FINALYSE™

Target and reduce *Salmonella* with phage technology.

***SALMONELLA* CAUSES**

1 MILLION
CASES OF FOODBORNE ILLNESS

&

380 **DEATHS EVERY YEAR IN THE US.[1]**

IN-PLANT TESTING REPORTS *SALMONELLA* POSITIVES AS HIGH AS 80% IN POULTRY.[2]

With new government requirements that *Salmonella* categorizations be published, it's more important than ever to control the bacteria in your plant. Research shows pathogen contamination in broilers increases during cutting and further processing[3]. In turkey processing, defeathering and handling after washing increased the incidence of *Salmonella* the greatest, but *Salmonella* was detected across each of the eight processing stages tested.[4]

WHAT IF YOU COULD SPECIFICALLY TARGET *SALMONELLA* IN YOUR PROCESSING PLANT WITH A SAFE AND PROVEN TOOL?

REDUCE *SALMONELLA*.

What if you could reduce *Salmonella* where contamination is highest?

BOLSTER CURRENT INTERVENTIONS.

What if you could add a *Salmonella*-targeted product to your current antimicrobial interventions?

MAINTAIN WORKER SAFETY.

What if there were interventions that didn't expose workers to harmful chemicals?

SALMONELLA DOESN'T FAZE THE PHAGE.

Finalyse™ SAL uses phage technology that targets *Salmonella* and uses the bacteria as a host cell to replicate, rapidly reducing *Salmonella's* presence.

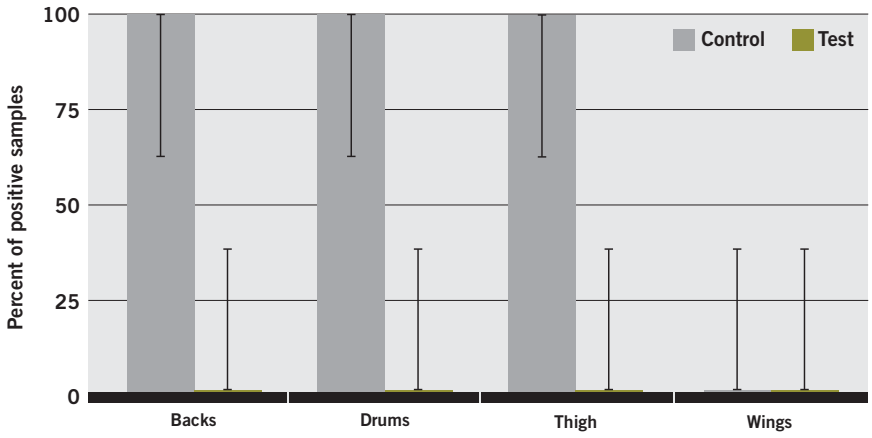
THE PROOF IS IN THE RESEARCH.

Reduced *Salmonella* in ground turkey.

Samples and sample rinses were collected from combos of turkey backs, drums, thighs and boneless wings throughout a commercial turkey processing facility. To replicate a real-world process, samples were transported 113 miles and held in a cooler before Finalyse SAL was applied. The combos were shipped back to the original production facility before grinding.

The comparison of *Salmonella* positive rates by part are shown below.

Figure 1: Comparison of *Salmonella* Positive Rates After Grind



*Error bars are created using Agresti-Coull method with 10 samples per part and treatment

Of the 2,000-pound combination of backs, thighs, drums and boneless wings in the control group, 100% tested positive for *Salmonella*. All samples in the treatment group, which received an application of Finalyse SAL in a Continuous Online Pathogen Eliminator (COPE) chiller, tested negative for *Salmonella*, except one sample of boneless wings taken after cooling but before grinding. The corresponding sample tested negative for *Salmonella* after grinding.[5]

To learn more about Finalyse contact your ARM & HAMMER™ representative or visit AHfoodchain.com.

1 *Salmonella*. Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID). https://www.cdc.gov/salmonella/general/index.html.

2 Sampling Results from FSIS Regulated Products: Calculations [October 1, 2017 – September 30, 2018]. https://www.fsis.usda.gov/wps/wcm/connect/68f5f6f2-9863-41a5-a5c4-25cc6470c09f/Sampling-Project-Results-Data.pdf?MOD=AJPERES.

3 *Campylobacter jejuni*, *Campylobacter coli*, and *Listeria monocytogenes* in Poultry Carcasses and Different Types of Poultry Products for Sale on the Belgian Retail Market. *Journal of Food Protection*: 1999;62(7):735-740. http://jfoodprotection.org/doi/abs/10.4315/0362-028X-62.7.735.

4 Nde CW, Sherwood JS, Doetkott C, Logue CM. Prevalence and Molecular Profiles of *Salmonella* Collected at a Commercial Turkey Processing Plant. *Journal of Food Protection* 2006;69(8):1794-1801. http://www.jfoodprotection.org/doi/abs/10.4315/0362-028X-69.8.1794.

5 Commercial validation, ARM & HAMMER. Data on file. 2018.