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SOIL AND WATER CONSERVATION SOCIETY

South Dakota Chapter Chatter May 2021

Editor Tyler Tran

Letter from the President

By Arlene Brandt-Jenson

If you had to do it over, what advice would you give your younger self? If you are reaching the end of your conservation career, would you have done things differently? Or if you are early in your career, what advice would be beneficial?

I recently thought about that question when our chapter sponsored the March 4 SDSU Agronomy and Conservation Club meeting (see article and photos elsewhere in this issue.) Michelle Burke, Tyler Tran, and I each spoke about our unique career paths. I shared some bits of advice that hopefully these young men and women can use. And maybe you can too.

Under-promise and over-deliver. If you say you'll get back to a client or customer in two days, make it one day if possible. If you promise a solution that just barely meets the request, try to do a little more and surprise your customer. But if you over-promise and under-deliver, your customers (both external and internal) will come to expect disappointment. In other words: say what you mean, and mean what you say.

Don't be afraid to admit you don't know the answer, or you made a mistake. Instead of bluffing your way through a situation when a customer asks a question, explain that you'll take a little time to do some research and get back to him or her. If you're in a hurry and slightly impatient because you have a million other things to do, and you say 'I'm pretty sure that will qualify' or 'That probably will work' and you end up being wrong, you just cost yourself more time in fixing the situation. If you own up to a mistake and do your best to correct the situation, you'll gain respect from your customers and co-workers.

Sometimes you need to trust the unknown. That could be a person or a situation. You may need to trust your instincts and evaluate a situation to determine whether to be skeptical or sure. When I first started my career, I had to trust the personnel officer to explain things to me that I didn't fully understand. I graduated in December and was planning to start my first post-college job in January, while looking forward to a nice 3-week break over Christmas. I got a call from the personnel officer during finals week, suggesting that I start my job in December. He explained that a new retirement system would be starting in January and they didn't know much about it. He suggested I start my career under the old system. The last thing I was thinking about was a retirement system! But I trusted him, took his advice, and was able to retire several years earlier than if I started in January. Thank you, David Reedstrom, wherever you are!

What advice would you give your younger self? What advice would you pass on to a conservation professional early in his or her career? Maybe you can serve as a mentor to some newer SD SWCS members and help them along in their career. Who knows? One of them may be your boss in a few years!

Dynamic Soil Properties

SD SWCS member Carrie Werkmeister is the Project Coordinator for a long-term project: Dynamic Soil Properties. Dynamic soil properties (DSP) are characteristics that change with land use, management activities, and disturbance events over the human time scale, from decades to centuries. The goal of DSP projects is to provide comprehensive information about the impact land use and management has on the soil. The data will help conservation and land management professionals make more informed planning decisions while also shaping natural resource and land management policies, priorities, and field activities.

Experiments are performed by NRCS local field office staff, area soil scientists, soil health specialists, MLRA soil scientists, rangeland management specialists, and other partnering entities. Results are tracked by the Soil Science Division, the Kellogg Soil Survey Lab, MLRA offices, and the NRCS state office. Data collected is entered into the National Soil Information Systems and will be used to enhance soil survey product capabilities.

By monitoring properties such as infiltration rate, aggregate stability, color, organic matter and biotic activity within the soil, we can develop a better understanding of how management impacts soil function. The first DSP was completed in 2007 and measurements are ongoing.

The DSP project provides an opportunity to educate landowners and land management professionals about how soils were formed, the impacts of different vegetative cover and how data can be interpreted to assess soil health. It's also a great way to help strengthen conservation planning skills and learn from each other!

SDSU Outreach

Members Arlene Brandt-Jenson, Michelle Burke, and Tyler Tran had the opportunity to meet with SDSU Agronomy Club students. All three members had a chance to summarize their NRCS career paths and promote SD SWCS. A conservation trivia game was held that included popcorn prizes and t-shirts. A random student was also chosen to receive a student membership to SD SWCS. Congratulations to Matthew Sperry from Bath, SD.

Help Wanted

The Chapter Chatter wants to hear from you! This is an open, perpetual call for future articles, ideas, or events to feature. Any ideas or inquiries can be directed to Editor Tyler Tran at tyler.tran@usda.gov. We look forward to hearing from you.

Member Spotlight: Elise Reid

Elise Reid is the Soil Conservationist in Huron, SD. A former wine sommelier in Spearfish, her hometown, she enjoys water skiing and rock climbing. Elise recently finished her masters degree at University of Nebraska-Lincoln. Here is a summary of her thesis:

Long-term effects of biodegradable mulches in organic systems
Elise Reid

Weed management in organic vegetable production is a difficult task, however, it is made easier by the use of mulches to prevent weeds. When we hear the word “mulch” we often think of a straw or cover crop mulch. In vegetable production, it more often refers to plastic sheets that are stretched over the bed.

Plastic mulches do a great job of retaining soil moisture and managing weeds, but in the U.S. alone we must dispose of 130,000 metric tons of plastic mulch every year (Shogren and Hochmuth, 2004). As one can imagine, this does not coincide well with most organic producer or consumer goals. To this end, the development of novel, bio-based biodegradable mulches (biomulch) is a burgeoning research topic. To add to the development challenge, for National Organic Program certification, the mulch must degrade 90% within two years.

Terms get picky with organic certification, but the distinctions are important. There are already biodegradable plastic mulches on the market, yet they contain petroleum products. Due to that, they are not organic certifiable. My project tested a new biomulch, which was produced from polylactic acid fermented from corn, sugar beets, or cassava.

Polylactic acid biomulches are notorious for being slow to degrade. In this study, the biomulch incorporated a wood particle inner layer to increase the rate of degradation. We also added soil amendments of compost, compost tea, and cover crops to see how they would influence biomulch degradation time. As these mulches are very high carbon, macronutrient levels were monitored. Lastly, I determined the effects biomulch had on soil physical properties. In the end, the polylactic acid mulch did not degrade within two years under any amendment. The mulch did increase macroaggregation of the soil, contrary to a current market biodegradable plastic, which decreased macroaggregation. Overall, my results showed that compared to the highly positive effects of compost on yield and macronutrient availability, the effects of either biodegradable mulch were negligible.

Full thesis and citations available at:
Reid, Elise V.H. (2019) *Legacy Effects of Biodegradable Mulch and Soil Amendments on Vegetable Crops and the Soil*. University of Nebraska-Lincoln. https://digitalcommons.unl.edu/agronhortdiss/178/
Further information on biomulches: Reid, Elise VH. "New materials in biodegradable mulches hold promise for vegetable production." *Organic Broadcaster | MOSES*, mosesorganic.org/publications/broadcaster-newspaper/biodegradable-mulches/.

Save the Date

The 76th SWCS International Annual Conference is now open for registration. This years event, “One World, Connected through Conservation,” will be completely virtual from July 26 - 28. Member registration rates are $150 for SWCS Members and $75 for full-time students. Registration closes on July 16. There will be opportunities for SD SWCS members to get registration reimbursement. More information can be found at the event website: https://www.swcs.org/events/conferences/2021-annual-conference/

SWCS Merchandise

Get ‘em while you can! The new swag is available to order through May 24th. Channel your inner Earth Child with a new tie dye shirt designed for the 2021 international conference. T-shirts, crew neck and zip front sweatshirts are also available in various colors.
Visit https://www.bonfire.com/store/swcs/ for the full selection.

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