

Causes of Golshtin Breeding Cows Ketosis

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Abstract: This article provides information on the causes of ketosis in productive cows.

Key words: Ketosis, SLE, ketonemia, ketonuria, ketonolactia, hypoglycemia, hyperproteinemia, hyperesthesia, glycogen, acetoacetic acid, beta-oxism, acetone.

Introduction. Better meeting the demand of the population for livestock products is a priority of the state agrarian policy. Resolution of the President of the Republic of Uzbekistan dated January 29, 2020 No PQ-4576 "On additional measures of state support of the livestock sector" to further increase the number of livestock, their topical tasks such as improving productivity and pedigree performance were identified.

Cattle ketosis is one of the most common non-communicable diseases in animals.

Relevance of the topic. Ketosis is mainly caused by a lack of raw food in the diet of animals in farms where high concentrate feeding is introduced, due to impaired digestion of nutrients in the large intestine. In most cases, ketosis in cows and other ruminants is caused by the intake of foods high in fatty acids (silage, haylage, jam, barley). Hypodynamics, hypoinsulation, and hypoaeration are secondary factors in the onset of ketosis.

It is impossible to raise a healthy herd and quality products without fully taking into account the physiological capabilities and needs of productive cows. Calves born to cows with ketosis are also more likely to have dyspepsia.

Ketosis is common among productive cows, with the incidence in some farms being 60-70%, and this pathology causes significant economic damage. The economic damage from ketosis is caused by a decrease in productivity in cows, a decrease in the body's resistance, death, veterinary costs, and the birth of calves unfit to feed the herd in the future.

An analysis of the literature suggests that the etiological factors of ketosis are currently poorly understood in high-yielding cows imported to cattle farms.

The study of the causes of ketosis, the development and implementation of effective methods of disease prevention is one of the most pressing issues facing veterinary science and practice today.

The aim of the study was to study the prevalence and economic harm and causes of ketosis among productive cows on cattle farms in Nurabat district.

Object and methods of research. In January-April 2022, the Samarkand MILK cattle farm in Nurobod district conducted dispensary inspections of weaned and lactating cows. The reasons were studied.

Data from the literature and veterinary laboratories were used to determine the nutritional value of the diet of cows, the amount of digestible protein, sugar, carotene, calcium, phosphorus, and fiber. Using clinical trials of 15 cows in the experiment, the general condition of the animals, the degree of obesity, response to external stimuli, skin coverage, condition of visible mucous membranes, lymph nodes, body temperature, number of breaths and pulses per minute, large abdominal wall per minute the number of movements, the pain sensitivity of the liver area, and the extent of the liver were examined. Laboratory tests were performed to determine the number of erythrocytes (Goryayev count), hemoglobin (hemoglobin-cyanide method), glucose (glucometer), total protein in the serum (refractometric method), ketone bodies (using Ketotest).

The results obtained. The ration of cows is of the silage-silage-concentrate type, consisting of corn silage, alfalfa haylage, haylage, cotton husk and cotton shrot, with a total nutrient content of 8.10 nutrients. Compared to the nutritional norms, the ration was found to be 2.30 units less, 230 g of digestible protein, 399 g of sugar, 220 mg of carotene, 16.2 grams of phosphorus and 4.6 g of calcium and 886 grams of fiber. Satisfaction of the needs of the body of cows in terms of nutrients is 77.4%, digestible protein -75.24%, sugar - 52.8%, carotene - 48.35%, phosphorus -67.6%, calcium - 105.0%, and 120.0 percent relative to fiber.

The carbohydrate portion of the diet was characterized by anemia and an excess of fiber in the diet. The protein and energy ratios were also found to be disproportionate, with a sugar-protein ratio of 0.58 instead of 0.8: 1.

The macronutrients in the diet were characterized by an imbalance in their ratios due to an excess of calcium and a deficiency of phosphorus. In other words, the ratio of phosphorus to calcium was 2: 0.4 (the norm is 2.0: 1).

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Ration composition of cows

Types of food	Quantity (kg)	Food unit	Digestible protein (g)	Carotene (mg)	Sugar (g)	Klechatka (g)	Calcium (g)	Phosphorus (g)	Cu (mg)	Co (mg)	Zn (mg)	I (mg)	Mn (mg)
Maize silage	8	2,16	195	66	118	1460	32	14,0	21,6	0,98	54	1,7	128
Lucerne hay	4	1,64	153	106	208	1105	42,4	10,6	13,6	0,24	39,2	0,6	54,6
Senage	3	1,48	154	34	55	240	4,8	3,0	19,2	4,4	112	0,48	46,6
Cotton sheluxa	4	1,14	80	-	68	1846	8,4	2,6	1,2	0,03	6,6	0,03	18,4
Cotton shrot	2	1,68	198	-	-	345	7	3,6	13,0	0,54	48	1,04	80,6
Total:		8,10	780	206	451	4996	94,6	33,8	70,5	6,25	271,6	3,93	363,8
Norm		10,4	1010	426	850	4110	90	50	50	6	300	5,5	400
Difference ±		- 2,30	-230	-220	-399	+886	+4,6	-16,2	+20,5	+0,25	-28,4	1,57	-36,2

At the beginning of the study, 15 weaned and lactating cows had an average respiratory rate of 29.0 beats per minute, but by the end of the experiment, the average was 33.7 beats per minute. The number of breaths was found to increase by an average of 4.7 times. The pulse rate per minute averaged 71.8 beats, which was an average of 74.8 beats at the end of the experiments, or 3.0 times more than at the beginning of the experiments.

The mean reduction in abdominal wall movement in 2 minutes was also an average of 3.3 at the end of the experiments, a decrease of 0.4 times compared to the beginning of the experiments.

The average 4.7-fold increase in respiration in animals is explained by an increase in the body's need for oxygen due to a lack of carbohydrates in the diet of animals, a violation of the calcium-phosphorus ratio and, consequently, hypoxia. In animals, characteristic changes such as the absorption of the last tail vertebrae have been found to occur during lactation as a sign of bone tissue dystrophy in the body. In some animals, premenstrual hypotension is associated with retention, lack of sunlight, and poor digestion of fiber-rich, low-nutrient foods.

By the 5th to 6th week of lactation, the average number of erythrocytes in the blood compared to the initial period of lactation in cows is 0.10 million / μ l, hemoglobin - 1.1 g / l, glucose - 0.06 mmol / l, the total protein content. - A decrease of 0.7 g / l was found. Hypohemoglobinemia, hypoproteinemia, hypophosphoremia and depletion of alkaline reserves in the blood, failure to meet the body's needs for nutrients, vitamins and minerals, especially carbohydrates, during the period of increased lactation in cows, resulting in the breakdown of fat cells to produce energy forms ketone bodies as an intermediate product during and develops an acidosis state in the of ketosis in productive cows are disorders of protein-carbohydrate metabolism as a result of feeding them in diets that do not meet the physiological needs of the body, the formation of ketone bodies as an intermediate product of gluconeogenesis to compensate for energy shortages.

Conclusions.

1. The main causes of ketosis in productive cows are disorders of protein-carbohydrate metabolism as a result of feeding them in rations that do not meet the physiological requirements of the body, the formation of ketone bodies as an intermediate product of gluconeogenesis to compensate for energy deficiencies.
2. Ketosis is more common in productive cows in the 5th to 6th weeks of lactation, with ketonemia, ketonuria and ketonolactia, and abdominal devoir hypotension. Symptoms include decreased milk production, skin rash, weakness, slow standing and slow movement, and changes in appetite.

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