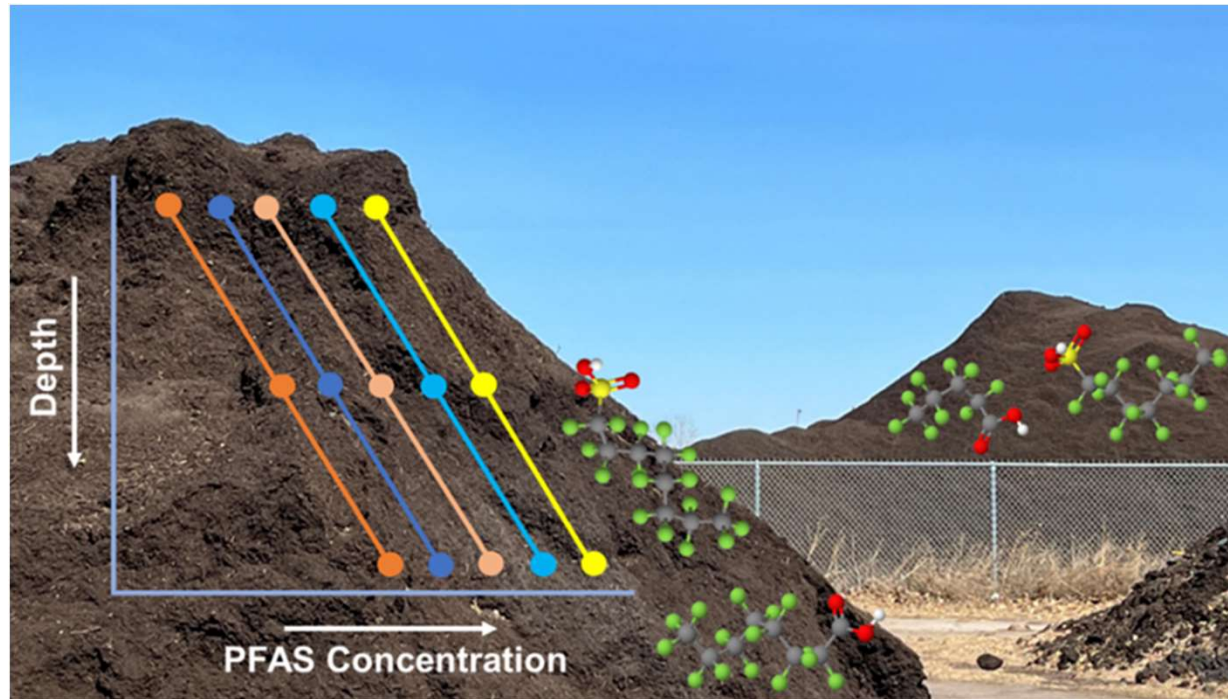


PFAS occurrence and distribution in yard waste compost indicate potential volatile loss, downward migration, and transformation



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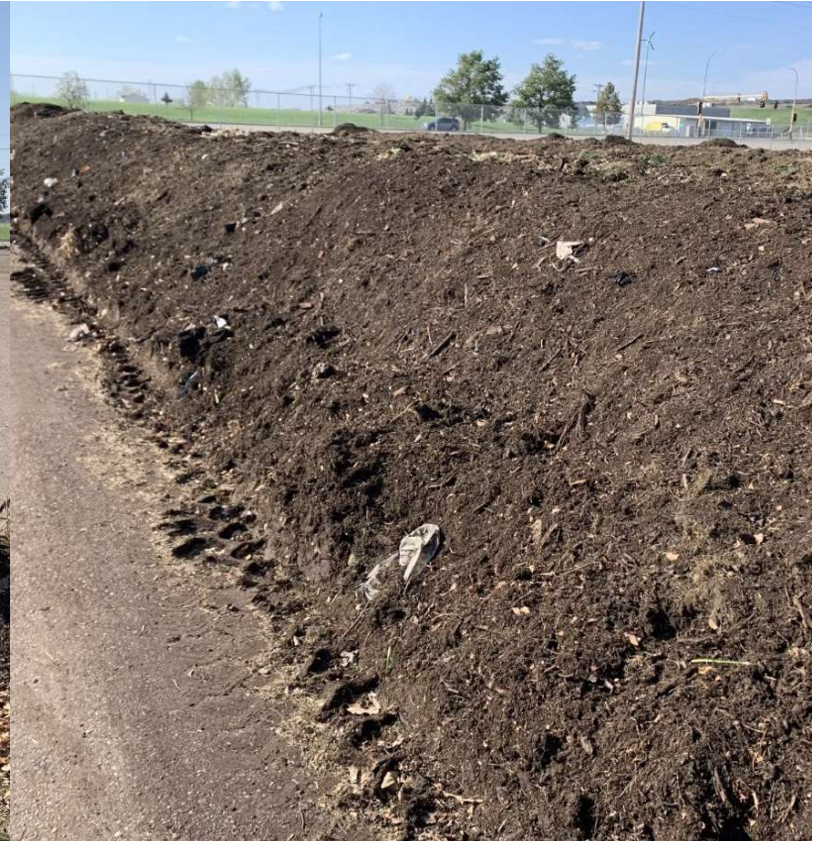
Yard Waste Compost



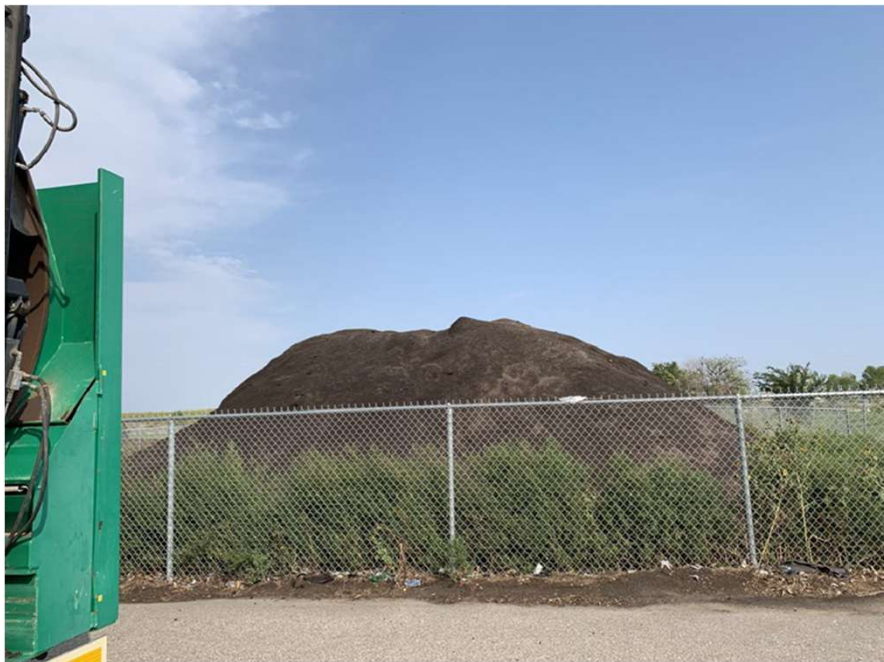
Yard Waste Compost



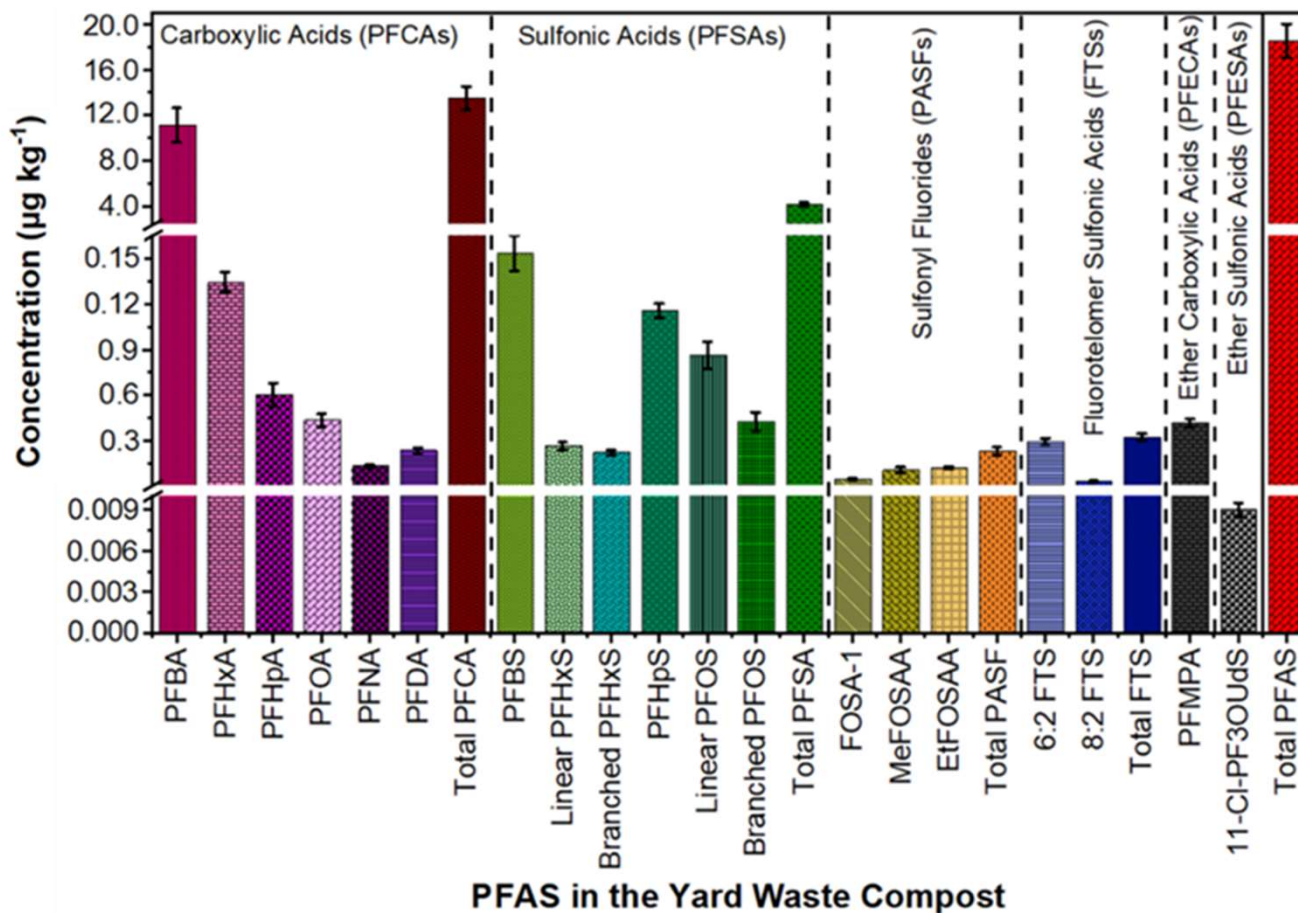
Yard Waste Compost



Yard Waste Compost

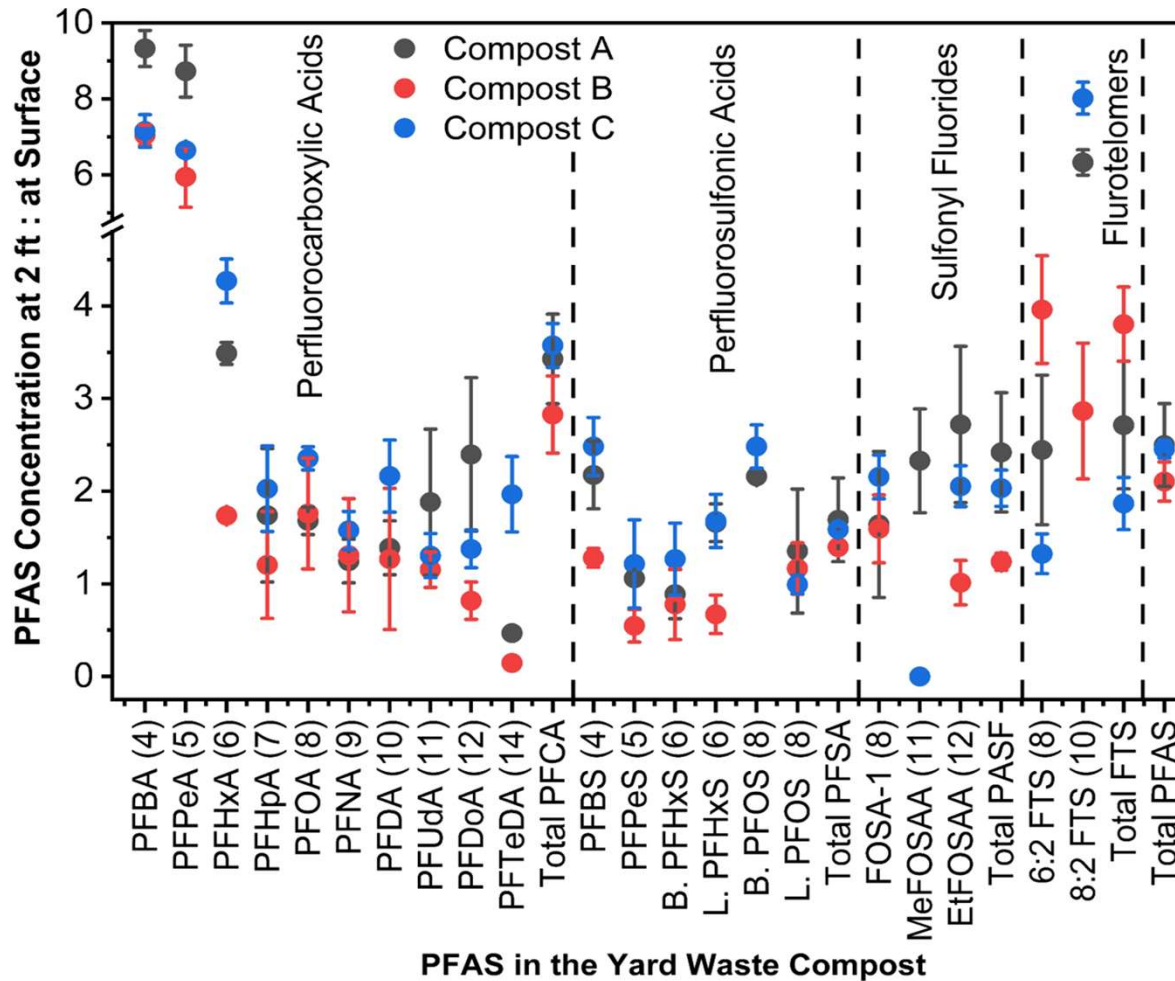


PFAS in Yard Waste Compost



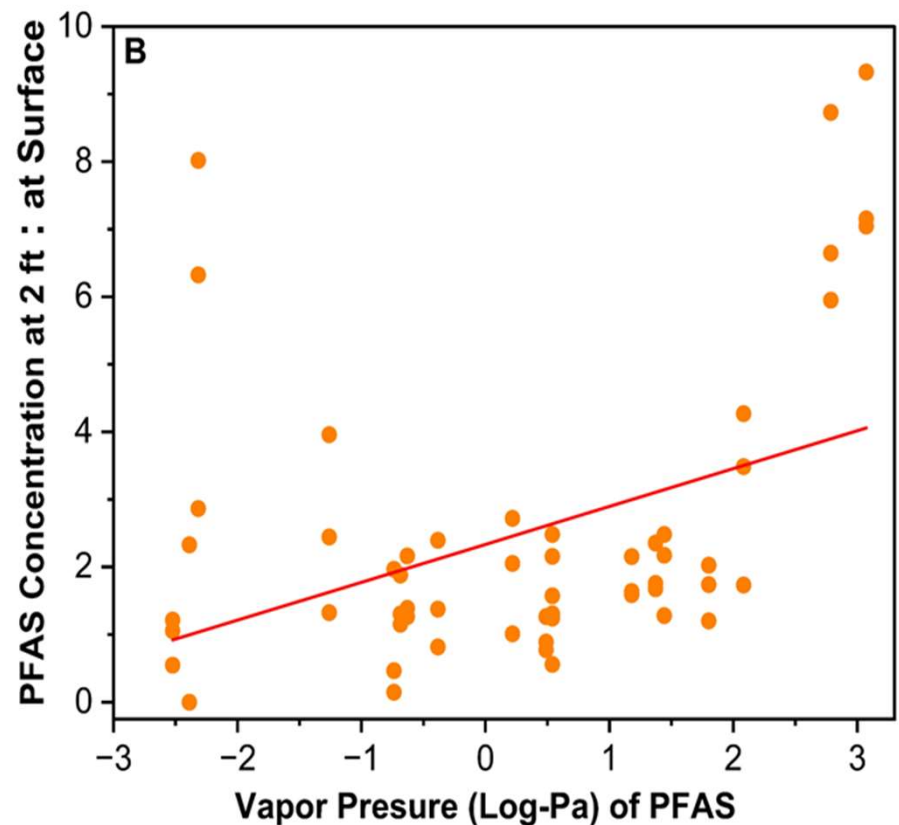
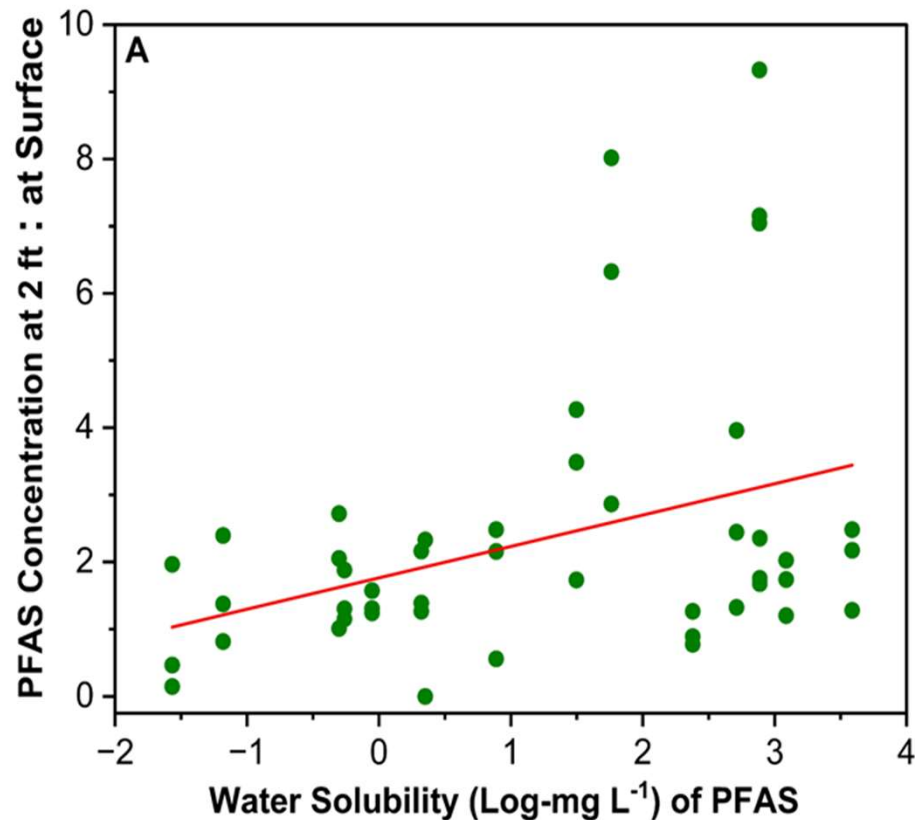
- Total measured PFAS concentrations range from 16 – 18 $\mu\text{g kg}^{-1}$
- PFCAs and PFSA are the dominant classes, comprising approximately 72.5% and 22.1% of the total measured PFAS

PFAS Distribution in Yard Waste Compost



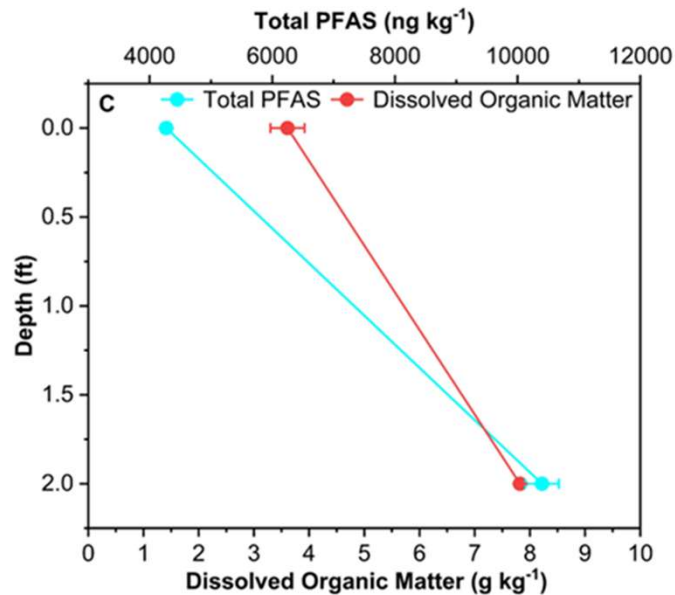
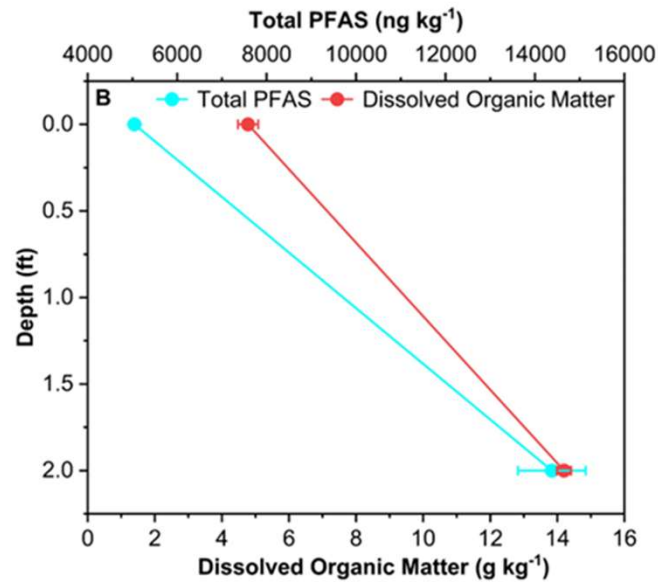
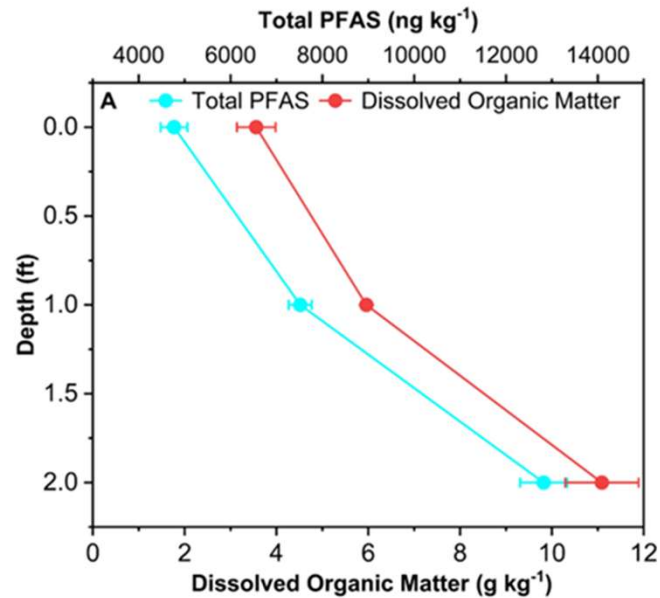
The total PFAS concentration at 2-ft depth was 2.5, 2.1, and 2.5 times the total PFAS concentrations at the surface level for Composts A, B, and C

PFAS Distribution in Yard Waste Compost



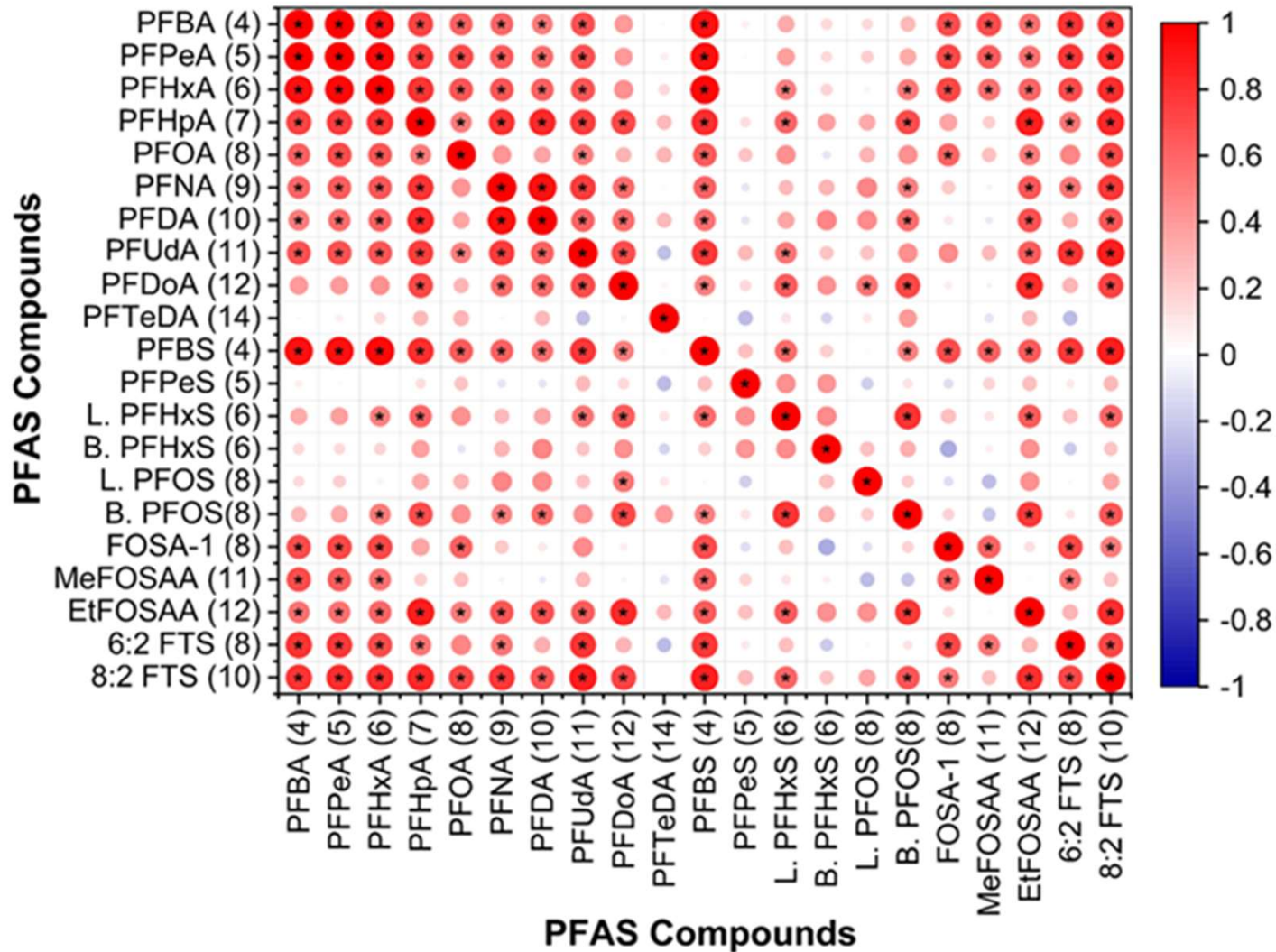
Water solubility and vapor pressure of PFAS impact their distribution!

PFAS Distribution in Yard Waste Compost



The dissolved organic matter content of compost showed a strong correlation with PFAS distribution

Sources of PFAS in Yard Waste Compost

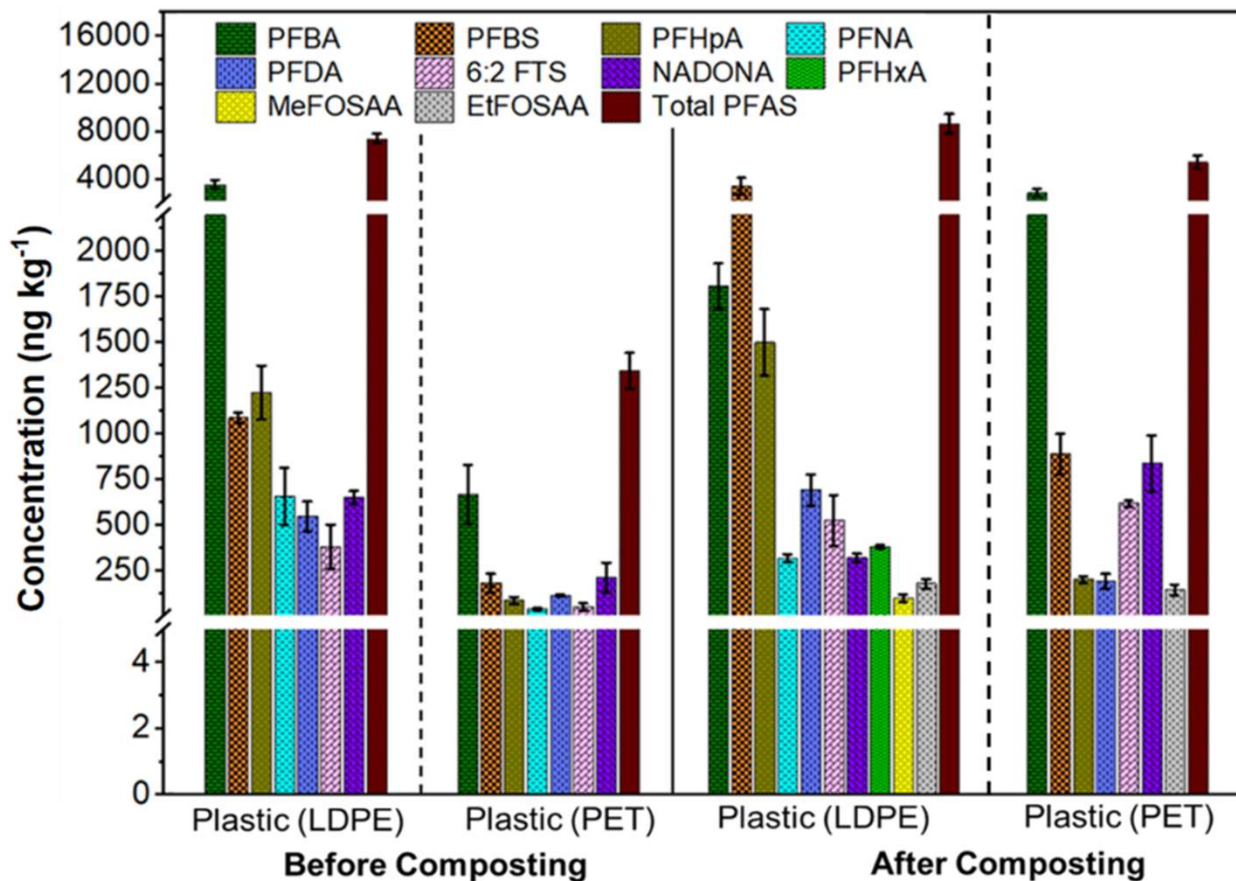
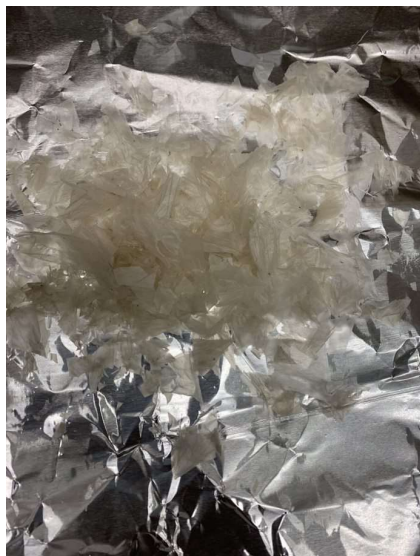


Shared source of origin for many PFAS!

Plastics in Yard Waste Compost

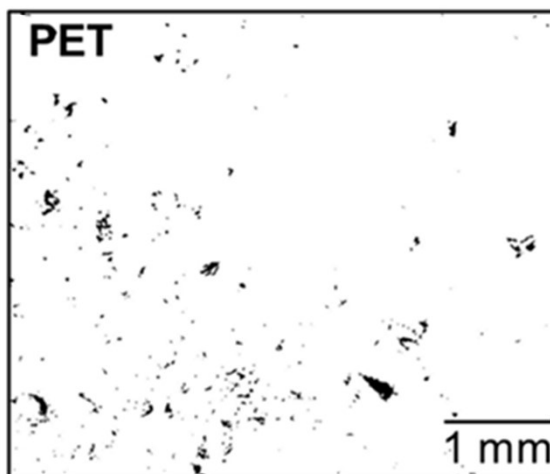
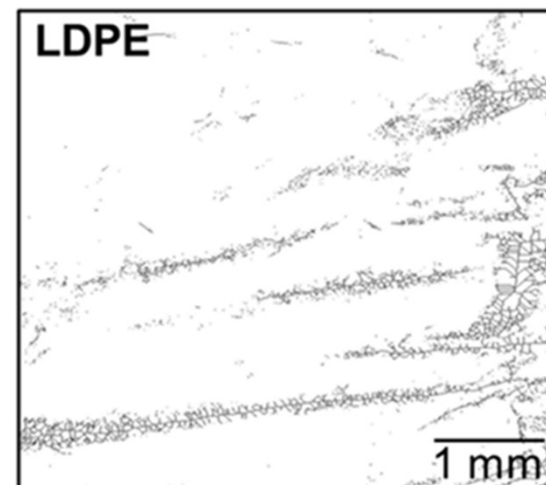
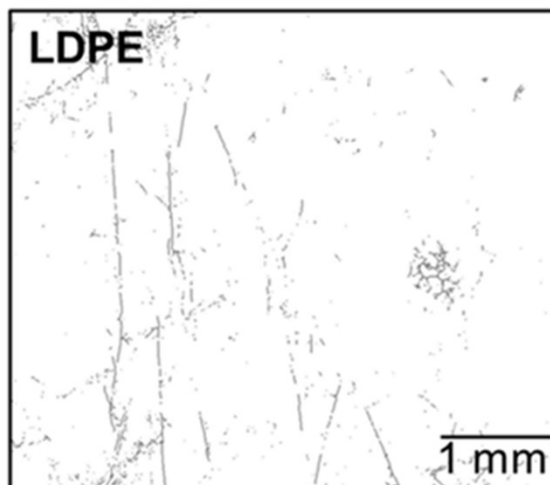


Plastics as a Source of PFAS in Yard Waste Compost



	LDPE	PET
Before composting	7.41 $\mu\text{g kg}^{-1}$	1.35 $\mu\text{g kg}^{-1}$
After composting	8.66 $\mu\text{g kg}^{-1}$	5.44 $\mu\text{g kg}^{-1}$

Plastics-PFAS Interactions in Yard Waste Compost



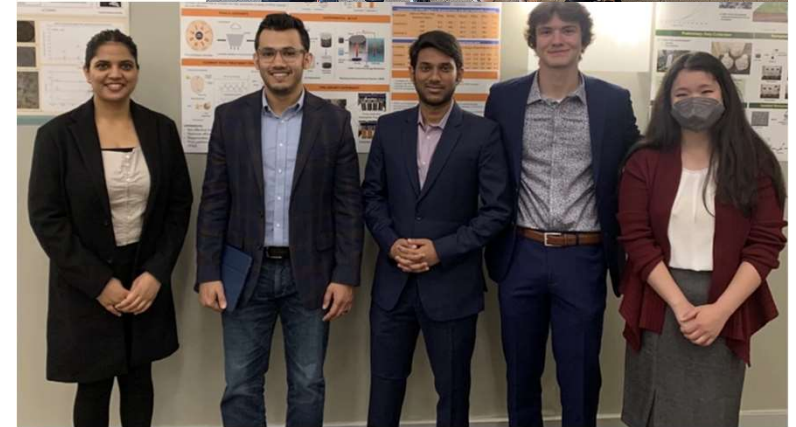
Before Composting

After Composting

An increased amount of cracks after composting!

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- ❑ US EPA P3 Award



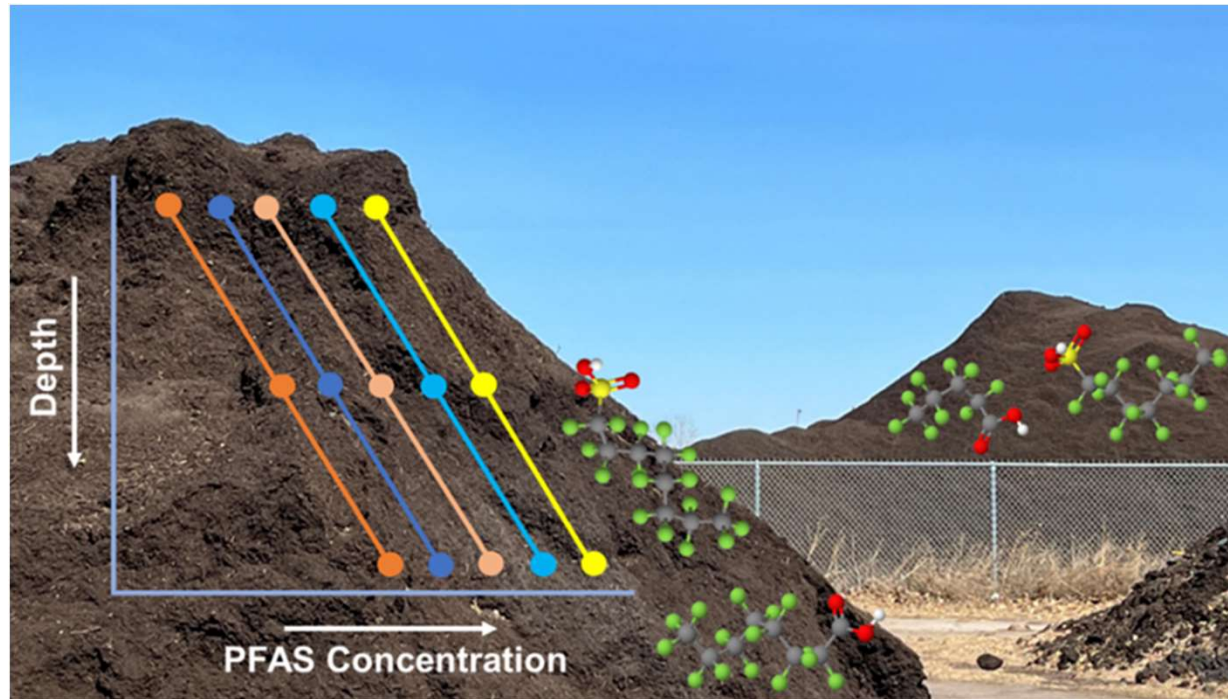
NDSU Research Group

ND EPSCoR

Established Program to
Stimulate Competitive Research



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