

IMPACT OF PIG AND FACTORY WASTE ON POPULATION CENTERS.

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Summary: Poultry farms and large poultry enterprises around the world are engaged in the production of edible eggs and chicken meat. The health and environmental system has a primary task - to protect and strengthen the health of the population around poultry farms and factories. The level of mechanization of production processes in poultry farms is high. Egg-based poultry farms are considered to be more efficient and economical. When implementing such measures, this situation is achieved through the improvement of production technologies, the impact of environmental factors and the implementation of a set of hygienic measures.

Keywords: ecology, chemical factors, technological processes,

Relevance: Poultry farming is one of the fastest-developing sectors of the agro-industrial complex, providing the population with biologically valuable and healthy food products. Modern poultry farming is a rapidly developing and economically effective branch of the agro-industrial economy. However, despite technological improvements, the introduction of new equipment, and the transition from floor-based to cage-based poultry breeding systems, many countries still face problems related to the organization and regulation of poultry enterprises.

Purpose of the Study: The aim of this study is to analyze the working conditions in poultry factories and farms, assess their impact on the lives of people

living nearby, and develop hygienic recommendations aimed at improving and ensuring healthy working environments within these enterprises.

Materials and Methods: To develop hygienic recommendations for improving the working conditions of poultry farm and factory employees, we used hygienic, sanitary-chemical, physiological, and statistical research methods.

Object of the study: The study included 462 workers from the “Chinor Chorva” poultry factory in the Jondor district and 315 workers from the “Omad Savdo” poultry farm in the Gijduvon district of the Bukhara region. Currently, poultry farms and large poultry enterprises in our country are mainly engaged in the production of edible eggs and chicken meat. A poultry farm is a specialized industrial enterprise that produces poultry products on a mass-production basis. The level of mechanization in poultry farms is high. Egg-based poultry farms are more efficient and economical. This efficiency is achieved by improving production technologies, reducing environmental impact, and implementing comprehensive hygienic measures.

Environmental Safety and Waste Classification: According to environmental legislation, poultry enterprises must develop an ecological safety system aimed at reducing the negative impact of their activities on the environment. If necessary, the first step is to assign the enterprise to a specific category that reflects its potential impact. The category determines the regulatory and licensing requirements, mandatory reporting, environmental payments, and the set of environmental protection measures required for sustainable development. Depending on the number of poultry, poultry farms belong to the first or second category of enterprises. In the first case, the company must apply the best available technologies and develop an integrated environmental permit.

Environmental problems in poultry farming primarily include the following types of pollution:

1. Feed waste

- 2. Animal waste**
- 3. Bird carcasses**
- 4. Wastewater**
- 5. Emissions into the atmosphere**

To minimize the environmental impact of these pollutants, a sanitary protection zone must be established. Poultry farms are usually located outside or on the outskirts of cities. According to the sanitary classification of industrial facilities, poultry farms, depending on the number of birds, may belong to the 1st to 3rd hazard class enterprises. The size of the sanitary protection zone should be 2000, 1500, 1000, or 500 meters respectively.

Within the enterprise area, there are usually poultry houses, slaughterhouses, meat and bone processing workshops, egg-laying facilities, feed storage, manure storage, laboratories, laundries, compressors, and grain warehouses. Typically, the enterprise also includes a transport and tractor park, carpentry workshop, boiler room, coal and slag storage, fuel station, car wash, and canteen.

Waste management must comply with waste management standards and include measures for proper disposal.

Ecological and Hygienic Issues: Various environmental protection measures are implemented at poultry farms to reduce waste-related pollution. The main type of waste from poultry farms is bird manure, which is classified as hazard class 3 or 4. Poultry feed mainly consists of corn and soybeans, though other legumes, root crops, and animal-origin components (such as dairy products or fish meal) can also be included.

Feeds are usually enriched with amino acids, enzymes, vitamins, and minerals, which may contain hormones, antibiotics, and heavy metals. Feed waste, especially when spilled during storage or transport, can cause additional pollution due to its organic content. During production, poultry farms generate large amounts of animal waste, primarily manure, which contains nitrogen, phosphorus, and other substances excreted by birds, such as hormones, antibiotics, and heavy

metals found in feed. These substances can lead to ammonia and other gas emissions, as well as contamination of surface and groundwater through runoff and infiltration. Manure also contains bacteria and other pathogenic microorganisms that may pollute soil, water, and food resources—especially if not properly treated before being used as fertilizer.

Results and Discussion: The rapid growth of poultry farming has created challenges for environmental protection. The negative environmental impact of poultry farms can lead to ecological problems affecting not only nearby residents but also neighboring territories, potentially causing damage to local flora and fauna. Almost all poultry farms face serious ecological conditions, as accumulated bird manure has become a major source of environmental pollution. Currently, most poultry farms lack adequate equipment for processing or utilizing such large volumes of waste. To achieve maximum production efficiency and minimize waste generation, the following measures are necessary:

- Implement environmental protection programs.
- Identify all sources of pollution.
- Ensure proper maintenance and operation of feed storage, transport, and feeding systems.
- Explore possibilities of mixing feed waste with recyclable materials for use as fertilizer.
- Apply control measures to minimize the migration of pollutants into surface water, groundwater, and the atmosphere.
- Construct facilities that prevent manure-related contamination of soil and water.
- Install mechanical systems for wastewater treatment.
- Install mechanical systems for cleaning dust and gas mixtures to protect atmospheric air.

If pollution sources are identified, harmful factors are analyzed, and environmental protection measures are implemented in accordance with established standards, the ecological safety system of a poultry farm can be considered sufficient.

Conclusion

In conclusion, to achieve maximum production efficiency and minimize waste generation, the following measures should be taken:

- ✓ Implement comprehensive environmental protection programs.
- ✓ Identify and control all pollution sources.
- ✓ Maintain and operate feed storage, transport, and feeding systems properly.
- ✓ Explore possibilities for mixing feed waste with recyclable materials for later use as fertilizers.
- ✓ Apply control measures to minimize the migration of pollutants into surface and Construct facilities that prevent contamination of surface and groundwater by manure.
- ✓ Install mechanical systems for the treatment of industrial wastewater.
- ✓ Install mechanical systems for cleaning dust and gas mixtures to protect atmospheric air.

If pollution sources are accurately identified, harmful factors analyzed, and environmental protection measures implemented in accordance with established

standards, the ecological safety system of poultry farms can be considered adequate.

Practical Significance of the Study: Bird manure serves as a habitat for various pathogenic microorganisms, bacteria, staphylococci, and salmonella, the highest concentrations of which are found in fresh manure. Therefore, such manure belongs to the third class of hazardous waste. Its large-scale accumulation at poultry farms poses an ecological threat to the environment.

Undoubtedly, along with improving poultry meat and egg production practices, it is essential to enhance waste management culture, especially concerning the disposal of bird manure. The use of modern, eco-friendly technologies for processing manure into demanded and competitive products is of

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