

PFAS and Specialty Crops: What Growers Should Know

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a large class of synthetic chemicals that have been used commercially since the 1940s because they resist heat, grease, oil, and water. Many PFAS are highly persistent in the environment, earning them the nickname "forever chemicals." Certain PFAS compounds within this large class of synthetic chemicals have been associated with potential adverse health effects following long-term exposure, leading to increased public awareness and evolving regulation within the United States. Potentially harmful PFAS chemicals, such as PFOA and PFOS, may still be manufactured in other countries and persist in imported products.

How can PFAS contaminate agricultural production?

PFAS contamination in agricultural production is generally associated with environmental contamination rather than routine agricultural production practices, including but not limited to:

- contaminated irrigation water
- contaminated soil
- historical field applications of contaminated biosolids
- atmospheric deposition near industrial facilities
- proximity to airports, military installations, landfills, or certain manufacturing facilities where PFAS have historically been used or released
- runoff contaminated with and historical use of firefighting foams
- transfer from certain food-contact materials during processing or packaging.

For fresh produce, contaminated irrigation water and soil are considered the primary environmental pathways of potential PFAS pollution.

While PFAS molecules may exist in the environment, they are also commonly used within everyday materials such as upholstery, clothing and other fabrics, non-stick cookware, and stain and water repellents used on carpets. Other PFAS sources also include personal care products, such as certain shampoos, dental floss, and cosmetics products.

What about pesticides?

The Environmental Protection Agency (EPA) currently defines PFAS as chemicals containing at least two fully fluorinated adjacent carbon atoms. A small number of currently registered active ingredients used in agriculture meet that definition; however, most are **not** considered PFAS under the current definition. EPA continues to evaluate pesticide active ingredients against its structural definition of PFAS as scientific understanding evolves.

All pesticides registered for use in the United States must meet EPA's safety standard under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). If new scientific evidence shows that a

pesticide no longer meets that standard, EPA can require additional restrictions, modify approved uses, suspend registration, or cancel the product.

For more information on PFAS contamination in agricultural production, access these resources:

- www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas
- www.fda.gov/food/process-contaminants-food/questions-and-answers-pfas-food
- www.epa.gov/ingredients-used-pesticide-products/pesticides-containing-single-fluorinated-carbon
- www.fda.gov/food/process-contaminants-food/authorized-uses-pfas-food-contact-applications
- www.epa.gov/pesticides/pfas-packaging

How is the food supply monitored?

The U.S. has not established federal tolerance levels for PFAS in most foods. However, several federal agencies work together to protect the food supply.

- **Environmental Protection Agency (EPA)** regulates PFAS in drinking water, evaluates pesticide registrations, and conducts research on how PFAS move through soil, water, crops, and the environment.
- **Food and Drug Administration (FDA)** monitors PFAS in foods through its Total Diet Study (TDS) and targeted sampling programs. Since 2019, FDA has analyzed approximately 1,300 fresh and processed food samples, including produce, dairy, seafood, meat, grains, and baby foods. More than 95% of the samples contained no detectable PFAS. Detectable PFAS were found more frequently in seafood, with 69% (46 of 67) of seafood samples in the TDS and 74% (60 of 81) of samples in FDA's 2022 targeted seafood survey containing measurable levels. Despite these findings, FDA's current assessments indicate that PFAS concentrations in the U.S. food supply do not indicate a widespread public health concern.
- **United States Department of Agriculture (USDA)** supports research on PFAS movement into crops and livestock, crop uptake, best management practices, and strategies to reduce contamination risks.
- **State Actions:** Several states have restricted intentionally added PFAS in food packaging, including California, Colorado, Connecticut, Hawaii, Maine, Maryland, Minnesota, New York, Rhode Island, Vermont, and Washington.

Florida's efforts have focused primarily on drinking water protection and environmental cleanup. The Florida Department of Environmental Protection (DEP) monitors public drinking



water systems, investigates known or suspected PFAS environmental contamination, and oversees cleanup efforts where contamination is identified. In 2026, Florida also prohibited the sale and use of firefighting foams containing intentionally added PFAS and initiated PFAS monitoring at wastewater treatment facilities.

Ongoing Research

Scientists continue to improve our understanding of PFAS. EPA, FDA, USDA, universities, and state agencies are studying how PFAS move through soil, water, crops, and livestock to improve methods to detect, measure, dispose of, and remove PFAS. Continued research will help regulators identify potential risks, strengthen regulatory programs, and develop science-based management practices to further protect public health and the food supply.

For more information on PFAS research and scientific reviews, please contact Water & Natural Resources Manager, Mikayla Rogers (Mikayla.Rogers@FFVA.com).