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National Food Laboratory supports ozone in transport sector

by John Fossey



The US' National Food Laboratory (NFL) has demonstrated that the controlled use of ozone - an active form of oxygen - in the transport of perishable goods in freight containers can make a significant difference to food safety.

NFL's research showed that the supplemental use ozone could kill and control the spread of important foodborne pathogens, such as *Salmonella*, by more than 99.997%, *Listeria monocytogenes*, by more than 99.999%, and *E. coli* O157:H7, by as much as 99.9%, both on the actual fruit and container surfaces.

Dee M. Graham, president of R and D Enterprises, explained: 'Whereas countless studies have proven ozone controls bacteria, molds, yeast, viruses, and ethylene, I believe this study was unique because it showed that ozone is also highly effective at killing harmful bacteria in conditions similar to those found in refrigerated shipping containers.'

NFL's research was commissioned by Purfresh, a company which offers a range of clean technology solutions that purify, protect, and preserve food and water.

Its president and ceo, David Cope, said: 'We are focused on meeting the needs of the global food industry by providing innovative solutions that are science-based, easy to use, and integrate with existing processes and infrastructure.'

'Our Purfresh Transport solution uniquely takes advantage of the clean, powerful properties of active forms of oxygen to help extend shelf life, minimise losses, maintain quality, and enhance the safety of fresh produce all the way to market.'

The Purfresh system plugs into the fan port of the refrigeration machinery and then integrates into the existing air flow system. It delivers precise, low-dose levels of ozone throughout the container treating the air and surfaces to reduce harmful microorganisms that may lead to both disease and decay of the products being carried.

Moreover, the system actively monitors and adjusts the required ozone levels throughout the voyage based on changes in the condition of the cargo or the atmosphere.

The Purfresh Transport solution is available through most major ocean carriers and is offered on a per-trip service basis.

An estimated 70 million tonnes (as many as 7 million TEU) of perishable products were transported in refrigerated containers last year. Transit times can vary between seven and 50 days and it is the one part of the cold chain where damage and or the safety of the food can be seriously compromised.