



# Case Studies: What can we learn from what went wrong to protect our brand and category?

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# Which Lm risk factors have long been viewed as key to very low risk with regards to strawberries?

- Soil fumigation pre-transplant
- Drip irrigation under plastic mulch
- Direct placement into clamshells
- All dry handling
- Short pre-haul to cooler
- Forced-air cooling
- Low temp coolers
- Low temp transportation/Centerline loading



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- **All the above and more**





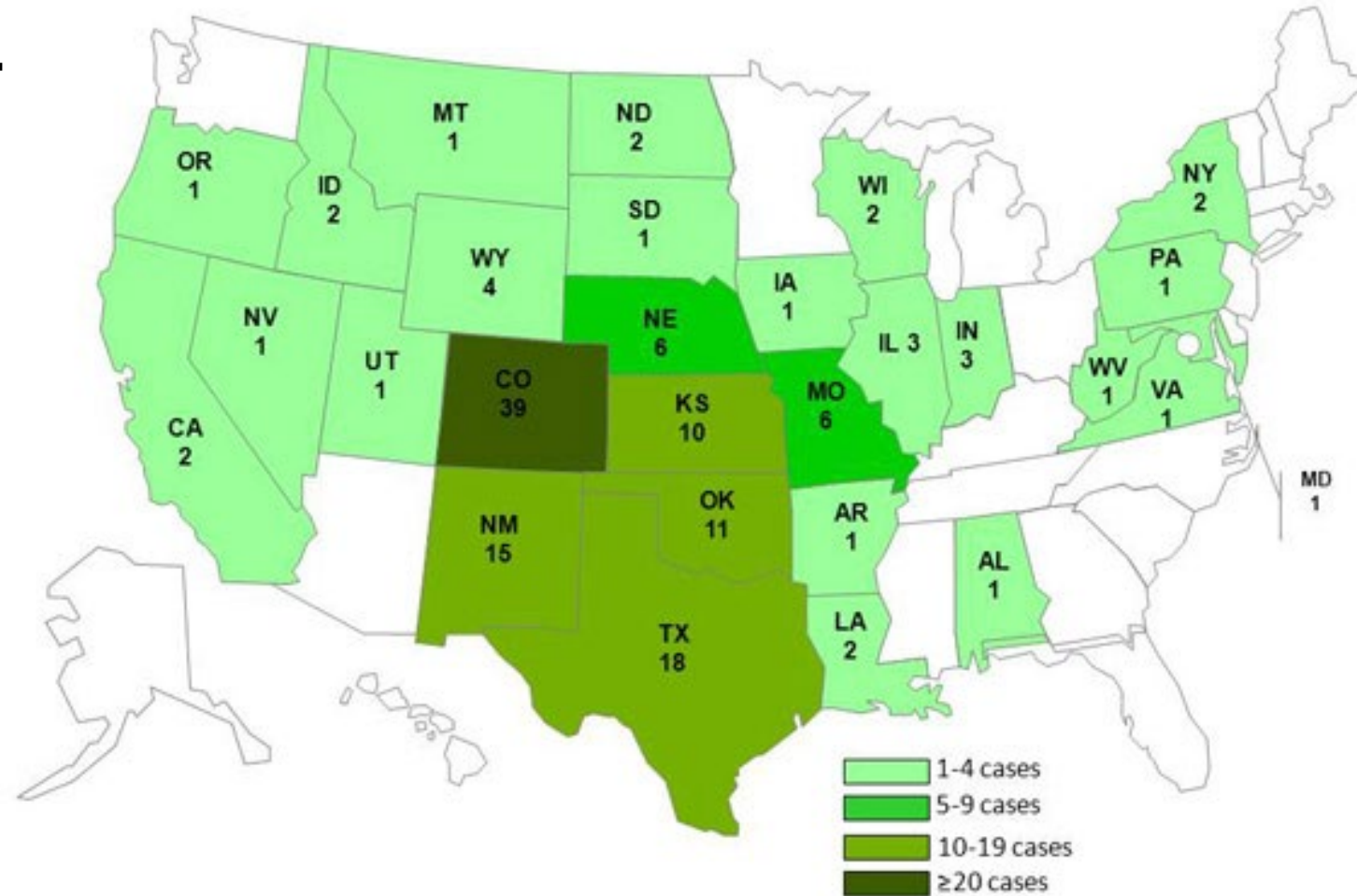
Ryan Jensen  
Jensen Farms  
Holly, CO  
2001

## Case Studies: What can we learn from what went wrong?

- ❖ Lm and cantaloupe
- ❖ Lm and caramel apples
- ❖ Lm and stone fruit
- ❖ Lm and fresh cut onions

# Persons infected with the outbreak-associated strains of *Listeria monocytogenes*, by state

September 2011





**Jensen Farms  
Listeria Outbreak  
2011**

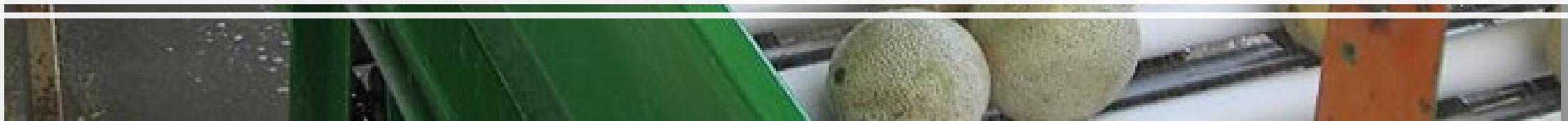
**Conclusion: To explain levels of detection, initial contamination and amplification of Lm on melons was a postharvest shipping point event and continued during distribution and marketing**



Was this a 'perfect storm' or a singular, but massive, error of collective ignorance?



**What first strikes you about this system?**







Company had made multiple facility improvements in effort to improve food safety systems



## Modified Potato Dewatering Line

- Purchased used
- Never commissioned for use with netted melons
- Felt dewatering pads
- Several Lm types found on, in, and around



FDA cited pooled water as a risk factor

**Room cooling  
takes an  
extended time  
to reduce  
temperature in  
a palletized lot**


- **Listeria will grow 100-fold in 48h on cantaloupe surfaces at 50°F**
- **Investigators found detectable prevalence on fruit increased from 50% in cooler to 95% at retail**





## 2018 Lm outbreak trace-back leads to Rombola Family Farms

- Weather events – heavy rain and dust storms
- Heavy soil deposits on fruit
- Lm found on fruit, floor under spray bars
- Possible re-circulation from dewatering fans



**This scenario  
would not be  
allowed for leafy  
greens. So why  
not strawberries?**

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**Packed with no water treatment, transported, and forced-air cooled within 2-3h**

- More discussion in the next session



## Survival of Foodborne Pathogens on Berries<sup>1</sup>

Mary Palumbo, Linda J. Harris, and Michelle D. Danyluk<sup>2</sup>

