

## Poultry Litter Amendment

### BiOWiSH™ Manure and Odor Treatment (Poultry)

BiOWiSH™ Manure and Odor Treatment (Poultry) is a revolutionary product that breaks down organic waste and eliminates odor causing compounds at the source. It has a dual action (gaseous and substrate) and begins working in minutes to reduce Volatile Organic Compounds (VOCs), most notably Ammonia. BiOWiSH™ Manure and Odor Treatment (Poultry) does not mask odor, it rapidly accelerates the achievement of full decomposition by denaturing odor compounds to inert and smell-free end products.

### Key Benefits

- Accelerates the decomposition of manure
- Removes rather than masks odors
- Reduces Ammonia and VOCs
- Accelerates litter and carcass composting
- Promotes healthier litter/bedding
- Reduces flies by removing organic attractants

### Site Specific Data Collection

Collection of the following site-specific information will assist in developing the most appropriate application program for use of BiOWiSH™ in a poultry operation.

- Major issues of concern (e.g. ammonia, odor, pathogens) and when in the production cycle do these occur?
- Type of bird?
- Size and number of sheds/barns?
- What is the typical management regimen? e.g. Time between flocks, heating etc.
- What is the typical grow-out period?
- How many birds are placed in the shed and in what area?
- Type of bedding?
- What is age of litter?
- Is litter/bedding ever cleaned out? If so, how often?
- Is the litter/bedding windrowed between flocks?
- What (if any) amendments are used to control Ammonia?
- What are the major pathogens of concern?
- What is the average litter moisture?

### About BiOWiSH™

Biological Help for the Human Race - BiOWiSH™ technology provides a solution to some of the most complex problems of our time, from food production to environmental pollution.

BiOWiSH™ is a powerful composite biocatalyst that breaks down complex organic molecules to help eliminate waste, reduce odors, improve soil fertility and enhance water quality, among other uses.

100% natural and non-toxic, BiOWiSH™ is safe for everyday use in a wide range of consumer and industrial products. It has been proven to solve problems in environmental management (including wastewater, solid waste, soil and water remediation and industrial emissions), as well as agriculture.

BiOWiSH™ products are used extensively and available in Asia, Australia, Europe, North America and Latin America.



## Applications and Dosage

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#### Application Rate

- Application rates vary from 1kg to 3kg per 1000m<sup>2</sup> based on factors such as type of litter, age of litter, type of bird, and management practices. Please contact a BiOWiSH representative for site specific application rates.

#### Pre-activation

Follow these basic directions for the proper pre-activation of each dose of BiOWiSH™ Manure and Odor Treatment (Poultry).

- Clean tank/vessel/container thoroughly.
- Mix the prescribed amount of BiOWiSH™ in water.
- Leave the container uncovered and exposed to ambient air—or use a mechanical aerator.
- Keep the container in a warm place above 15°C.
- Let the mix activate for a minimum of 12 hours.

#### Note:

- *The BiOWiSH™ carrier material may clog fine spray nozzles. This can be avoided by decanting the activated solution, using a filter bag of appropriate micron or using a larger nozzle.*
- *To reduce the risk of accidental pre-activation of the product always re-seal bags and avoid exposure to moisture.*

#### Application Method

**Three to six days prior** to bird placement dilute recommended amount of BiOWiSH™ Manure and Odor Treatment (Poultry) into a minimum of 250 to 500 litres of water. Number of days and amount of water will be defined in site specific protocols.

Activate as above.

**Two to five days prior, as defined by the site specific protocol**, to bird placement spray onto bedding material allowing for as wide a distribution as possible. A multipurpose tank and hand held spray device is recommended.

Re-apply prior to each bird placement event.

*Note: If litter is windrowed as part of the standard management practice, please contact BiOWiSH™ technical support for a site specific protocol at [techsupport@biowishtechologies.com](mailto:techsupport@biowishtechologies.com)*

### Composting of Litter and Carcasses

#### Application Rate

- 2.2 lb per 50 tons of organic material

#### Pre-activation

Follow these basic directions for the proper pre-activation of each dose of BiOWiSH™ Manure and Odor (Poultry).

- Clean tank/vessel/container thoroughly.
- Mix the prescribed amount of BiOWiSH™ in fresh water.
- Leave the container uncovered and exposed to ambient air—or use a mechanical aerator.
- Keep the container in a warm place above 15°C.
- Let the mix activate for a minimum of 12 hours.

#### Note:

- The BiOWiSH™ carrier material may clog fine spray nozzles. This can be avoided by decanting the activated solution, using a filter bag of appropriate micron or using a larger nozzle.
- To reduce the risk of accidental pre-activation of the product always re-seal bags and avoid exposure to moisture

#### Application Method

- Dilute 1 kg into 1,000 L of water.
- Activate as above.
- Spray over carcasses/litter and mix well to achieve good dispersion.
- Re-apply when a large number of new birds are added.

#### How will I know that BiOWiSH™ is working?

The collection of data is critical to tracking the progress of BiOWiSH™ in meeting key objectives. We recommend that before implementing a program of dosing, first establish a thorough baseline of data to measure against. You should consider tracking the following parameters dependant on the application:

- Anecdotal odor measurement
- Ammonia measurements should be taken on-site at regular intervals and at multiple locations within each barn throughout the application. The Drager portable gas detector is widely used around the world to accurately measure Ammonia in poultry barns. For more information see Drager Portable Gas Detector
- A representative sample of litter should be collected from each barn at Day 0, Day 7, Day 21 and at the end of the treatment to be analyzed for the following parameters (as appropriate):
  - C:N Ratio
  - Organic Nitrogen
  - P<sub>2</sub>O<sub>5</sub>
  - pH
  - Moisture
  - Salmonella
  - E.coli
  - Clostridium perfringens
  - Each sample should be collected from multiple locations (at least nine) from each barn.
  - Combine the nine samples into a bucket, mix thoroughly and sub sample into a zip-lock plastic bag.
  - Sample all barns at approximately the same time on the same day.

#### Contact Us

For further advice and assistance please contact:

BiOWiSH Technologies

Tel: +1 312 572 6709

Email: [animalag@biowishtech.com](mailto:animalag@biowishtech.com).

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