

Biosolids, Land Application, and the EPA's Draft PFAS Risk Assessment

What are biosolids?

Biosolids are not sewage sludge. Biosolids are the organic matter and nutrients that come through our food system and get transformed into biosolids through the wastewater treatment process. Biosolids have undergone biological, chemical, and physical processes to become a nutrient-rich fertilizer and soil enhancer.

Why land apply biosolids?

Biosolids provide a renewable source of nitrogen, phosphorus, and micronutrients that crops need to grow. Because biosolids are rich in nutrients, they offset the use of synthetic fertilizers, which are expensive and resource-intensive to produce. Thus, biosolids are a sustainable (and economical) way to improve soil quality, promote plant growth, and sequester carbon.

How do you monitor the quality of biosolids?

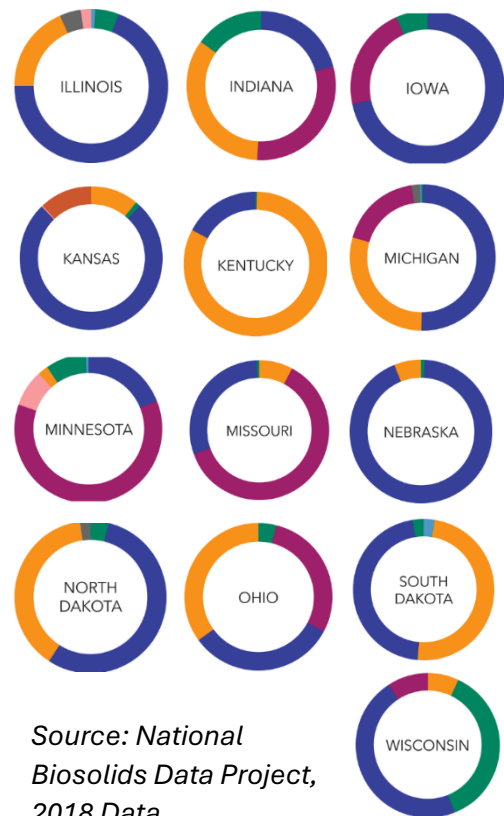
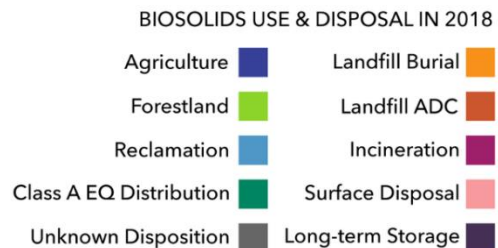
Before they are land applied, biosolids must pass pathogen and metals testing to meet the stringent requirements of the US EPA's Part 503 regulations as well as any additional state-specific regulations. The practice of biosolids land application is endorsed by the US EPA, USDA, and FDA.

What's all this talk about PFAS in biosolids?

PFAS (per- and polyfluoroalkyl substances) are a group of synthetic chemicals, including PFOA and PFOS, found in many consumer and industrial products – such as non-stick cookware, food packaging, and firefighting foam. PFAS are present almost everywhere in the environment due to their widespread use and tendency to persist in the environment. Research shows that exposure to PFAS may cause negative impacts to human health.

Because PFAS show up in our everyday lives, small amounts of PFAS can also show up in our biosolids, which reflect our lifestyles. However, there are a few instances of unusually high levels of PFAS found in biosolids. These instances are usually due to certain types of manufacturing industries that use PFAS and discharge into wastewater treatment plants. It is these instances that typically make headlines.

What Do MBA Members Do With Their Biosolids?





If PFAS can show up in biosolids, what's being done to protect farmers and the public?

In 2021, EPA released a PFAS Strategic Roadmap that covers actions to assess and manage the risks of PFAS in the environment, including biosolids. As part of this, a risk assessment was conducted on biosolids land application, and draft findings were published in January 2025 for public comment. The draft risk assessment is not a new regulation but is one of the first steps EPA takes to determine if future regulations are needed.

Let's break down the approach and findings of the EPA's Draft Risk Assessment

How the Risk Assessment was Done:

- Models were developed using research data that focused on the potential risks of two PFAS (PFOA and PFOS) in biosolids when applied to land.
- The Risk Assessment did not look at other ways humans are exposed to PFAS such as via cosmetics, cookware or other types of fertilizers.

Findings of the Draft Risk Assessment:

- EPA notes that the results are preliminary and can change in the final Risk Assessment based on additional scientific evaluations and public comments.
- There may be risks to farming families who consume almost all their food and water from fields where biosolids are applied. **However, this is not typical farm practice.**
- It does not indicate risks to the **general public or the nation's food supply**. In fact, the EPA said that regular PFAS testing of the general food supply has not shown any concerns.

Key Points You Should Know:

- This is **not a new regulation**; it does not require farmers or landowners to take new actions.
- The assessment focuses on highly specific scenarios involving a hypothetical farm family, **not typical farm practices**.
- **Be aware that some reports, especially in the media, might exaggerate or misinterpret** this preliminary assessment. The general public and the wider food supply are not at risk.
- Land application of biosolids continues to be a beneficial practice: The EPA and other agencies are continuing to research PFAS in biosolids. Following the comment period, the risk assessment will be finalized, and **EPA will determine if any regulatory action is necessary**.
- **Stay informed** on ongoing PFAS research from credible sources such as the US EPA, your state regulatory agency, and trade associations.

