

Scientific Management of Poultry Waste as per Honble NGT directions dated 10-12-2021 and revised CPCB Environmental Guidelines for Poultry Waste, January, 2022



Union Territory of Jammu and Kashmir J&K Pollution Control Committee

Poultry farming is the rearing of domesticated birds such as chickens, turkeys, duck, goose etc. for the purpose of farming meat or eggs for food.

Types of Poultry Farming:

- i) Breeder Farms– Produce fertilized eggs for layer or broiler farms;
- ii) Hatchery Farms– Eggs are hatched for 21 days and supplied to broiler farms or layer forms.
- iii) Layer Farms- Egg laying hens are reared for egg production.
- iv) Broiler– Broiler birds are raised especially for meat production for 40 to 45 days or up to weight gain of 2.5 to 3.0 kg.



Environmental Issues in Poultry Farms:

- I) Disposal of dead birds ;
- ii) Disposal of litter / poultry manure;
- iii) Gaseous emissions and feed mill dust
- iv) Waste water from cleaning operation

Classification of Poultry Farms:

- Small (5,000-25,000 birds)
- Medium (above 25,000– 1,00,000 birds)
- Large (above 1,00,000 birds)

Guidelines for Poultry Waste Management

Highlights of Revised Environmental Guidelines for Poultry Waste issued by CPCB dated January, 2022 as per Hon'ble NGT directions dated 10.12.2021 in the matter of O.A. No. 320/2021.

A. Regulatory Mechanism for Poultry Farms:

- Applicable to all Poultry Farms.
- Poultry Farms with birds above 25,000 shall obtain Consent to establish (CTE) and Consent to operate (CTO) under Air and Water Act.
- Poultry Farms with birds above 5,000 shall obtain CTE and CTO under Air and Water Act after 01.01.2023.
- Poultry Farms are categorized under “Green Category”.
- Department of Animal Husbandry shall assist the Poultry Farm owners in implementation of guidelines.
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B. Poultry Waste Management

Solid Waste Management

i) Composting:

Composting by mixing manure with carbon rich materials like rice husk, paddy straw/ wood shavings should be done in pits.

(Carbon to Nitrogen ratio of 20-25 :1 should be maintained and moisture should be maintained between 35-50%).



**Compost (made with C/N ratio of 35:1
(51 kg Poultry waste and 84.15 kg rice husk)**

ii) Vermi - Composting :

As per study conducted by ICAR- DPR, Hyderabad, compost made from poultry manure can be easily converted into vermin compost , by adding good quality earthworms within 80 days time period.

Further, feeding approx. 6 gm of earthworm diet per day fulfills protein requirement of the birds. Two purposes are solved; feed cost of poultry is lowered along with waste management and compost production.



**Vermi-Compost
(made from compost with C/N ratio of 35:1)**

iii) Bio-methanation:

Poultry waste including manure can be converted to biogas efficiently, with prior filtration of Ammonia and calcium content in poultry manure.

1 kg of poultry waste can produce 70 ltr of biogas;

1 kg of cattle dung can generate only 40 ltr. of biogas.

Biogas plants are not recommended for broiler forms.

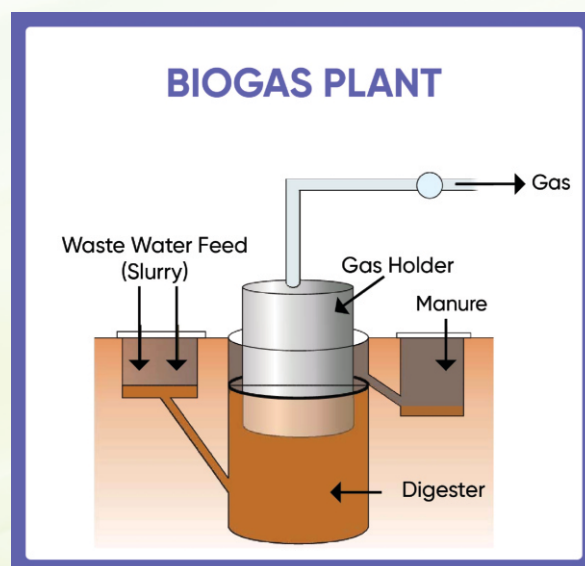


Table: Poultry waste to Biogas statistics

No. of Birds	Approx. quantity of Biogas generation / annum	Cost benefit @ Rs 32.00 per kg of biogas	Approx. Quantity of manure
5000	4100 Kg	1.31 lakh	128 tonnes

Source: ICAR- Central Avian Research Institute)

Table: Poultry waste to electricity statistics

Waste and droppings per Bird/Hen per day	Poultry Litter required to produce 1 cubic meter of Bio Gas	Electricity Generated from one cubic meter Bio Gas per day
120 gms	5 kg	2 kw

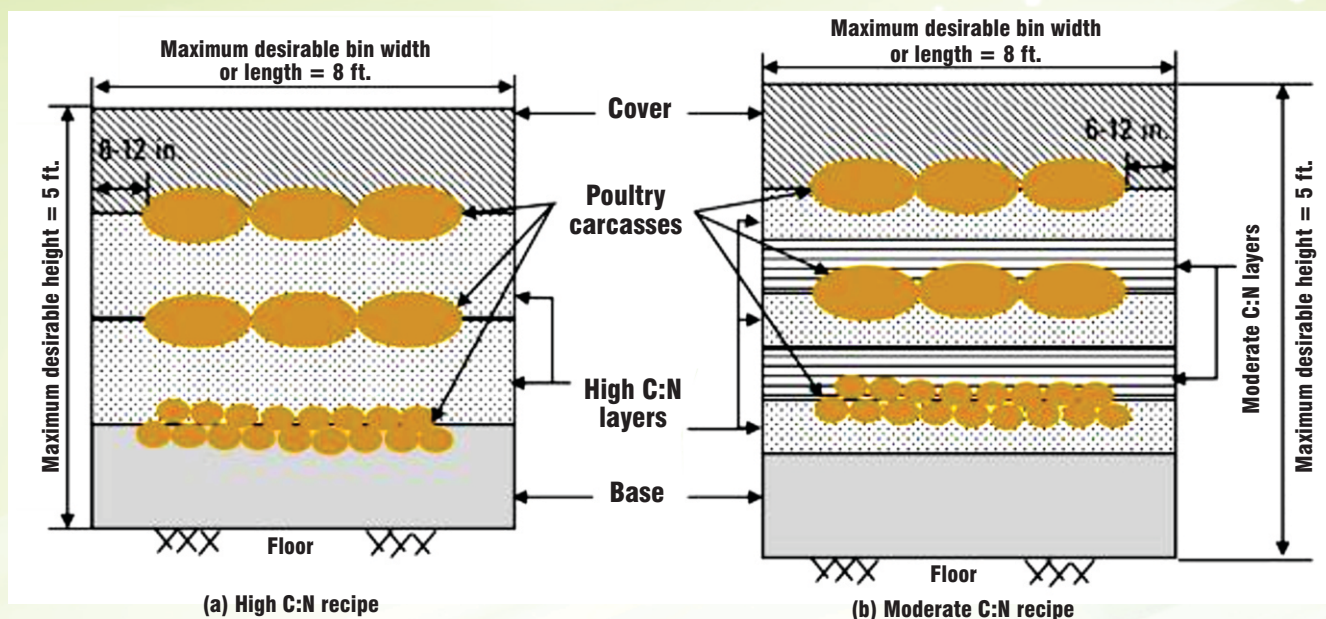
Source: Perfect Bio-waste and Power Management Pvt. Ltd.

Table: Manure Disposal methods for various categories of Poultry Farms

S. No.	Poultry Farms	Method for disposal / utilization of manure
1	Small Poultry Farms	Composting
2	Medium & Large Poultry Farms	<ul style="list-style-type: none"> • Composting or Biogas production for disposal / utilization of manure / litter. • Combination of any of the methods for disposal / utilization of manure / litter
3	Poultry Farms in cluster	Common facilities for Biogas production or Composting or their combination

iv) Poultry manure to briquettes: Poultry manure (Droppings along with poultry bedding) is mixed with saw dust by Agro based Industries to make briquettes, to be used as fuel in broilers.





v) **Disposal of dead birds:** Dead birds may be disposed of by

1. Burial method: Burial pit shall be of min. 3-4 m deep and 0.8 to 1.2 m wide, provided with cover. Carcasses shall be covered by a thin layer of soil (40 cm deep) along with calcium hydroxide.
2. Composting : Composting of dead birds shall be carried out in well designated places with permanent roof and concrete floor and shall be secured by link mesh wall around to prevent predation.

Waste Water Management

Waste water shall be collected in holding tanks and shall be utilized in green belt. Disinfectants shall be preferred to minimize generation of waste water.

Air emissions and Feed mill dust

- Proper ventilation and free flow of air over manure collection points to keep it dry.
- Dust collector systems should be installed to control emissions from mixing and grinding section of feed mill.
- Provision of vehicle tyre dip at entry point shall be made.
- Floor of feed mill shall be raised above ground level by min. 2 feet and it should be concrete.

C. Siting Criteria

- Shall be applicable to New Poultry Farms
- 500 m from residential zone,
- 100m from major water sources
- 100m from National Highway and 50 m from State Highway
- 10-15m from rural roads / internal roads
- 10 m distance should be maintained between Poultry Farm and Poultry shed.

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