

12th Annual Food Quality and Safety Symposium
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Lodi, California

**Closing Remarks by Tim Birmingham, Associate Director, Quality Assurance
and Industry Services, Almond Board of California**



So, in conclusion, I would like to thank all of you for attending our 13th-annual FQ&S Symposium. Also, I would like to sincerely thank all of our speakers for their time and effort in sharing their expertise with our industry.

I found the day's presentations to be extremely interesting and educational. We started off the morning with a 10-year retrospective look by Linda Harris, highlighting where we have been and how far we have come as an industry. At the time of our first *Salmonella* outbreak in 2000/2001, conventional wisdom of the day indicated that low-moisture foods such as almonds were low risk. *Salmonella* and other pathogens wouldn't grow in these low-moisture matrices, and therefore were not on the food safety radar. Since then, numerous low-moisture foods including other nuts such as hazelnuts, macadamia nuts, pecans, pistachios and walnuts have been implicated in recalls, alongside almonds.

However, as Linda mentioned, the almond industry has dealt with the issue head on, and ABC programs are now considered the Gold Standard for other low-moisture foods and nuts. We have solid data showing that *Salmonella* is prevalent in our crop at low levels. More importantly, we have used that data to assess risk and define 4-log processes as providing an acceptable level of protection. This is a level of protection that the FDA is also comfortable with, backed by the data generated by research funded by the Almond Board.

It is safe to say that today, the almond industry is positioned in a much better place from a food safety standpoint than 10 years ago. Thanks to Linda, we identified a "superbug." A superbug that has been used as the standard benchmark for validation and gives the industry assurance that if we can tackle it, we can rest assured that pathogens such as *E. coli* and *Listeria* are being addressed as well. Linda, thanks for the superbug.

This morning, Dr. Bob Whitaker gave an excellent talk and reminded us that food safety does not occur in a vacuum. Rather, food safety is a system involving focus on prevention and utilization of foods and resources for effective monitoring. Product

testing is one tool used in this system. It is an imperfect tool that can be used to enhance a food safety system, but in and of itself, product testing is not a food safety strategy. We heard from Dr. Whitaker that many drivers exist for product testing. Regulators are asking for and conducting product testing, with their own capacity to test increasing tenfold in recent times. Buyers are mandating testing in some products. And, of course, customers may demand testing as a reaction to an event or trigger such as an outbreak. All of these drivers are realities that food producers face. As such, decisions will have to be made regarding product testing. When you're making those decisions, it is critical to not enter into testing blindly. Know your product. Know your lab and the questions the protocols used. Understand the importance of Lot ID. Understand implications of a positive finding and what a negative finding actually means. And finally, understand that product testing is not the be-all, end-all. However, it can be used to help companies improve upon food safety practices.

This morning, we had the benefit of hearing from Dr. Roger Clemens on dietary guidelines and research needs for the almond industry in order to be well positioned in time for the 2015 dietary guidelines review. There are currently a number of studies showing some relationship with nuts and health such as decreased frequency of coronary heart disease. The almond industry should continue to identify and conduct research to further support the correlation between almond consumption and health in many areas including diabetes, hypertension, cancer and obesity.

This afternoon, we heard from Dr. Peter Clark, who shared principles necessary to protect product quality and ensure safety. When looking at new-facility design, or expansion, it is crucial to consider material and people flow carefully. Minimizing the flow of people and materials within a facility will help to reduce the risk of product contamination. Facility design should take into account sanitation; and finally, minimizing the introduction of moisture in dry process areas is critical.

Carrying on from Dr. Clark's presentation, David Dixon touched on the Food Safety Modernization Act and sustainability, and the number of regulations, programs and standards being thrown at us, or as he referred to it, "the Alphabet Soup." Indeed, it is confusing when we are bombarded with acronyms such as NOX & SOX, SQF, BRD, HACCP and FSMA, and the number of programs or issues food manufacturers face today. However, we must be able to react to the issues and address them appropriately. A key example is sustainability. With key sustainability drivers including retail customers, corporations and consumers, it is important for our industry to stay engaged and be proactive.

Tom Jones educated us on the importance of utilizing tools such as pathogen environmental monitoring, or PEM, to help verify effectiveness of contamination control within a plant. Like product testing, environmental monitoring is not a food safety strategy by itself. It is a tool to help verify effectiveness of food safety programs including plant sanitation. Tom advised that Zone 1 product contact surfaces should be evaluated frequently for indicated microorganisms, whereas Zone 2, 3 and 4 areas should be tested for *Salmonella*. Finding pathogens or indicator microorganisms typically involves further evaluation, and thorough equipment cleaning. A root cause investigation is likely needed to determine what happened. Team findings from analysis can and should be used to strengthen practices to improve safety. Finally, a PEM program can make your operation better and should be a tool that all manufacturers use.

Back for a second round, Dr. Clemens highlighted the confusion that currently exists regarding package labeling. Grocery Manufacturers Association and the Food Marketing Institute adopted an initiative in January of this year to make front-of-package labeling more clear. The verdict is out, and whether or not consumers will embrace and understand the new labeling needs to be determined through monitoring, according to the FDA. Shifting gears, Roger highlighted the Food Safety Modernization Act. It is safe to say that the FDA has a tough job ahead with the drafting of regulations around preventative controls, increased inspection capabilities, recall authority and safety of imported foods. It is also safe to say that new rules will require the almond industry to evaluate current practices and increase robustness of food safety programs in some cases. As the new rules are drafted, we will continue to work with the regulators and industry to ensure we stay ahead of the curve.

Thank you.