

My name is Nidal Kahl, and I am a food safety and food quality advisor to the Oregon Hazelnut Marketing Board. I have a background in Microbiology, and recognized in the food industry as a food safety expert and consultant. I have been serving the food industry at an international level for approximately 19 years in areas including regulatory compliance, process validation, routine microbiological analysis, and development and implementation of quality assurance programs. In addition, I have continued to service many of the hazelnut processors, packers, and retailers in Oregon's hazelnut community for well over a decade. My involvement in the hazelnut community has increased significantly since 2009, and as a result I have had the privilege to learn about the safety risks of both in-shell hazelnuts and hazelnut kernels.

Clearly pathogen risk remains the primary threat to Oregon's hazelnut industry. This testimony is provided to reinforce the need for reasonable and adequate quality assurance parameters that the Oregon Hazelnut Board can impose uniformly on the entire hazelnut industry in Oregon.

Like nearly any commodity of nature, hazelnuts undoubtedly have a risk of becoming adulterated by at least 1 or all 3 of the primary foodborne pathogens: *Salmonella*, *E.coli* O157:H7, and *Listeria monocytogenes*. These organisms are found in the environment and have the potential to enter a processor's facility and thereby cause cross contamination of various lots. There appears to be a high level of comingling during harvest and/or shelling which increases the risk of pathogen contamination. Although many hazelnut processors have successfully identified processes to mitigate pathogen risk, some processors and handlers still lack the proper infrastructure or procedures to successfully maintain a wholesome product with every batch.

Currently, some hazelnut processors and packers lack standard operating procedures for treating product and/or lack more sophisticated quality assurance programs. As a result, industry guidance is needed in order to ensure all processors are following the same set of food safety and quality parameters industry wide. Having one organization to make safety and quality decisions for the hazelnut industry should allow for an increase in both food safety and quality. It is strongly recommend that uniform guidelines for the treatment and testing of Oregon's hazelnuts are established under the authority of the Oregon Hazelnut Marketing Board's marketing order 982.

Respectfully Submitted,

Nidal Kahl, Director

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