

Waiting to harvest after a rain enhances food safety

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To protect consumers from foodborne illness, produce farmers should wait 24 hours after a rain or irrigating their fields to harvest crops, according to new research published in the journal *Applied and Environmental Microbiology*.

Rain or irrigation creates soil conditions that are more hospitable to *Listeria monocytogenes*, which when ingested may cause the human illness Listeriosis. Waiting to harvest crops reduces the risk of exposure to the pathogen, which could land on fresh produce.

Cornell scientists, along with other agricultural researchers from around the country, are conducting more [food safety](#) research in order to set rules, standards and guidelines for the Food Safety Modernization Act, which became law in 2011.

"We're looking at the science that helps governmental entities, such as the U.S. Food and Drug Administration, and private entities create policies that keep our [food supply](#) safe," said Daniel Weller, a doctoral student in the field of [food](#) science and the lead author of the new work, "Spatial and Temporal Factors Associated With an Increased Prevalence of *Listeria monocytogenes* in New York State Spinach Fields." The other authors are Martin Wiedmann, Cornell's Gellert Family Professor in Food Safety, and Laura Strawn, assistant professor at Virginia Tech.

Factors such as proximity of a field location to water and other landscape features also play important roles in the presence of *Listeria*.

The researchers tested fields in a variety of locations throughout New York and found that after rains or irrigation, the chances of finding *Listeria* were 25 times greater. But, after the fields dried at least 24 hours, the chances of detecting *Listeria* dropped dramatically, to levels similar to baseline.

Currently, the U.S. Food and Drug Administration has proposed rules allowing farmers to apply "wait periods" after application of irrigation water. This would allow for "potentially dangerous microbes to die off," said the FDA.

Through a combination of weather data, GIS technology and data driven information, technology allows farmers and producers to take a systems approach managing food safety.

Said Wiedmann: "Current technology tools are improving food safety and increasing consumer confidence in food products."

Provided by Cornell University

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