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Evaluation of Productive Qualities of Sheep of Askani Fine-Wool Breed

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Abstract. An important problem of modern breeding is the selection process, the basis of which is based on a comprehensive assessment of the breeding gene pool, which will make it possible to increase the genetic potential of the sheep of the Askanian fine-wool breed. The development of the sheep breeding industry in Ukraine largely depends on the genetic potential of breeding resources, which are used in the selection of pairs for mating. Thanks to such approaches, it is possible to quickly achieve higher breeding rates of progress on the main traits of productivity. Therefore, the intensification of sheep breeding not only increases the role of breeding, but also requires the improvement of breeding methods, while the traditional practice of sheep breeding should accumulate breeding methods based on a comprehensive assessment of the genetic potential. The hereditary potential significantly affects the productive performance of sheep only after 4-5 generations with the targeted use of the best rams descended from highly productive queens. Therefore, the purpose of this work is to conduct a comprehensive assessment of the productive qualities of Askanian fine-wool sheep and identify the best sires, the use of which will ensure an increase in wool productivity by increasing the genetic potential, which will make it possible to obtain the next generation of animals more productive than the previous one.The results of the research give grounds to assert that the main indicators of wool productivity, as well as indicators of the live weight of sheep of different sex and age groups of the Askanian fine-fleeced breed, depend on the origin, that is, the ram-producer and indicate sufficient opportunities regarding the hereditary potential of this herd, which will make it possible to maintain compliance with the breed type and realize their genetic features. At the same time, the analysis of the obtained research results allows for a comprehensive assessment and identification of the best rams, providing an opportunity to increase productivity, improve the quality of wool and reduce the cost of sheep products

Keywords: live weight, wool shearing, wool productivity, growth, development, economically useful traits, sires

INTRODUCTION

It has been established that highly productive parents have a significant impact on the level of wool productivity not only of individual herds, but also of the breed as a whole. Their genotype is one of the key points to speed up the integration and improve lines, intrabreed types and breeds. And the practice of world and domestic selection and breeding work in sheep breeding shows that in order to improve the productive qualities of sheep, it is necessary to apply their comprehensive assessment. At the same time, it is important to pay significant attention to the assessment of sires that have high breeding and productive qualities and can be the ancestors of new family groups and lines. The works of many scientists, both domestic and foreign, have established that the genotype of the parents is one of the key points that makes it possible to accelerate the integration and improve lines, intrabreed types and breeds [1; 2].

When using the genetic principles of breeding animals, breeders set tasks that could identify the best genealogical formations and outline the most promising ones for their further improvement, study the genealogical structure, give a genetic explanation for the phenomenon of prepotency of sires and queens, and establish the possibility of using the combination effect when breeding behind lines [3].

The practice of world and domestic selection and

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breeding work in sheep breeding shows that in order to improve the productive qualities of sheep, it is necessary to apply their comprehensive assessment, which consists in ensuring that animals in each subsequent generation surpass their parents in their productive qualities [4]. The success of breeding work largely depends on the ability to most objectively determine the breeding value of animals using various assessment methods [5]. When selecting sheep for further work, it is necessary, on the one hand, to exclude the possibility of the spread of unwanted genes in the herd, for example, causing morphological and physiological defects, and on the other hand, to increase the frequency of desired genes [6]. The most important components of breeding work are the targeted selection and selection of sheep for mating, obtaining and raising strong healthy young animals, full feeding, proper maintenance of adult animals [4-6].

In modern conditions of progressive technologies, scientists are increasingly performing a comprehensive assessment of breeding animals using various methods for analyzing the productive and breeding qualities of animals, using both classical zootechnical methods and more modern ones [9-11].

The breeding methods used in sheep breeding provide an increase in their productivity by only 1-2% from the level achieved in previous generations, however, they do not always involve the use of an integral assessment of rams and queens by genotype and by a set of qualitative and quantitative indicators of their own productivity. The trend in the development of world sheep breeding and the further intensification of breeding work are aimed at increasing the wool productivity of sheep and necessitate a comprehensive assessment of sheep, even in industrial herds, according to the degree of realization of their genetic potential in the context of the main economic and useful indicators of productivity. In Ukraine, this issue does not lose its relevance, which aroused our interest in a comprehensive study of the main economically useful traits of sire rams and their impact on the productivity of offspring.

LITERATURE REVIEW

During the period of early ontogenesis, the growth and development of the organism and future productivity are formed as a result of the "genotype x environment" interaction. The impact of the genotype on the growth and development of animals in the Taurian type of the Ascanian fine-fleece breed depends on the proportion of heredity and economically useful traits of sire rams used in breeding [10; 11].

N. Papakina, T. Oskyrko argue that in the conditions of enterprises, breeding work is carried out according to the available productivity indicators – formed by the individual phenotype of animals, and the confirmation of the valuable genotype of producers is the maintenance of their own high productivity and the manifestation of valuable traits in descendants [12].

V. Yakovchuk and O. Smorochynskyi prove that when selecting sheep for breeding, one of the main indicators is their live weight, which indicates the full development of animals, and it is he who is the leading one during the grading of sheep [13].

In breeding work with sheep, much attention is also paid to their growth indicators. So, according to N.S. Papakina, the growth and development of young animals is an integral part in the formation of the final productivity of farm animals and poultry. Knowledge of the species, breed and sex characteristics of these components makes it possible to introduce optimal methods for managing natural biological processes into production and genetically obtain high productivity of sheep. Within the same enterprise, as a rule, young animals of different sexes are kept, and knowledge about sexual relations and the features of the formation of their productivity is the basis for improving the existing technologies for keeping and caring for young animals [8].

I. Gladij also studied the relationship between animal types and their productivity. This is the scientist, who found that in terms of growth rates, small animals prevailed over large ones, and rams of a knocked-down physique, that is, more compact, with a rounded body, prevailed over stretched ones, with a flatter body [14].

M. Ptáček, J. Ducháček, L. Stádník, and J. Beran studied the characteristics of the growth and development of young sheep of different sexes, which allowed them to establish patterns of sheep formation in different age periods in order to use the data obtained to raise animals of the desired type of constitution and directions of productivity [15].

Particular attention is paid to the study of the relationship between morphofunctional traits and the correlation analysis of economically useful traits, which makes it possible to establish the degree of dominant influence of parental organisms on the manifestation of a similar trait in offspring [9].

A number of Ukrainian and foreign scientists have proved that sheep breeding is a strategic sector in the agricultural sector [3; 5; 10]. According to M. Mihajlova et al. and V. Topikha et al., the Askani fine-fleeced breed of sheep, unique in its direction and level of productivity, constitutional features, is of great value in the breeding gene pool of domestic sheep breeding. J. O. Hampton et al. [10] and M.T. Bastanchury-López et al., proved that it fully meets the world-class requirements [16]. O.I. Karatieieva, claims that their genotype is used both to create new areas of sheep breeding, and for crossing in order to increase the level of meat, milk and wool productivity, accelerate early maturity, improve the quality of meat, wool, skins and fur sheepskins [1]. What is confirmed in the studies of O.P. Krupa, T. Rak [2]. Chikhirov with a group of authors proved that the use of Askanian fine-fleeced rams makes it possible to raise domestic sheep breeding to the world level, and, in turn, refuse to import foreign rams of a similar productivity direction, which will help to avoid loss of funds and eliminate the difficulties of acclimatization of imported representatives, which was confirmed by T.I. Nezhlukchenko and others [2; 4; 11].

MATERIALS AND METHODS

The basis for the research was the private enterprise "Agrofirm" Vasilyevka" of the Mykolaiv region, in the period 2019-2021.

For the study, three groups of sheep were formed, which come from three different rams, which were compared with each other according to the main economic and useful traits.

At the first stage, the live weight of animals of different sex and age groups and their wool productivity were subject to research: clean and washed wool shear, clean wool yield, wool length. Further, within each group, the experimental sheep were divided into sex groups, the rams and lambs of which were compared with each other and their productive qualities were evaluated according to the methods generally accepted in zootechnics (Table 1) [17].

Table 1. *Scheme of the formation of experimental groups in the conditions Private enterprise "Agrofirma "Vasilievka"*

Experienced group					
Ram No. 483		Ram No. 256		Ram No. 628	
Ewe lambs	Lambs	Ewe lambs	Lambs	Ewe lambs	Lambs
16	5	16	5	16	5

Since the assessment by phenotype does not provide complete information about the inheritance of economically useful traits and does not allow us to identify the best carriers of heredity, we used correlation analysis with the calculation of relative variability [17].

Statistical data processing was carried out using the Microsoft Excel and Statistica 6.1 software package according to G.F. Lakin [18].

RESULTS AND DISCUSSION

Characteristics of the productivity of sheep of the Askanian fine-wool breed

According to the results of the research, out of the total number of sheep, which is kept at the enterprise, 3 main rams of the producer are used, and 157 ewes, which together act as a kind of founder of all future generations. These animals have a responsible role, since the genetic potential of all future descendants will depend on the level of productive and breeding qualities. Therefore, in order to maximize their genetic potential, the selection of parents is approached very responsibly, special attention is focused on sires, whose role in this process can be called decisive.

Obtaining high-quality lamb and wool productivity is inextricably linked with the live weight of the sheep. Therefore, in order to maximize the live weight of sheep and, accordingly, the level of meat and wool productivity, rams and ewes with the highest indicators are selected. For sires, on average, it is 118 kg, which is a fairly high indicator for the Askanian fine-wool breed, and 65 kg for a ew, which is also fully consistent with the breed indicator (Table 2). Also, we observed that the live weight indicator is high not only for adult sheep, but also for other sex and age groups. So, at a fairly young age, replacement rams reach 88 kg of live weight, which is a very good indicator, the same can be seen about ewes and overbreds, in which the live weight is at the level of 43 and 50 kg, respectively.

Table 2. *Productivity indicators of sheep of the Askanian fine-wool breed*

Gender and age group	n	Characteristic				
		Live weight, kg	Coat length, cm	Unwashed wool shear, kg	Pure fiber yield, %	Clean wool shear, kg
Rams, total	18	206	19.3	32.4	93.9	14.5
Major ram producers	3	118	11.1	18.1	47.4	8.1
Repair rams	15	88	8.2	14.3	46.5	6.4
Ewe-lambs	87	43	9.5	5.2	45.6	2.2
Yearling	39	50	8.1	6.3	44.5	2.6
Ewes	157	65	10.3	7.4	44.1	3.3

When selecting parents, attention is paid not only to live weight, but also to wool productivity indicators, which for the main sires were within the following limits: wool length – 11.1 cm, unwashed wool shear – 18.1 kg, pure fiber yield – 47.4%, pure wool shearing – 8.1 kg, and for ewes: wool length – 10.3 cm, unwashed wool shearing – 7.4 kg, pure fiber yield – 44.1%, pure wool shearing – 3.3 kg. Both in the case of live weight indicators and wool productivity, full compliance with breed standards was observed.

In the group of replacement rams and ewes, in terms of wool productivity, compliance with the breed standards was also noted.

E. Zonabend König, J.M.K. Ojango, J. Audho, T. Mirkena, E. Strandberg, A.M. Okeyo &J. Philipsson also confirm that meat and wool productivity are the most important traits of sheep breeding and depend on the quality of the breeding material, then there are ewes and rams-producers [19].

I. Suprun, A. Getya, V. Fychak, M. Janíček in their studies speak about the high genetic potential of sheep breeds bred in Ukraine. Observers argue that in the current economic conditions, sheep breeding remains one of the most promising for development in terms of improving land use efficiency, employment, providing the processing industry with raw materials, and for the population – providing food (meat, milk, cheese). When selecting animals for breeding, it is necessary to pay great attention to sires as carriers of the main heredity [20].

Relative variability of the main traits of selection of replacement young stock of the Askanian fine-fleece breed

Many authors point out that in breeding work with individual breeds of sheep, the selection of animals occurs on the basis of their assessment by phenotype. But assessment by phenotype does not always make it possible to determine the hereditarily best individuals, since the quantitative signs of productivity are quite variable and are formed under the influence of the genotype and environmental conditions [2; 18]. Therefore, there is a need to assess the quantitative characteristics of the young Askanian fine-wool breed, which originated from different sires.

In the course of the experiment, 1 study group of offspring was formed from each sire ram: ewes and rams, which were studied in terms of changes in live weight at birth and at the age of 4, 6, 8, 12, 15 months (Table 3).

Table 3. *Changes in the main economically useful traits of young sheep of the Askanian fine-wool breed*

Age, month	Group					
	Ram No. 483		Ram No. 256		Ram No. 628	
	Ewe lambs	Lambs	Ewe lambs	Lambs	Ewe lambs	Lambs
Live weight, kg						
At birth	4.0±0.05	5.1±0.12	4.0±0.03	4.6±0.12**	3.6±0.05***	4.4±0.16**
4	27.4±1.18	38.4±1.46	26.4±1.21***	36.7±1.89**	25.3±1.37***	35.7±1.63**
6	36.1±2.61	52.6±3.42	35.3±1.11	51.1±3.47	33.7±2.85	50.5±4.81
8	40.0±3.17	64.0±5.71	39.0±3.14	62.0±4.51	38.6±4.26	61.0±2.86
12	52.9±2.28	83.6±4.51	50.7±6.22	82.1±5.34	49.2±3.20	80.6±5.51
15	56.7±2.26	91.6±7.51	56.0±3.17	90.1±3.33	54.5±2.26	88.8±4.58
Sheared wool, kg						
12	7.0±0.59	14.1±0.24	6.4±0.05***	13.2±0.1[4]**	5.4±0.0[4]***	12.3±0.09***
Wool length, cm						
4	3.9±2.12	5.5±2.14	3.6±1.04	5.0±1.13	3.6±1.64	5.4±1.09
8	6.4±2.13	8.8±3.32	5.4±1.34	8.3±2.30	5.7±2.16	8.4±3.21
12	8.8±4.06	10.8±4.32	7.7±2.12	9.3±3.34	8.2±3.06	10.1±5.29

E.Z. König, T. Mirkena, E. Strandberg, J. Audho, J. Ojango, B. Malmfors, A.M. Okeyo & Jan Philipsson state that animal live weight data and visually assessed size are the most important factors in selecting sires for breeding goals. Large body size is an indicator of good growth rates and is an important feature in breeding [21].

Since wool shearing is directly proportional to the live weight of the animal, when assessing this trait at the age of 12 months, we noted a similar trend. Namely, the young animals of group I were characterized by higher values of wool shearing compared to other groups. The ewes had 7.0±0.59 kg of wool, which is probably more than this indicator in the ewes of II – 6.4±0.05 kg (P≤0.001) and III groups – 5.4±0.04 (P≤0.001). A similar trend was noted in terms of the level of manifestation of this trait in rams of group I, which probably turned out to be better than analogues of group II – 13.2±0.14 (P≤0.01) and group III – 12.3±0.09 (P≤0.001). Characterization of coat length from 4 months of age to 12 months of age established a similar manifestation of this trait. That is, the young animals of group I have higher values for the length of wool, in comparison with the other two groups.

M.A. Snyman, W.J. Olivier also came to the conclusion that economically important signs of reproduction, growth and wool productivity are in a certain relationship. The better the young growth grows and develops, the faster it reaches a higher live weight and, as a result, will subsequently have better indicators of wool productivity [22].

K.A. Ward, J.D. Murray, C.M. Shanahan, N.W. Rigby & C.D. Nancarrow have used growth hormone to increase wool production in sheep. Phenotypically, such sheep responded to increased levels of growth hormone by increasing their body growth rate and, as a result, were noted by an increase in wool productivity [6].

Correlations between economically useful traits are an important element in breeding work; they represent the interdependence of two or more random variables. Correlative variability is used when improving a certain trait, since the animal organism is a complex interacting system, therefore, improving one trait, it inextricably improves and another, or vice versa, a negative impact on one trait will entail a decrease in others [7; 18].

Therefore, we set a goal to investigate the relative variability between the main breeding traits in sheep breeding: such traits as live weight, wool shear, wool length.

As can be seen from Table 4, the correlations of the main economically useful traits in the context of the experimental groups remain at a high level, however, unlike the previous study, there have been changes in the main economically useful traits. Namely, between the indicators of live weight and wool shearing, high positive relationships were established in all experimental groups, regardless of sexual demorphism – 0.641-0.773 for ewes and 0.823-0.914 for the group of rams. With the highest values in representatives of group II – 0.773±0.0116 (P≤0.001) for ewes and 0.914±0.0427 for rams.

Table 4. *Correlations between the main economically useful traits of young sheep of the Askanian fine-wool breed*

Group	Correlation features			
	Body weight×wool cut		Wool length×wool cut	
	Ewe lambs	Lambs	Ewe lambs	Lambs
Ram No. 483	0.695±0.0284	0.881±0.0342	0.892±0.0111	0.968±0.0031
Ram No. 256	0.773±0.0116***	0.914±0.0427	0.919±0.0232	0.723±0.0118***
Ram No. 628	0.641±0.0542	0.823±0.0132*	0.704±0.0438*	0.971±0.0534

In terms of the length and shearing of wool in the context of the experimental groups, we also found very high correlations for lambs from 0.704 to 0.919, and for rams from 0.723 to 0.971. With the highest values in the group of yolks in the representatives of group II – 0.919±0.0232, and the lowest in group III – 0.704±0.0438 (P≤0.05). For the group of rams, a slightly different trend is noted in terms of the degree of relative variability between the length and wool shearing. Thus, the best were male representatives of group III (0.968±0.0031) with the least manifestation in rams of group II – 0.723±0.0118 (P≤0.001). And among the female representatives, a natural trend was observed, where the higher values of the relative variability were in the representatives of the II group – 0.919±0.0232, with the lowest values in the females of the III group – 0.704±0.0438 (P≤0.05).

A number of scientists from different countries have successfully used correlations when working with sheep in different areas of productivity. So, P.S. Ostapchuk V.S. Pashtetsky, E.N. Usmanova, T.A. Kuevda, E.Yu. Zyablitskaya, T.P. Makalish & J.S. Saenko found a positive correlation between coat fineness and body weight (p≤0.05); between shearing of natural wool and fine wool (p≤0.05); between natural wool shear and live weight (p≤0.05); between washed wool and wool fineness (p≤0.05) and sheared natural wool (p≤0.05). And the greatest thickness of the skin was on the back and lower leg. Scientists also suggest that skin regeneration occurs due to the cells of the basal layer. This is due to the fact that the thickness of the basal layer decreases in the following order: lateral-rear-leg-neck, which correlates with the degree of impact of damaging factors on these areas and the degree of growth of the animal [23].

Assessment of the processes of growth and development of young growth of the Askanian fine-wool breed, depending on their origin

The data of systematic weighing and measurements characterize the growth rate, which is of great economic importance, since intensively growing animals spend less nutrients per unit of growth than slowly growing ones. The growth rate is determined by the absolute and relative growth rates per day, month, year [4; 17].

The study of changes in the live weight of sheep and the assessment of the level of meat productivity we want, as well as the genetic characteristics of sheep only by age intervals, are rather superficial and insufficient. Therefore, live weight is subject to the classical in zootechnics assessment of live weight gain indicators: absolute, average daily and relative [7; 24; 25].

Therefore, we set the task to investigate the indicators of changes in live weight gains at the age of 4-, 6-, 8-, 12-, 15 months (Table 5). When analyzing the age dynamics of the growth in live weight of young animals, it was noted that the highest absolute growth rates were achieved at the age of 0-4 months for representatives of the 1st study group, for rams the value reaches 33.0±1.65 kg, for ewes 23.6±1.18 kg. In turn, the indicators exceeded the value of group II – 32.0±1.6 kg and 22.8±1.14 kg, respectively. And group III, for which these indicators were at the level of 31±1.55 kg for rams, and 21.6±1.1 kg for ewes.

Table 5. Age dynamics of live weight gain in young sheep of the Askanian fine-wool breed

Age, month	Growth					
	Absolute kg		Average daily, g		Relative, %	
	Ewe lambs	Lambs	Ewe lambs	Lambs	Ewe lambs	Lambs
			Ram No. 483			
0-4	23.6±1.18	33.0±1.65	196±0.01	278±0.01	151±7.5	153±7.6
4-6	8.7±0.45	14.1±0.7	145±0.007	237±0.01	27±1.35	31±1.6
6-8	4.4±0.22	11.4±0.57	70±0.004	190±0.01	11±0.5	20±1.0
8-12	12.6±0.63	20.0±1.0	105±0.005	163±0.008	27±1.35	27±1.35
12-15	4.0±0.2	8.1±0.41	41±0.002	89±0.004	7±0.4	9.1±0.5

Table 5, Continued

Age, month	Growth					
	Absolute kg		Average daily, g		Relative, %	
	Ewe lambs	Lambs	Ewe lambs	Lambs	Ewe lambs	Lambs
			Ram No. 256			
0-4	22.8±1.14	32.0±1.6	189±0.01	267±0.01	152±7.6	155±7.6
4-6	8.9±0.44	14.0±0.7	148±0.007***	239±0.01	29±1.45	33±1.7
6-8	4.0±0.2	11.3±0.6	67±0.003	189±0.009	11±0.5	20±1.0
8-12	11.5±0.57	20.0±1.1	96±0.005	164±0.008	25±1.3	27±1.4
12-15	5.2±0.26	8.0±0.4	58±0.003	72±0.003**	10±0.5	9±0.5
			Ram No. 628			
0-4	21.6±1.1	31.0±1.55	180±0.001***	261±0.01	150±7.5	157±7.8
4-6	8.5±0.43	15.0±0.8	141±0.007***	246±0.01	29±1.45	34±1.7
6-8	4.8±0.24	10.3±0.52	81±0.004	172±0.008	14±0.7**	18±0.9
8-12	10.5±0.52	20.0±1.0	88±0.004	165±0.008	24±1.2*	28±1.4
12-15	5±0.25	8.0±0.4	59±0.003	91±0.005	10±0.5***	10±0.5

As in the age of 0-4 months, and in other age periods, the 1st group remained the leader in most age intervals in terms of absolute growth. So, she was noted at 8-12 months, with an increase rate of 12.6±0.63 kg for ewes and 20.0±1.0 kg for rams, where she significantly exceeded others, in addition, she had the highest growth rate in rams 11.4±0.57 kg at 6-8 months, 8.1±0.41 kg at 12-15 months, and generally proved to be the most stable in terms of indicators in each age period.

In terms of studying the indicators of changes in average daily gains, they had a rather undulating and unequal nature of dominance, which began to branch out between all the studied groups, each of which had an advantage in a certain indicator. However, for comparison with the study of absolute growth, the advantage gradually shifted for this trait from group I to III, which showed its dominance in almost every category.

The final stage of the study was the study of indicators of the level of relative growth, which is used to evaluate the economic and biological characteristics of animals, the intensity of dissimilation processes in the body. For the above indicator, there is a similar situation with the growth rates studied earlier, where the advantage of groups I and III continued, which shared leadership in one or another period. However, in this aspect, group I showed absolute dominance in two sex and age groups, remaining the first in terms of relative growth at the age of 8-12 months with an indicator of 27±1.35% for ewes (P≤0.05), and 28±1.40% for sheep and in the age period of 6-8 months.

The third study group turned out to be the best in a number of relative gains in the age period of 0-4 months – ♂153±7.6%, 4-6 months – ♀29±1.45%, ♂34±1.7%, 6-8 months – ♀14±0.7% and in the age period of 8-12 months – ♂28±1.4% and 12-15 months – ♀10±0.5%, ♂10±0.5%.

M.C. Gauvin, S.M. Pillai, S.A. Reed, J.R. Stevens, M.L. Hoffman, A.K. Jones, S.A. Zinn, K.E. Govoni suggest that slow growth and development of young animals can have immediate and lifelong negative consequences for the formation of an animal as a carrier of breeding and productive qualities. And this leads to a decrease in quality and an increase in the cost of production. The authors also argue that limited nutrition or overfeeding slows down muscle growth and changes metabolism during an intensive period of growth, reduces the number of myogenic progenitor cells and leads to changes in the global expression of genes involved not only in the formation of the live weight of the animal, but also in productivity in general [24]. This was also confirmed in the studies of other authors [26].

CONCLUSIONS

The main indicators of wool productivity are represented by the shearing of unwashed wool, the length of wool, the shearing of clean wool and the yield of pure fiber, as well as the live weight indicators of sheep of different sex and age groups of the Askanian fine-fleeced breed are within the breed standard. And they testify to sufficient opportunities regarding the hereditary potential of this herd, which will make it possible to maintain compliance with the breed type and realize their genetic characteristics.

Among the studied groups, according to the change in the main economically useful traits of young sheep, it was found that in terms of the level of development of live weight, indicators of wool productivity, growth and development characteristics, regardless of sexual dimorphism, the sheep of the first group turned out to be the best, which indicates a high genetic potential of ram No. 483 This will allow using it to increase productivity, improve the quality of wool and reduce the cost of sheep products.

Analyzing the work done by us, we can conclude that the characteristics of correlations have established certain patterns depending on the traits of the genotype of the sire. So, according to the majority of correlations between the main features, the young animals of group II, obtained from ram No. 256, turned out to be the best.

According to the level of development of absolute, average daily and relative gains, young animals obtained from representatives of I and III of the study group dominated, showing their absolute advantage, both in terms of sex and age groups, and in certain age periods. The prospect of these studies may be the use of modern techniques in the evaluation of sires to identify the best carriers of the genetic potential.

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Оцінка продуктивних якостей овець асканійської тонкорунної породи

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Анотація. Важливою проблемою сучасної племінної справи виступає селекційний процес, основа якого базується на всебічній оцінці племінного генофонду, що дасть можливість підвищити генетичний потенціал овець асканійської тонкорунної породи. Розвиток галузі вівчарства в Україні значною мірою залежить від генетичного потенціалу племінних ресурсів, які використовуються при підборі пар для спарювання. Завдяки таким підходам можна достатньо швидко досягнути вищих селекційних темпів прогресу за основними ознаками продуктивності. Тому інтенсифікація вівчарства не лише підвищує роль селекції, але і вимагає вдосконалення методів селекційної роботи, при цьому традиційна практика розведення овець повинна акумулювати методи селекції, засновані на всебічній оцінці генетичного потенціалу. Спадковий потенціал відчутно впливає на продуктивні показники овець тільки через 4-5 поколінь за умови цілеспрямованого використання кращих баранів від високопродуктивних маток. Тому метою роботи є проведення комплексної оцінки продуктивних якостей овець асканійської тонкорунної породи і виявлення кращих баранів, використання яких забезпечить ріст показників вовняної продуктивності за рахунок збільшення генетичного потенціалу, що дозволить отримати наступне покоління тварин продуктивніше попереднього. Результати досліджень дають підставу стверджувати, що основні показники вовняної продуктивності, а також показники живої ваги овець різних статево-вікових груп асканійської тонкорунної породи залежать від походження, тобто барана, і свідчать про достатні можливості відносно спадкового потенціалу цього стада, що дасть можливість зберегти відповідність породному типу і реалізувати їх генетичні особливості. При цьому, аналіз отриманих результатів досліджень дозволяє виконати комплексну оцінку і виявити кращих баранів, забезпечуючи можливість підвищити продуктивність, покращити якість вовни і знизити собівартість продукції вівчарства

Ключові слова: жива вага, настриг вовни, вовняна продуктивність, ріст, розвиток, господарсько-корисні ознаки, барани