THE EFFECTIVENESS OF THE FEED RATION FOR SHEEP IN THE MEAT INDUSTRY

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ABSTRACT

The article presents data from scientific studies on the effect of feeding sheep different green hydroponic feed on the dynamics of their live weight. The superiority of the sheep of the experimental group fed with hydroponic feed over the sheep of the control group was established in terms of live weight dynamics, absolute and average daily weight gain. When talking about the efficiency of fattening sheep by feeding them with various supplementary feeds, the effiency of enriching the ration of meat sheep is important. Rules and regulations regarding supplementary feed and critical to the nutrition and utilization of sheep.

Keywords: Absolute growth, daily growth, live weight, ration, sheep in the direction of meat and fat.

INTRODUCTION

One of the distinctive features of animal husbandry in our republic is that it is one of the most important branches of agriculture. Firstly, the soil and climatic conditions in some areas (steppes, semi-deserts, mountains and foothills) create favorable opportunities for efficient use of pastures, and secondly, raising animals does not require high costs in terms of natural conditions. Livestock farming is considered one of the main areas in ensuring food security, as meat production is essential in the field due to the abundance of nutritious and valuable products such as meat, milk, eggs, and other valuable products in terms of content of various nutrients. The total number of livestock and poultry in our Republic accounts for 50% and more of the total number, and this situation does not provide enough scientific research in the field. Nowadays, both public demand and market demand for meat products are increasing, so one of the most important issues is the high productivity of meat production, characterized by high-quality breeds that lead to increased production. Our local breeds fully respond to these requirements, because depending on which market or supermarkets or meat shops in our Republic you go to, 80-90% of all sold meat is precisely attributed to high-quality breeds or their genotypes. Therefore, more than half of the

livestock and poultry in our Republic are directly related to these high-quality breeds. .[1],[3]

METHODS

Nowadays, using genetic possibilities of high-quality breeds and completing their breeding characteristics from an hereditary aspect, selecting seedlings for meat production based on breeding farms, selecting them in acquired offspring, and creating genotypes of this breed are considered important tasks for achieving high productivity in meat production.

In various fields of animal husbandry, especially in poultry farming, research has been carried out on the use of hydroponic feeds for feeding animals and the effective and disadvantages of using hydroponic feeds have been identified.[2],[5] In sheep breeding, however, there have been few studies conducted in this direction. The purpose of the research is to determine the effectiveness of feeding hydroponic feeds with different hydroponic feeds. The feed sheep were divided into control and experimental groups, with the control group cows receiving 0.45 kg of fodder per head, the first experimental group sheep receiving 3.0 kg of corn silage, the second experimental group sheep receiving 3.0 kg of barley silage, and the third experimental group sheep receiving 3.0 kg of maize cob silage as additional feed. The same applies to the forages - they were also divided into 4 groups, with control group forages receiving 0.3 kg of fodder per head, the first experimental group forages receiving 2.0 kg of corn silage, and so on. Fortifying sheep feed for meat and fat involves enhancing the nutritional content of the feed to promote healthy growth and development in sheep, particularly to increase muscle mass and fat deposition. This practice is commonly employed in the livestock industry to improve the quality of meat produced by sheep. Here are some key points to consider when fortifying sheep feed for meat and fat:

Protein content: Sheep require a high protein diet to support muscle growth. Including high-quality protein sources such as soybean meal, fishmeal, or alfalfa in their feed can help meet their protein requirements. Adequate protein intake ensures proper muscle development and contributes to increased meat production. Energy sources: To enhance fat deposition, it is important to provide energy-dense feed ingredients. Grains like corn, barley, oats, or wheat are commonly used as energy sources in sheep diets. These grains should be finely ground or processed to improve digestibility. Essential fatty acids: Including essential fatty acids like omega-3 and omega-6 in sheep feed can impact meat quality positively. These fatty acids contribute to marbling, tenderness,

flavor, and overall meat quality. Sources of essential fatty acids include flaxseed, fish oil, or other vegetable oils. Vitamin and mineral supplementation: Ensuring adequate vitamin and mineral intake is crucial for optimal growth and development of sheep. Key vitamins include vitamin A, D, E, B-complex vitamins (especially B12), as well as minerals like calcium, phosphorus, selenium, copper, zinc, manganese, and iodine. A well-balanced mineral premix or custom mineral supplementation can be added to the feed. Fiber content: Although fiber is not directly linked to meat production or fat deposition in sheep, it plays a vital role in maintaining digestive health. Adding roughage sources such as hay or silage provides necessary bulk for proper rumen function. Feed additives: Certain feed additives can aid in improving feed efficiency, enhancing nutrient absorption, and promoting growth. Probiotics, prebiotics, enzymes, and growth-promoting additives like ractopamine or beta-agonists are commonly used in commercial sheep feeds to achieve desired meat and fat production goals. However, their use should comply with local regulations and guidelines.. Consultation with a nutritionist: Formulating a balanced diet requires expertise in sheep nutrition. Consulting with a professional animal nutritionist can help develop a customized feeding program specifically tailored to the needs of your flock, taking into account factors such as breed, age, weight, and desired meat quality. It is important to note that while fortifying sheep feed can enhance meat and fat production, other factors such as genetics, overall management practices (housing conditions, health care), and exercise also play critical roles in achieving desired outcomes

RESULTS AND DISCUSSION

The research investigated the dynamics of live weight, absolute and daily increase of sheep fed with various hydroponic feeds and then additionally fed with such feeds for an 8-month period. The dynamics of live weight increase of sheep were generalized in the second table. From the table data, it is possible to see that various hydroponic feeds have different degrees of influence on the live weight of sheep, and the highest result was observed in sheep fed with clover feed. During the research, the data obtained from the experiences of moving and wandering during the 8-month-old age period were analyzed. The indicators of stable weight, their increase, and daily gain were studied, and the obtained information was processed using the method of variation statistics. .[4]

Table 1

Absolute and daily growth rates of live weight of lambs,kg, n=20

№	Groups	At the age of 5 months			At the age of 6 months			At the age of 8 months		
		Growth indicators								
		Period duration, day	*Absolute growth,kg*	*Daily growth,kg*	*Period duration, day*	*Absolute growth,kg*	*Daily growth,kg*	*Period duration, day*	*Absolute growth,kg*	*Daily growth,kg*
1	Control	150	31.4	0.208	30	-0.1	-0.003	60	5.1	0.085
2	Group 1	150	33.7	0.224	30	1.2	0.04	60	9.3	0.155
3	Group 2	150	32.6	0.217	30	0.9	0.03	60	8.6	0.143
4	Group 3	150	32.4	0.216	30	0.8	0.026	60	7.5	0.125

Depending on the type of hydroponic feed from the table data, the value of the ration can vary, and it is possible to see the superiority of a ration with added winter barley. It is necessary to emphasize that the offspring of sheep fed with alfalfa hay in this condition were born with a statistically significant higher birth weight (5.3±0.06 kg) compared to offspring from other groups (4.8-5.1 kg), and such superiority was observed to be maintained at the age of 5 and 6 months (P <0.05; 0.001). The superiority in birth weight with alfa hay feeding compared to the control group in controlling the weight gain of lambs from 6 months to 8 months with a treatment period of 60 days was found to be 8.3 kilograms (P <0.001) with hydroponic feed, 6.0 kilograms (P <0.001) with barley feed, and 4.54 kilograms (P <0.001) with corn silage feed.

Table 2

Dynamics of changes in live weight of lambs,kg n=20

№	Groups	Live weight in kilogramms							
		At birth		At the age of 5 months		At the age of 6 months		At the age of 8 months	
		X±Sx	Cv, %	X±Sx	Cv, %	X±Sx	Cv, %	X±Sx	Cv, %
1	Control	4.8±0.0	6.8	36.1±0.13	1.88	38.0±0.13	1.88	40.4±0.15	1.5
2	Group 1	5.3±0.06	6.2	38.9±0.14	1.79	40.1±0.14	1.69	49.5±0.12	1.49
3	Group 2	5.1±0.07	6.8	37.6±0.12	1.59	38.5±0.13	1.68	47.2±0.13	1.37
4	Group 3	5.0±0.07	7.0	37.3±0.12	1.65	38.1±0.12	1.65	46.5±0.13	1.56
		X-P≤0.05 x)P≤0.001							

CONCLUSION

The increased absolute and daily weight gain of the experimental animals fed with hydroponic feed ingredients is attributed to the more efficient utilization of nutrients in the organism. It is observed from the data in the table that the absolute and daily weight gain of the sheep raised on hydroponic maize is highest at 8 weeks of age, which should be taken into account for practical purposes.

When discussing the effectiveness of supplementing feed with various additional feeds, it is important to consider the efficiency of balancing the ration for livestock. For example, supplementary feeds contain high-quality proteins, high-energy carbohydrates, and essential vitamins and minerals. This ensures the healthy nutrition of livestock and helps them develop in a good way. Rules and regulations regarding supplementary feeds are very important for the feeding and utilization of livestock. If supplementary feeds are not given in the correct order, necessary nutrients may not be taken in the right amounts for the health and development of livestock. Similarly, balancing the ration for meat production is also important. To use meat efficiently, it should be used with other feeds. This allows for obtaining a balanced amount of proteins, fats, vitamins, and mineral substances in meat. Rations supplemented with such methods are very important for the health and development of animals and provide great support in these processes.

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