

Odor reduction in the henhouse.



Ammonia primarily affects the respiratory system causing bronchitis, pulmonary edema, severe coughing, shortness of breath. In addition, NH_3 causes keratitis and purulent conjunctivitis. Ammonia combines with hemoglobin to give a compound called alkaline hematin. The action of such a compound impairs the transport of oxygen through the blood in the body. According to the Act 2010 No. 56 item 344 in hen houses and piggeries the ammonia concentration should not exceed 20 ppm.

Based on experience conducted by the University of Agriculture in Krakow, chaired by dr inż. Krzysztof Pawlak, we obtained results confirming the effectiveness of EM Probiotytk in reducing the concentration of ammonia in livestock buildings.

The test was carried out in a 100 m² hen house where 889 laying hens were kept on a litter in a standard light cycle. The building is equipped with mechanical vacuum ventilation ensuring proper air exchange. One of the methods to reduce gases in livestock buildings is to add preparations containing probiotics to the litter.

Probiotics are products containing live and / or dead microorganisms and the substances they provide, which contribute to the stabilization of the population of microorganisms by preventing excessive development of pathogenic microorganisms.

Bedding was sprayed daily for 14 days. A 20% solution of EM PROBIOTYK preparation was sprayed onto the litter surface with a hand sprayer in an amount of 50 ml per 1 m² of building surface.

The values of ammonia concentration in the building of the house on individual measurement days are presented in the table below.

Tab. Ammonia concentration [ppm] in the house air

Measuringpoint	AND	II	III	IV	Average values
Measurement time					
Before spraying	15	17	16	15	15.75
4th day of application	16	15	14	15	15,00
7 day of using the preparation	12	13	11	13	12.25
10th day of using the preparation	4	5	4	5	4.5
13th day of using the preparation	3	4	4	4	3.75
2 day after using the preparation	6	6	6	6	6
5 days after using the preparation	14	13	14	14	13.75
8 day after using the preparation	14	13	15	14	14.00

All obtained results of ammonia concentration in the building of the house are within the limits allowed by the standard. Analyzing the obtained ammonia concentration result, it is clear that the use of the EM Probiotyky preparation significantly reduced the ammonia concentration in the air of livestock buildings. In the shed building, on the 4th day of using the preparation, only a slight decrease in NH₃ concentration can be seen, while during the further spraying of the litter with the preparation (on the 7, 10, 13th day of using the preparation), a systematic decrease of ammonia concentration up to the level of 3.75 ppm can be seen.

To sum up, it should be stated that the probiotic EM Probiotic effectively reduces the concentration of ammonia by stabilizing the population of beneficial microorganisms while limiting the development of microorganisms involved in the transformation of organic substances whose final product is NH₃.