

BIO LITTER^{WS}



- Litter amendment designed to regulate the litter microbiome

Why control the litter microbial ecosystem?

The litter is a very complex environment composed of non-pathogenic and pathogenic microbes. The bacterial concentration of the litter can reach 10 billion live bacteria per gram. This is as many cells as there are in a broiler body. The microbial activity of the litter has a very important impact on the animal gastro-intestinal microflora. The concentrations of *Clostridium perfringens*, *E. coli*, *Salmonella* and coccidia have a direct effect on poultry health and the contamination of meat and eggs.



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Unique, multi-factor formulation

Improves the litter in 3 ways

- 1 Promotion of the non-pathogenic microflora using a specific substrate
- 2 Inhibition of the pathogenic microflora using exclusive competition
- 3 Direct inhibition of the pathogenic microflora by the non-pathogenic bacteria

DIRECTIONS FOR USE

(Chickens, turkeys, breeders, layers)

DOSAGE

- Mix **250 grams (1.5 scoop)** with 10 liters of warm water
- Spray this solution on 10 000 ft²
- Repeat the amendment every 8 weeks or for each new broiler flock

RECOMMENDATIONS

On barn surfaces

- After washing, disinfecting and drying
- Let dry
- Apply the solution on floors (bottom of walls and pillars, water lines, feeders, nests...)

On the litter

- 24 hours before or 24-48 hours post arrival of birds (respect this time range of the application for an optimal efficacy)
- **Enterococcus challenge:** Apply the solution on both floor and then on the litter (double application)



1 kg pail
with scoop



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Research results on the effect of BIOLITTER WS on the litter bacterial numbers

Studies at the Faculty of Veterinary Medicine in St-Hyacinthe have demonstrated the effect of **BIOLITTER WS** on inhibiting the growth of litter pathogens (FMV, 2019). Rothrock *et al.* (2019) from the USDA have shown that adding **BIOLITTER WS** to the poultry litter on Day 0, had positive impacts on the pathogen concentrations of the litter at Day 42 (Figure 1). Labrecque (2020) also showed the significant benefits of **BIOLITTER WS** on the concentrations of *Enterococcus* spp. of the treated and non-treated broiler litter. Concentrations in treated litter dropped to zero 31 days after treatment (Figure 2).

Figure 1

Bacterial concentrations of the broiler litter after 42 days

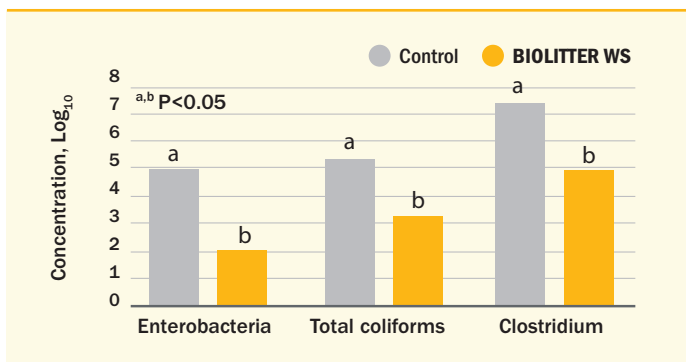
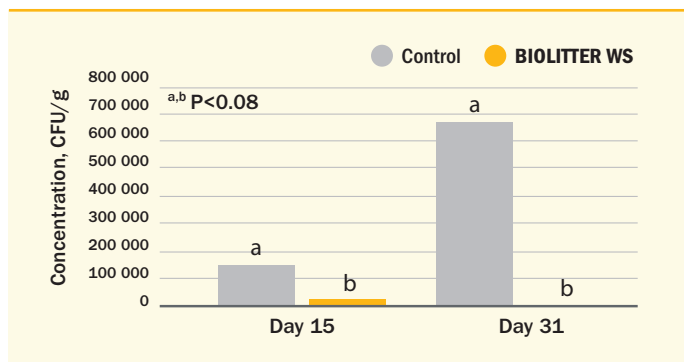


Figure 2

Concentrations of *Enterococcus* spp. of the broiler litter after 15 and 31 days



References

1. Chen and Jiang, 2014. Microbiological Safety of Chicken Litter or Chicken Litter-Based Organic Fertilizers: A Review.
2. Rothrock *et al.*, 2019. Efficacy of a novel, all-natural bioproduct to reduce microbial populations within poultry litter.
3. Hinkle, 2010. Effects of microbial litter amendments on broiler performance, litter quality, and ammonia production.

- ✓ The product is safe for animals and workers
- ✓ Approved for use in organic production
- ✓ Certificate available upon request



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