

Summary of Results for 2014 IVGA Funding: Amanda Deering, Department of Food Science

Fresh produce recalls and outbreaks due to *Listeria monocytogenes* (LM) contamination are increasing. Romaine lettuce and cantaloupe seeds were tested to determine if the seeds could be a potential source of LM contamination. Seeds were obtained from cultivars of romaine lettuce that are grown by a large commercial grower/processor. A total of 200 seeds from each of 16 different cultivars of romaine lettuce were tested to determine if LM was associated with a given cultivar. The seeds were ground in sterile 0.1 M phosphate buffer and plated on selective Modified Oxford Agar medium that is specific for *Listeria* spp. Colonies with LM morphology were picked and the DNA amplified by PCR using 2 primer sets specific to *Listeria* species and *L. monocytogenes*. Only 1 out of the 16 cultivars were positive for LM. Of the 200 seeds tested for the River Road cultivar, only 1 seed was identified to be contaminated. These data indicate that while it is possible that the seeds could be a source of potential LM contamination, it is unlikely they are the source of bagged salad recalls.

Cantaloupe seeds were tested for the presence of LM using the same methods for lettuce. There were 4 different cultivars of cantaloupe with a minimum of 100 seeds tested. One of the cultivars (Rocky Ford) included seeds from multiple companies. One company (Azure dandelion) Rocky Ford Green cantaloupe resulted in a 12.9% LM positive, while the other 2 companies distributing the same cultivar resulted in a 7.0% (Reimer seeds) and 0.0% (2B seeds) positive LM. There was no LM detected in the Rocky Ford Orange cultivar (Azure Dandelion) seeds tested. The Athena cultivar, however, had the largest LM positive result of all the seeds tested at 24% while the Aphrodite cultivar from the same company (Osborne seeds) had 10% of seeds contaminated with LM. These data indicate that depending on cultivar, it is possible that the seeds are a source of LM contamination. Future work will examine the persistence of LM following germination and fruit production.