



Canadian Corrugated and
Containerboard Association
Association canadienne du
cartonnage ondulé et du
carton-caisse

FOR IMMEDIATE RELEASE

**NEW SERIES OF INDEPENDENT RESEARCH REVEALS SANITIZING, SCRUBBING
CANNOT ERASE FOOD CONTAMINATION RISK
WITH REUSEABLE PLASTIC CONTAINERS**

BRAMPTON, Ontario, **March 3, 2015** -- A new series of independent studies from the Center for Food Safety at the University of Arkansas' Department of Food Science shows bacteria adheres and forms biofilms, including Salmonella, Listeria and E. coli, on RPCs used to ship fresh produce, meats and eggs. Salmonella often develops from eggs and proteins, and is the most costly foodborne illness according to the U.S. Department of Agriculture Economic Research, which is used as a foundation for analyzing food-safety policy.

Center for Food Safety research led by Dr. Steven Ricke found that both commercial and industrial sanitizing and scrubbing methods such as hot water, alkaline detergent, quaternary ammonium and chlorine, could not eliminate biofilms.

Dr. Ricke conducted three tests of RPCs as a platform for generating the bacteria biofilms of these common pathogens. "Our research regularly looks at biological functionality to basic food safety implications from farm to fork; how pathogens form, how they transfer to food and how the consumer becomes exposed," said Dr. Ricke. Once formed and confirmed using Scanning Electron Microscopy (SEM), the biofilms grew and were then sanitized, using methods and agents typically found in commercial and industrial settings, including scrubbing. In all cases, his research found that bacteria not only attached to the RPC, but also could not be dislodged by either sanitizers or physical scrubbing.

"The risk to a potential victim cannot be seen, as these biofilms are not visible to the naked eye," said Dr. Ricke. "Plus biofilms are resilient to cleaning, which makes them survive on surfaces and hide in cracks and crevices of the material in which they attach, so it all adds up to potential risk, even sustained risk, pending the exposure."

To eliminate contamination risk, Dr. Ricke recommends shippers and retailers choose single-use packaging. While some retailers demand growers and packers use RPCs, others prefer corrugated. Dr. Ricke along with several other food safety experts encourage retailers to follow the science and avoid risks identified in recent research involving RPCs.

Dr. Ricke concluded, "Everyday, you can pick up a newspaper, turn on the television or read online about a new outbreak on a number of products involving U.S. food supply." He continued, "Our job as experts in food science is to determine how to avoid those risks, and from what we know through research is 1) reuse is a source for contamination; and 2) cleaning or scrubbing does not eliminate biofilms; so this will continue to confront us."

Corrugated Packaging Delivers is an organization of growers, packers, shippers, companies and associations in the U.S. and Canada that supports the use of single-use corrugated as the best alternative for food packaging.

About Dr. Ricke

Dr. Steven C. Ricke, Director, University of Arkansas Center for Food Safety, and Wray Endowed Chair in Food Safety. He also is a faculty member of the Department of Food Science and the Cellular and Molecular Graduate program. In addition, he served as co-founder and former President of the Arkansas Association of Food Protection. Dr. Ricke's research program is primarily focused on virulence and pathogenic characteristics of foodborne *Salmonella* spp. with emphasis on the growth, survival and pathogenesis of the organism under conditions encountered during food production and processing.

Prior to his current position, Dr. Ricke worked with North Carolina State University and Texas A&M University, rising to the rank of full professor in 2004. He received the Poultry Science Association National Research Award in 1999, and the title of Faculty Fellow of the Texas Agricultural Experiment Station in 2003.

Dr. Ricke holds bachelor's and master's degrees from the University of Illinois, and a Doctorate from the University of Wisconsin with a co-major in animal science and bacteriology. He also was a USDA-ARS post-doctorate in the Microbiology Department at North Carolina State University.

The Canadian Corrugated and Containerboard Association

The Canadian Corrugated and Containerboard Association (CCCA) leads by advancing the competitiveness of the Canadian corrugated and containerboard industry; by embracing sustainability in all its forms (environmentally responsible, economically viable, socially desirable); by protecting the health and safety of its stakeholders; and to communicate this to customers, governments and the public at large. CCCA members include Containerboard Mill Members, Corrugated Converter Members, Associate Members and Affiliated Associations.

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For more information, please contact:

Nic Canning
413-992-7187
nic.canning@smithcom.ca