

HELPING PRODUCE FARMS ADDRESS FOOD SAFETY RISKS AFTER HURRICANE HELENE IN WESTERN NORTH CAROLINA

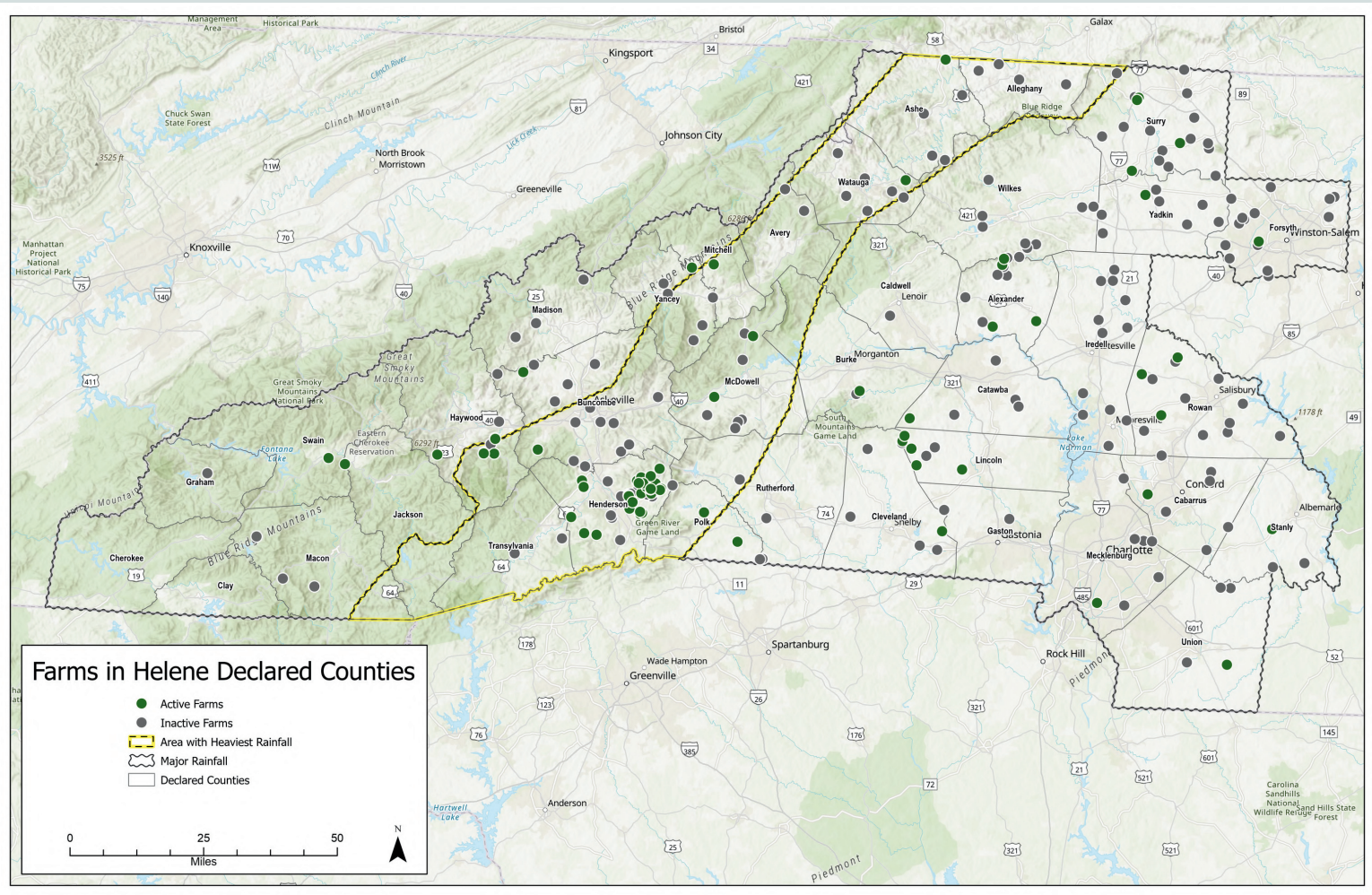
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INTRODUCTION

Hurricane Helene hit western North Carolina (NC) as a tropical storm on September 27, 2024, bringing catastrophic flooding and landslides in areas where fresh fruits and vegetables are grown. Hurricane Helene left in its wake an estimated 4.9-billion-dollar impact on damage and to the agriculture industry in NC.



This storm caused major disruption to produce farms due to flooding that occurred in and around production fields, destruction of waste and water distribution systems, destruction of communication infrastructure, damage to roads, loss of power for extended periods of time, and loss of human lives.

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GROWERS REQUEST HELP

After the storm, produce farms and packing houses experienced varying degrees of damage. Farmers requested assistance to determine how flooding impacted their farms from a food safety standpoint.

It was critical to help farmers identify issues and address them to protect public health. One of the most urgent needs was to create awareness of water quality issues in the region before safely resuming harvest. The storm hit at a time when apples and certain vegetables are harvested. Growers were concerned with the safety of the crops on the ground, contamination from flood waters and timing to replant crops on flooded soil.

FLOOD ASSESSMENTS

Approximately 50 field visits to conduct flood assessments throughout the affected area have been completed and are still ongoing.

Flood assessments are critical to identify biological and chemical contamination to produce fields that may occur after flooding events. Flood assessments focus on crops in the field and crops being held, agricultural water systems, soil, infrastructure, and equipment. Results of flood assessments help growers make decisions regarding remediation, mitigation strategies and replanting decisions.

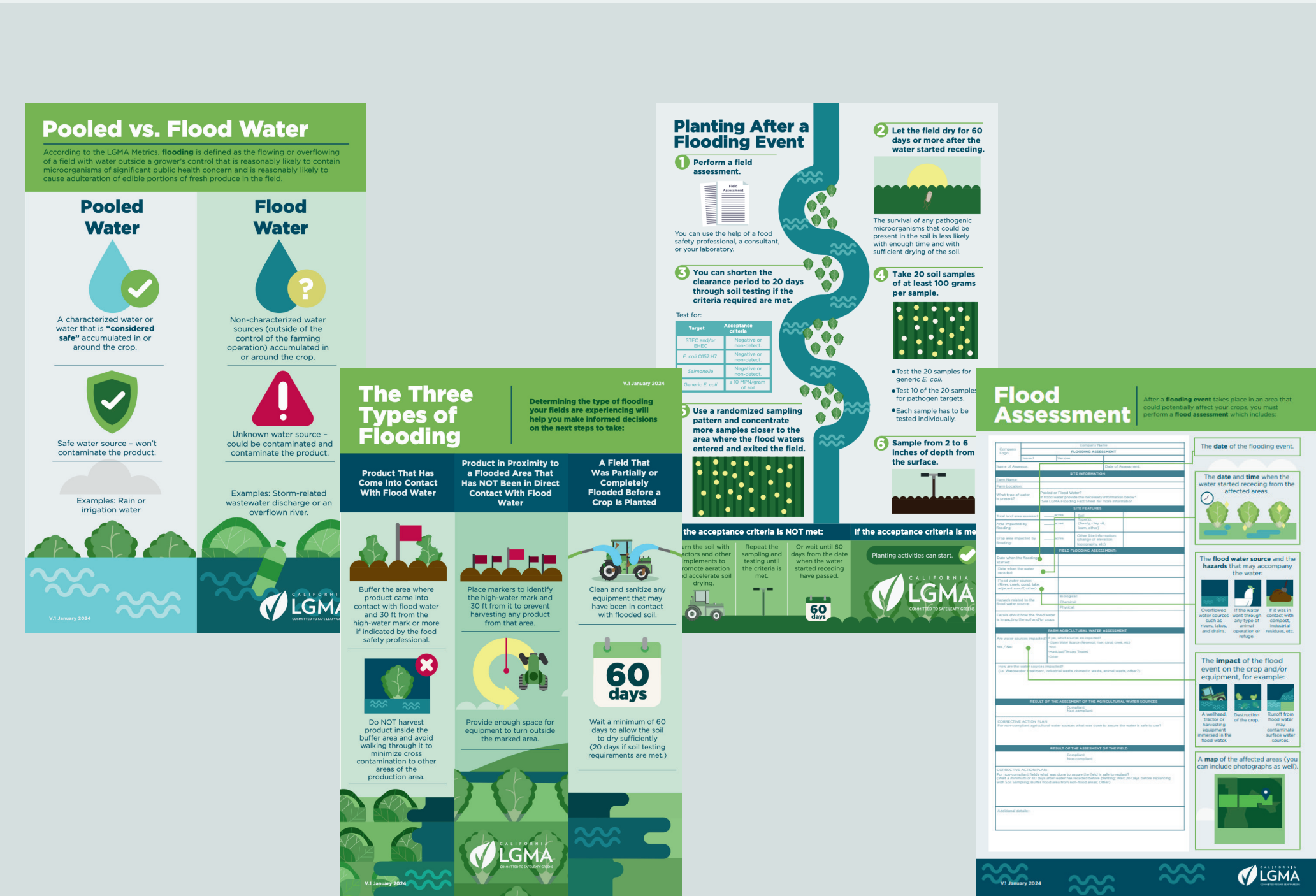
RESOURCES

Guidance and resources from the US Food and Drug Administration (FDA), Produce Safety Alliance (PSA), Western Growers Association, and California Leafy Greens Marketing Agreement (CA LGMA) were shared and used when conducting flood assessments.

The input from Dr. Channah Rock (University of Arizona), Dr. Trevor Suslow, and Greg Komar (CA LGMA) was invaluable to evaluate a wide array of scenarios.

The NC State University Soils Strike Team provided further guidance regarding testing of heavy metals in areas where severe flooding occurred.

FLOODING RESOURCES



Short videos and infographics from CA LGMA were shared with produce growers, Extension agents, and others working with produce growers in difficult to reach areas primarily via text message immediately following the storm. These resources are available both in English and Spanish.



FLOODING INFOGRAPHICS & ASSESSMENTS



FDA GUIDANCE FOR INDUSTRY: EVALUATING THE SAFETY OF FLOOD-AFFECTED FOOD CROPS FOR HUMAN CONSUMPTION



DISASTER RESOURCES



ENSURING WATER IS OF ADEQUATE SANITARY QUALITY FOR PESTICIDE APPLICATIONS AFTER HURRICANE HELENE



RESULTS/FINDINGS

Findings from the flood assessments show that farms along rivers and creeks suffered the most damage.

Soil moisture levels were high even one month after the storm due to silt deposits left by flood waters that trapped moisture. This process delays microbial die-off in most fields. We did not recommend early replanting of crops in most areas. Microbial indicators were higher in areas where livestock was nearby.

No evidence of heavy metal contamination was found in farms where testing was conducted.

CONCLUSIONS

Not all flood events are the same.

Flood assessments support the need to wait 30-60 days after a flood event to replant produce crops to allow for microbial die-off in the soil.

It is important to pay special attention to farms that have livestock and poultry operations nearby after flood events.

Extended boiling water notices in some areas, the lack of access to water testing laboratories and gross contamination of surface water created serious challenges for growers.

PREPAREDNESS

Natural disasters can happen at anytime. It is important to be familiar with FDA's guidance as well as the additional existing resources provided above in order to help growers make timely decisions after flood events.

Training on how to conduct flood assessments, including the use of soil testing protocols, logistics, and remediation is needed within the produce industry.