

# Research Notes

Arm & Hammer Animal and Food Production



## Finalyse SAL reduced *Salmonella* in ground turkey.

### STUDY OVERVIEW

A commercial study was conducted at a turkey processing facility to validate Finalyse™ SAL, a new *Salmonella* bacteriophage, to evaluate its ability to reduce *Salmonella* in ground turkey.

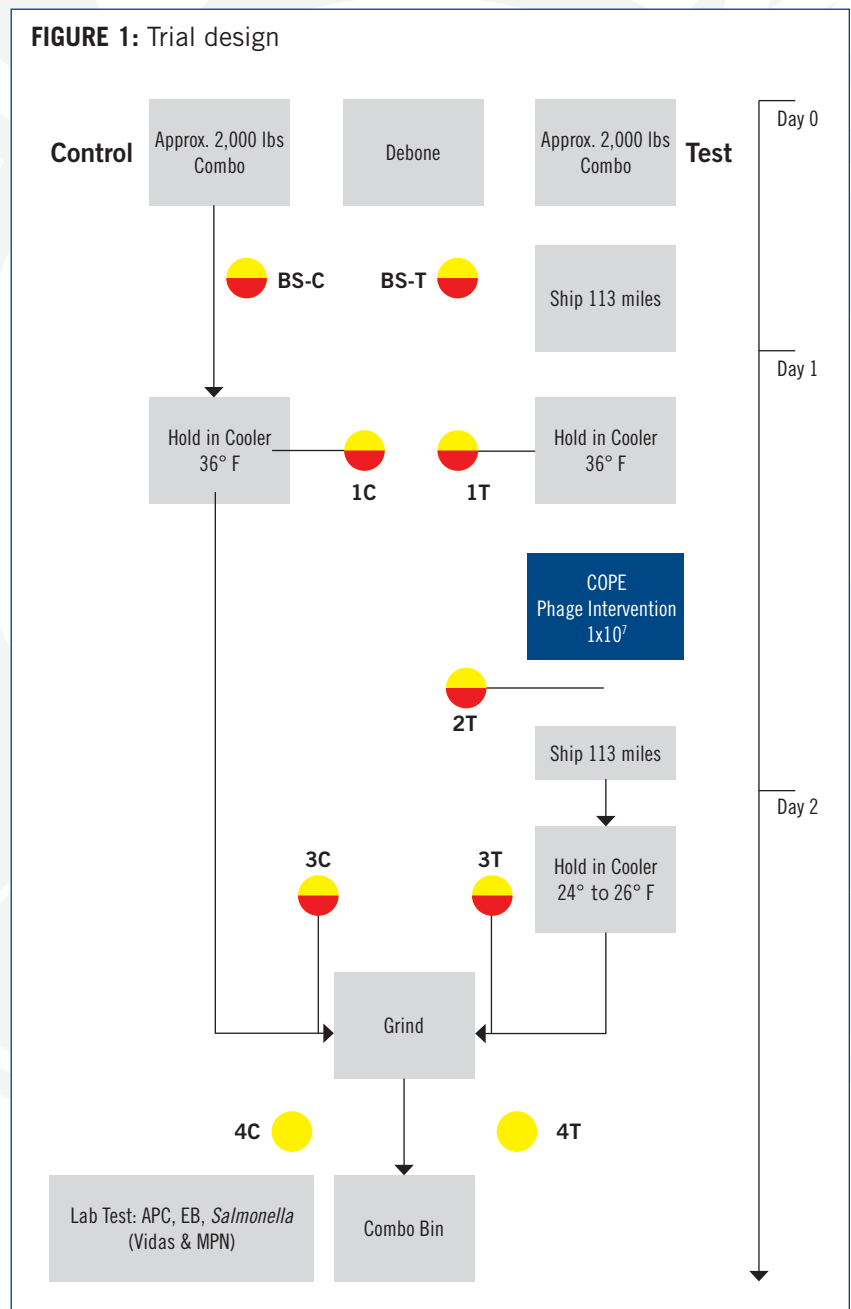
In the study, turkey backs, thighs, drums and boneless wings were used to create paired 2,000-pound combos, one for the control group and one for the treatment group. Two replicates of the study were completed two weeks apart.

- **Control:** The combo was held in the cooler for two days until the grind.
- **Treatment:** To replicate a real-world process, the combo was shipped 113 miles from one processing facility to a second processing facility, and held in a cooler before Finalyse SAL was applied in a Continuous Online Pathogen Eliminator (COPE) chiller at a rate of  $1 \times 10^7$ . The combo was then shipped the 113 miles back to the original processing facility and held in the cooler until grind.

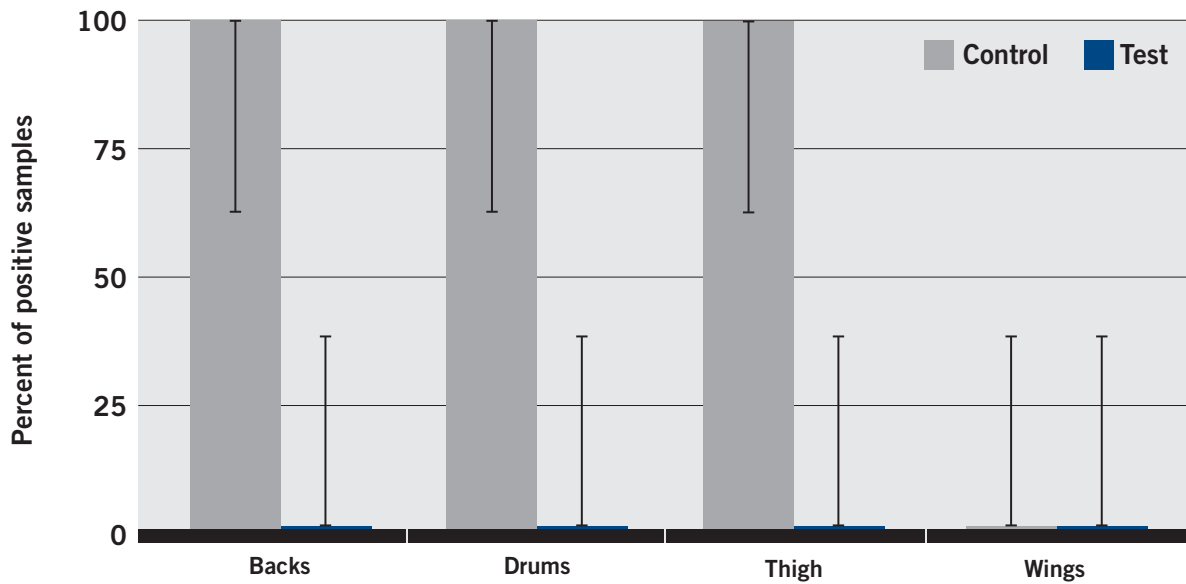
Samples (yellow circle) and Sample Rinses (yellow/red circles) were collected throughout the trial. Full trial design is shown in Figure 1.

The *Salmonella* test results after grind were analyzed to determine efficacy of the treatment. The results for all tests were combined by part for a total of 10 presence/absence results for each group, control and test.

FIGURE 1: Trial design



**FIGURE 2:** Comparison of *Salmonella* Positive Rates After Grind



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

## RESULTS

The comparison of *Salmonella* positive rates by part are shown in Figure 2. The error bars represent 95% confidence intervals for the *Salmonella* positive rates in each group.

- 100% of back, thigh and drum samples in the control group tested positive for *Salmonella*.
- All samples in the treatment group tested negative for *Salmonella* except one sample taken at 3T of boneless wings. The corresponding 4T sample (after grind) tested negative for *Salmonella*.

## CONCLUSION

Finalyse™ SAL effectively reduced *Salmonella* in a commercial application scheme that mimicked a hold-and-grind scenario that would be used in the turkey industry.



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[AHfoodchain.com](http://AHfoodchain.com)

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

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