

Automated Antimicrobial Intervention Maintains Food Safety and Saves Processor \$300,000 Annually



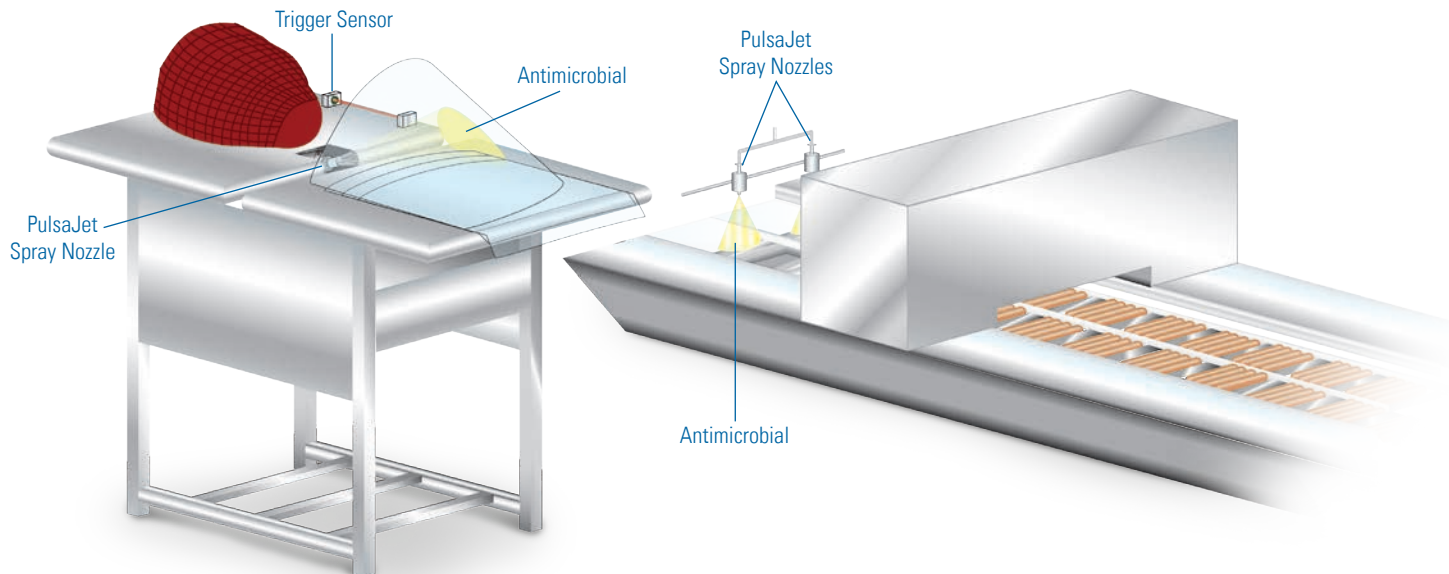
Problem:

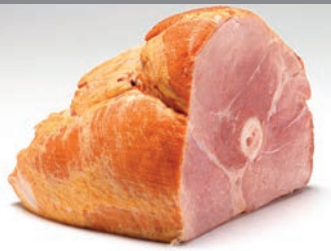
Old World Provisions is a meat processor specializing in whole muscle products and roll stock products. It wanted to reduce the expense of the functional ingredients used as antimicrobial agents in products and were using an antimicrobial that cost \$0.025 to \$0.030 per pound. In addition to expense control, maintaining shelf life and achieving a clean label were also important.

Solution:

The Spraying Systems Co. solution was an AutoJet® Antimicrobial Spray System using the SLIC (Sprayed Lethality in Container) process. The SLIC process is a food safety intervention which entails spraying an antimicrobial into a vacuum package before the meat product is inserted. Vacuum-sealing of the package distributes the antimicrobial evenly around the product – a process that has been proven effective by the USDA/ARS.

A 2-channel AutoJet System controls spray application of the antimicrobial agent on both a roll stock line and on a bagger operating at 6 packages per minute. The system's spray controller provides easy access to multiple recipes which allows antimicrobial shot sizes varying from 2 – 40 ml to be sprayed into the packages. Custom PulsaJet® automatic spray nozzles constructed of FDA-approved CrN (chromium nitride) precisely dose the antimicrobial agent – in this case, lauric arginate diluted in a clarified liquid smoke. SprayCheck™ sensors are used to confirm that each package receives the proper dosage.





Automated Antimicrobial Intervention Maintains Food Safety and Saves Processor \$300,000 Annually – Continued

Results:

Since the AutoJet® Antimicrobial Spray System was installed, Old World Provisions has maintained ALT-2 status with typical log reductions ranging from 1.8 to 2.8 for roll stock and whole muscle products. Product quality and shelf life have remained consistent. Product labels are clean since lauric arginate is a bacteriocide that is also considered a processing aid and does not need to be labeled at the levels being used. The application cost of the lauric arginate and liquid smoke flavor is just \$0.015 per pound. Annual savings for Old World Provisions is \$300,000 per year.

A CLOSER LOOK AT THE SYSTEM

AutoJet Spray Controller provides closed-loop control to maintain consistent pressure to the spray nozzle.



Customized Pulsajet nozzles constructed of FDA-approved CrN apply the antimicrobials to the meat or packaging.



A variety of pressure pot and pump options are available to supply antimicrobials to the Pulsajet® spray nozzles.

Spraying Systems Co., AutoJet, Pulsajet and SprayCheck are registered trademarks of Spraying Systems Co. All other logos and trademarks are the property of the respective trademark owners. ® and ™ denote registered trademarks in the United States and other countries.



Spraying Systems Co.®
Experts in Spray Technology

North Avenue and Schmale Road, P.O. Box 7900, Wheaton, IL 60187-7901 USA

Tel: 1.800.95.SPRAY Intl. Tel: 1.630.665.5000

Fax: 1.888.95.SPRAY Intl. Fax: 1.630.260.0842

www.spray.com



Case Study No. 126A Printed in the U.S.A. ©Spraying Systems Co. 2014