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НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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MEAT PRODUCTIVITY OF THE YOUNG STOCK OF THE KAZAKH JABE HORSES AFTER THE AUTUMN FATTENING

Abstract. In the article, some zootechnical measures that allow to significantly increase the quantity and quality of horse meat in the conditions of autumn fattening are considered. Proceeds from the sale of young animals are doubled for each colt, both due to the increase in live weight (41.6-48.5 kg), and due to higher prices for horse meat of higher fatness (1000-1200 tenge per 1 kg of meat).

During a relatively short period of fattening (76 days), the young stock, released from the summer heat in a state of lower average fatness, reached the highest condition. Studies have shown that during the first 20 days of feeding, the average daily gain of colts reached 1160-1400 g per day. Then on the 30th day of feeding, the average daily gain decreases and reaches 750-840 g, and at the end of the fattening on the 70th day of feeding - 20-100 g.

When slaughtering young horses after autumn fattening, carcasses were obtained with a high slaughter yield (53.8-56.5%), a large content of pulp (78.3-82.5%) with a relatively low bone content (17.5-21.7 %). The highest yield of pulp in all groups of young animals was in the first grade (47.5-50.6%), then in the second grade (32.7-34.8%). The yield of pulp outside the grade (kazy + zhal) reached 14.3% in 6-month-old colts, 17.5% in 18-month-old colts and 18.7% in 18-month-old colts. Offal products are of great importance in the future use of horse breeding reserves. From the colts of different ages, a mass of the tongue was obtained from 0.48 to 0.83 kg, the liver from 2.51 to 4.68 kg, the kidney from 0.91 to 1.41 kg, the heart from 1.07 to 2.64 kg. From the small colon, a delicacy product like karta is made, the length of which reaches 0.7-1.9 m. The thin intestine is used as a shell for kazy and chuzhuk, its length is from 14.7 to 16.9 m.

Net profit from the sale of colts of different ages for meat ranges from 46.2 to 112.2 thousand tenge. The profitability is high from 59.8 to 76.4%.

Keywords: young stock, growth, carcass, slaughter yield, pulp, bones, offal, profit, profitability.

Introduction. Productive horse breeding in Kazakhstan is a promising, developing and highly efficient livestock sector. In terms of meat productivity, horses are not inferior to specialized breeds of cattle. Slaughter yield in horses reaches 52-60%, and the yield of meat in carcasses is up to 81% [1]. Meat has a high nutritional value due to a complete set of essential amino acids and a favorable ratio between them, as well as the presence in it of biologically valuable fat. Horse meat is recognized as a dietary food product [2].

Favorable conditions for diversified animal breeding, including horse breeding, are available in all regions of Kazakhstan. The presence of large areas of natural forage lands [3], where it is possible to keep horses all year round at the pasture, combined with an abundance of gramma grass, good watering and absence of bloodsucking insects on pastures (zhailau) promote the development of productive horse breeding and the production of cheap products.

However, the efficiency of meat horse breeding in the areas of herd horse keeping is constrained by the fact that local Kazakh horses of these regions have insufficiently high live weight, undersized and late-ripening, since they finish their growth by 6-7 years. At the same time, local Kazakh horses are well adapted to the harsh conditions of pasture and winter-grazing keeping. Therefore, the development of meat

horse breeding in the areas of herd horse keeping is associated with the problem of increasing the meat qualities of local Kazakh horses [4].

One of the methods for the most rapid increase in live weight, size and early maturity is the crossing of local Kazakh mares with stallions of Kushum, Mugalzhар breeds and Kazakh Jabe type.

In modern conditions, the vital need is to find new methods of work in horse breeding, which would ensure the acquisition of horses that meet the modern requirements of productive horse breeding in relation to local conditions.

Practice has shown that these requirements are met by the newly created Embensky and Kozhamberdinsky inter-breed types of Mugalzhар breed [5], the Jangali factory type of the Kushum breed [6] and the Seleti factory type of the Kazakh horses of Jabe type [7] grown in pasture and winter-grazing keeping and steadily transferring their economically important traits to young stock.

The main goal of breeding horses of newly created intra-breed and factory types of domestic breeds is the production of meat based on the year-round use of natural pastures. Now they are used as improvers of local Kazakh horses in various natural and climatic zones of Kazakhstan.

The object of the research is the young stock of the Seletinsky factory-type of the Kazakh Jabe horses of the stud farm "Altai Karpik Saydaly Sarytoka" of the Irtysh district of the Pavlodar region.

The aim of the work is to study the meat productivity of young stock of the Kazakh horses of Jabe type of different ages after the autumn fattening.

Methodology of the work. For the experiments, three groups of colts were singled out at the age of 6, 18 and 30 months for autumn fattening. The technology of keeping young animals in the "Altai Karpik Saydaly Sarytoka" stud farm in the Pavlodar region was typical of the herd breeding zone. The maintenance of young horses at fattening was pasture without additional feeding. Autumn fattening was carried out from early October to mid-December on feather grass-fescue-sagebrush pastures [8].

When setting and at the end of the fattening period, all experimental stallions were weighed. The increase in live weight over the fattening period and the ability of fattening were determined by weighing every 10 days [9].

Before setting up the fattening experiments, individual weighing of the stallions on the electronic scales, recording the brand numbers, determining the age and fatness of the colts were carried out. The fatness was determined in accordance with the requirements of GOST 32225-2013 [10].

In order to study the meat qualities of stallions of different ages, control slaughter was carried out at the slaughterhouse of the stud farm using the ARSRI of horse breeding methods [11] and in accordance with the technological instructions [12] adopted in the meat industry.

For a more objective assessment of the marketability of meat, the horse carcasses were butchered according to the scheme adopted for the state trade network of the Republic of Kazakhstan according to ST RK 1303-2004 [13]. Each of the cuts obtained during the butchering of horse carcasses has a specific purpose. To make zhal, fatty crest of the neck was used. Backrib part (from the 7th to 12th rib) with pulp served to produce kazy. The upper layer of muscle tissue with fatty watering from the silverside went to the production of zhaya. Cutting from the outer back-lumbar part was used to make the products of sur-et. Muscular tissue of the cervical and humeroscapular parts with the addition of internal fat went to the production of sausage products of chuzhuk. Karta was produced from the small colon.

The economic efficiency of fattening of colts of different ages was established on the basis of the following indicators:

- productivity in kg per head;
- fattening costs;
- cost of 1 dt of gain;
- profit from fattening;
- profitability.

The data obtained in the experiments were processed biometrically [14].

Results of the work. The fattening qualities of young Kazakh Jabe horses. Fattening of horses is one of the most important economic measures that allow to increase the production of horse meat and improve its quality by grazing on natural pastures [15,16]. Using the biological features of herd horses and feather grass-fescue-sagebrush pastures of the steppe zone of the Irtysh region, we increased the production of horse meat, increased fatness and profitability. In summer, because of the heat and a large number of

bloodsucking insects, horses lose their fatness. In the fall period, with precipitation falling, the secondary vegetation of cereal and wormwood associations takes place. During this period we conducted autumn feeding, the results of which are given in table 1.

Table 1 – Results of the autumn fattening of young stock (nby 10)

Indicators	Age in months		
	6	18	30
Duration of fattening, days	76	76	76
Live weight at the beginning of fattening, kg	171.2±1.38	288.7±2.09	342.4±2.96
Live weight at the end of the fattening, kg	215.6±2.17	330.3±2.53	390.9±3.04
Live weight gain, kg	44.4±0.79	41.6±0.98	48.5±1.02
Average daily gain, g	584.2±11.76	547.4±10.95	638.1±12.06

As can be seen from the data of Table 1, in the autumn period the young horses of all the groups had a high gain in live weight. In 6 and 18 months-old colts, the increase was mainly due to the growth of muscle tissue, and in 30 months-old - due to muscular, and also due to large deposition of adipose tissue [17, 18]. The highest average daily gain in stallions was observed in 30 months old youngsters (638.1 g) compared to 6 and 18 months old colts, the difference was 9.2 and 16.6%.

Thus, during the autumn fattening, the colts after the summer heat, having a lower average fatness in a relatively short period of time, have reached a higher average fatness.

It was established that the stallions of all three age groups during the first 20 days of fattening (from October 1 to October 20), when the secondary vegetation starts, is rapidly added to the live mass. The character of the curve of the average daily live weight gain in all three groups of young animals was almost the same. A few high average daily gain during the first 20 days of feeding are observed in 30 months old colts of 1400 g and in 18-month-old horses of 1200 g. In 6 months old colts, this figure was 1160 g. Then, on day 30, the average daily gain in all groups of young stock declines. By the end of the fattening, the average daily gain reaches 20-50 g per day.

The high average daily growth of young horses during the first 20 days of feeding is explained by the ability of horses to quickly compensate for the loss in mass in a relatively short period of time during the summer heat, besides, in the autumn period, the grass stand has the excessive nutritional value [19]. At the beginning of fattening in the body of horses, there is a rapid growth of muscle tissue, and at the end of the feeding, there is the deposition of fatty tissues [20]. When the horses attain a higher average fatness, the average daily gain in experimental stallions decreased to 50-20 g per day.

Meat productivity of young stock after the autumn feeding. In vivo evaluation of horses in terms of the size of live weight, growth intensity and body type do not fully characterize their meat productivity. Therefore, in zootechnics, the following main indicators were adopted to characterize the meat productivity and quality of meat: yield of the carcass, slaughter yield, mass of muscle and fat tissue, content of edible parts of carcass, chemical composition and calories of meat [21].

The most valuable in terms of meat quality are horses, capable of slaughtering a large yield of carcass and pulp at a relatively low content of bones.

Quantitative and qualitative indicators of meat productivity are determined by hereditary, pedigree and individual characteristics of horses, technology of keeping, and other non-hereditary factors [22].

In order to study the meat qualities of colts of different ages, they were slaughtered at the slaughterhouse of the stud farm after the autumn fattening (table 2).

Table 2 – Meat productivity of colts of different ages (nby 2)

Indicators	Age in months		
	6	18	30
Preslaughter live weight, kg	214	331	389
Weight of carcass, kg	121	178	216
Slaughter yield, %	56.5	53.8	55.5

As can be seen from the data in Table 2, according to the weight of the carcass, 30-month-old stallions outperform the young stock at 6 and 18 months old by 75.5 and 21.3%. The largest slaughter yield (56.5%) was for colts of 6 months age, with a gradual decrease with age. The size of the slaughter yield primarily depends on the size and volume of the gastrointestinal tract, especially in horses kept year-round at the pasture forage.

All carcasses of the colts of the studied groups were visually assessed. Since all the stallions had an above average fatness, then within a single age there was no noticeable difference in the fatty watering of the carcasses; in the carcasses of 6 and 18 months old colts, the color of the bacon was white, and in the carcasses of 30-month-old stallions it was pale yellowish.

In the carcasses of the 6 months old colts, the fatty watering evenly covered the entire dorsal part, with an increase in the thickness of fat to 1 cm on the lumbar part. On the upper part of the carcass, the fatty ridge was slightly manifested.

In the carcasses of colts at the age of 18 months, the fatty crest was 1.5-2.0 cm thick. In the carcasses of this age, deposits of adipose tissue on the abdominal wall and especially in the groin are noticeable.

In the carcasses of the stallions of 30 months of age, the fat crest was well expressed, its thickness reached 3 cm. The fat layer on the rib part of the chest, back, waist and abdominal part is well pronounced.

In the process of the ontogeny of horses, various parts of the body grow unevenly. The axial part of the skeleton and the corresponding musculature grows most intensively than the peripheral parts [23]. Based on this, we studied the change in the mass of different parts of the carcass of colts of different ages (table 3).

Table 3 – Weight ratio of different parts of the colts carcasses of different ages (in kg)

Parts of the carcass	Age in months		
	6	18	30
Slaughter	0.8	1.9	2.1
Zhal	0.5	1.6	2.9
Humeroscapular	40.9	58.1	68.9
Shank	1.9	2.4	3.0
Dorsal	7.6	13.8	18.7
Kazy	14.0	26.0	32.9
Back	49.2	66.7	79.6
Flat bone	3.6	3.9	4.1
Shin	2.5	3.6	3.8
Whole carcass	121	178	216

From table 3, it can be seen that the largest weight falls on the back part in all three groups of colts (from 49.2 to 79.6 kg), followed by humeroscapular part (40.9-68.9 kg), the cut of the kazy (14.0-32.9 kg) and the dorsal part (7.6-18.7 kg).

The least amount falls on such parts of the carcass as a flat bone (3.6-4.1 kg), shin (2.5-3.8 kg), shank (1.9-3.0 kg) and slaughter (0.8-2.1 kg).

When studying the morphological composition according to varieties and the whole carcass of the stallions, the ratio of the trimmed meat and bones was determined (table 4).

Table 4 – Morphological composition of the carcass of stallions of different ages

Age in months	Weight of carcass, kg	Composition of the carcass			
		Pulp		Bones	
		kg	%	kg	%
6	121	94.8	78.3	26.2	21.7
18	178	146.8	82.5	31.2	17.5
30	216	177.6	82.2	38.4	17.8

From the data in table 4, it can be seen that the morphological composition of carcasses of stallions of different ages was not the same. The yield of pulp in the carcasses of 18 and 30 months old colts was 52.0 kg (54.8%) and 82.6 kg (87.1%) higher compared to 6-month-old colts. The absolute content of the bones in the carcasses of 18 and 30 months old colts was more, but on the relative content of bones at 6 months old colts, these figures were higher by 4.2 and 3.9%. By the yield of pulp per 1 kg of bones, in colts, the large differences were not observed, so in 6 months old colts they were equal to 4.4 kg, in 18-month-old stallions - 4.7 and in 30 monthly colts - 4.6 kg.

Individual varieties of carcasses are characterized by the different ratio of muscle tissue to other tissues. This is due to the peculiarities of the anatomical structure and the nature of the work performed by this or that part of the body.

The best in the nutritional values are those varieties of the carcass that contain the largest amount of muscle and fat tissue, with a low bone content (table 5).

Table 5 – Ratio of tissues in carcass by varieties in stallions of different ages

Parts of the carcass by varieties	Tissues	Age in months					
		6		18		30	
		kg	%	kg	%	kg	%
Zhal	Pulp	0.5	0.53	1.6	1.1	2.9	1.6
	Bones	–	–	–	–	–	–
Kazy	Pulp	13.1	13.82	24.1	16.4	30.3	17.1
	Bones	0.9	3.4	1.9	6.1	2.6	6.8
Variety I	Pulp	48.0	50.63	69.8	47.5	84.8	47.7
	Bones	8.8	33.6	10.7	34.3	13.5	35.1
Variety II	Pulp	33.0	34.81	49.4	33.7	58.0	32.7
	Bones	11.5	43.9	12.6	40.4	15.0	39.1
Variety III	Pulp	0.2	0.21	1.9	1.3	1.6	0.9
	Bones	5.0	19.1	6.0	19.2	7.3	19.0
The whole carcass	Pulp	94.8	100	146.8	100	177.6	100
	Bones	26.2	100	31.2	100	38.4	100

Table 5 shows that the yield of pulp in different varieties of carcasses in stallions of different ages is not the same. The highest yield of pulp in all groups of young stock is observed in Variety I (47.5-50.6%) and in Variety II (32.7-34.8%). The least amount of pulp is contained in the Variety III (0.21-1.3%).

A large content of bones in all groups of horses is contained in Variety II - from 39.1 to 43.9%, then in Variety I - from 33.6 to 35.1% and in Variety II - from 19.0 to 19.2%. Zhal and kazy belong to the outside of the variety, here the content of bones was from 3.4 to 6.8%.

In the meat of the 6 monthly colts there was 9.0% of fat, 20.3% of protein, in 18 months old stallions - 14.2 and 19.4%, respectively. In the meat of 30 monthly stallions, the fat content is higher - 21.4%, but the protein content is less - 17.6%. These data are consistent with the work of other researchers [24], who note that the amount of protein in horse meat varies between 16.9-22.6% and fat - 11.8-24.5%.

As you know, some national products made of horse meat, are in great demand among the local population (figure 1–3).

Such dishes as zhal, zhaya, kazy are rightfully considered delicatessen. They are distinguished by high nutritional value and good taste qualities.

Output of offal. The growth of internal organs characterizes the general development and state of metabolic processes in the body. The early ripeness of animals and feeding have a great influence on their development.

In more early ripened animals, internal organs finish their growth earlier than late-ripened ones.

With full-fledged feeding, the growth terminates quickly and an adult animal is formed, in connection with which the completion of the formation of internal organs occurs earlier [25].



Figure 1 – Zhal (fatty crest of the neck)



Figure2 – Cut of zhaya



Figure 3 – Kazy

According to the methodology [11], all organs were divided into offal products of the first and second categories. The offal products of the 1st category contained liver, kidneys, heart, tongue and meat trimmings.

The by-products of the second category contained stomach, intestines, lungs, diaphragm with trachea. At the slaughtering house of the stud farm, the small colon goes for processing for karta, and a shell for kazy and chuzhuk is made from the thin part of the intestine. Data on yields of offal are given in table 6.

Table 6 – Absolute and relative yield of the offal of the I and II categories

Name of the offal	Age in months					
	6		18		30	
	mass, kg	% to the carcass	mass, kg	% to the carcass	mass, kg	% to the carcass
Tongue	0.48	0.40	0.72	0.40	0.83	0.38
Liver	2.51	2.07	3.80	2.13	4.68	2.17
Kidneys	0.91	0.75	1.05	0.59	1.41	0.65
Heart	1.07	0.88	1.79	1.00	2.64	1.22
Meat trimmings	2.27	1.87	3.50	1.97	4.28	1.98
Total of the 1 st category offal	7.24	5.98	10.86	6.10	13.84	6.41
Lungs	1.92	1.59	2.88	1.62	3.32	1.54
Spleen	0.47	0.39	0.90	0.50	1.19	0.55
Diaphragm and trachea	1.65	1.36	3.40	1.91	5.28	2.44
Total of the 2 nd category offal	4.04	3.34	7.18	4.03	9.79	4.53

From Table 6 it can be seen that the absolute mass of internal organs increases with age of stallions, and their relative weight decreases or remains without significant changes. These data indicate that the development of muscle tissue and skeleton is a longer process than the development of internal organs.

When analyzing the weighing data of internal organs, their increase with age was revealed. So the absolute weight of the liver in 30 and 18 monthly colts is on 2.17 and 1.29 kg greater, respectively, of kidneys - on 0.50 and 0.14 kg, of heart - on 1.57 and 0.72 kg, of spleen - on 0.72 and 0.43 kg.

It was found that the length of the thin intestine in 6 months old colts was 14.7 m, in 18 monthly stallions - 16.2 m and in 30 months old colts - 16.9 m. The length of the small colon was 0.7, 1.2 and 1.9 m, respectively.

Economic efficiency of fattening of horses of different ages. The technology of herd horse breeding provides for the year-round keeping of horses on pasture.

Production is based on the organization of feeding of horses on natural pastures, as the cheapest way of its production. As a basis for calculating the economic efficiency, the cost of fattening for young animals was taken in 6, 18 and 30 months age, their cost and income from the sale of stallions for meat (table 7).

Table 7 – Economic efficiency of fattening of the Kazakh horses of Jabe type of different ages

Indicators	Age in months		
	6	18	30
Live weight after fattening, kg	215.6	330.3	390.9
Live weight gain, kg	44.4	41.6	48.5
Mass of carcass, kg	121	178	216
Expenses for fattening, tenge	23000	36000	48000
Cost of 1 dt of growth, tenge	51802	86538	98960
Purchase price of 1 kg of meat, tenge	1000	1100	1200
Revenues from sales, tenge	121000	195800	259200
Profit, tenge	46198	73262	112240
Profitability, %	61.8	59.8	76.4

From the data in table 7 it can be seen that higher profits were received from 30 and 18 monthly colts (112240 and 73262 tenge) compared to 6 monthly stallions (46198 tenge). However, the profitability is higher in 6 months old and 30 months old stallions by 2.0 and 16.6% compared to 18 monthly stallions.

Thus, during the autumn period, the fattening of young Kazakh Jabe horses of different ages gives a high economic efficiency and allows not only to pay back all costs due to the increase in live weight and fatness, but also to bring sufficient net profit.

Discussion of the results. The growth and development rates of young horses of the Kazakh Jabe type are expressed in intensive growth with favorable and decreasing growth rates in unfavorable seasons of the year. During the autumn feeding, stallions of different ages gained live weight. So, for 76 days of fattening, 6-month-old colts gave 44.4 kg of live weight gain, and 18 and 30 monthly stallions - 41.6 and 48.5 kg. The average daily gain, in this case, was 584, 547 and 638 grams per day, respectively. When analyzing the dynamics of the average daily live weight gain, it can be seen that the highest growths in stallions of all ages are observed in the first 20 days of feeding from 1160 to 1400 g, in the next 20 days, the gain decreased slightly and ranged from 580 to 700 g per day. At the end of the fattening period, the average daily gain was low and amounted to 20 to 100 g.

Conclusions. Meat productivity of young Kazakh horses of Jabe type of different ages after the autumn fattening has been characterized by high values. Thus, at slaughter, the carcass mass in 6 monthly colts has reached 121 kg, in 18 monthly colts - 178 kg and in 30 monthly stallions - 216 kg. The slaughter yield was 56.5; 53.8 and 55.5%.

When studying the morphological composition of carcasses in colts of different ages, it was established that in 6 months old colts the relative bone content (21.7%) is higher than in 18 and 30 monthly colts (17.5 and 17.8%). The content of the pulp in the carcass was an advantage in 18 and 30 monthly stallions (82.5 and 82.2%), while this figure in 6 monthly colts was 78.3%.

The economic efficiency of fattening of the young Kazakh Jabe horses is high. The net profit per head from 6 monthly colts is 46.2 thousand tenge, from 18 monthly - 73.3 and from 30 monthly - 112.2 thousand tenge. In this case, the profitability is 59.9 to 76.4%.

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КҮЗГІ ЖАЙЛЫМНАН КЕЙІНГІ ҚАЗАҚТЫҢ ЖАБЫ ЖЫЛҚЫСЫНЫҢ ЖАС ТӨЛДЕРІНІҢ ЕТ ӨНІМДІЛІГІ

Аннотация. Мақалада күзгі жайлым кезінде жылқы етінің мөлшері мен сапасын айтарлықтай көтеруге мүмкіндік беретін зоотехниялық іс-шаралар қарастырылған.

Жобаны іске асыруда жас төлдердің тірі салмағы екі есеге ұлғаяды, әр жеке бас ереке құнандар да (41,6-48,5 кг), жоғары қонымдылықтағы жылқы етінің бағасы (1 кг ет 1000-1200 теңге).

Жас төлдер жайлым аралығын (76 күнде) салыстырғанда, жаз ыстығынан шыққан орташадан төмен қонымдылықтағылар, жоғары деңгейге жетті.

Зерттеулер көрсеткендей, бағудың алғашқы 20 күнінде құнандар орташа тәуліктік салмақ қосу тәулігіне 1160-1400 г болды. Кейін бағудың 30 тәулігіне орташа тәуліктік өсім төмендеп, 750-840 г көрсетті, бағудың 70 тәулігіне – 20 – 100 г аралығында болды.

Жас жылқы төлдерін күзгі семіртуден кейін сойғанда ет шығымы жоғары болды (53,8-56,5%), сүйек мөлшері (17,5-21,7%), таза еті (78,3-82,5%). Барлық жас төл топтарында таза ет шығымының жоғарғы көрсеткіші (47,5-50,6%) бірінші сұрыпта, кейін екінші сұрыпта (32,7-34,8%). Сұрыптан тыс жағдайда еттің шығымы (казы+жал) 6 айлық төлдерде 14,3 %, 18 айлықтарда – 17,5% және 30 айлық төлдерде 18,7 % құрады. Жылқы шаруашылығында қосалқы өнімдерді дамытудың маңызы зор. Түрлі жас мөлшердегі айғырлардан алынған тілдер салмағы 0,48 тен 0,83 кг, бауыр 2,51 ден 4,68 дейін кг, бүйрек 0,91 ден 1,41 дейін кг, жүрек 1,07 ден 2,64 кг дейін. Тоқ ішектен карта дайындалады, оның ұзындығы 0,7-1,9 м. Ащы ішектен қазы және шұжық үшін қолданылады. Ұзындығы 14,7 до 16,9 м.

Түрлі жастағы айғырларды етке өткізгенде таза пайда 46,2 ден 112,2 мың теңгеге дейін. Рентабельділік жоғары 59,8 ден 76,4%.

Түйін сөздер: жас төл, өсім, ұша, сойыс шығымы, таза ет, сүйектер, қосалқы өнімдер, түсім, рентабельділік.

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МЯСНАЯ ПРОДУКТИВНОСТЬ МОЛОДНЯКА КАЗАХСКИХ ЛОШАДЕЙ ЖАБЕ ПОСЛЕ ОСЕННЕГО НАГУЛА

Аннотация. В статье рассмотрены некоторые зоотехнические мероприятия, позволяющие значительно увеличить количество и качество конины в условиях осеннего нагула. Выручка от реализации молодняка увеличивается в два раза за каждого жеребчика, как за счет прибавки живой массы (41,6-48,5 кг), так и за счет более высоких цен на конину высшей упитанности (1000-1200 тенге за 1 кг мяса).

За сравнительно короткий промежуток нагула (76 дней) молодняк, вышедший из летней жары в состоянии нижнесредней упитанности, достигли высшей кондиции. Исследования показали, что за первые 20 дней нагула среднесуточный прирост жеребчиков достигал 1160-1400 г в сутки. Затем на 30 день нагула среднесуточные приросты снижаются и достигают 750-840 г, а в конце нагула на 70 день нагула – 20-100 г.

При убое молодняка лошадей после осеннего нагула получены туши с высоким убойным выходом (53,8-56,5%), большим содержанием мякоти (78,3-82,5%) при относительно невысоком содержании костей (17,5-21,7%). Наибольший выход мякоти во всех группах молодняка был в первом сорте (47,5-50,6%), затем во втором сорте (32,7-34,8%). Выход мякоти в отрубе вне сорта (казы+жал) достигал у 6 месячных жеребят 14,3%, у 18 месячных – 17,5% и у 30 месячных жеребчиков 18,7. Большое значение в перспективе использования резервов коневодства имеют субпродукты. От жеребчиков разных возрастов получена масса языка от 0,48 до 0,83 кг, печени от 2,51 до 4,68 кг, почек от 0,91 до 1,41 кг, сердца от 1,07 до 2,64 кг. Из малой ободочной кишки изготавливается деликатесное изделие карта, длина которой достигает 0,7-1,9 м. Тонкий отдел кишечника используется в качестве оболочки для казы и чужука, длина ее составляет от 14,7 до 16,9 м.

Чистая прибыль от реализации жеребчиков разных возрастов на мясо составляет от 46,2 до 112,2 тысячи тенге. Рентабельность при этом высокая от 59,8 до 76,4%.

Ключевые слова: молодняк, прирост, туша, убойный выход, мякоть, кости, субпродукты, прибыль, рентабельность.

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