ENVIRONMENTAL GUIDELINES FOR POULTRY FARM

1.0

1.1 Fencing and Green Belt Development

1. The poultry farm should raise green belt all around the farm with minimum of two rows spaced apart of not more than 3 m.
2. The poultry farm should be fenced with barbed wire / linked mesh upto a height of 1.5 m with appropriately secured entrance and outlet.

2.0 Air Emission (Includes gaseous emission, Odour and Dust)

2.1 Minimization of odour / gaseous pollution problem

- Ensure proper ventilation and free flow of air over manure collection points to keep it dry
- Protect manure from unwanted pests/insects
- Protect manure from run off water and cover it to avoid dust and odours in storage pits
- Design, construct, operate and maintain waste storage facilities to contain all manure, litter and washings
- Collect carcasses promptly on regular basis and dispose them appropriately without damaging the environment.

2.2 Feed Mills

1. The feed mill and godown should be located on a well elevated ground preferably near the entrance to the farm and isolated from other poultry sheds.
2. It should have a separate entrance and exit without crisscrossing the internal poultry farm roads.
3. Provision for vehicle tyre dip should be made available at the entrance control gate
4. Floor of the feed mill and godown should be concrete, damp proof, rodent/vermin proof and raised above the ground level by a minimum of 2 feet.

5. Should have adequate fire and other accident safety provisions.
6. All feed ingredients should be stored on pallets or platforms to facilitate easy detection of leakage and to prevent absorption of moisture from the ground.
7. Dust collector system should be installed in the feed mill .
8. All the workers working in the feed mill should be provided with dust masks.
9. Avoid pest infestation of stored feed ingredients by frequent inspection and following prompt interventions.
10. Never store pesticides and other poisonous materials in feed plants or feed making premises.
11. Provide exclusive storage facility within feed plant for feed additives like vitamins, minerals etc.,
12. Always store finished feed in covered containers and try to deliver to sheds for distribution to birds in specialiy made closed delivery trucks avoiding baggage and its reuse.
13. Never store finished feed in sheds for more than the current days requirement.
14. Prevent interaction of feeds with wild birds, rodents, pests, flies etc; as a measure of food safety and prevention of spread of diseases.
15. Avoid spillages to limit wastage and discourage habitation for pests and rodents
16. Observe sanitation and cleanliness as a routine to ensure quality and safety of feed grains ,

3. **Management of solid wastes (Solis Waste contains Dead Birds, Manure and Hachery Debris)**

General:

- Place primary importance to minimize waste generation in regular farm management schedule.
- Properly collect, sort, treat, transport and utilize the solid wastes
- Always balance land application of manure to the nutritional requirements of soil and crop

- Keep manure dry and avoid wet spots/patches
- Store manure properly by following appropriate storage technologies like composting
- Reduce mortalities on farm by proper animal care and disease prevention program
- The products from the rendering plant can be used a pet food.
- No open burning or indiscriminate dumping of any dead birds / feathers / offal's, unused materials like litter / empty gunnies / containers etc. should be adopted within or outside the farm premises
- Use reliable options for collection, storage, transport and disposal of dead birds

Dead Birds Disposal

a) **Burial**

1. The dead birds arising from day to day farm activity should be separated from other live birds promptly and should be stored in closed containers \ disposed off within 24 hours by following any of the appropriate disposal methods.
2. The dead bird burial pit should be of 3 to 4 m in depth and 0.8 to 1.2 m diameter and located above minimum of 3 m from the ground water table.
3. The dead bird burial pit should be provided with a vermin/fly proof cover made up of wooden / metal / concrete having a central operable lid of proper size for day to day dropping of carcasses.
4. When the pit is full, a compacted soil cover of 0.5 m should be provided with the top of the covered soil well above the ground level.
5. The distance between any two burial pits should not be less than 1 m.

b) **Composting**

1. The composting facility should not be located within 300 m from the nearest dwelling and 100 m from any well or water course.
2. The capacity of the composting facility must be sufficient to handle the average mortalities on the farm.
3. The roof of the composting facility should be permanent with bottom concreted.
4. The composting facility should be secured with link mesh all around raised to a height of 1.5 m above the ground level to avoid the predation by straw dogs etc.
5. A proper mixture of smaller and larger particle sizes to obtain an optimum air exchange within the mixture and buildup of temperature.
6. Moisture content of the composting pile should be approximately 60%. More than this may result in odor
7. problems and less than this will reduce the efficiency of the composting process.
8. Carbon and nitrogen are vital nutrients for the growth and reproduction of bacteria and fungi. The carbon-to-nitrogen ratio must be in the range of 20:1 and 25:1 for proper composting. This is obtained by carefully balancing the dead bird and carbon sources.
9. The optimum temperature for composting is 54 to 66°C which pasteurizes the compost. If temperature falls below 49°C after a week or so, the material should be moved to the secondary stage unit. To facilitate the easy transfer of the first stage material to the secondary stage, the proper designing of the primary stage (first stage) facility is desirable as illustrated in figure 5.5. Failure to do so will result into poor compost. The temperature in the secondary stage unit will begin to raise as beneficial bacterial activity begins and will peak in 5 to 10 days.

c) **Incineration**

1. The incinerator should be located in down wind direction to the poultry houses and populated areas.

2. The incinerator capacity should be of sufficient size such that no un-burnt carcasses are left in a day's operation.
3. The guide lines and standards prescribed under Bio-Medical Waste (Management and Handling) Rules, 1998 should be followed for erection and operation of the incinerator.

B

Manure Storage and Management Storage

1. The litter / manure storage dumps should be minimum 2 m above the water table and of sufficient size based on the type and number of birds handled. It's base should be constructed with stone slabs or concrete or impermeable compacted clay.
2. The litter / manure storage dumps should have a 25 m buffer strip all around to keep out of wet areas/drainage discharges.
3. Keep manure dry and avoid wet spots/patches
4. The dry manure dump should be covered with permanent roof or with plastic / similar material to prevent air emissions and the precipitation falling on it.
5. Store manure properly by following appropriate storage technologies like composting.

Composting of Manure:

The composting process of poultry manure consists:

- Properly mixing the waste with a carbon rich material (e.g., paddy straw / husk, wood shavings) in pits or in windrows. Carbon to nitrogen ratios of 20-25:1 are usually recommended. Pure manure can also be composted if all factors are carefully monitored.
- Addition of air by periodic stirring
- Proper balancing of moisture levels (35 to 50% moisture).
- Temperature monitoring to determine if composting conditions have occurred.