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AMINO ACID COMPOSITION OF HEALTHY AND SICK BY
ESCHERICHIOSIS LAMB'S MEAT

Annotation. The amino acid composition of healthy and sick lamb's meat was studied. Studies have shown that the content of essential and nonessential amino acids in healthy lamb's meat is considerably lower compared to the sick animals.

Key words: esherihiosis, essential and nonessential amino acids, serogroup, protein.

Introduction. The most important condition for effective livestock development are mainly: the maximum preservation of newborn young farm animals and reduce their morbidity. Among the diseases of young animals are widespread and cause the greatest economic damage to the gastro-intestinal diseases, accompanied by a significant loss of insufficient growth and development [1].

Esherihiosis widespread infectious disease of young farm animals, causing high mortality and growth retardation and reduced productivity had been ill individuals. The disease is caused by genus *Escherichia*, which consist 170 serogroups and more than 10,000 serological variants [2].

In establishing quality and safety of products of slaughter clinically healthy and ill animal, particularly ehsherihiosis, an important part is an identification of concentrations of linked amino acids in meat products. Meat and other products of the slaughter of sick animals in their raw form are a danger to human health, and may also cause the spread of contagious diseases.

In assessing the biological value of proteins together to the extent that the balance of essential amino acids is taken into account the level of protein hydrolysis by digestive enzymes. Considering meat primarily as a source of complete proteins, note that decisive importance for its nutritional value is the content of muscle tissue [3].

Meat of lamb is a valuable food. According to the content of essential amino acids, vitamins, protein and minerals that meat is not inferior to beef even exceed its performance in calories. In meat lambs cholesterol less than a few times, than pork and beef.

In some countries, for example, in England, made a lot of meat of lamb, so about 40 % is exported. While France and Germany are missing 10-12% of meat lamb. In general, the EU market only 85-87 % filled with meat of lamb. Special demand lean to meat of 6-9 month-old lambs. It is more essential amino acids (methionine, valine, leucine, isoleucine, lysine, and tryptophan) [4].

Materials and methods. The work was performed at the Department of "Biological safety" and LLP "Nutritest", Kazakh Academy of Nutrition of the Republic of Kazakhstan.

Amino acid composition of the protein of muscle tissue was determined by automatic analyzer AT-339 after acid hydrolysis of the muscle. Tryptophan and hydroxyproline protein femoral muscles were determined after alkaline hydrolysis of the muscle tissue (V.G. Ryadchikova modifications, 1978) using n-DMBA reagent (n-dimetilaminobenzoldegid).

We used samples of meat lambs patients with signs of acute disorders of the gastrointestinal tract, as well as meat from a healthy animal lambs, as the control group.

Results and discussion. Results of biological value of protein depend on the content of amino acids. We investigated the content of amino acids by chemical means. The results obtained are presented in Table 1.

Table 1- Contents of essential and non-essential amino acids in the meat of healthy and sick lamb's mg/100g

Amino Acids		Investigational meat	
		Control group (meat healthy lambs)	Experimental group (meat from sick lambs)
1	2	3	4
Essential amino acids, % of total protein		6411	6767
1	Valine	777	820
2	Isoleucine	802	847
3	Leucine	1287	1358
4	Lysine	1535	1620
5	Methionine	377	398
6	Threonine	733	774
7	Tryptophan	238	251
8	Phenylalanine	662	699
Nonessential amino acids, % of total protein		9760	10303
9	Alanine	926	977
10	Arginine	1060	1119
11	Aspartic	1520	1604
12	Histidine	502	530
13	Glycine	844	891
14	Glutamic	2465	2602
15	Pydroxyproline	285	301
16	Proline	738	779
17	Serine	660	696
18	Tyrosine	569	601
19	Cystine	191	202
Amount of amino acids		16171	17069

Studies have shown that the content of essential and nonessential amino acids in healthy lamb's meat is considerably lower compared to the sick animals. Essential amino acids in the control group (meat from healthy lambs) valine - 777 mg/100g, 802 mg/100g isoleucine, leucine – 287 mg/100g, lysine - 1535 mg/100g, 377mg/100g of methionine, threonine 733 mg/100g, 238 mg/100 g of tryptophan, fenilalanin - 662mg/100g. Indicators of essential amino acids from the experimental group (meat from sick lambs) valine - 820 mg/100g, 847 mg/100g isoleucine, leucine - 1358 mg/100g, lysine - 1620 mg/100g, 398 mg/100g of methionine, threonine 774 mg/100g, 251 mg/100 g of tryptophan, phenylalanine - 699 mg/100g.

Content of essential amino acids in the control group (healthy meat lambs) is 926 mg/100g alanine, arginine - 1060 mg/100g, aspartic acid 1520 mg/100g, 502 mg/100g histidine, glycine - 844 mg/100g, glutamic acid - 2465 mg/100g, 285 mg/100g - hydroxyproline, proline -738 mg/100 g, 660mg/100g of serine, tyrosine 569 mg/100g, cystine -191 mg/100g. Indicators of essential amino acids of the experimental group (meat from sick lambs) alanine 977mg/100g, arginine - 1119 mg/100g, aspartic acid - 1604 mg/100g, 530 mg/100g histidine, glycine -891mg/100g, glutamic acid - 2602 mg/100g, 301mg/100g - hydroxyproline, proline -779mg/100g, 696 mg/100g of serine, tyrosine 601 mg/100g, cystine -202 mg/100g.

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АМИНОКИСЛОТНЫЙ СОСТАВ МЯСА ЗДОРОВЫХ И БОЛЬНЫХ ЭШЕРИХИОЗОМ ЯГНЯТ

Изучен аминокислотный состав мяса здоровых и больных эшерихиозом ягнят. Исследования показали, что содержание незаменимых и заменимых аминокислот в мясе здоровых ягнят значительно ниже по сравнению с показателями от больных животных.

Ключевые слова: эшерихиоз, незаменимые и заменимые аминокислоты, серогруппы, белок.

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САУ ЖӘНЕ ЭШЕРИХИОЗБЕН АУЫРҒАН ҚОЗЫ ЕТІНІҢ АМИНҚЫШҚЫЛДЫҚ ҚҰРАМЫ

Сау және эшерихиозбен ауырған қозы етінің аминқышқылдық құрамы анықталды. Зерттеу нәтижесінде, сау қозы етінің құрамындағы алмасатын және алмаспайтын аминқышқылдары ауру қозы етінің көрсеткішіне қарағанда төмен.

Түйін сөздер: эшерихиоз, алмаспайтын және алмасатын аминқышқылдары, серотоптар, ақуыз.

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ОПЫТ ВЫРАЩИВАНИЯ ГИБРИДА «СИБИРСКИЙ ОСЕТР Х РУССКИЙ ОСЕТР» В КАЗАХСТАНЕ

Аннотация. Описан опыт выращивания сеголеток гибрида «сибирский осетр х русский осетр» в рыбоводном хозяйстве юга Казахстана. Приведены значения гидрохимических параметров водной среды при выращивании сеголеток, обозначены виды применяемых кормов, представлены показатели начальной и конечной массы сеголеток выращиваемого гибрида осетровых рыб, значения абсолютного, среднесуточного и относительного прироста сеголеток, рыбопродуктивности бассейнов. Приведено сравнение полученных значений показателя выживаемости с нормативными значениями, рекомендуемыми российскими учеными; показана большая выживаемость сеголеток, полученная в результате эксперимента.

Ключевые слова: осетроводство, гибриды осетровых, сибрус, бассейновое выращивание, выживаемость, рыбопродуктивность.