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RESULTS OF DETERMINING THE PREVALENCE OF RUMINANT ACIDOSIS IN COWS USING DISPENSING AIDS

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Summary: The distribution of rumen acidosis in high-yielding cows by season in the conditions of farms in the Samarkand, Navoi, and Kashkadarya regions of our republic is presented.

Keywords: acidosis, laminitis, lactic acidosis and UEC, abdominal fluid environment (pH), chronic abdominal acidosis (CAA).

Relevance of the topic. Diseases of imported purebred cattle, in particular digestive and metabolic diseases, are one of the major obstacles to the implementation of agrarian reforms in our republic and cause significant economic damage to livestock farming.

Currently, as a result of the high-concentrate ration of livestock farms in feeding high-yielding cows and the lack of high-quality hay, large abdominal acidosis is observed on the basis of diseases of the digestive system of livestock, including diseases of the foregut.

The aim of the study is to develop a method for early diagnosis and treatment of rumen acidosis in productive cows, as well as to improve group prevention methods.

Research object and methods. Scientific research aimed at determining the prevalence of abdominal acidosis in cows using dispensary methods was conducted at the Department of Internal Non-Communicable Diseases of the Samarkand State University of Veterinary Medicine, Animal Livestock and Biotechnology, at the farms "Agro-Bravo Chorvasi" in the Akdaryo district of the Samarkand region, "Ochilov Makhmudjon Dalasi" in the Payarik district, "Yangi Asr" in the Kyzyltepa district of the Navoi region, and "Omadli Zarnigor" in the Chirakchi district of the Kashkadarya region.

Analysis of the results obtained. The prevalence of ruminal acidosis in productive cows raised on farms where scientific research is conducted was studied and analyzed during 2018-2021, and it was observed that the indicators detected during this time were closely related to the seasons, animal housing and feeding on the farm.

In order to study the seasonal prevalence of ruminal acidosis in cows, cows on specialized cattle farms were examined on the principle of "similar pairs" at 8-9 months of the calving period and 1-2, 4-5 and 7-8 months of the lactation period using a combined dispensary.

Gastric fluid and blood samples taken from cows were subjected to laboratory tests. The seasonal distribution of peritoneal fluid was determined by measuring the pH, number, type, and functional activity of ciliates in it, and the number of erythrocytes and leukocytes, hemoglobin, total protein, glucose, and ketone bodies in blood samples.

Of the 110 Holstein cows raised at the Agro-Bravo Chorvasi farm in the Akdarya district of the Samarkand region, 20% in the summer of 2018, 33.6% in the fall, 66.4% in the winter, and 58.2% in the spring were diagnosed with large rumen acidosis. The prevalence of abdominal acidosis in cows on this farm was also studied in subsequent years by season, and it was found that in 2019, 22.2% of 90 cows in the summer, 37.8% in the fall, 68.9% in the winter, and 62.2% in the spring, respectively, in 2020, 22%, 36%, 72%, and 64.7% of 150 cows examined, respectively, in 2021, 25%, 40%, 70%, and 60% of 120 cows examined, respectively. (Table 1).

Table 1

Disease level of cows at the "Agro Bravo Chorvasi" farm

S/n	Years	Number of examined animals, (head)	Dynamics of cow disease in 2018-2021									
			summer		autumn		winter		spring		average	
			num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%
1	2018	110	22	20	37	33,6	73	66,4	64	58,2	49	44,5
2	2019	90	20	22,2	34	37,8	62	68,9	56	62,2	43	47,8
3	2020	150	33	22	54	36	108	72	97	64,7	73	48,8
4	2021	120	30	25	48	40	84	70	72	60	58,5	48,7
Total		117,5	26,2	22,3	43,2	36,8	81,7	69,3	72,2	61,3	55,9	47,5

The prevalence of gastrointestinal acidosis among productive cows raised in the conditions of the "Ochilov Mahmudjon Dalasi" farm in the Payarik district of the Samarkand region was 17.5% in the summer, 30% in the autumn, 47.5% in the winter, and 42.5% in the spring of 40 cows examined in 2018; 16%, 32%, 48%, and 40% of 50 cows examined in 2019, respectively; 22%, 30%, 52%, and 44% of 50 cows examined in 2020; and 20%, 35%, 50%, and 45% of 60 cows examined in 2021, respectively (Table 2).

Table 2

The level of morbidity among cows at the "Ochilov Mahmudjon Dalasi" farm

S/n	Years	Number of examined animals, (head)	Dynamics of cow disease in 2018-2021									
			summer		autumn		winter		spring		average	
			num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%
1	2018	40	7	17,5	12	30	19	47,5	17	42,5	13,7	34,4
2	2019	50	8	16	16	32	24	48	20	40	17	34
3	2020	50	11	22	15	30	26	52	22	44	18,5	37

4	2021	60	12	20	21	35	30	50	27	45	22,5	37,5
Total		50	9,5	18,9	16	31,7	24,7	49,4	21,5	42,9	17,9	35,7

The prevalence of gastrointestinal acidosis in productive cows in the conditions of the "Yangi Asr" farm in the Kyzyltepa district of the Navoi region was 25% in the summer, 32.5% in the fall, 60% in the winter, and 52.5% in the spring of 80 cows examined in 2018; 29%, 43%, 75%, and 61% of 100 cows examined in 2019; 31.1%, 44.4%, 76.7%, and 68.9% of 90 cows examined in 2020; and 30%, 50%, 80%, and 70% of 150 cows examined in 2021 (Table 3).

Table 3

Disease level of cows at the "Yangi Asr" farm

S/n	Years	Number of examined animals, (head)	Dynamics of cow disease in 2018-2021									
			summer		autumn		winter		spring		average	
			num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%
1	2018	80	20	25	26	32,5	48	60	42	52,5	34	42,5
2	2019	100	29	29	43	43	75	75	61	61	52	52
3	2020	90	28	31,1	40	44,4	69	76,7	62	68,9	49,7	55,3
4	2021	150	45	30	75	50	120	80	105	70	86,2	57,5
Total		105	30,5	28,8	46	42,5	78	72,9	67,5	63,1	55,5	51,8

The prevalence of gastrointestinal acidosis among Simmental cows at the "Omadli Zarnigor" farm in the Chirakchi district of the Kashkadarya region was 17.8% in the summer, 26.7% in the fall, 46.7% in the winter, and 44.4% in the spring of 2018 out of 90 cows that underwent a dispensary examination; 22.5%, 30%, 51.2%, and 47.5% of the 80 cows that underwent a dispensary examination in 2019; 25%, 33.3%, 60%, and 53.3% of the 60 cows that underwent a dispensary examination in 2020; 27.1%, 34.3%, and 64.3% of the 70 cows that underwent a dispensary examination in 2021. and was 61.4% (Table 4).

Table 4

The level of calving in the farm "Omadli Zarnigor"

S/n	Years	Number of examined animals, (head)	dynamics of cow disease in 2018-2021									
			summer		autumn		winter		spring		average	
			num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%	num-ber of	%

1	2018	90	16	17,8	24	26,7	42	46,7	40	44,4	30,5	33,9
2	2019	80	18	22,5	24	30	41	51,2	38	47,5	30,2	37,8
3	2020	60	15	25	20	33,3	30	60	32	53,3	24,2	42,9
4	2021	70	19	27,1	24	34,3	45	64,3	43	61,4	32,7	46,8
Total		75	17	23,1	23	31	39,5	55,5	38,2	51,6	29,4	40,4

Conclusion

1. The incidence of rumen acidosis in productive cows is on average 18.9-72.9%, including 18.9-28.8% in summer, 31.0-42.5% in autumn, 49.4-72.9% in winter and 42.9-63.1% in spring.

2. The main cause of rumen acidosis in productive cattle is feeding animals with a high-concentrate diet based on the predominance of starch-rich grain feeds in 50-60% of cases, and with low-nutrient diets in 40-50% of cases.

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