

Importance of Litter Management in Poultry Production

Ashish Yadav

ICAR-National Dairy Research Institute, Karnal-132001(Haryana), India

*Corresponding Author: ashishy013@gmail.com

The methods and procedures used to keep bedding material (litter) in poultry houses clean, dry, and healthy are referred to as litter management in poultry houses. Implementation of effective litter management practices establishes a poultry production system of a clean, comfortable, and healthy environment for the birds, leading to improved welfare, productivity, and profitability in the poultry farming operation.

Types of litter materials in use in Indian poultry production scenario:

Choice of Litter Material

Appropriate litter material is chosen based on factors such as local climate, cost, availability, and absorbency. Common litter materials available in India include rice husk, sawdust, wood shavings, straw, recycled paper etc.

Details of some common types of litter found in poultry in India include:

- a. **Rice Husk:** Rice husk is a widely used litter material in Indian poultry farming. It is readily available, affordable, and has good absorbent properties. Rice husk helps maintain litter moisture levels and provides a comfortable bedding surface for the birds.
- b. **Sawdust:** Sawdust, obtained from wood processing industries, is another popular litter material in Indian poultry farms. It has good absorbent qualities and helps control moisture and odour in the poultry house. Sawdust is relatively inexpensive and readily available in many regions of India.
- c. **Groundnut Shell:** Groundnut shell is used as a litter material in some poultry farms, especially in regions where groundnuts are cultivated. It is absorbent, lightweight, and biodegradable, making it an environmentally friendly option for litter management.

- d. **Coconut Coir:** Coconut coir, derived from coconut husks, is used as a litter material in certain poultry farms, particularly in southern India where coconut cultivation is widespread. Coir has good absorbent properties and helps control moisture and odour in the poultry house.
- e. **Paddy Straw:** Paddy straw, obtained from rice cultivation, is sometimes used as a litter material in poultry farming, especially in rural areas where rice is grown. Paddy straw is relatively inexpensive and provides a soft bedding surface for the birds.
- f. **Sugarcane Bagasse:** Sugarcane bagasse, the fibrous residue left after sugarcane processing, is occasionally used as a litter material in poultry farms. It has moderate absorbent properties and can help control moisture in the poultry house.
- g. **Sand:** In some coastal areas of India, sand is used as a litter material in poultry farming. Sand has good drainage properties and can help keep the litter dry, but it may require more frequent cleaning and replacement compared to other litter materials.

The curcial role of litter management lies in following several reasons:

- a) **Moisture Control:** Proper litter management helps maintain the optimal moisture level in the poultry house. Excess moisture can lead to the proliferation of harmful bacteria, fungi, and parasites, increasing the risk of diseases such as footpad dermatitis, pododermatitis, and respiratory issues. Managing litter moisture reduces the incidence of these health problems and promotes overall bird welfare.
- b) **Ammonia Control:** Accumulation of ammonia from decomposing manure in the litter can negatively impact poultry health and performance. Ammonia is irritating to the respiratory tract and can lead to respiratory issues, reduced feed intake, and poor growth.

Effective litter management strategies, such as regular removal of wet litter and adequate ventilation, help minimize ammonia levels and maintain a healthy environment for the birds.

- c) **Odor Control:** Proper litter management helps control odors associated with decomposing manure, which can be a nuisance to farm workers and nearby communities. By managing litter moisture and ammonia levels, poultry producers can reduce unpleasant odors and maintain a more pleasant working environment.
- d) **Nutrient Recycling:** Used poultry litter contains valuable nutrients, including nitrogen, phosphorus, and potassium, which can be recycled as fertilizer for crops. Proper management practices, such as composting or spreading litter on agricultural fields at appropriate rates, help maximize the nutrient value of poultry litter and minimize environmental pollution from nutrient runoff.
- e) **Pest and Parasite Control:** Clean, dry litter reduces the habitat for pests and parasites, such as flies, mites, and rodents, which can transmit diseases and cause stress to the birds. Effective litter management practices, including regular removal of soiled litter and proper storage, help minimize pest infestations and maintain a healthier environment for poultry.
- f) **Improvement of Bedding Quality:** Well-managed litter provides a comfortable bedding material for poultry, promoting natural behaviours such as scratching, dust bathing, and nesting. Comfortable bedding enhances bird welfare, reduces stress, and supports optimal growth and production.

Advancements in litter management in poultry farming have been driven by the need to improve bird health and welfare, optimize production efficiency, and minimize environmental impacts. Some key advancements in litter management include:

- a) **Improved Litter Materials:** Research and development efforts have focused on identifying and optimizing litter materials with superior absorbent properties, moisture control capabilities, and microbial inhibition properties. Newer litter materials, such as modified wood shavings, processed cellulose fibers, and bio-based polymers, offer enhanced performance compared to traditional materials like straw or rice husk.
- b) **Precision Litter Application:** Advances in technology, such as automated litter spreaders and precision farming equipment, enable more precise and uniform application of litter material in poultry houses. This ensures optimal coverage and depth of litter, reducing waste and improving litter management efficiency.
- c) **Biosecurity Measures:** Enhanced biosecurity protocols and practices, including strict hygiene measures, restricted access to poultry houses, and disinfection procedures, help minimize the introduction and spread of pathogens in the poultry environment. Biosecurity measures are critical for preventing disease outbreaks and maintaining a clean and healthy litter environment.
- d) **Environmental Monitoring Systems:** Installation of environmental monitoring systems, such as sensors for temperature, humidity, ammonia levels, and air quality, allows poultry producers to track and manage environmental conditions in real-time. These systems provide early detection of potential issues, allowing prompt intervention and adjustment of litter management practices as needed.

Overall, proper litter management is essential for maintaining a healthy and productive environment in poultry houses. It contributes to bird welfare, disease prevention, environmental sustainability, and the overall success of the poultry farming operation.

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