

Retailers can't duck food safety issues when pushing growers to re-use crates

A third, more extensive testing of plastic crates used to ship fresh produce throughout Canada shows some handling improvements but still found sanitary issues such as high total aerobic and yeast and mould counts, and the presence of *E. coli*.

Crates continue to fail food contact standards and could be carriers for pests or plant pathogens that could devastate growers' crops.

Studies demonstrating inconsistent washing practices and [biofilms surviving common industry cleaning](#) methods had earlier led food scientists to claim that re-using crates for produce was "[a recipe for disaster](#)," and that the



Plant material, soil, dust and old labels continue to turn up on supposedly washed crates.

live bacteria observed on them was "[like a smoking gun](#)."

[The latest study](#), co-ordinated by Dr. Keith Warriner, Professor of Food Microbiology at the University of Guelph, was performed at different locations in British Columbia (with Dr. Siyun Wang at UBC), Ontario, and Quebec. Dr. Warriner was also responsible for earlier Canadian studies in 2013 and 2014. His findings have been replicated and supported by similar US-wide studies by the [University of California \(Davis\)](#) and the [Centre for Food Safety at the University of Arkansas](#).

Some improvements were noted in the latest testing: no broken crates, for example, and fewer crates with stickers or labels from previous users. Processors were starting to return unclean crates. The lower incidence of fecal indicators could reflect better handling practices, the study says, but the overall number of crates failing on total aerobic counts had increased. They were unacceptably high and didn't

meet commonly accepted standards for food contact surfaces, said Dr. Warriner.

Dr Warriner noted that the major crate supplier, IFCO, had declined to release the standards or criteria by which it judged a crate to be sanitary since independent testing of reusable crates had begun in Ontario and Quebec in 2013. Food scientists, retailers, and consumers needed to be confident that sanitisation standards were based on appropriate risk assessments, said Warriner.

There was another issue, he added. Crates were potential carriers for pests or plant pathogens that could devastate growers' crops and be challenging to irradiate. The relatively free movement of crates across borders was the weak link in our biosecurity system for protecting growers' crops and livelihoods, he said.

Organic fruit and vegetables, for example, were widely assumed by the public to be pesticide-free. Recent surveys, however, had shown [evidence of pesticides on almost half of fresh organic produce](#). Chemical pesticides were much longer lasting than biological hazards, and if they were present, would be far more challenging to remove by washing.

PLEASE NOTE: PPEC represents the corrugated box industry on environmental issues. Unlike the reusable crate system, the corrugated box system for produce provides a fresh and sanitised box for each delivery. *Fresh* doesn't mean cutting down trees. In fact, most corrugated boxes made in Canada are 100% recycled content, partly made from those very same produce boxes that Canadian retailers bale up at the back of their stores and for which they receive significant revenue.

The boxes are recycled several times over the course of their lives, and meet rigid process control standards in their remanufacture. In a typical mill recycling process the temperature of the paper sheet reaches 220-240 degrees Fahrenheit, well above 100 degrees Celsius, the boiling point of water and the temperature required for sterilisation. The converting process also involves high temperatures and other hygiene controls.

Having a fresh box every time minimises the potential for undesirable pathogens and bacteria being carried forward to the consumer. A recent independent study of corrugated produce boxes showed that the [corrugation process destroys bacteria](#). Another study released in February 2015 revealed that [every single one of the 720 corrugated boxes](#) from six different box suppliers tested at six different customer locations, in three different regions (the Northwest US, California and Florida), met acceptable sanitisation levels.