

## If your garden flooded, take steps to avoid E. coli and other contaminants

Leimone Waite, Master Gardener, April 5, 2019

**Q:** My winter garden was flooded in the recent hailstorm. I have goats and several of my neighbors have animals, so I'm worried that some of the manure may have been deposited in my garden. How long before it's safe to eat the vegetables from my garden?

**A:** You're correct to be concerned about the pathogens that flooding can introduce into your garden and cause vegetables to be unsafe to eat. Many foodborne illness cases we hear about on the news are caused from pathogens in the irrigation water. Pathogens in the water are up taken by vegetables that are later eaten, causing someone to become ill.

Flooding can also introduce pathogens to your garden including E. coli, salmonella, hepatitis A and norovirus, according to research done by North Carolina State University. The risk of pathogens being introduced to a garden increases if livestock or pet areas are nearby, or if there's a compost pile in the garden.



Old Oasis Road in north Redding was completely flooded in the afternoon on March 27 following an intense rain and hail storm. (Photo: Damon Arthur/Record Searchlight)

In the University of Wisconsin publication *Safely Using Produce from Flooded Gardens*, Barbara and Steve Ingham write, "How concerned gardeners have to be about using garden produce after a flood

depends, to a large degree, on how 'clean' the flood water was or whether it was likely to have been contaminated with sewage, river or creek water, farm run-off, or industrial pollutants. The most conservative answer — one that eliminates any and all risks — is that gardeners should discard all produce that was touched by flood water."

That said, be very cautious when eating vegetables from your flooded garden. Food safety experts say to discard any vegetables that you would normally eat raw, such as kale, lettuce and certain herbs. Vegetables that you would normally cook, such as carrots and beets, maybe safe to eat, especially if you won't harvest your root vegetables for at least another four to six weeks.

This time of year, when soil temperatures are above 50 degrees, good bacteria breaks down the e coli bacteria. E. coli bacteria is the most common concern of contamination in flood waters.

Greens, flowers such as cauliflower and broccoli, and other vegetables that came directly into contact with the flood waters should not be eaten raw even after six weeks. Leafy vegetables can uptake the bacteria into their vascular system and no amount of washing will remove the pathogen. If the vegetable cannot be thoroughly cleaned and well-cooked — not just lightly cooked or blanched, it should be composted because the risk of you becoming sick from eating them is high.

My summer garden area was flooded in that same storm, but I have nothing planted yet and don't plan to harvest anything from the garden for at least eight weeks. Any garden produce I harvest this summer should be safe to eat.

*The Shasta Master Gardeners Program can be reached by phone at 242-2219 or email [mastergardener@shastacollege.edu](mailto:mastergardener@shastacollege.edu). The gardener office is staffed by volunteers trained by the University of California to answer gardeners' questions using information based on scientific research.*