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The Mineral Composition of Ration Feeding By Sheep.

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ABSTRACT

Deficiencies of micronutrient in the feed, insufficient intake of the body is a causal pathological condition - a chronic hypo trace elements, ie low content of zinc, copper, cobalt and other necessary needed for metabolic processes of trace elements, which affects the productivity and health of the animals. This article presents the results of provision ration feeding sheep by minerals. In the composition of the saline preparation for prevention of the foot rot were included following trace elements: zinc sulfate - 500 mg, copper sulphate - 15mg, manganese sulfate 10 mg, cobalt sulphate - 1.5 mg.

Keywords: sheep, feeding diet, trace elements, macroelements.

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INTRODUCTION

Necessary factors of normal life of the organism of animals it is a macro- and microelements, the need for which is dependent on the functional state of the body, therefore, the study of mineral metabolism in sheep in the age aspect is necessary for a scientifically based technology of sheep breeding and continuous monitoring of the state of mineral metabolism in animals of different biogeochemical provinces [4, 9, 11,14, 15].

Problematics the physiology and pathology of mineral metabolism in sheep and their influence on the incidence of animals the subject of a number of fundamental studies of famous scientists [8, 10, 12, 13]. Macro- and microelements deficiency in sheep are described in detail, but the regional characteristics of the problem and the relationship of the various mineral substances require further study.

In extreme anthropogenic impacts that cause decreased viability of animals, are necessary scientific research to reduce their negative impact. As a result, livestock suffering losses from the shortfall of production [1, 3, 6]. One of the method increasing the activity of functional systems is the use of environmentally friendly bio-stimulants [2, 5, 7, 16].

MATERIALS AND METHODS

Studies of the chemical composition of sheep diet was carried out in 10 farms of the Stavropol region (Russian Federation). In the feed sheep was determined calcium, phosphorus, magnesium, copper, zinc, manganese and cobalt. Calcium and phosphorus content in the feed was determined by standard methods. The content of magnesium, copper, zinc, manganese and cobalt in feed determined atomic absorption method by spectrophotometer method.

RESULTS AND DISCUSSION

The study of the chemical composition of the feed ration for sheep was carried out in 10 farms located in the third agro-climatic zone of the Stavropol Territory. In determining the composition of the salt of the drug for prevention of nonspecific foot rot we used the results of its own research and laboratory data for the study of non-communicable diseases of sheep Stavropol research veterinary station on the study of macro- and microelements in feed sheep.

Table 1: Chemical composition feed for sheep farms in the third agro-climatic zone of Stavropol Territory

Name of feed	Contained in 1 kg of feed							
	Feed unit	Calcium, g	Phosphorus, g	Magnesium, g	Zinc, mg	Copper, mg	Manganese, mg	Cobalt, mg
Silage corn	0,2	3,0	1,3	1,4	13,4	1,7	30,0	0,04
On reference*	0,2	1,4	0,4	0,5	5,8	1,0	4,0	0,02
Hay cereal	0,4	8,0	2,5	1,8	9,8	4,7	36,9	0,34
On reference*	0,46	5,4	1,1	0,8	20,5	3,3	115,0	0,44
Concentrated feed (oats)	1,0	3,7	5,6	1,2	21,7	3,8	34,1	0,5
On reference*	1,0	1,5	3,4	1,2	22,5	4,9	56,5	0,07

*- by Kowalski

As can be seen from Table 1, in the feed of macro- and microelements above was compared with reference data. Except hay where the level of manganese, zinc and cobalt was below 3.0, respectively; 2.0 and 1.3, as well as concentrated fodder, wherein the content of manganese and copper, respectively, was below 1.7 and 1.3 times.

Table 2: The content of macro- and microelements in the diet of sheep third agro-climatic zones of Stavropol Territory

Name of feed	Quantity, kg	Feed unit	Calcium, g	Phosphorus, g	Magnesium, g	Zinc, mg	Copper, mg	Manganese, mg	Cobalt, mg
Silage	2,5	0,5	7,5	3,2	3,5	33,5	4,1	67,8	0,1
Hay	0,5	0,2	4,0	1,2	0,9	9,8	2,3	19,2	0,17
Concentrated feed	0,3	0,3	1,1	1,8	0,4	6,5	1,1	9,9	0,15
In ration	3,3	1,0	12,6	6,2	4,8	49,8	7,5	97,8	0,42
Demand in all		1,05	9,0	5,8	4,6	62,0	16,0	93,0	0,75
Disparity		-0,05	+3,6	+0,4	+0,2	-12,2	-8,5	+4,8	-0,38

The ration of the sheep in third agro-climatic zone of the edge found excess calcium with a deficit of copper, zinc and cobalt. The level of phosphorus, magnesium and manganese in animal feed is not significantly different from normal (Table 2).

As can be seen from Table 3, in the diets of various feeding sheep farms located in the third agro-climatic zone edge, zinc deficiency was 20%, copper - 53%, cobalt - 44%. At the same time the level of calcium in the feeds was higher than 40%, phosphorus, magnesium and manganese accordingly by 7%, 4% and 5%.

Table 3: The sufficiency of minerals in the ration of sheep% of the needs of

Calcium	Phosphorus	Magnesium	Zinc	Copper	Manganese	Cobalt
140	107	104	80	47	105	56

The content of zinc, copper and cobalt in the feed is determined largely by their stock in the soil and, therefore, it is possible to conclude that these farms depletion soil trace elements.

Low supply of diets with zinc, copper, cobalt contributed to reducing the levels of these trace elements in the blood. Manganese concentration lowered too, but the cause of this condition is a significant excess in the diet of its antagonist - calcium.

Deficiencies of trace elements in the feed leads to insufficient intake of the body and development a pathological condition - a chronic deficiency of trace elements, ie low content of zinc, copper, cobalt and other urgently needed for metabolic processes of trace elements, which affects the productivity and health of the animals.

CONCLUSION

Therefore, when analyzing data obtained by us, it was found that in sheep diet lacking zinc, copper and cobalt, and in animal blood - zinc, copper and manganese. Based on the analysis of the results of research of the feed and blood by the sheep, we recommend the use of a preparation for the prevention of the foot rot following trace elements were contained: zinc sulfate - 500 mg, copper sulphate - 15mg, manganese sulfate - 10 mg, cobalt sulphate - 1.5 mg. Doses trace elements listed above per animal per day.

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