exterior has definite value, which together with the weighted data gives a complete characteristic of the biological maturation of the animal.

During the global crisis where food security of the population is given first place, the production of lamb is one of the priorities in increasing the production of meat and meat products. Analyzing modern data and world sheep breeding experience in the present time, it is possible to conclude that the increased efficiency is due to a more complete use of meat productivity of sheep.

The ever-increasing population in the world and increase of the need of the population in meat and the need of meat production with the lowest cost requires breeders to get hasty large animals which at their young age provide meat of best quality. Meat quality of farm animals, including sheep, to a large extent is determined by a system of growing, slaughter age and breed characteristics [15, 16, 22].

Efficiency and profitability of sheep breeding in market conditions is established by the study of growth, development and productivity of meat in young stock of fat-tailed meat-sebaceous breeds of Kazakhstan.

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