

# Flooded Fields and Food Safety

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In terms of food safety, not all standing water in a field is considered floodwater. Flooding is considered the flowing or overflowing of a field from open bodies of water outside the food crop producer's control. Events that lead to pooled water or excess standing water in a field, such as rain or a problem with an irrigation system, are not considered flooding. The reason for this difference is that floodwater may contain any number of different unknown hazards including sewage, chemicals, heavy metals, disease-causing microorganisms or other contaminants.

Flood events can pose a significant public health risk. Even if a crop is not completely submerged, there is potential for microbial and chemical contamination.

The most straightforward flooding scenario for a citrus grower to react to is when floodwaters directly touch the crop. In this case, all food crops the floodwater has touched, either in the field or stored in bulk, are considered adulterated under O2(a) (4) (21 U.S.C. 342(a)(4)) of the Federal Food, Drug, and Cosmetic Act and should not be used for human or animal food. While the official definition of adulterated food by the U.S. Food and Drug Administration (FDA) is more than a page long, in the context of flooding it can be briefly defined as "it bears or contains any poisonous or deleterious substance which may render it injurious to health..."

Citrus fruit, regardless of its stage of development, which touches floodwater cannot be harvested for use as human or animal food.

Sometimes it is difficult to determine whether the crop was in contact with the floodwater (and has become adulterated). An assessment of the potential effect of the flood on the crop will need to be conducted. If it is determined that the crop did not come in contact with the water or the wet soil, it may be harvested if it is possible to do so without contamination.

To quote the FDA guidelines for evaluating the safety of produce from fields that were affected by floods, the likelihood of contamination is low if:

- "The edible portion of the crop has developed after the floodwater receded, or
- The lowest edible portion of the crop was above the floodwaters level with minimum risk of contamination due to splashing; and
- The crop can be harvested without cross contamination from nearby environment, including flooded soil and flooded portion of the crop."

More information about preparing for and reacting to flooded fields in terms of food safety can be found at <https://www.aces.edu/blog/topics/crop-production/food-safety-for-southern-u-s-food-crop-producers-after-flooding/>