

Meat Qualities of Youngsters Received from Rams, Used in the Topping of Dam at Early Age

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Researches on check of ram-breeders to quality of breed at early age were carried out in "Sharbulak" breed complex of Kazygurtskiy region of the Southern Kazakhstan area, on sheep of breed of the South Kazakh merino. The selected 5 rams were used in the topping of dam at the age of 7 months. Carrying out scientifically - research works on early forecasting of breeding qualities of rams of breed of the South Kazakh merino testify that on meat qualities, it means that according to the carried-out control slaughter results of the rams No. 209620, 200279 and 219683 were as subjects of the graded up of breed and the ram No. 203383 was neutral, and the ram No. 200297 was recognized as retrogressors of breed, it follows from this that further use of rams No. 200297 and 203383 is not expediently and it is subject to rejection from flock. Thus, introduction of a preliminary estimate of ram-breeders according to the control slaughter results of the breed at the age of 7 months, for 2 years earlier allows to research the best rams, and more reasonably to use them in the subsequent topping season, at the same time to reduce charges of the rams which are neutral and retrogressors of breed.

Key words: The live weight, Live weight before slaughter, The mass of carcass, The slaughter output, Slaughter products, Output of the carcass.

Kazakhstan is the agro-industrial country, and the development of virgin lands was turned it into one of the largest producers of grain and meat.

As the result the animal husbandry is become one of the most dynamically developing branch of agricultural industry. Within the last decades the demand for livestock production has the tendency of growth, because of increase in the population, the growth in prosperity. As it is known, only advanced agricultural production can be served the base for creation of new productions in food and light industry, preservations food security of the country.

Kazakhstan, certainly, possesses a huge potential for effective development of animal husbandry. According to foreign experts the favorable climatic conditions and spacious areas of agricultural purpose have to become huge help as for saturation of domestic market production of animal husbandry, and for its realization for export¹.

Economic importance of a problem of improvement of quality of meat represents scientific and practical interest. Sheep are an essential source of replenishment of meat resources of the Republic, and their meat as foodstuff, is characterized by high nutritious properties. High-quality muttons are capable to give the all breed of sheep, including fine-fleeced breed. At breeding of sheep it is necessary to pay a close attention to receiving meat of high quality as wool and a

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sheepskin, as if they were not highly estimated, it is not provided with economic efficiency this breed of sheep, including fine-fleece².

The food market of meat is process of economic financial relationship, developing between participants and providing production of agricultural commodities and realizing it at the movement of production of meat branch from the producer to the final consumer, the buyer. Food supply of the population of the republic food is an element of economic security of the country. The satisfaction of requirement of the population meat, quality meat products in necessary volumes is criterion of an assessment and development of the food market of meat and meat products.

Deficiency of protein in food of the population arises in connection with decrease in consumption of meat products, that is threat not only in loss of food security of the country, but also health of the nation³.

In Kazakhstan sheep breeding always played an important role in development of a national economy. However during development of market economy decline in production of production and reduction of number of sheep is observed. The considerable attention on selection, full feeding of sheep and introduction of the most progressive production technology of high-quality, competitive production it must be given for a overcoming of these difficulties in sheep breeding.

The weakest carcass in high-quality improvement of sheep breeding is insufficiently high level of breeding work. At the soonest time it is necessary to achieve sharp reduction of unproductive mixed herds and increase in a share of thoroughbred sheep breeding.

On the basis of it by purposeful selection and breeding work it is necessary to achieve creation of uniform massifs for production⁴.

By researches of many authors and wide work practice it is convincingly proved that the most effective way of improvement of breeding and productive qualities of animals is selection based on an assessment of producers on quality of posterity at wide use of the revealed uluchshatel.

The researching of breeding and the productive qualities of posterity of the checked rams by means of their assessment of own efficiency and ability to transfer the qualities to

posterity was the further purpose of researches.

The assessment on quality of posterity is carried out on the basis of data of a bonitation and the accounting of efficiency of posterity on live weight, clip and a wool length, and also on class structure, which is a complex indicator, besides the assessment of ram-breeders can be made on meat quality of their posterity, that is carrying out control slaughter of ram⁵.

Main part of content

Meat efficiency of sheep as well as other domestic animals, is defined by a number of indicators, the most important of which the following: live weight before slaughter, the mass of carcass, slaughter weight and a slaughter output, a ratio in the carcass of bones and flesh, and also meat and fat, category of fatness of sheep and meat, the output of various sorts of meat and carcass, fat localization, output and quality of by-products, nutritiousness and dietary properties of meat.

Meat production of sheep breeding, its quality and quantity depend generally on the following factors: 1) genetic features of sheep; 2) conditions of their feeding and the keeping, gender and age of animals, temperature, humidity and other factors of environment 3) the accepted system of maintaining technology of sheep breeding, terms of tugging and lambing, and connected with it terms of realization of animals on meat.

One of the directions in development on increase of profitability of sheep breeding is the production technology of mutton, including the young lambs which are in great demand at the population, and giving 70-80% of profit from this branch^{6,7}.

Now production of mutton generally is based on slaughter of youngster aged till 1 year. Expediency of slaughter of lambs on meat with one year of birth is caused by that at young age, forages on production of a unit of production are most effectively used. The meat production received at this age differs in high quality. In the first 8 months of life of lambs, there is the most intensive adjournment of the most valuable component of meat - animal protein. At more advanced age the increase in mass of carcass of sheep occurs mainly due to fat adjournment. It reduces the biological value of meat and economic efficiency of its production.

Live weight is one of important quantitative index of meat efficiency of animals. The more live weight, on average it is higher a mass of carcass. Correlation coefficient between the body weight and mass of carcass of lambs of different breeds is high – 0,85-0,95.

Selection on body weight is conducted by results of weighing of animals or on the basis of an expert assessment of their size and meat forms. Animals were weighed up individually before feeding. Lambs are weighed at the birth, at weaning from the dams, before realization on slaughter or on the breed with an accuracy of 0,5 kg.

Table 1. The live mass of youngster, received from the checked rams on quality of posterity, used in the tugging of dam at age of 7 months

N°	Individual numbers of rams	Live weight, kg			
		n	4,5 months	n	7 months
1	209620	30	32,79±0,48	29	38,85±0,52
2	200279	30	32,33±0,52	29	38,29±0,52
3	200297	30	31,53±0,56	28	36,91±0,54
4	203383	30	29,64±0,56	29	37,50±0,66
5	219683	30	33,13±0,50	28	38,41±0,41
	On average	150	31,85±0,24	143	37,99±0,24

Results of our researches (table 1) testify that the live mass of youngsters of experimental groups 4,5 and 7 monthly age quite had satisfactory indicators, but posterity of rams N° 200297 and 203383 had the smaller live weight (1,1-6,9%) in comparison with average data, and they were recognized on this indicator as retrogressors of breed. The absolute increment of live weight from 4,5 to 7 months was within 5,28 - 7,86 kg and average daily indicators respectively had fluctuations from 70,4 to 104,8 g, and the posterity of a ram N°203383 had the greatest average daily additional weight, but on average to live weight it was retrogressor of breed.

Lambs after weaning from the dams, getting to dependence on conditions of feeding, the keeping and environment, sharply lost live weight, and some animal unit did not sustain sharp changes, their growth and development were

thereby decreased. In this regard small lambs in further researches were not used, and safety of our experimental group made 95,3%.

The main indicators of meat efficiency of sheep are the live mass of animals before slaughter, the slaughter weight and the slaughter output.

For calculation of indicators of meat efficiency determine the live mass of sheep before slaughter. Thus sheep should not receive forage within 24 hours before slaughter. Their weight decreases on 2,5-3,5% during this time. The mass of a sheep after 24-hour endurance without forage is called as pre-slaughter live weight.

For the slaughter mass it is taken of fresh-killed carcass of a sheep without internals, a skin, a tail and the head, but with internal fat. Thus the forelegs is separated on carpal part, and hindlegs are cut to the hock. Depending on pedigree features and age, carcass of an adult sheep weighs 18-30

Table 2. Slaughter indicators on the mass and the output of the carcass of rams at the age of 7 months

N°	Individual numbers of rams	n	Live weight before slaughter	Mass of carcass, kg	d	Carcass output %	d
1	209620	5	38,8±0,20	19,6±0,20	0,45	50,5±0,29	0,65
2	200279	5	38,3±0,25	19,4±0,23	0,52	50,6±0,29	0,64
3	200297	5	36,9±0,19	19,0±0,27	0,61	51,4±0,70	0,44
4	203383	5	37,5±0,27	19,2±0,22	0,49	51,3±0,36	0,78
5	219683	5	38,4±0,43	19,8±0,20	0,45	51,6±0,34	1,05
	On average	25	38,0±0,18	19,4±0,11	0,56	51,0±0,17	0,87

Table 3. Products of slaughter of ram at the age of 7 months Products of slaughter, kg Exit of products of slaughter, %

Indicators	Results of slaughter						
	Mass of carcass, kg	Mass of internal fat, kg	Output of internal fat, %	Mass of sub. products, kg	Output of sub. products, %	Products of slaughter, kg	Output of products of slaughter, %
N° 209620	19,6±0,20	0,549±0,008	2,8±0,056	4,43±0,071	22,6±0,426	24,58±0,217	63,3±0,283
N° 200279	19,4±0,23	0,535±0,018	2,6±0,081	4,47±0,068	23,0±0,171	24,38±0,294	63,6±0,372
N° 200297	19,0±0,27	0,448±0,013	2,3±0,040	4,31±0,057	22,6±0,298	23,71±0,326	64,2±0,834
N° 203383	19,2±0,22	0,507±0,010	2,6±0,040	4,32±0,060	23,3±0,239	24,07±0,240	64,1±0,395
N° 219683	19,8±0,20	0,563±0,010	2,8±0,040	4,86±0,154	23,8±0,383	25,24±0,339	65,7±0,747
On average	19,4±0,11	0,518±0,011	2,7±0,040	4,47±0,052	23,1±0,160	24,4±0,160	64,2±0,290

kg, youngster 15-20 kg, and lambs 10-17 kg.

Slaughter output is called the mass of fresh-killed carcass with internal fat (without of head and limb), evaluated as a percentage to before slaughter live weight.

We carried out control slaughter from each ram-breeder of 5 heads of rams at the age of 7 months for a final assessment of a liveweight gain and meat efficiency of experimental groups of lambs (table 2).

The data of tables 2 is testified that before slaughter live weight in averaged is made 38,0 kg, the posterity of rams N°. 209620 had the greatest live weight and the excess is make 2,1% or P>0,99, the posterity of rams N° 200279 and 219683 is exceeded from 0,8 to 1,2% and the excess was not reliable at P<0,95, the posterity of the ram N° 200297 had the smallest live weight for 2,9% or at P>0,999, posterity of the ram N° 203383 had smaller live weight for 1,4% or P>0,95, that is these rams on before slaughter weight were the retrogressers of breed. These data testify that with before slaughter live weight the greatest indicators were at posterity of a ram N° 209620.

The mass of carcass is the main component of slaughter weight, which is joined also the mass of internal fat, fat of a tail and a fat tail. However, first of all, consumers appreciate meat of animals but not fat, therefore at the estimation of meat efficiency, the mass of carcass and mass of fat is considered separately. The slaughter output, that is slaughter mass, expressed as a percentage to live weight after hungry endurance of an animal, is fluctuated in very considerable sizes - from 35 to 60% and depends on many reasons, including on fatness, breed, age and a sex of an animal⁸.

The posterity of a ram N° 219683 had the greatest excess of average values on the mass of carcass and it made 2,1%; the posterity of a ram N° 209620 had excess, therefore 1,1% there was an indicator; the posterity of a ram N° 200279 had identical indicators with average data and these rams were retrogressers of breed and one was neutral; at the same time, indicators of posterity of rams N° 200297, No. 203383 were less averages on experimental group for 1,1-2,1% and they were estimated as retrogressers of breed.

Data of products of slaughter are provided in table 3: mass of carcass, mass of internal

fat, mass of sub.prodüks and their outputs.

Data testify that the mass of internal fat of posterity of rams N° 209620, 200279, 219683 are exceeded the average values from 3,2% to 8,0% at $P > 0,95-0,99$, on this indicator of posterity of rams N° 200297, 203383 were 2,8-13,5% less. In general, on the products of slaughter of posterity of rams N° 209620, 200279, 219683 had the best indicators of averages on group for 1,1-3,4%, and posterities of rams N° 200297, 203383 had smaller indicators of average data for 1,4-2,9%. In general on indicators of control slaughter in absolute expression, the rams N° 209620, 200279, 219683 are retrogressers of breed, the ram No. 203383 is neutral, and the ram N° 200297 is the retrogressor of breed. So, the products of slaughter of an essential difference in relative expression have no.

CONCLUSIONS

Carrying out the scientific and research works on early forecasting of breeding qualities of ram of the South Kazakh breed merino testify that on meat qualities, that is by results of the carried-out control slaughter rams N° 209620, 200279 and 219683 were recognized as subjects of the graded up of breed; and the ram N° 203383 is neutral, and the ram N° 200297 was recognized as an retrogressor of breed. So, as a result of it, further use of rams N° 200297 and 203383 is not expediently and it is the subject to rejection from herd.

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