Overview of Sierra Club's "Sludge in the Garden: Toxic PFAS in home fertilizers made from sewage sludge"

The Sierra Club sampled 9 home fertilizers from across the USA made from biosolids, bagged and sold retail for homeowners. Samples were sent to a lab in Michigan for testing. The lab compared results to the standards set by the state of Maine, among the very few states with guidelines and standards, compelled by two singular events of farm contamination. Maine's standards have not been based on science and may misrepresent risks of PFAS contamination. What is more, the source of PFAS contamination at one Maine farm, originally pegged expressly to biosolids, was subsequently determined to be from paper mill sludges, and not from biosolids. The products subject to the Sierra Club review are not in violation of any regulations in the states within which they are marketed.

The Sierra Club tested these products:

Cured BLOOM (Washington DC)
Tagro Mix (Tacoma, WA)
Milorganite (Milwaukee, WI)
Pro Care All Natural Fertilizer (Madison, GA)
Ecoscraps Slow Release Fertilizer (Las Vegas, NV)
Menards Premium Natural Fertilizer (Eau Claire, WI)
GreenEdge Slow Release Fertilizer (Jacksonville, FL)
Earthlife Natural Fertilizer (North Andover, MA)
Synagro Granulite Fertilizer Pellets (Sacramento area, CA)

Eight of the nine products exceeded screening limits in Maine for two chemicals — PFOS or PFOA. Synagro's Granulite from Sacramento passed the limits. The State of Michigan has screening levels for biosolids, and all nine products were better than Michigan's levels. While care was taken by the laboratory contracted to do the PFAS testing, some details about possible sample contamination and procedure irregularities are missing from the report. Also, the EPA has not yet established its protocols for analyzing solids samples for PFAS compounds, as laboratory procedures are still underdevelopment. Significant, too, is that EPA is in early stages of its risk assessment of biosolids-borne PFAS, an assessment made complicated by the transformations of PFAS compounds in the soil environment and the widely different risks of groundwater contamination and plant uptake by different compounds.

The focus on biosolids as a pathway of human exposure is also misguided. Broadly speaking, contamination of human blood with PFAS contamination is correlated to many home products, ranging from stain resistant carpeting to non-stick cookware, and from the consumption of shellfish and use of dental floss. Dr. Sally Brown, author of MABA's Research Updates, has written (June 2019 Research Update): "In other words, these compounds are in biosolids and composts because they are ubiquitous in our homes. If we want to lower the concentrations in the biosolids, we should ban the compounds - as we have done with other persistent chemicals of concern. Prohibiting or severely restricting use of composts or biosolids because of these compounds will have no impact on human exposure."

Some products that may contain PFAS include:

- Household dust
- Dental floss
- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes, and candy wrappers
- Nonstick cookware
- Stain resistant coatings used on carpets, upholstery, and other fabrics
- Water resistant clothing
- Cleaning products and fabric softener
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Paints, varnishes, and sealants
- Textile impregnation
- Fire-fighting foam
- Electroplating
- Ammunition
- Climbing ropes
- Guitar strings
- Artificial turf

Key message points to use in a conversation about this article:

1. The Sierra Club did not follow proper sampling procedures to avoid contamination of the samples.
2. The Sierra Club report is not on-point for most biosolids recycling programs, because very few products are directed to home vegetable gardening.
3. EPA has no approved laboratory methods for testing biosolids.
4. The Sierra Club report was biased in its ignoring research that showed plant uptake is not a concern pathway of environmental exposure.
5. Biosolids is a far smaller source of exposure than other products in common use, such as waterproof clothing and household dust.
6. Sierra Club held forth the Maine standards as an authoritative basis for policymaking, but in fact the Maine standards are heavily influenced by local political pressure.

Based on Memorandum by Diane Garvey, Garvey Resources, Inc. June 2, 2021.

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