Таблица 2 – Аминокислотный скор кисломолочных продуктов на основе козьего молока, %

Аминокислоты	Ферментирование	
	Ацидофильной палочкой	бифидобактериями
Валин	110,6	95,0
лейцин	123,6	120,4
Изолейцин	99,5	93,8
Лизин	133,1	129,8
Метионин	184,0	190,0
Треонин	112,0	121,7
Триптофан	133,0	155,0
Фенилаланин	140,5	127,1

Заключение Доказана перспективность использования козьего молока в качестве сырья для производства продуктов детского и диетического питания, увеличения сроков хранения козьего молока без снижения его терм устойчивости рекомендуется глубокое охлаждение или использование солей стабилизаторов, выбраны оптимальные технологические параметры ферментации козьего молока культурами бифидобактерий и ацидофильной палочки.

Литература

1.Арынгазиев С. Методы повышения продуктивности и качества продукции коз Казахстана. Дисс. …доктора с.-х. наук. Мынбаево,2003, 246 с.
2.Зеленский Г.Г. Козоводство. – М.: Колос, 1981. – 174 с.
3.Крепан Ж. Коза. – М.: Музей Птицеводства, 1912. – 248 с.
4.Левантин Д.Л. Динамика численности овец и коз по странам и континентам // Овцы, козы, шерстяное дело. – 1998. - №6. С. 24-27.
5.Вниаминов А.А. Козоводство зарубежных стран. – М. 1981. – 63 с.
6.Иолчиев Б.С., Марзанов Н.С., Чалых Е.А. Молочная продуктивность коз зааненской породы // Овцы, козы, шерстяное дело. – 2000. - №2. – С. 55-56.
7.Fisher A. Milchecistung der Ziege in alter und neuer Zeit // Der Kleinviez uchter. 1978, 26.9:406-408.

PRODUCTIVE AND REPRODUCTIVE QUALITIES OF KAZAKH FINE-FLEECED SHEEP BREEDS

Kulataev B., Kadyken R., Zhumagalieva G.
Kazakh national agrarian university, Almaty, Kazakhstan

Relevance of the topic. In Kazakhstan, the most common breed is Kazakh fine-fleece, which is bred in the semi-desert and desert areas of the south-east of the country. However, the bulk of this breed of sheep in the level of productivity and, especially in the reproductive capacity does not meet the relevant requirements of the breed standard. Therefore, increasing the fertility and yield business lambs are urgent problems in fine-wool sheep. Therefore, the task of scientists and agricultural experts are to develop effective methods to increase reproductive ability of fine-wool sheep and lambs to save one year of age. Ways of increasing the fertility of sheep are selected and the selection of multiple pairs aimed acceleration pace of selection for the mentioned type of product Makhatov B.M. Seyitpan K.N. Kulataev B.T. Improving the gene pool of modern breeds of sheep and goats in Kazakhstan. Collection of scientific works of the Stavropol Livestock Research Institute and forage 2012. Vol.1. №5, [1].

In Kazakhstan, a relatively prosperous conditions fecundity sheep Kazakh fine-fleeced breed reached up to 126-144%, which is among the sheep woolen breeds there is a sufficient number of individuals who can bring prolific offspring in their lifetime. The inclusion of this feature by selecting the appropriate selection and are not only theoretically, but also of great practical importance, especially for the south-east of Kazakhstan, where widespread sheep Kazakh fine-fleeced breeds. The influence of the type of sheep production on the development of economic -Useful signs, they

and the offspring of definite scientific and practical interest in the selection on prolificacy. Consequently, fine-wool sheep republic breeding work should be aimed at improving the productivity of existing breeds and lines, that is, an increase in shearing wool and wool to improve their quality, and also increase the natural fertility of the sheep through breeding.

The sexual cycle - it is dependent on hormones rhythmic change of the various processes, providing optimal conditions for reproduction, namely, the female body's readiness to sexual intercourse and fertilization of the egg. The sexual cycle including organs and endocrine glands: hypothalamus, ovaries, uterus, follicles, the corpus luteum and the placenta. The imbalance or dysfunction of any of these interrelated mechanisms causes a disturbance of the whole system. Typically, secretion of thyroid hormones is carried out on the basis of feedback, in which the increase in the concentration of subordinate hormone leads to a decrease in blood concentrations of the hormone regulated Makhatov B.M. Seyitpan K.N. Kulataev B.T. Improving the gene pool of modern breeds of sheep and goats in Kazakhstan. Collection of scientific works of the Stavropol Livestock Research Institute and forage 2012. Vol.1. №5. Boliev Sh.K., Sheraliev S., Murtazin B.F. Prevention of postpartum complications at cows // Materials between scientific-practical conference "Integration of science and practice in the provision of veterinary welfare" KazNIVI.- TOO Almaty, 2015.- S.79-83. Halipaev M.G. Prevention of infertility sheep // Proceedings of the International. Conf. .- Voronezh, 2006. - P. 1006-1008. Pristyazhnyuk O.N., Baymishev M.H., Meshkov I.V. Prevention delivery and postnatal pathology at cows in the conditions of intensive milk production technology // Collection of scientific. tr. Int. Scientific-practical. Conf. "Actual problems of morphology and biotechnology in animal husbandry", RF.- Kinel, 2015.- [1-6].

Data obtained from studies shows that LH from the pituitary gland into blood flows continuously, but different numerical values in terms of the sexual function is significantly varied. Initial data in the experimental groups were approximately equal (3,31 ± 0,21 and 3,29 ± 0,19 ng / ml, respectively). Use of the drug significantly activates the production of LH. So, 7 days after the injections of the drug level increased from 3.31 N ± 0.21 to 8.81 ± 0.24 ng / ml and in the control group - 3.29 ± 0.19 with up to 5,18 ± 0 13 ng / ml ($P < 0.05$). The highest peak of LH is marked during the hunt. During this period, due to increased pre-ovulation LH surge concentration reached its maximum value (14,28 ± 0,22 ng / ml), i.e. the amount of LH in 4.3 times higher than its initial level ($P < 0.001$). In unstimulated animals exceeded baseline only 2.5 times (8,15 ± 0,12 ng / ml).

After ovulation and fertilization in the experimental group of LH concentration in the blood is reduced to 5,39 ± 0,18 vs. 14,28 ± 0,22 ng / ml indicator hunting days, and in the control group to 3,90 ± 0,16 to 8, 15 ± 0,12 ng / ml level of the day estrus ($P < 0.001$). FSH provides a growth and differentiation of follicles in the ovary and is necessary for the formation of a cavity of the follicle. However, the entire process of maturation of follicles can be completed only in the presence of N, ie, in close cooperation of both hormones. The rise of the level of FSH in the blood of ewes occurs in the pre-ovulation period during estrus and ovulation. In unstimulated animals compared to baseline FSH concentration at day 7 after injection is increased by 2.2 times and in a hunting day 3.7 times, and to control the degree of increase was not high, i.e. within a specified time increases respectively 1.76 and 2.48 times ($P < 0.05$). After insemination FSH levels in both groups gradually reduced, reaching the initial level. Analysis of the dynamics of gonad tropic and ovarian hormones in the blood of sheep showed that for each stage of ovarian development is characterized by a certain between hormones relationship. So, if before the onset of estrus and ovulation prevailed estradiol -progesterone (E / P) ratio after ovulation, on the contrary, prevails P / E ratio.

The relationship of the LH / FSH was dynamic over from the time of the experience through to completion. But it should be noted that the relationship in hormone-stimulated animals was far superior values of the control group.

Thus, the data for the study of endocrine status in ewes shows the development of gonadotropin and sex hormones in the peripheral blood, the production of which is subject to close cooperation between systems: the hypothalamic-pituitary-ovary-uterus, providing regulation of endocrine and generative activity of the ovaries. Experimental evidence suggests that, under the influence of OCS in the maximum increase in the concentration of estradiol-17β. Increased pre-ovulatory LH

surge, increased levels of progesterone and LH in the luteal period, all of which contributes to a more fulfilling of hunting and ovulation.

Therefore, it should be assumed that the use of the drug increases the fertility and beneficial to the formation of the embryo during pregnancy.

As a result of targeted research work on the development of technologies and breeding methods to create a flock of intensive type, which allows to increase the profitability of fine-fleeced sheep in climate conditions, "R-Kurta" Almaty region, as well as for the implementation of adapted to the new economic conditions of intensive technologies of production allow to the sheep do the following conclusions. The introduction of intensive technology allows you to achieve the highest sustainable farming, with the most effective return on invested option. Separation prolific type of sheep can increase fertility in the 37,0-44,0% and increase profitability to 27,0-35,0%, meat production per the uterus is increased by 13,1-14,8 kg and profitability 26,0-28,5% .Use of standard selection of multiple target sheep and application of the method of selection of sheep Kazakh fine-fleeced breed wool clipping contributes to the intensity of selection rate, improve the accuracy of the phenotype assessment .

Proceeds from the sale of meat and wool on a uterus with the introduction of intensive technology was 15,030 tenge, an increase of 3,840 tenge, or 25.5% when compared with the extensive reference of the technology industry. It reduces the cost of maintaining a uterus 800 tenge or 12.2%, earnings per uterus reaches 9230,0tenge, which is more in comparison with the extensive system on 4640tenge or 50.2%.

Table 1 – Effect of owari cytotoxic serum (OCS) for dynamic content and ovarian gonadotropin hormones in serum ewes in different periods of sexual activity (M ± m, n = 10)

Hormons	Units	Groups	Before using OCS	The days after using drugs			
				7	14	21	30
Estradiol -17ß	ng/ml	Test	6,11±0,29	$10,28±0,31^{xx}$	$19,36±0,32^{xxx}$	$7,11±0,14^{x}$	$5,01±0,12^{x}$
		Control	6,09±0,24	$8,30±0,34^{x}$	$12,44±0,25^{xx}$	$6,14±0,30^{x}$	5,23±0,16
Proges-terone	ng/ml	Test	0,43±0,08	$0,21±0,04^{x}$	$0,06±0,01^{xx}$	$11,06±0,12^{xxx}$	$18,19±0,20^{xx}$
		Control	0,45±0,06	0,32±0,05	$0,11±0,02^{x}$	$7,12±0,11^{xx}$	$12,08±0,14^{x}$
LH	ng/ml	Test	3,31±0,21	$7,81±0,24^{x}$	$14,28±0,22^{xx}$	$6,61±0,15^{xx}$	$5,39±0,18^{x}$
		Control	3,29±0,18	$6,03±0,13^{x}$	$8,15±0,12^{xx}$	$4,18±0,09^{x}$	$3,30±0,16^{x}$
FSH	ng/ml	Test	2,88±0,10	$6,44±0,38^{x}$	$10,55±0,19^{xx}$	$3,34±0,08^{x}$	$2,03±0,08^{x}$
		Control	2,91±0,11	$5,12±0,14^{x}$	$7,23±0,17^{x}$	$5,51±0,11^{xx}$	3,05±0,09
E/P	ng/ml	Test	14,21	$48,95^{x}$	$322,7^{xx}$	$0,67^{x}$	$0,28^{x}$
		Control	13,53	$25,94^{xx}$	$113,1^{x}$	0,86	0,43
LH/FSH	ng/ml	Test	1,15	1,21	$1,35^{x}$	1,98	$2,66^{xx}$
		Control	1,16	$1,17^{x}$	1,13	$0,76^{x}$	1,08

Note: $^{x}P<0,05$; $^{xx}P<0,01$; $^{xxx}P<0,001$ – relatively at the beginning of test

The efficiency of sera owari cytotoxic serum (OCS) to improve reproductive performance of ewes.

Table 2 – Dynamics of the arrival Sheep treated owari cytotoxic serum (OCS) in the hunt

Age of ewes	Groups	Total number of livestock	Days of the ewes arrival for the hunting and insermination							
			On the 20th day		On the 25th day		On the 30th day		More than 30 days	
			piece	%	piece	%	piece	%	piece	%
4,5 years	Test	520	208	40,0	259	49,9	41	7,8	12	2,3
	Control	552	215	38,9	177	32,0	121	22,0	39	7,1
18 months	Test	672	168	25,0	248	36,9	215	31,0	41	6,1
	Control	683	61	8,9	192	28,1	308	45,2	122	17,8

Analyzing the data of accounting insemination, it can be noted that the DSP in stimulating doses increases the reproductive ability of queens. They are intense, friendly and come to hunt more effectively and fruitfully inseminated, insemination campaign time is reduced by 6-7 days (Table

3). It's in the hunt and successfully inseminated on the 20th day after the treatment of 40%, on the 25th day of 49.9%, on the 30th day of 7.85% or more for 30 days - 2.35% queens experimental group fourth lambing. In the control group, respectively - 38.9%; 22.0% and 7.1% of queens. Note that the 25th day of insemination account in the test group was 90% sheep inseminated, which is 17.9% more than in the control group. At first ewes lambing in the parish of the hunt and the insemination of queens were as follows: in the experimental group on the 20th day of -25.0%, the 25th day - 36.9%, the 30th day - 31.0% and more than 30th days - 5.1% of the population were fruitfully inseminated. In the control group, 8.9%, respectively; 28.1%; 45.2% and 17.8%. Effect DSP especially noticeable when comparing these parameters in the first 15 and 20 days. Experimental groups inseminated First of lambing superior to the control by 16.1% and by the 25th day of the number of ewes inseminated reached: in the experimental group 62.0% and control 37.0%.

These results indicate that there is increased fecundity (14.1%), which reached adult ewes 118%, while the ewes lambing first 92% of the experimental groups of sheep. The use of dairy sheep semen diluents. In the southern area of breeding fine-wool sheep with a hot climate to intensify fine-wool sheep, increasing reproductive qualities of sheep, as well as increasing the production of lamb, sheep prolific recommended type. Conduct a focused selection, selection and pairing them according to the type of birth, given the number of lambs in the first lambing.

References

1.Mahatov B.M. Seyitpan K.N. Kulataev B.T. Improving the gene pool of modern breeds of sheep and goats in Kazakhstan. Collection of scientific works of the Stavropol Livestock Research Institute and forage 2012. Vol.1. №5. 73-76.

2. Boliev Sh.K., Sheraliev S., Murtazin B.F. Prevention of postpartum complications at cows // Matarialy between scientific-practical conference "Integration of science and practice in the provision of veterinary welfare" KazNIVI.- TOO Almaty, 2015.-S.79-83.

3. Halipaev M.G. Prevention of infertility sheep // Proceedings of the International. Conf. .- Voronezh, 2006. - P. 1006-1008.

4. Pristyazhnyuk O.N., Baymishev M.H., Meshkov I.V. Prevention delivery and postnatal pathology at cows in the conditions of intensive milk production technology // Collection of scientific. tr. Int. Scientific-practical. Conf. "Actual problems of morphology and biotechnology in animal husbandry", RF.- Kinel, 2015.-S. 130-136.

5. Zemlyankin V.V. Morpho biochemical blood picture when combined hypo function ovary and chronic endometritis in cows // Collected scientific. tr. Int. Scientific-practical. Conf. "Actual problems of morphology and biotechnology in animal husbandry", RF.- Kinel, 2015.- s.160-164.

6. Kelser D., Garverich H.A /, Youngquist R.S., Elmore R.G. Effect of dais postraptum and endogeous reproductive hormones on CN- 2H- indwsed LH release in dairy cows // J. Anim. Sci.- 1987- Vol.45, № 4.- P. 793-803.

УДК 636.3

СОВЕРШЕНСТВОВАНИЕ ОХРАНЫ ТРУДА ПРИ ПРИГОТОВЛЕНИИ КОРМОВ В ЖИВОТНОВОДСТВЕ

Молош Т.В., к.т.н., доцент**, Кулинкович П.С.**
БГАТУ, г. Минск, Республика Беларусь

На животноводческих комплексах и фермах наиболее трудоемкой работой является приготовление кормов. В процессе приготовления различных видов кормовых смесей используют солому, измельченное зерно и различные другие компоненты. В связи с этим кормоприготовительные отделения (кормоцеха) имеют специфическое оборудование, где безопасность труда работающих зависит от его устройства, надежности, правильной эксплуатации и требует более сложной подготовки к работе.