



PhageGuard S reduces Salmonella in ground meat and poultry products

Advantages of Phage Application

Smart

- PhageGuard S targets all Salmonella serovars.
- PhageGuard S can reduce Salmonella 1 log or more on meat and poultry trim, coarse & fine ground product.

Green

- PhageGuard S is a processing aid, hence no labeling required.
- Organic - OMRI listed, suitable for use in Organic products.
- No effect on taste, texture, odor & color.

Easy

- Easy to apply.
- Directly add or spray PhageGuard S solution before final grinding pre or post CO₂ treatment.

PhageGuard S - The natural solution against Salmonella

PhageGuard S (PGS) is a highly concentrated solution containing phages S16 and FO1a. The phages were selected from natural environments for their ability to kill all Salmonella serovars.

Application of PhageGuard S

Easy to apply, the use of PhageGuard S provides an additional hurdle in the final stages of processing by killing Salmonella where other interventions cannot be used due to detrimental effect on the finished product and lack of efficacy.

Salmonella continues to become exposed as raw materials move through disassembly and the production process. Phage is a valuable tool in the hurdle approach employed to ensure safe foods.

The addition of PGS near the end of the ground production process, shows a reduction of >1 log which translates into a reduction of USDA percent positive samples and safer raw meat products for the public.

PhageGuard S

Dosage

- Trim:** 5 - 50% PGS solution on trim results in 1–2.4 log kill of Salmonella (90 - 99.6%).
- Coarse & fine ground:** 5% PGS solution on ground product results in 1.0 or greater log kill of Salmonella (>90%).

Distribution

- Trim:** 1% pick up levels allows for full coverage on trim surfaces.
- Coarse & fine ground:** Use 0.49% pick up in ground product for full distribution.

Application techniques

- Trim, coarse & fine ground:** Direct addition /spray before final grind, pre or post CO₂ treatment.

Contact time

- Maximum Salmonella kill occurs 6 -18 hours after phage application.

PhageGuard S effectively kills Salmonella on ground products

Findings from research conducted at University of Nevada, Reno (2019) indicates that PhageGuard S effectively decreased the four Salmonella Serovar cocktail tested in the final ground beef, regardless of the point of application (Figure 1).

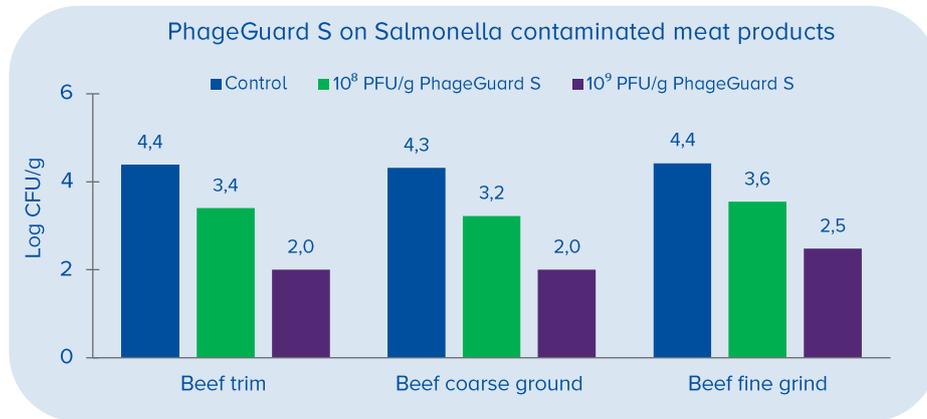


Figure 1 1.0 - 2.1 log Salmonella kill in ground beef product, 6 hours after the application of 10⁸ or 10⁹ PFU/g (5% or 50% dosage) on trim, coarse or fine grind.

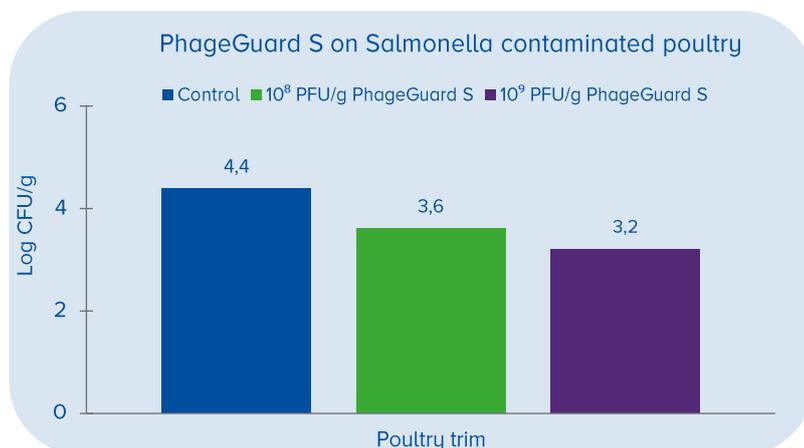


Figure 2 1 - 1.2 log Salmonella kill in ground poultry product, 24 hours after the application of 10⁸ or 10⁹ PFU/g (5% or 50% dosage) on poultry trim.

In conclusion, PhageGuard S is a safe and smart Salmonella intervention which can be used during processing of meat and poultry products. PhageGuard use helps processors protect their brands and their consumers without compromising organoleptic properties, their workers and allows them to do so in a clean, green and organic way.

- Greater than 1 log kill of Salmonella on meat and poultry trim, coarse and fine grind product.
- PhageGuard S can be easily applied prior to the final grinding process.
- Current regulatory approvals allow for 10⁸ CFU/g.

For more information regarding this application data bulletin please use the following contact information:

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