



Liiteron +
 The Great Bedding
 Conditioner for
 Poultry

1st

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LET YOUR BIRDS STEP ON LIITERON+

GUYBRO – A STEP AHEAD IN NUTRITION

Liiteron+ - The Great Bedding Conditioner

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Poultry farmers are investing money for good quality vaccinated chicks, feed, medicines etc., but often neglect quality of litter material and use litter material which is full of multiple infections.

The litter material is usually a by-product such as rice husk, saw dust, coconut fibres etc. These materials are often treated as waste materials and is exposed to all adverse conditions such as dust, rain, storm, excrement of animals, dust from passing vehicles which makes it carrier of various pathogens and pollutants. Birds are in continuous contact with this infected litter. Its condition can affect all aspects of flock health and farmer's success.

Liiteron + is the ideal litter conditioner which ensures hygienic litter conditions. **Liiteron+** is a product of our extensive research for several years and has been successfully tried in number of poultry farms.

Liiteron + reduces microbial load - Combats antibiotic resistance - Maximizes profits:

The pH of poultry litter is normally between 8 – 9 i.e., highly alkaline. Many pathogens such as E.coli, Salmonella, Campylobacter etc. have long survival after excretion. These pathogens require alkaline pH for their growth and multiplication. Antibiotic residues (e.g. tetracyclines, tylosin, monensin etc.) excreted in the litter are stable at alkaline pH. Birds, livestock as well as humans exposed to these pathogens and antibiotic residues are at constant risk of developing antibiotic resistance. Litter acidification with **Liiteron +** (pH 3 – 4.5) inhibits growth of pathogens, combats antibiotic resistance as antibiotics lose their efficacy at acidic pH.

Microbial load in the litter (average)/gm

E.coli	1.5x10 ⁴
Coliform	3.1x10 ⁶
Clostridium	3.1x10 ⁶
Mold and Yeast	0.9x10 ⁵
Staphylococci	7.5x10 ⁵
Salmonella	3.1 x10 ⁴



Call us for free ammonia testing at your farm

Liiteron+



Litter treated with LIITERON has reduced microbial load due to reduced pH:

Before treatment of Litter ██████████
 CFU 5.2×10^9 / g

After 3rd week of Litter treatment ██████████
 CFU 1.5×10^3 / g

Liiteron+ effectively controls ammonia in winters:

Ammonia the gaseous pollutant in farm originates from breakdown of uric acid in the litter which causes significant losses to poultry farmers. Ammonia concentration rise especially during winters when the ventilation rate is reduced to preserve heat in the shed.

Ammonia gas is lighter, water soluble and can thus be absorbed in floating dust particles. Bird inhale dust particles containing ammonia & other pollutants which allows infectious agents to become established & damages the bird's respiratory system. Birds exposed to ammonia are more susceptible to CRD, Coryza, Infectious bronchitis, Colisepticaemia and other diseases. Ammonia reduces the oxygen carrying capacity of haemoglobin.

Detrimental effects of ammonia:

At 10 ppm ammonia damages the lungs, at 20 ppm it increases chances of vaccine failure, at 25 ppm it impairs growth and feed conversion, at 25 – 50 ppm it causes severe air sac inflammation, at 100 ppm it increases chick mortality.

- High levels of ammonia results in up to 10% birds with stunted growth.
- For every 10 ppm rise in ammonia you lose 2 eggs/hen/year.
- For every 10 ppm rise in ammonia you lose 15 g body weight in broilers.

Economic losses for 1 lakh breeder layer farm

Ammonia level in farms	Losses per bird/yr.	Total egg loss/yr	Loss in Rupees @ Rs.4/egg
10 ppm	2 eggs	2 lakh eggs	8 lakh rupees
20 ppm	4 eggs	4 lakh eggs	16 lakh rupees
30 ppm	6 eggs	6 lakh eggs	24 lakh rupees
40 ppm	8 eggs	8 lakh eggs	32 lakh rupees
50 ppm	10 eggs	10 lakh eggs	40 lakh rupees

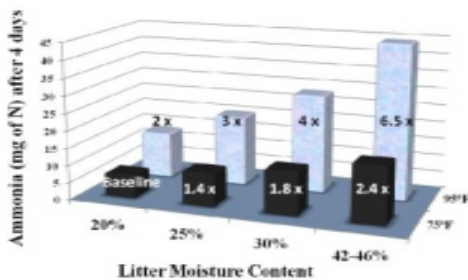
Ammonia emissions from birds at different ages :

Age emission (Day)	Range of Ammoni (mg/bird/day)
0-10	0-57
15-30	10-97
30-42	32-171
>43	71-234

Economic losses for 1 lakh capacity broiler farm

Ammonia level in farm	Loss of wt. gain/Broiler/ Crop (35-40 days)	Total loss of weight	Loss in rupees per crop @ Rs.55/kg	Loss in rupees/year @ 10 crops/yr.
10 ppm	15 gm.	1.5 tons	82,500/-	82,5000/-
20 ppm	30 gm.	3 tons	165000/-	1650000/-
30 ppm	45 gm.	4.5 tons	2,47,500/-	2,47,5000/-
40 ppm	60 gm.	6 tons	3,30,000/-	3,30,0000/-
50 ppm	75 gm.	7.5 tons	4,12,500/-	4,12,5000/-

Ammonia Generation from Broiler Litter



Liiteron+ with its unique acid minerals converts this harmful ammonia into ammonium, neutralizes obnoxious gases such as hydrogen sulphide. This protects the respiratory system of birds, reduces mortality and improves their overall health.

Get your farm ammonia levels tested for free. Our field staff is equipped with ammonia testing kits.

Liiteron+ keeps foot pad healthy

Alkaline and wet poultry litter is breeding site of various pathogens such as Staphylococcus, Pseudomonas and Escherichia coli which cause bumble foot (ulcerative pododermatitis) in birds.

Liiteron+ has inherent property of keeping the litter dry thus safeguarding foot pad of birds. Liiteron+ acts as a proton donor reducing the pH of the litter to 4.5 – 6 i.e. makes it acidic and destroys pathogens.



Liiteron+ controls ectoparasites

Fly larvae, darkling beetles can harbour a variety of avian pathogens such as IBD, Mareks, New Castle etc. Red mite and tick infestations in poultry can lead to high levels of stress amongst birds and can result in anaemia, reduced egg production and, eventually if not treated, mortality.



Liiteron+ can be safely broadcasted on birds and on litter to control ectoparasites. These parasites are destroyed when they come in contact with Liiteron+.

Liiteron+ as biosecurity measure

Liiteron+ kept in open box is effective as foot/ shoe bath to avoid infections carried with shoes to the farm.



Liiteron+ a cost-effective litter conditioner:

The litter conditioned with Liiteron+ is sanitized litter, free of infection which can be reused and reused successfully. Save money by not purchasing the new litter full of infection.

Litter conditioner with Liiteron+ maintains more nitrogen in form of ammonium nitrate thus can be safely used as plant fertilizer.

- Liiteron+ reduces microbial load – Combats antibiotic resistance – Maximizes profits
- Liiteron+ effectively controls ammonia in winters
- Liiteron+ keeps foot pad healthy
- Liiteron+ controls ectoparasites
- Liiteron+ is biosecurity measure
- Liiteron+ is a cost-effective litter conditioner

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Detrimental effects of ammonia

