

TECHNOLOGY FOR PROCESSING LIVESTOCK AND POULTRY
WASTES INTO ORGANIC FERTILIZERS

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Abstract. Methods for processing poultry litter and waste from livestock complexes can be divided into 4 groups: biotechnological, chemical, combined and physical. Each of these methods neutralizes the litter, allows for long-term storage with maximum preservation of nutrients, and prevents the formation of gaseous liquid and solid waste that pollute the environment.

Key words: pesticides, mycotoxin, transporter, poultry litter, mercaptan, phenol.

The production of industrial, household and agricultural products, along with their generation of liquid and solid waste, is an integral part of any developed society. Waste from agricultural enterprises, especially animal manure and poultry litter, which contain a large amount of environmentally harmful substances such as ammonia, hydrogen sulfide, mercaptan, phenol, are considered environmentally and epizootically hazardous waste. At the same time, there is a need for organic waste from the agro-industrial complex, which contains the necessary amount of nutrients, which is considered a valuable raw material for obtaining highly effective fertilizers and other products necessary for the national economy [1].

Due to the content of ecotoxicants (heavy metals, pesticides, mycotoxins, etc.), medicinal preparations and other sources of pollution, manure and waste cannot be applied to the soil without preliminary processing. At the same time, it should not be forgotten that animal waste also contains pathogens of infectious and invasive diseases that retain their viability and virulence for a long time. For example: the causative agent of salmonella remains viable in manure for 92-157 days, tuberculosis - 457 days, listeriosis - 160 days, Marek's disease virus - more than 6 months, eggs and larvae of helminths remain viable in pig manure for 12-15 months, and in cattle manure for 7-8 months. According to the World Health Organization, manure is a source of more than

100 types of pathogens dangerous to humans and animals. When organic waste is introduced into the soil, it is fertilized to a certain extent with microflora, which poses an ecological and sanitary hazard. It should be noted that the use of organic waste without processing is not in line with its purpose; when stored for 2-3 months, nitrogen loss is 50-60% [2].

The authors note that the high competitiveness of this method allows obtaining a product that meets the necessary characteristics, is targeted and meets environmental requirements; soil bioremediation, biogas production, new fertilizers, and nutritional supplements. Improving microbial processing methods will allow for the full use of livestock and poultry waste for food purposes. These authors created an experimental module that allows you to control microbiological processes in the processing of roof waste. Undoubtedly, it has a number of advantages. In particular, when using the module, the rate of succession of natural and introduced microorganisms and coenoses is controlled, the duration of the experiment is reduced, it is very convenient to measure, observe and obtain analyzes, and characterize the target product. For the effective course of waste transformation and the stability of microbial associations in the module, not only the initial microflora and substrate are needed, but also certain tactics of growing microorganisms, the rules of the law of species survival must be observed [3].

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