HYGIENIC ASSESSMENT OF MICROCLIMATE INDICATORS IN THE MAIN DEPARTMENTS OF THE LIVESTOCK COMPLEX

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Relevance of the topic. Assessment of microclimate indicators in the main buildings of livestock complexes. The main microclimate indicators in livestock complexes are indoor temperature, relative air humidity, concentration of ammonia, carbon dioxide and hydrogen sulfide, and air movement speed. Control and management of microclimate parameters in livestock complexes is an important factor in ensuring high productivity of animals. At the moment, in our country, there are no comprehensive control systems of microclimate parameters in livestock complexes, ventilation systems are controlled by one or two parameters. The normalized parametric indicator is the concentration of ammonia in the reservoir. As a result of various factors, ammonia concentration varies by 1.5-2.0 times according to the size of the building. Eliminating this deficiency requires the organization of local ventilation with the supply of fresh air to the most gassed areas of the room. The statistical analysis of the obtained laboratory data showed that the average value of ammonia concentration inside closed buildings is 0.733 mg / m ³, standard deviation s = 0.134 mg / m³, the coefficient of variation is 18.3%.

The purpose of the research: inappropriate microclimatic factors affecting livestock complexes and livestock workers, the impact on the health of workers.

Material and methods:

In the course of the research, the harmful factors affecting livestock workers were checked with the help of noise, high and low temperature, humidity, air movement speed using special devices (psychomotor, anemometer, thermometer, barometer).

Research results:

In order to determine the concentration of ammonia in the buildings of livestock complexes, laboratory measurements were carried out for 5 days, the average values of the concentration at the measurement points are given in table 1 (table). In general, the concentration of ammonia, depending on the weather conditions (wind speed and direction, air temperature and humidity), is from 1.16 to 9.86 mg / m³, the background natural value is from 0.68 - 0.72 mg / m³ we can say that it has changed [2,4]. A significant effect of wind speed and direction, outdoor air temperature on the level of ammonia concentration can be seen by comparing the data of 1 and 3 days [5]. Thus, on the first day of the study, the maximum concentration of ammonia with a wind speed of 6 m/s was 4.92 mg / m³, which is about 2 times lower than on the third day, where its maximum concentration is at a wind speed. It was 9.86 mg/m³ with an insignificant decrease of 2 m/s [1,3].

Ammonia concentration in the warehouse and outdoor air parameters

Measuring point	Ammonia concentration mg/m³				
	1 day	2 days	3 days	4 days	5 days
1	4.52	5.75	6.45	4.23	5.32
2	3.69	6.52	7.25	4.56	5.52
3	4.92	6.34	6.48	4.57	5.47
4	2.45	5.60	8.56	6.24	5.84
5	3.12	8.93	9.86	9.46	7.36

6	2.86	6.45	8.78	7.63	7.08
7	1.16	4.80	6.42	7.16	6.84
8	2.80	4.38	7.25	7.18	6.42
Microclimate parameters					
Temperature	-2, 4	- 3.6	-7.0	-9.5	-8.7
Relative humidity %	8 2	9 5	7 4	640	88
Air velocity m/s	6.0 _	3.0	2.0 _	2.0	4.0 _
Concentration of NH3 (ammonia) in mg|m³	0, 6 8	0, 6 8	0.67	0, 6 5	0.72

Based on laboratory data processing, ammonia concentration at 8 key points in the livestock complex building, where Y1-8 ammonia concentration is 1-8 points, mg/m³, respectively; X1 - Air movement speed m/s in the range of 2-6 m/s; X2 - the outside air temperature was determined in the range of -2.4 ÷ - 9.5 ° C.

Summary

1. Urgently requires qualified scientific analysis and the development of scientifically based and effective sanitization measures to improve the working conditions of workers around livestock complexes and farms, to protect atmospheric air. The sanitary regulations of the Republic of Uzbekistan No. 0350-17 "On the protection of atmospheric air in the residential areas of the Republic of Uzbekistan" approved by the Chief Physician of the Republic of Uzbekistan for livestock complexes and farms in relation to settlements are included in the important sanitation measures. organization of design and construction works in accordance with the requirements of the sanitary protection zone.
2. It is necessary to ensure that the concentration of ammonia in buildings does not exceed 20 mg / m³. To eliminate this deficiency, it is necessary to organize a local ventilation system with maximum supply of fresh air.

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