

Potential exposure for farming families if industries and wastewater treatment plants do not stop PFAS pollution



The Environmental Protection Agency's draft risk assessment of PFAS in biosolids or sewage sludge applied to land as fertilizer yields the following calculations of risk for farming families.¹

Toxic PFAS contamination of food crops, livestock and drinking water caused by sewage sludge used as fertilizer could be avoided to protect farming families and other communities if wastewater treatment plants and industries used their ability to stop pollution from industrial sources, the Southern Environmental Law Center said in comments filed with the Environmental Protection Agency. If wastewater treatment plants acted, industries would be the ones paying for their own pollution—and not the families and communities that rely on farms and pastures for their food, water, and livelihood. A study conducted on sewage sludge from nearly 100 wastewater treatment plants throughout the country further determined that levels of PFOA and PFOS nationally may even be much higher than the levels cited in the calculations below.

- If PFOA levels are 9.4 parts per billion (as witnessed in Maine),² then:
 - More than 54 children out of 10,000 who eat 1-2 meals of fish per week on crop farms could get cancer later in life from those meals alone.
 - More than 59 adults out of 10,000 who eat one egg per day on a pasture farm could get cancer from those meals alone.
 - Nearly 20 adults out of 1,000 who drink four cups of milk each day on a pasture farm could get cancer from that alone.
 - More than 36 children out of 1,000 who drink 1-2 glasses of milk on a pasture farm could get cancer later in life from drinking that milk alone. Their risk of developing non-cancer health effects is also more than 319 times higher just from that milk than what is considered safe.
 - More than 50 adults out of 10,000 could get cancer from drinking water sourced from surface water on or near their polluted pasture farmland.
 - More than 52 children out of 10,000 could get cancer from drinking water sourced from surface water on or near their polluted pasture farmland.

¹¹ Calculations in this factsheet originate from Tables 34, 35, 36, and 37 of EPA's Draft Sewage Sludge Risk Assessment for PFOA and PFOS, which specify PFOA and PFOS risk results for crop and pasture farms. Consumption rates originate from pages 70-74 of EPA's risk assessment. EPA, *Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)*, 90 Fed. Reg. 3859 (Jan. 15, 2025).

² EPA states in its risk assessment that average PFOA levels in Maine reach up to 9.4 parts per billion (ppb), so these values were derived by multiplying cancer risk levels and/or hazard quotients in EPA's risk results by 9.4.

- If PFOS levels are 27 parts per billion (as witnessed in Maine),³ then:
 - Children who eat 1-2 meals of fish per week on pasture farms have a risk of developing non-cancer health effects that is 1,215 times higher than what is considered safe.
 - Adults who eat 1-2 servings of fish per week on pasture farms have a risk of developing non-cancer health effects that is 1,053 times higher than what is considered safe.
- If the sludge is *highly impacted* and PFOA levels exceed 94 parts per billion (as suggested by EPA's risk assessment),⁴ then:
 - More than 545 children out of 10,000 who eat 1-2 meals of fish per week on crop farms could get cancer later in life from those meals alone.
 - More than 592 adults out of 10,000 who eat one egg per day on a pasture farm could get cancer from those meals alone.
 - More than 197 adults out of 1,000 who drink four cups of milk each day from a pasture farm could get cancer from that alone.
 - More than 366 children out of 1,000 who drink 1-2 glasses of milk from a pasture farm could get cancer later in life from drinking that milk alone.
 - More than 507 adults out of 10,000 could get cancer from drinking water sourced from surface water on or near their polluted pasture farmland.
 - More than 526 children out of 10,000 could get cancer from drinking water sourced from surface water on or near their polluted pasture farmland.
- If the sludge is *highly impacted* and PFOS levels exceed 270 parts per billion (as suggested by EPA's risk assessment),⁵ then:
 - Children who eat 1-2 meals of fish per week on pasture farms have a risk of developing non-cancer health effects that is at least 12,150 times higher than what is considered safe.
 - Adults who eat 1-2 servings of fish per week on pasture farms have a risk of developing non-cancer health effects that is at least 10,530 times higher than what is considered safe.

³ EPA states in its risk assessment that average PFOA levels in Maine reach up to 27 ppb, so these values were derived by multiplying cancer risk levels and/or hazard quotients in EPA's risk results by 27.

⁴⁴ EPA states in its risk assessment that "highly impacted biosolids" can have PFOA levels that exceed 10 times average concentrations, so these values were derived by multiplying cancer risk levels and/or hazard quotients in EPA's risk results by 94.

⁵ EPA states in its risk assessment that "highly impacted biosolids" can have PFOS levels that exceed 10 times average concentrations, so these values were derived by multiplying cancer risk levels and/or hazard quotients in EPA's risk results by 270.