





A message to C-Level and Executive managers – go beyond the audit every day!




October 26, 2018 - Our battle against pathogens entering the fresh produce supply chain is daunting. It seems there isn't a week that goes by without an outbreak advisory warning and subsequent recall somewhere in North America. Let alone the bombshell events like the massive outbreak with romaine lettuce in Yuma that still occur periodically. We are all in this together, as these ongoing events drastically impact the health of our end consumers, and in their confidence that our industry can provide safe and reliable food.

There is no silver bullet that will prevent these food safety threats. But collectively we can make significant improvements through: ongoing scientific research, devising practical solutions, and implementing best practices across our entire industry.



At the CPS (Center for Produce Safety), there has been impressive progress over the last 10 years with funding provided to scientists around the world to conduct foundational research on food safety. Over 300 people attended the last CPS annual symposium to learn about new research findings and potential applications for their company's operations. Although the symposium is an outstanding event, the CPS board recognized that much more needs to be done to reach the thousands of other companies in our industry. Recently, a new CPS Knowledge Transfer Task Force has been formed to tackle this area. Its main priorities are to work with strategic partners, such as trade associations and commodity groups to share research findings, help with education seminars and develop best practices. Further, to author and release to media ongoing articles highlighting individuals that have taken CPS research findings and implemented best practices within their companies. Through these activities, our hope is that we can reach a much wider audience to make a significant difference on improving our industry's record on food safety.

For our first article, let me introduce Sharan Lanini, Director Food Safety at Pacific International Marketing/Dynasty Farms. Sharan has served for several years on the CPS technical committee, and is absolutely passionate about taking new research findings to continuously improve PIM's food safety program. While there are a vast number of CPS research findings available, we focus this article on the research project led by Dr. Laura Strawn's, VA Tech— Control of Cross Contamination during field pack, and retail handling of cantaloupes.



While focused on cantaloupes, this research project is particularly interesting because it has broad application potential across all field harvested commodities. It was also the first project funded by CPS that spanned across the supply-chain from farm through to the retail environment. More recently, key findings of this research project were included in the Leafy Greens Food Safety Task Force recommendations on harvest equipment sanitation – in direct response to the romaine lettuce outbreak in Yuma.



Some of the key findings of Dr. Strawn's research included:

- Pathogen survival was greater on dirty compared with clean food contact surfaces on harvesting machines, highlighting the importance of robust and frequent cleaning and sanitation.
- The most effective sanitation protocol for food contact surfaces was an overnight application of either chlorine or PAA (Peroxyacetic Acid) with a contact exposure time of 15 hours.
- Pathogen transfer was highest for rubberized gloves compared with all other field-pack contact surfaces, because over time rubberized gloves get cracked and allow better attachment of pathogens. It is better to use nitrile (single-use) gloves, or cotton gloves if used in a dry environment.
- Foam used to cushion produce in a retail display had the highest prevalence of *Listeria* (spp – a non-virulent form), which indicates foam can become a harbinger site for pathogens and should not be used.

When Sharan started at PIM/Dynasty Farms three years ago, she recognized the need for improved field harvester SSOP's (Sanitation Standards Operating Procedures) and made several improvements including the following:

- Harvest machine cleaning and sanitation is scheduled right after each day's harvest.
- Dedicated an individual and mobile truck to ensure the daily cleaning and sanitation program is completed on all harvest machine equipment daily.
- Trained all Dynapac Harvesting personnel in their cleaning and sanitation program.
- Standardized the requirements for purchasing chemicals from a highly respected supplier.

Sharan then used Dr. Strawn's findings to scientifically validate the need for enhanced SSOP's, which illustrated to company owners the critical nature of food safety exposures and the need for continuous improvements to their overall food safety program. With these and many other CPS Research findings, Sharan has been instrumental in implementing a culture of food safety at PIM/Dynasty Farms.

Referencing back again to the recent romaine lettuce outbreak in Yuma. The industry responded by forming a Leafy Greens Food Safety Task Force made up of industry, academia, regulators and trade associations. They focused on determining the root cause of why the outbreak originated in the Yuma desert. One of the outcomes was a recommendation to add another metric to the AZ and CA Leafy Greens Marketing Agreement – under Harvest Equipment Best Practices. Specifically, to “clean and sanitize food contact surfaces at the end of each daily harvest” and “based on inspection, if necessary, rinse and sanitize food contact surfaces on harvest equipment prior to beginning the daily harvest.”

While many industry growers/shippers/harvesters have implemented similar protocols, the importance of these new metrics is that it mandates and standardizes these best practices. Some custom or 3rd party harvesters may not have been using adequate cleaning and sanitation programs in the past.

Dr. Laura Strawn's CPS research project has been very important to our industry. It validates best practices and is relatively simple to implement, while adding another preventative control to the field practices that can easily and significantly decrease the potential for cross contamination by pathogens on harvest equipment. It is also noteworthy that this project was not targeted towards leafy greens, but due to the universal nature of the conclusions it is immediately and universally implementable to all field harvested commodities.



But why stop there? Ask your Food Safety person the following questions:

- Have they implemented a daily cleaning and sanitation program for all food contact surfaces; automated packing / harvester equipment, packing tables, cutting knives, etc.
- Are field and pack house workers still using rubberized gloves, or cotton gloves in a wet/damp environment. Consider alternatives such as Nitrile gloves.
- Is foam being used anywhere that contacts fresh produce? For example, to cushion fruit as it comes off packing line equipment? If yes, you should find an alternative to using foam.

These are just a few examples from the vast depth of CPS research knowledge available to improve food safety across our industry.

So how does all this relate to the myriad of food safety audit schemes being used in our industry? Most audit schemes allow companies to establish their own procedures and then verify them by scheduling an annual audit.

Regarding cleaning and sanitation; most audit schemes require worker training, evaluation of equipment and tools, schedules, logs and records to verify that an effective program is in place. But they aren't as prescriptive as to schedules, application techniques or chemicals used. That means that companies must either develop their sanitation and cleaning programs internally, or comply with commodity-specific mandates such as the recent change in metrics put forward by the Leafy Green Task Force work on harvest equipment cleaning and sanitization.

In other words "just passing the annual audit" doesn't necessarily mean that a company has an effective food safety program. The audit is just a snapshot in time, and is only as good as the food safety procedures each company has implemented internally. That's why every company in our industry needs to keep abreast of new food safety research findings and learn how to apply best practices to ensure they have an effective food safety program specific to their business operations.

A message to all other C-Level and executive management out there. When your food safety person puts forward recommendations on improving your company's food safety program - pay close attention. You'll never go wrong by approving food safety initiatives that include training, education, tools and other resources, especially if supported by relevant CPS research. Foster a culture of food safety in your organization, and always "go well beyond the audit" on a daily basis.

To learn more about Dr. Stawn's or other CPS research projects, go to <https://www.centerforproducesafety.org/> Click on Research Awards menu, and Research Awards to bring up a searchable list.

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