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## AGE VARIATIONS AND MEAT QUALITY OF AKZHAİK MEAT-WOOL SHEEP

### Abstract

The article describes the results of a study of growth and development, as well as meat productivity of akzhaik meat-wool sheep breed rams of different types of selection in 8 months of age. Analyzing the results of slaughter, it must be noted that the best indicators of meat productivity reported in versions of selection, which used animals of intrabreed meat type.

**Keywords:** *akzhaik meat -wool crossbred sheep, selection, growth and development, meat productivity.*

Production of lamb meat and wool sheep breeding is mainly a result of the young sheep for meat in the year of his birth. This allows you to improve the quality of mutton and improve its bioavailability [1-5].

Our research shows age variation and meat quality of young akzhaik meat-wool sheep from the selection of different options:

- 1) The first group included akzhaik meat-wool rams of meat-type with nonlinear akzhaik meat-wool ewes;
- 2) The second group included akzhaik meat-wool rams of meat-type with akzhaik meat-wool ewes of meat-type;
- 3) The third group included nonlinear akzhaik meat-wool rams with nonlinear akzhaik meat-wool ewes.

In order to establish the effectiveness of growing lambs on autumn pastures with dressing concentrated fodder was held fattening rams after weaning them from ewes aged 4.5 months of 60 days. Characteristics of fattening qualities 8- monthly rams are presented in Table 1.

Table 1 – Fattening quality 8-month-old rams (n = 10 per group), M±m

Performance of the group	Группы		
	I meat x nonlin	II meat x meat	III nonlin x nonlin
Body weight in kg setting for feeding	32,8±0,55	34,5±0,41	31,4±0,27
Body weight in kg removed from the feeding	41,9±0,42	44,6±0,20	40,2±
Weight gain in 60 days feeding:			
absolute, kg	9,1	10,1	8,8
relative,%	24,4	25,5	24,6
average, g	125,0	168,3	146,6
Took fodder units per 1 kg of body weight gain (at the actual feed intake), kg	7,26	6,62	7,53

As can be seen from the table, at the end of feeding the animals in groups had differences. Thus, the rams of the second group were superior to the first 2.7 kg, or 6.4%, the third – 4.4 kg or 10.9%.

Best intensity of growth for 60 days feeding different rams the first and second groups, which in absolute and average daily weight gain superior to their peers of the third group by 3.4 kg and

14.7%, 3.6 kg and 14.8%.

Individual pots first and second groups in feed intake is spent on each kilogram of body weight gain on average 0.27 and 0.91 fodder units less, hence it can be seen that these hybrids efficient use of feed eaten.

In experiments R.S. Negamettullina [1] of the fattening properties of meat and wool hybrids fine wool x Rambouillet and Rambouillet x semi-coarse wool costs per 1 kg gain 6.08 and 5.25 fodder units. The data obtained in our study are consistent with the results of this author.

For control of slaughter in 8 months after feeding in order to study the meat quality of test rams were selected 3 typical animals of each option selection.

One of the important indicators to measure the productivity of meat is the live weight of the animal prior to slaughter. However, the judge only meat productivity largest live weight is not enough, because it gives an indirect indication of the number of edible parts. Before slaughter animals for 24 hours did not receive any feed or water. Consequently sheep slaughter weight usually decreases due to the partial evacuation of the digestive tract and bladder. Losing weight rams during starvation exposure was 2.4-2.9%.

The results of the control processing rams have shown that they have good carcass meat forms. Carcasses well made muscled and covered with a solid layer of fat. At slaughter carcasses obtained from all variants of selection weight 18,4-21,3 kg.

For all groups of slaughter yield was 48,1-50,7%. It should be noted that all the young groups were good indicators of meat. In the two groups, as noted above, the best performance was characterized offspring meat, which was attended by parents of meat type.

By-products exit the first and second categories of young animals in the different groups no significant differences were observed (Table 2).

Table 2 – Weight and yield of by-products from the mass-slaughter rams at the age of 8 months

Offals	Группы					
	I meat x nonlin		II meat x meat		III nonlin x nonlin	
	kg	%	kg	%	kg	%
Liver	0,703	1,30	0,706	1,63	0,686	1,70
Kidneys	0,141	0,33	0,140	0,32	0,130	0,32
Heart	0,216	0,49	0,214	0,50	0,212	0,52
Diaphragm	0,150	0,34	0,165	0,38	0,141	0,35
Trimming	0,300	0,69	0,310	0,72	0,290	0,71
Tongue	0,105	0,24	0,105	0,24	0,100	0,24
Total category I	1,615	3,71	1,640	3,79	1,559	3,84
The head without tongue	2,015	4,64	2,020	4,68	2,000	4,93
Lungs	0,543	1,25	0,546	1,25	0,540	1,33
Esophagus	0,051	0,12	0,053	0,11	0,049	0,12
Tripe with mesh	0,866	1,99	0,931	2,14	0,857	2,11
Spleen	0,110	0,25	0,110	0,25	0,096	0,23
Total category II	3,585	8,28	3,660	8,40	3,542	8,72
Total offals	5,200	12,11	5,300	12,07	5,101	12,56

As can be seen from the above data, for the development of liver disease in lambs compared groups significant differences were observed.

For the development of gastric slight superiority rams were the second group, where both paternal and maternal side was represented by animals such as beef. The second group was superior to the first 0,065 kg or 7.5%, the third group - to 0,074 kg or 8.6%.

For the development of lung there was a slight superiority of the offspring of the second group. Increase lung 8 months, in our opinion, is due to racial characteristic animal meat type.

For the development of the heart, kidneys, spleen between comparison groups significant differences were found. Among other internal organs are not significant differences.

The total yield of products of slaughter, including by-products of the first and second categories of rams was in the first group of 61.41%, the second - where and with paternal and maternal side was represented by meat type animals - 61.46%, the third group of nonlinear parents - 60.82 %. Higher yield offals characterized by young meat-type animals.

After 24 hours of cooling conducted Cutting carcasses on grades. During cooling, the mass loss for all groups was 0,40-0,53 kg or 2.2-2.5% (Table 3).

Table 3 – Varietal composition of carcasses (age 8 months)

Groups	The mass of the cooled carcass kg	I category		II category	
		kg	%	kg	%
I meat x nonlin	19,25	15,53	80,7	3,72	19,3
II meat x meat	20,77	16,86	81,2	3,91	18,8
III nonlin x nonlin	17,90	14,34	80,1	3,56	19,9

From the data above table shows that the carcasses of all rams selection options contain a significant amount of cuts I grade, the value is in the range 80,1-81,2%. There is a slight superiority in the content of the cuts I grade carcasses rams group II.

Output cuts grade II was 18.8% less in rams in the second group, where parents, both paternal and maternal sides were meat type.

Indicators of output cuts by species in our experiments are consistent with the data of V.A. Rodionov [2] S.A. Erokhin [3] obtained at slaughter for meat and wool young.

In order to identify the morphological composition of carcasses of young and experimental determination of the meat coefficient have been boning carcasses rams from all variants of selection.

According to morphological structure all carcasses were characterized by a high yield of intact (77.5 - 79.1). The best ratio of flesh and bones marked in the selection of variants, which was attended by meat type animals.

The output of the meat in 8 months compared to slaughter at weaning increased the average for all groups by 0.6%. Meat coefficient when control slaughtering calves in 8 months shows the influence akzhaik meat-wool sheep meat type to improve the meat quality of carcasses.

Lamb - a valuable food product. Protein content, valuable essential amino acids, vitamins and minerals is not inferior to beef, and even higher caloric value. The results of our research shows the chemical composition of the meat in Table 4.

Table 4 – Chemical composition of meat (8 months of age)

Groups	Composition,%				The energy value of 1 kg of meat (MJ)
	water	protein	fat	ash	
I meat x nonlin	60,2	16,2	22,7	0,9	2775
II meat x meat	60,0	16,1	23,0	0,9	2799
III nonlin x nonlin	60,4	16,7	22,0	0,9	2731

Table 4 shows that the large differences in protein content and ash content in meat experimental calves were observed.

Fat content carcasses of young groups I and II only slightly higher than the third group by 0.7 and 1.0%. The moisture content in the second group was slightly less than in the first and third.

If we consider the calorie meat is higher in fat and caloric content of the second group was slightly higher.

Analyzing the results of the slaughter, the best indicators of meat productivity reported in versions of selection, which used animals meat type. In general, the control slaughter showed that the animals meet the meat-wool productive direction.

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## ТҮЙІН

Мақалада әр түрлі жұптау әдістерімен алынған 8 айлық ақжайық етті-жүнді тұқымы еркек қозыларының өсіп-жетілуі және ет өнімділігі көрсеткіштері сипатталған. Сойыс көрсеткіштері нәтижелерін талдай келе, тұқымшылық жұптау әдісі арқылы алынған жануарларда ең жоғары ет өнімділік көрсеткіштері анықталды.

## РЕЗЮМЕ

В статье описываются результаты изучения роста и развития, а также мясной продуктивности баранчиков акжайкской мясо-шерстной породы овец разных типов подбора в 8-месячном возрасте. Анализируя результаты убоя, необходимо отметить, что лучшие показатели мясной продуктивности отмечены в вариантах подбора, где использовались животные внутривидового мясного типа.

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**СРАВНИТЕЛЬНЫЙ АНАЛИЗ ВЫРАЩИВАНИЯ ГИБРИДА СТЕРЛЯДЬ×БЕЛУГА  
(СТЕРБЕЛА) (♀ ACIPENSER RUTHENUS L.× ♀HUSO HUSO L.)  
И СТЕРЛЯДИ (ACIPENSER RUTHENUS L.)**

## Аннотация

В предлагаемой статье приведены данные сравнительного анализа выращивания гибрида стерлядь×белуга (стербела) (♀ *Acipenser ruthenus* L.× ♀ *Huso huso* L.) и стерляди (*Acipenser ruthenus* L.) в условиях тепловодного индустриального хозяйства.

**Ключевые слова:** Стербел, стерлядь, белуга, гибрид.

При совершенствовании технологии выращивания осетровых в управляемых условиях следует уделить внимание наиболее уязвимым звеньям технического процесса инкубации икры и подращивания личинок и ранних мальков, происходит основная элиминация – до 50-90%, что связано с плохими условиями содержания и низкой питательностью стартовых кормов [1].

Наиболее хорошо был изучен гибрид белуги со стерлядью, наследующий от родительских видов наиболее ценные качества – быстрый рост белуги, скороспелость и высокие деликатесные качества стерляди, обладающей адаптивной пластичностью и