амин қышқылдарымен үйлестірілген түрде тағамның биологиялық және тағамдық құндылығын жоғарылатады.

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ВЫДЕЛЕНИЕ СЫВОРОТОЧНЫХ БЕЛКОВ ИЗ КОБЫЛЬЕГО И ВЕРБЛЮЖЬЕГО МОЛОКА

Аннотация

В этой статье предусмотрено методы выделения сывороточных белков и свойства верблюжьего и кобыльего молока. К тому же, интерес направлен на повышение производство продуктов из сывороточного белка, получаемых в широком диапазоне.

Ключевые слова: верблюжье молоко, кобылье молоко, сывороточный белок, казеин, электрофорез.

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SELECTION OF SERUM PROTEINS FROM MARE'S AND CAMEL’S MILK

Summary

This article provides methods for isolating whey proteins, and properties of camel and mare's milk. In addition, the interest is aimed at increasing the production of whey protein obtainable in a wide range.

Keywords: camel's milk, mare's milk, whey protein, casein, and electrophoresis.

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IMPORTANCE OF MEAT AND FATTY ACID COMPOSITION OF LIPIDS IN YOUNG GRUBO SHERSTNAYA GOAT’S MEAT

Abstract

Every year the world's population of goats increased to 5 millions. Regularly selection improvement of the goat breeds, and technology for the rearing of goats also developed. In

Kazakhstan there is rare most common breed of Kazakh coarse-wool mohair goats, aims of the selection and breeding method are to improve and increase animal productivity, including more efficient way for the goat meat production. One of the industry's ways out from crisis situation is to save goat husbandry in the south-east of Kazakhstan and use genetically potential for goats which is characterized by early maturity. Intensive rearing of the goats, for meat greatest effect provides growing goats and full value diet, improving the quality of their products reduced feed costs per unit of production and have to increase high-quality production of goat meat, need to better use of genetic potential and realize young goats for meat at aged 4-8 months, develop the wide implementation of intensive production of goat output technologies in southern Kazakhstan. Because have intensive farming areas, with prevalence desert and low mountain pastures which is suitable only for grazing goats, It is a very actual task.

Keywords: goat, breed coarse-wool, meat quality, fats composition of the meat, technical raw material, factor of meats.

Relevance

Nowadays, there is big problem in providing food for population in the world. Demand for animal products, particularly meat, extends to 60% according to the physiological norm [1]. In addition, the practice of recent years shows the dependence of the economy and the market from low-quality, but lower-cost imported products in Western Europe and the USA [2]. All this makes local scientists and manufacturers to develop and introduce new food production technologies and tools that are often far from being harmless.

The presence of extensive territories and the existence of the traditional methods of obtaining high-quality livestock products provide opportunities for successful crops and livestock [3]. At the same time, more than 80% of goat population is concentrated in private farms, providing the people with meat, dairy products, and raw materials for the industry [4]. According to international trends, in order to get meat from youngster goats they need to be aged up to one year. It certainly is justified in terms of the quality characteristics of raw meat, and from the position of economic efficiency. In this regard, more relevance and scientific-practical significance are aimed on scientific research improving the productive and breeding qualities and the development of technologies for production of meat products from the major breeds of goats, including and grubo sherstnaya breeds, making up numerically the majority of the republic goats [5].

Aims and objectives of the research

The main aim is comprehensive study of the growth and development patterns, biological characteristics of meat formation, quality of goats' meat material received from goats with different levels of productivity as well as development and implementation of science-based technological and breeding techniques to increase the production of meat.

Practical significance of the work

Based on the research objective of the growth and development of animals were obtained, which determined the peculiarities of muscle formation and adipose tissue, internal organs, estimated food (biological) and consumer value of meat goat, established pattern accumulation of heavy metals in the wool and slaughter products considering age-related changes. The resulting evidence can be used in future researches aimed at forecasting and in-depth study of environmental factors that play a role in various types of intoxication, as well as to carry out social for environmental monitoring of regional industrial centers of Almaty region.

Material and method of the study

Experimental part of the work is carried out in the private sector, "Ikram" Almaty region, where it was established, and focused for the most highly productive breeding herd of Kazakh grubo sherstnaya goats. Growth & Development of young animals, and studied the results of weighing at birth, 4, 8 and 12 months. In addition, we measured the following eight characteristics the goat for exterior body measurements. Meat productivity and fat composition

of meat was studied through the control of slaughter animals. The economic effectiveness of breeding determined by comparing the proceeds of realized production. Maintenance and feeding of goats at the farm is organized according to the year-round grazing system, which allows maximum use of the natural forage lands.

Our scientific and economic experience was conducted:

1- goats 4 months of experimental group

2-control group 8 months

3- the control group 12 months

Results of the research

Experimental data complement and extend scientific knowledge, justify the complete research on improving goats for increasing meat and enable us to give practical recommendations on the intensification of raising a given genotype [6]. For the experiment, young animals were selected based on counterparts, taking into account gender, age, type of birth, body weight. Goats, used in the experiments were kept together with females on personal farmsteads of 20-25 heads, and then in general flock [7]. We investigated fatty acid content in the average sample-goat minced meat, using a gas chromatograph analytical "Kristall 2000M," in the testing laboratory. To study the efficiency of meat we held control slaughter of 9 goats aged 4, 8 and 12 months in 3 heads from each age group (Table 1).

Table1. Results of control slaughter goats (n = 3)

The indicator, measuring unit	Age, months.		
	4	8	12
Slaughter weight, kg	17,55±0,12	32,51±0,16	41,38±0,23
pair carcass, kg	7,30±0,16	14,03±0,21	18,45±0,14
GIT, kg	4,94±0,19	8,55±0,44	11,17±0,06
Liver, kg	1,12±0,04	1,36±0,11	1,75±0,10
pair skin, kg	1,39±0,04	2,89±0,03	4,64±0,06
Fat raw, kg	0,13±0,01	0,39±0,03	0,87±0,02
The area of eye muscle, cm²	11,06±0,09	16,25±0,07	17,48±0,15
Slaughter yield,%	41,59±0,67	43,17±0,47	44,59±0,10
Fat Yield, %	0,75±0,03	1,21±0,1	2,11±0,03

Kazakh coarse-wool breed goats can be attributed to rather precocious animals. Thus, the dynamics of the pre-slaughter weight from 4 to 12 months age are increased by 23.8 kg or 44.4%, pair carcass weight in the same age periods at 11.15 kg or 39.57%. Carcass yield at age of 4 months, it was 41.6%, and 12-44, 6%. Crude fat content in the carcasses of goats increased from 4 to 12 months. 0.74 kg or 85.06%, and the yield increases with fat 0.75% to 2.11%. Fatty acid composition of goats' meat is well balanced (Table. 2). In all age periods goat has a good ratio of unsaturated to saturated acids: in 4 months of age, it was 1.14; 8 months - 1.05, and 1.3 to 12 month, respectively, which is indicative of the high quality of this type of meat.

Table2. Fatty acid composition of lipids from the goats' meat (n = 3).

Indicator	Age, month		
	4	8	12
The amount of monounsaturated fatty acids	0,279±0,003	0,307±0,064	0,735±0,209
caprylic	0,112±0,002	0,148±0,018	0,163±0,006
Lauric	1,137±0,003	0,159±0,046	0,573±0,211
The amount of saturated fatty acids	47,193±0,246	51,022±0,180	58,643±0,326
myristic	1,451±0,005	1,826±0,174	1,788±0,098
palmitic	26,165±0,749	28,029±0,109	32,981±0,505

stearic	19,276±0,542	20,794±0,086	23,172±0,396
arachidic	0,172±0,004	0,247±0,019	0,702±0,033
behenic	0,129±0,002	0,126±0,003	-
The amount of monounsaturated fatty acids	45,608±0,198	43,941±0,266	37,864±0,330
palmitoleic	2,610±0,010	2,077±0,216	1,710±0,050
oleic	42,998±0,205	41,864±0,420	36,154±0,306
The amount of polyunsaturated fatty acids	6,950±0,058	4,729±0,093	2,757±0,109
linoleic	6,034±0,002	3,936±0,062	2,271±0,112
linolenic	0,916±0,057	0,793±0,047	0,487±0,003
The ratio of 6/3	6,604±0,402	4,973±0,262	4,666±0,262
Total saturated	47,442	51,330	59,379
Total unsaturated	52,558	48,670	40,621
The ratio of unsaturated to saturated	1,14	1,05	1,3

Polyunsaturated fatty acids are called vitamin F, they are indispensable factors of nutrition, as are not formed in the human body and must be obtained from food.

High enough content of essential fatty acids in goat meat should have a positive effect on the prevention of diseases such as obesity, atherosclerosis and coronary heart disease [8]. The body of children is most sensitive to deficiency of PUFAs, as increasingly requires ductile material for the synthesis of phospholipids. Thus, the results obtained in the study of meat efficiency of young goats of Kazakh coarse-wool goat breed show high meat quality and well-balanced fatty acid composition of muscle tissue. Goats' meats are healthy nutritious food and have high dietary parameters [9]. Goat's meat favorably with other types of meat is particularly useful for people in need of full-protein products, preschool and adolescence, nursing mothers and the elders. Slaughter quality goats. Carcass weight, By the time of weaning kids from ewes the weight of carcasses to 1,20-1,42 kg increases to 2 and 4 times of monthly age and 5,22-5,21 to 8,30-8,43 kg, or 4,3-3, 7 and 6,9-5,9 times, and to 8 months of age only reaches 10,62-10,87 kg.

In our studies, even comparatively intensive rearing conditions, the doubling of the carcass weight in 4-month goats from 8,30-8,43 to 19,92-19,82 kg happens to 18 months of age, and almost a year of goats' life. Visceral fat and the amount of deposits of internal fat is not determined by age and feeding level, evidence of this is the relative weight in 8-month-old goats, 2.5-3.3%, which is 1,06-1,15% lower than that of goats with 4 months of age slaughtered for meat immediately after weaning of goats. Offal With the age of goats observed decline in the relative weight of by-products as a whole, including and 1 category with 5.0 -6.3% in infants up to 3.2 - 3.2% for 18-month and received up to 2.8% in adult goat. Out of these categories, by-products from goats of different age groups are subject to sharp fluctuations. The relative weight of the lungs, trachea, larynx, abomasum upon goats' age continuously decreases while rumen, reticulum, omasum and esophagus, in contrast, increased. Productivity of goat meat in Kazakhstan, Regulatory requirements of the processing industry for carcass yield (46.1%) and visceral fat (3%) corresponded mainly with slaughter qualities of adult goats of Soviet wool breeds in Semipalatinsk zone of Eastern Kazakhstan region, respectively, 54.4 and 5.23% for goats and 48,0-48,9 and 6,7-9,3% in ewes, and among the young hybrids of Pridonskoy, Orenburg and Gornoaltaisk breeds, slaughter output and internal fat output, respectively 48,6-52,7 and 3,8-5,6%. Hybrid wool goats (3/4 - 15/16 NL) differed in best flesh calorie (15,04-13,11 MJ) and meatiness factor (4,26-4,07) of carcasses. High nutritional value is typical and for meat of young goats, especially the young goats after weaning from their mothers: flesh calorie of carcass 8,92-14,1 MJ, which is almost equivalent to or slightly below the energy value of meat from adult animals after feeding, 11,3-15,04 MJ. Mass of their carcasses, depending on breed, is

in northeastern region - 8.10 kg, southeastern - 7,83-8,42 kg, in western republic 6,66-8,0 kg with slaughter carcass output of, respectively, 42,25; 45,7-47,16 and 40,3-43,3%. The weight and carcass yield of flesh is between 5,8-9,45 kg and 67.34 - 76.8%, and the meatiness factor - 2,06-4,0 units. In general, slaughter quality of main breeds of goats in Kazakhstan complies with regulatory requirements and meat processing industry for small ruminants. This, in turn, points to the potential of the republic to increase the production of goat meat by feeding goats on natural pastures and the use of, where possible, intensive rearing and fattening calves. Animals of the main breed resources of goats of the republic significantly differ on slaughter and lack meat quality, but for them, especially for the Soviet wool goats, characterized by a relatively low body weight, this indicates the importance of more attention to this fact for their selection. The most profitable fattening goats spend on natural grasslands, followed by more feeding on concentrates at rate of 300 to 400 grams per day per animal. For these purposes it can be best used the processed Sudan grass and crop residues. Animals eat not only the green parts, but also pick up spikes. In 1.5-2 months they will get fattened in a better condition. The average daily weight gain will be up to 150-200g. If they graze on crop residues, concentrates' daily rate can be reduced to 150-200g. If the females are old and toothless, they need to fatten on their farmstead. They are fed green vegetables, hay, shredded beets, potatoes, cabbage leaves and other home garden wastes. In individual farms good goat meat is obtained by rearing and fattening bucks. In home farmsteads, a shady canopy with a size 2 m^2 per animal can be built. Under a canopy cribs and pans can be installed. Feed bucks with green vegetables between 5-6 kg, 2-2.5 kg of hay and concentrated feed 200-250 grams per day. Green vegetables can be replaced with beet tops and carrots. The animals can be fed beets, pumpkin, carrots and other products of the garden. By 8 months of age, live weight in bucks will be 28-30 kg. In this weight the carcass would be respectively 20-22 and 14-15 kg. Regular consumption of this helps to maintain human fat metabolism normal and the balance of nutrients optimal. Recommended age for slaughtering goats for meat is 8 months. Growing and fattening kids of main breeds of goats in Kazakhstan (coarse wool, Soviet wool and their hybrids) is biologically expedient to carry out until they reach a live weight of 45 kg.

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СОДЕРЖАНИЕ ЖИРНЫХ КИСЛОТ И ЛИПИДОВ В СОСТАВЕ МЯСА МОЛОДОЙ ГРУБОШЕРСТНОЙ КОЗЫ

Аннотация

Ежегодное распространение козлов в мире увеличилось до 5 миллионов. Регулярно улучшается селекция козьей породы и технологии выращивания коз. В Казахстане встречается редчайшая порода казахских грубошерстных мохерских коз, целью селекционного и селекционного метода является улучшение и повышение продуктивности животных, в том числе более эффективный способ производства козьего мяса. Одним из путей выхода из кризисной ситуации является сохранение козоводства на юго-востоке Казахстана и использование генетического потенциала для коз, который характеризуется ранней зрелостью. Интенсивное выращивание коз, для наибольшего эффекта мяса обеспечивает рост и развитие козы и полноценный рацион, улучшая качество своей продукции, уменьшает затраты на корм на единицу продукции и вынуждает увеличивать высококачественное производство козьего мяса, необходимо более эффективное использование генетического потенциала и реализовать молодых козлов для мяса в возрасте 4-8 месяцев, развивать широкое внедрение интенсивного производства технологий производства коз в южном Казахстане. Потому что имеют интенсивные сельскохозяйственные угодья, где преобладают пустыни и малорослые пастбища, пригодные только для выпаса коз.

***Ключевые слова**:* коза, грубошерстная порода, качество мяса, состав жира в мясе, техническое сырье, мяса.

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ҚЫЛШЫҚ ЖҮНДІ ЖАС ЕШКІЛЕРДІҢ ЕТІНІҢ ҚҰРАМЫНДАҒЫ МАЙ ҚЫШҚЫЛДАРЫ МЕН ЛИПИДТЕРДІҢ ҚҰРАМЫ

Андатпа

Әлемдегі жыл сайынғы ешкі саны 5 миллионға дейін артты. Ешкі тұқымдарын өсіру және ешкі өсіру технологиялары үнемі жетілдірілуде. Қазақстанда селекциялық және асыл тұқымдық ешкі өсіру әдісі қылшық жүнді ешкіні өсіріп, сирек тұқымды сай ешкі ет өндірісінің неғұрлым тиімді тәсілі, оның ішінде жануарлардың өнімділігін жақсарту және арттыру болып табылады, дағдарыстан шығу жолдарының бірі Қазақстанның оңтүстік-шығысында және ерте ересек сипатталады ешкі, генетикалық әлеуетін пайдалану ешкіні сақтау болып табылады. Ірі ет әсері үшін ешкі қарқынды өсіруге, ешкі еті жоғары сапалы өндіруді арттыру генетикалық әлеуетін неғұрлым тиімді пайдалану және ет жас ешкі жүзеге асыруға шығару және күштердің бірлігіне жем шығындарды азайту, олардың өнімдерінің сапасын жақсарту, ешкі және толық рационына өсуі мен дамуын қозғаушы 4-8 жас аралығындағы Қазақстанның оңтүстігінде ешкі өндіру технологиясын қарқынды өндіруді кеңінен енгізу.

Түйінді сөздер: ешкі, қылшық жүн тұқымы, ет сапасы, ет құрамындағы май композициясы, техникалық шикізат, ет.

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STUDY ON THE CHEMICAL COMPOSITION OF GOAT MEAT

Abstract

Goats are generally well adapted to hot environments, tolerating the extremes of desert conditions and high temperature-humidity conditions of the tropics, because of small size, large surface area to body weight ratio, an ability to conserve water, limited subcutaneous fat cover