

Monday, September 26th, 2022 9:00-10:00a (1hr)

Keynote

Speaker: *Kristen McIvor*

Session description: Together with support from Tacoma's Biosolids program Tagro - Pierce County residents have mobilized to build over 80 community gardens, and along the way grow, donate and eat 100,000s of pounds of fresh food. This partnership has a wide range of benefits for both community and environment and wouldn't be possible without the roots it has in biosolids.

Monday, September 26th, 2022 10:25a-11:50a (1.5hrs)

Session Topic: Urban use of Material

Speakers: *Dr. Sally Brown, Trung Le, Jason Duffin, Gene Connell, Dominic Loustatlot, and Ben Martin*

Dr. Sally Brown Session Title: Compost and Community Gardens

Session Description: Not all urban soils are poor and not all biosolids blends are equal. If you have a disturbed urban soil, the biosolids will bring it back to life. You'll get more vegetables and in some cases, growing in biosolids will even make your kale better for you. Results from a NW Biosolids/ King County supported multi year study.

Trung Le Session Title: Composting at Long Beach

Session Description: The City of Long Beach built an in-vessel biosolids compost system. This presentation will share insights on the process design, developing a best management practice mix, how in-vessel composting works, construction, operation, and lessons learned. The system can capture all of the process air in a biofilter and operate in a challenging climate. We look forward to sharing this exciting pacific northwest compost story.

Jason Duffin & Gene Connell Session Title: Sustainability within Wastewater around Montana

Session Description: The Missoula Resource Recovery Facility (Wastewater) is leading the way in Montana as far as forward sustainable thinking and practices. This will be a look at what is happening in small and large communities within the rural State of Montana and will be an overall summary of a portion of the Biosolids and what is being done with them currently and in the future. We will also be talking about facilities and their sustainable practices and resource recovery.

Dominic Loustatlot & Ben Martin Session Title: Coeur d'Green Compost, Keeping Coeur d'Alene Green

Session Description: Our presentation will be a look at how biosolids from the Coeur d'Alene Wastewater Treatment Facility are used throughout the community in city parks and at people's homes. We will review our static pile composting process and view several examples of how these nutrients benefit the city.

Monday, September 26th, 2022 1:00p-03:00p (2hrs)

Session Topic: Empowering what your Biosolids are Worth

Speakers: *Beth Lyon, Bill Toffey*

Elizabeth "Beth" Lyon Session Title: Brand. It's not just a logo on a t-shirt.

Session Description: We will toss the conventional presentation and have a conversation about what a brand (really) is and why it's valuable for your organization, your employees, and your customers.

Bill Toffey Session Title: Circular Economy

Session Description: This session will discuss circular economy for biosolids on both the local and the global level. This will be a presentation followed by a panel discussing circular economy and communication.

Monday, September 26th, 2022 3:15p-04:35p (1.25hrs)

Session Topic: PFAS

Speakers: *Andrew Carpenter, Martye Griffin, and Greg Kester*

Andres Carpenter Session Title: PFAS News from Ground Zero

Session Description: Maine has been ground zero for issues related to PFAS in biosolids. After consistently having one of the highest rates of biosolids recycling in the country, land application of biosolids (regardless of processing type) is currently prohibited. This presentation will provide the history of PFAS as it relates to biosolids in Maine, as well as an overview of testing results found at land application sites and the impact that this has had on agriculture in Maine. The

presentation will also provide lessons learned from the PFAS experience in Maine from the company that, to date, has completed most of the private agricultural testing of PFAS on Maine farms.

Martye Griffin Session Title: Getting ahead of the game: one utilities journey with PFAS

Session Description: This presentation will tell the story of how the Madison metropolitan sewerage district decided to proactively address PFAS in wastewater. Why they decided to act, how they decided was the best way to approach PFAS, what they have learned so far, and next steps. <https://madsewerpfasinitiative.org/>

Greg Kester Session Title: PFAS

Session description: This presentation will discuss PFAS and biosolids. Greg Kester will discuss source control and use real examples from California around the effects of source control.

Tuesday, September 27th, 2022 8:30a-10:00p (1.5hrs)

Session Topic: Research

Speakers: *Dr. Lauch Fraser, Dr. Ian Pepper, Madeline Desgardins, and Konrad Peter Mathesius*

Dr Lauch Fraser Session Title: The use of biosolids in ecosystem reclamation, from soils to plants to insects.

Session Description: This research presentation will focus on the usage of biosolids in ecosystem reclamation. It will span a variety of ecosystems, discussing everything from soils, to plants, to insects.

Dr. Ian Pepper Session Title: Is Land Application of Biosolids a Significant Source of Human PFAS Exposure via Groundwater Contamination?

Session Description: The presentation focuses on a national collaborative study evaluating the incidence and mobility of PFAS originating from long term land application of biosolids. The goal of the project is to ultimately allow for site specific determination of the potential risk of PFAS contamination following leaching of PFAS through the soil and vadose zone. This study is vital to ensure the future sustainability of land application of biosolids.

Madeline Desgardins Session Title: Biosolids Improve Key Soil Functions in Semi-arid Dryland Cropping Systems

Session Description: Dryland grain systems face several soil health and fertility challenges, which include low moisture availability, wind erosion, lack of soil structure, compaction, and low nutrient retention and availability. Biosolids have the potential to mitigate these soil health challenges while providing an alternative to synthetic fertilizers. In this session I will discuss the research I am doing with Dr. Deirdre Griffin LaHue at WSU and the ways in which we are measuring soil health at our long-term biosolids trial in Central WA. I will go over some of our findings and explain how they relate to important soil functions for these cropping systems.

Konrad Peter Mathesius Session Title: Using Biosolids as a Nitrogen Source in California Grains

Session Description: Liquid injected biosolids-based fertilizers were applied at similar rates (total N) as conventional nitrogen sources in grain acreage in the California's southern Sacramento Valley from 2018-2022. Yield and protein as well as soil fertility were measured. These fertilizers were also measured in controlled incubations in order to assess nitrogen release behavior alongside other sources of nitrogen. Results indicate that nitrogen use efficiency is at least as high as that of conventional nitrogen sources. Results are being leveraged to inform growers on the effective application of these tools.

Tuesday, September 27th, 2022 10:20p-11:55a (1.5hrs)

Session Topic: Regional Updates

Speakers: *Emily Kijowski, Pat Heins, Tressa Nicholas, Greg Kester, Deidre Bartlett, Maile Lono-Batura, and more.*

Emily Kijowski

Session Description: The latest developments and activities of the biosolids program in Washington

Pat Heins Session

Session Description: The latest developments and activities of the biosolids program in Oregon

Tressa Nicholas

Session Description: The latest developments and activities of the biosolids program in Idaho

Greg Kester

Session Description: The latest developments and activities of the biosolids program in California

Deidre Bartlett

Session Description: The latest developments and activities of the biosolids program in Canada

Maile Lono-Batura Session Title: A Voice for Biosolids: Telling Our Story

Session Description: Just as Elton John penned the song, *'Like a Candle in the Wind,'* – the penned title for biosolids could've easily been, *'Like an Arrow off the Map.'* And for years, this was business as usual for both internal and external communication. As pollution control facilities were brought online to answer the call of the Clean Water Act of 1972, so too did the products of these systems – energy, effluent, reclaimed water, and biosolids. Fast forward 50 years, we've witnessed the power these facilities have had to catalyze nature and create healthier ecosystems that depend on clean water. Reflecting on this same time period, biosolids have made significant strides in demonstrating its self-worth through decades of research and practical applications. However, we continue to be cloaked in the *'arrow of the map'* persona from a bygone era both within the water sector and our communities. Learn how WEF is attempting to flip the script and elevate the voice for biosolids in impactful conversations surrounding climate change, product quality, and social engagement.

Tuesday, September 27th, 2022 1:00p-3:00p (2hrs)

Session Topic: Biosolids Knowledge

Speakers: *Mike Gates, Jared Kinnear, Trung Le, Ken Windram, and Baraka Poulin.*

Mike Gates and Jared Kinnear Session Title: Clean Water Services Biosolids Program Optimization.

Session Description: This session will show some examples of how teamwork with your digital solutions(I.T) department can utilize PowerBi and SharePoint to aid in optimizing your biosolids program

Ken Windram Session Title: Choosing a Biosolids Treatment Option and Implementation.

Statement: The Hayden Area Regional Sewer Board (HARSB) is installing tertiary treatment system to meet the new water quality standards for the Spokane River. Tertiary treatment which would increase the amount of biosolids produced by the facility. The current biosolids handling consisted of a Waste Activated Sludge holding tank and Screw Press dewatering. HARSB needed to select a biosolids treatment process to handle the treatment plant solids.

Approach:

This presentation will provide information on how the HARSB Board evaluated the biosolids treatment options for capital costs and 20-year operations and maintenance costs. The final selected biosolids handling process was a Solar Dryer using HUBER SRT system with the HUBER Sludge Turner SOLSTICE®. The HARSB HUBER SRT system solar dryer will be the first in the Northwest. The solar dryer will also have unique design features for the north Idaho climate including insulated walls and ceilings plus a Ground to Air Heat Transfer (GAHT) system.

Results / Conclusion:

The project will be in its final stage of construction at the time of BioFest. In addition to the project information, the presentation will include photos of the construction process as well as lessons learned during both design and construction.