To: House Committee on Agriculture, Land Use, Natural Resources, and Water
Representatives Ken Helm and Mark Own, Co-Chairs

From: Serhan Mermer, Assistant Professor
Department of Environmental and Molecular Toxicology
Oregon State University

Date: February 10, 2025

Subject: Testimony on House Bill 2947-1—a Bill to Study the Fate and Transport of Per- and Polyfluoroalkyl Substances (PFAS) Found in Biosolids that are Land Applied to Agricultural Fields Across the State.

Dear Co-Chairs Helm and Owens and Members of the Committee:

I am Dr. Serhan Mermer. I'm an Assistant Professor in the Department of Environmental and Molecular Toxicology at Oregon State University (OSU). I am an Extension Specialist in Environmental Chemistry and Toxicology. I also serve as the Director of the National Pesticide Information Center (NPIC). I am here today to provide information on the project that HB 2947 directs OSU to conduct. If funded, I will lead the OSU research efforts on HB2947 in collaboration with other members of my team.

Per- and polyfluoroalkyl substances (PFAS) are used to impart resistance to heat, oil, stains, grease, and water. They are found in such products as nonstick cookware, water-repellent clothing, stain resistant fabrics, cosmetics, and firefighting foam. They have regularly been detected in water, air, and soil across the globe. They are often referred to as "forever chemicals" due to their widespread use and resistance to environmental degradation.

Biosolids are an important resource and offer an alternative to synthetic fertilizers, which are expensive and require large amounts of energy to produce. Land application is the most cost-effective way for wastewater treatment plants to manage biosolids, turning a waste product into a valuable resource. Biosolids are regulated to ensure they are managed responsibly. However, the US EPA has not yet established limits for PFAS in biosolids and current wastewater treatment technologies do not eliminate PFAS. Therefore, PFAS entering wastewater treatment plants are not removed and instead pass through into water and biosolids. Alternative disposal strategies are landfilling or burning of biosolids. Each has the potential to release PFAS into the environment. Concern over potential PFAS transport from land-applied biosolids has led some states to discuss or initiate restrictions on biosolid application. As other states begin to take regulatory action, HB 2947 would ensure that Oregonians have the resources to make science-based and data-driven decisions that are appropriate for Oregon.

HB 2947 proposes an extensive investigation into the relative contribution of land-applied biosolids to PFAS occurrence in Oregon's agricultural lands. PFAS are regularly found in environmental samples of all kinds, and this study will help identify whether PFAS are present in

agricultural fields, and if so, to what extent they can be traced to a biosolids source vs. other agricultural inputs and air deposition. It will also evaluate impacts of PFAS from biosolids on soil, grass crops, and water. Our research plan was developed in coordination with a diverse group of stakeholders including the DEQ, OR ACWA, local municipalities, and agricultural groups across the state. The research team will identify agriculturally important regions in Oregon and work collaboratively with local stakeholders to sample fields both with and without a history of biosolids application. Soil, water, and crop samples will be collected from collaborators' fields and analyzed for a suite of PFAS according to a standard EPA protocol.

The aims of HB 2947 will require data generation at a statewide scale to support a meaningful understanding of the effects of land-applied biosolids on PFAS in Oregon. The proposed budget supports field sampling in agriculturally important areas across the state, a comparison of fields with and without prior biosolids application, and a quality assurance plan necessary to avoid false positives due to the widespread distribution of PFAS at low concentrations which are typically present across the environment.

OSU has made significant investments in PFAS research, capitalizing on OSU's existing infrastructure to enhance PFAS fingerprinting and source-tracking capabilities. Cutting-edge analytical methods and robust expertise in environmental chemistry permits us to produce essential data to assess the potential risks of applying biosolids to Oregon farmlands. This research is a crucial step in transitioning regulatory and management decisions from reactionary responses to proactive, data-driven strategies. Our findings will inform science-based policy and shape future research directions. They will support a sustainable and informed approach to PFAS contamination mitigation in agricultural and natural systems.

Our team is uniquely qualified for this work, comprising renowned experts in PFAS research, biosolids, and environmental chemistry, along with laboratories fully equipped to conduct this research. OSU has a strong extension and outreach team, of which I am a part, skilled in communicating complex science in accessible language to diverse education levels.

Thank you for the opportunity to provide information on the bill. I will gladly respond to any questions that you may have.

Respectfully submitted,

Serhan Mermer
Assistant Professor and Extension Specialist in Environmental Chemistry and Toxicology
Director of National Pesticide Information Center
Department of Environmental and Molecular Toxicology
Oregon State University