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(This article is based on a talk presented at the 2009 Citrus Expo by Bob Klein, manager, California Pistachio Research Board.)

It sounds like the start of a bad joke: “What do California pistachios and Florida citrus have in common?” But the answer is no joke. Both industries have been lax in adopting, following and documenting on-farm food safety practices, including Good Agricultural Practices (GAPs). (For a review of what GAPs are, please see the April 2009 issue of *Citrus Industry*.)

Fortunately for Florida citrus, this has not come back to haunt us ... yet. However, that is not the case for the California pistachio industry, whose 2008 crop was the focus of a U.S. Food and Drug Administration (FDA) recall. The purpose of this article is to review what led to the pistachio recall, what that industry did and did not do to protect itself, and what the Florida citrus industry can learn from this.

PISTACHIO FOOD SAFETY

The California pistachio industry encompasses approximately 200,000 acres (120,000 bearing acres), and is projected to harvest 420 million pounds in 2009. On first glance, pistachios appear to be relatively low risk in terms of microbial contamination when compared to other produce. They are a tree crop irrigated by micro-sprinklers, mechanically harvested

Lessons for Florida citrus

onto catch frames, no gleaning is performed, the crop is loaded into bins or bulk trailers for transport to the processing plants, and the nuts are consumed as a roasted and (usually) salted product.

Compared to other tree nuts, including almonds and walnuts, which are shaken onto the ground and mechanically picked up, and frequently marketed as raw nuts, the pistachio system appears to be a much lower risk.

The 1990s was a decade of food safety crises, with microbial contamination issues in the United States and aflatoxin scares in the European Union (E.U.). As a result, the California pistachio industry proposed a system of grower audits to satisfy the safety concerns of its grocery buyers. In 2000 it developed a GAPs manual, but failed to implement the documentation process. The industry's primary focus was on aflatoxin because of the importance of this contaminant to the E.U. and the fact that the E.U. accounts for 40 percent of the market for California pistachios. This was in spite of two documented *Salmonella* outbreaks associated with California almonds in the same time period. Rather than using these outbreaks as a stimulus for action against microbial risks, the pistachio industry chose to emphasize the low risk of its product relative to almonds.

WHAT HAPPENED?

With an awareness of food safety and microbial contamination, having

developed a GAPs manual, with an active research program to minimize aflatoxin contamination, and having a crop that never touches the ground, how did California pistachios become the focus of an FDA recall? The simple answer is a lack of documentation.

The initial contamination was discovered by a food manufacturer that received bulk shipments of pistachios for incorporation into other food products. That manufacturer notified the FDA, which in turn contacted the pistachio processor. An immediate recall of pistachios and products containing them from that processor was issued. No illnesses were linked to the contamination, but the FDA advised consumers against pistachio consumption. Despite the recall ultimately being limited to nuts from a single processor, the entire industry suffered. Virtually no consumers could name the processor named in the recall, but they knew it involved pistachios.

A NEW FDA, WHAT YOU CAN EXPECT

The FDA is being given new authority to protect consumers and will make regulatory errors on the side of consumer safety. This was illustrated by the unprecedented advisory against pistachios given the lack of illness. The FDA is currently working toward developing guidelines for all tree crops concerning food safety. The new Reportable Food Registry (<http://rfr.fda.gov>) and the start of new FDA reporting requirements on Sept. 8, 2009, require shippers and processors to tell FDA if they find a “reasonable probability” that food will cause severe health problems or death.

Growers can expect that the FDA will lump crops into broad risk groups, for example, tree crops, leafy greens, etc. These regulations will move forth even in the absence of data. The lack of a *documented* GAPs program on the farm will equate to a lack of due diligence in the eyes of regulators and the farm will likely be assumed to be the source of any microbial contamination. GAPs documentation shows that the growers are aware of the role they play in the safety of the product they produce, and are actively trying to keep the product safe. A system needs to be in place to allow traceback of fruit to individual growers and groves. Without traceback, all growers will be equally responsible.

Unless documentation proves otherwise, growers can be expected to be viewed as purveyors of adulterated foods who don't care about consumers.

WHAT CAN CITRUS GROWERS DO?

First and foremost, citrus growers must remember that they are producing food. As an industry, Florida citrus growers must move forward in developing, implementing and documenting a GAPs program in order to remain in control of their future. Doing so will demonstrate a focus on food safety to the regulatory community, including

FDA and FDACS (Florida Department of Agriculture and Consumer Services). As part of a GAPs program, growers need to conduct self-audits and make the results available to processors or packers. Doing so will show due diligence and place the responsibility for safety on the processors.

We would all like to think that Florida citrus is immune from a food safety recall. That it really is as pure as "Grower Dave's" hand reaching from the grove to the supermarket. However, the fact of the matter is, if a crop like pistachios (dry crop, never touches the ground, roasted and

salted) is susceptible, then citrus most certainly is. And without documentation, the FDA's farm-to-fork view may put the blame on the grower, regardless of where the contamination occurred.

Implementing GAPs will require additional inputs and efforts on the part of growers, but with them, the Florida citrus industry can help to minimize its risk of becoming the next FDA recall victim. Can we afford not to?

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