



PSPP - Plant Science Says

April, 2019

Council of Educators in Landscape Architecture Conference **By Rebekah VanWieren, Associate Professor**

In March, Jennifer Britton and I attended our academic conference CELA (Council of Educators in Landscape Architecture). The conference was located in Sacramento, hosted by the U.C. Davis Landscape Architecture and Environmental Design program, which is part of the Department of Human Ecology within the College of Agricultural and Environmental Sciences.

This year's conference theme was "Engaged Scholarship," exploring integrated practices for research, teaching, and service. I presented my on-going work with the Fort Peck Tribes to turn a former gas station site into a public pocket park. The design process, in partnership with the Tribe's Office of Environmental Protection and the U.S. EPA, began as a service-learning project in our HORT 432 Advanced Landscape Design studio and has continued as an engaged research project with myself and additional undergraduate landscape design majors. One of my mentors from graduate school showed up in the audience, which was a welcome surprise! This year's poster sessions were extremely valuable for me as I made connections with fellow faculty teaching similar courses, and learned about new pedagogies to try at MSU.

A highlight from the conference was participating in the Sketch Crawl field trip,

where we spent four hours sketching the urban landscape as we trekked a transect from downtown Sacramento to Davis, with 10 stops along the way. In the middle of the trip, there was a "throwdown" when we all shared our evolving work. At the end of the trek, we had the chance to tour the building on the U.C. Davis campus that houses Landscape Architecture. Their outdoor learning landscape, which serves as the building's courtyard, was particularly inspiring. The space incorporated several small design projects (rain garden, furnishings, planters, pergola, native plantings, etc.) that were student designed, constructed, and maintained. How cool would it be to designate a learning landscape on the MSU campus between Plant Growth Center, Plant BioScience Building, and Linfield? The completed sketchbooks were part of an



Sketch Crawl stop at Golden 1 Center arena, building and landscape designed by AECOM.



Sketch Crawl "throwdown".



U.C. Davis, Hunt Hall, student designed and constructed courtyard. Look closely - the "Seed Certification Center" is adjacent to the space. ☺



Admiring diversified plant textures and the majestic Quercus agrifolia tree in this ornamental garden at Far Niente Winery.

exhibit for the Sacramento Art Walk event. Finally, I also had the wonderful opportunity to explore the surrounding vineyard landscapes with a local guide (Jennifer Britton, who grew up there!). We toured two contemporary kitchen gardens and several historic landscape designs throughout the Napa Valley.



Winery kitchen garden tour.

International Wheat Stem Sawfly Conference

By Nancy Blake, Research Associate

Several researchers and students from PSPP and LRES attended the 7th International Wheat Stem Sawfly Conference March 19-20 at Colorado State University in Fort Collins. The meeting is held biennially and brings wheat stem



Hongtao Zhang, Nancy Blake, Andrea Varella, Yukiko Naruoka, and Jason Cook.



Wheat Stem Sawfly.

sawfly researchers from the Northern Great Plains region of U.S. and Canada. For those unfamiliar with wheat stem sawfly, it is economically the most significant insect pest of wheat in Montana. It also has significant impact on wheat in the Dakotas, Wyoming, Colorado, Nebraska and the Canadian Prairie Provinces. Researchers from all these locations presented the status of WSS in their area and their research efforts. Talks ranged from insecticide control, effects of soil microbes, modeling of environmental conditions, enhancing parasitoids of WSS, metabolomics, genetics and genomic approaches to control. Several Montana students talked about their individual research projects including PSPP graduate students Uta McKelvy and Megan Hagen.

Jason Cook and Hongtao Zhang also presented their latest research findings. After a full day of talks, Tuesday evening everyone reconvened at The Mayor of Old Town, a long-time eatery and bar with 100 beers on tap! As is true at most conferences, this was where the sharing of ideas and plans for further research and collaborations happen. Besides being informative and stimulating, the conference was a great place to catch up with former PSPP graduate students, Yukiko Naruoka (Syngenta), Andrea Varella (Limagrain) and Nick Reynolds (Bayer).

Healthy Soils, Healthy Region Workshop By Charlie Watt, Graduate Student



On March 12-14, agriculture producers, professionals, and researchers gathered in Pendleton, Oregon for a regional workshop on soil health aimed to improve awareness of existing, new, and evolving soil health practices and assessment methods. The

format included seminars in the morning followed by breakout sessions or small group workshops in the afternoon. While the seminars included recent research findings and overviews of soil health assessment tools and resources, breakout sessions were aimed at engaging participants to determine regional soil health priorities through dialogue and interactions between various stakeholders.

One of the reasons I was interested in attending this workshop was to gain insight about how researchers interact with and teach producers technical information. I learned that it is key to provide take home tools and tangible steps forward that are realistic for producers to get behind. Effective communication and a focus on practical solutions are important to successful adoption of targeted soil management practices. This workshop kept solutions down to earth by hosting group breakout sessions. This promoted conversations that aimed to align



Ivie Lab Personnel: Left to Right, back row to front row - Vinicius Ferreira, PhD student; Lazaro Vinola, Museum Assistant; Frank Etzler, PhD student; J.P. Kole, MS student; Robert Fowler, undergrad museum aide; Justin Runyon, Associate Curator of Diptera; Donna Ivie, morale officer; Erich Spiessberger, MS student; Zoe Prichard, MS student; Cheryl Fimbel, (Wild) Bees of Montana volunteer; Adrian Massey, Elmdids of Montana volunteer; Lorena Santos, museum volunteer; Casey Delphia, Associate Curator of Hymenoptera; James Beck, Web Designer and Programmer; Sarah Rubin, Database Technician; Michael Ivie, Curator.

science, policy, and economic priorities in a way that motivates producers and other stakeholders to adopt and advocate for better soil management strategies. These sessions were recorded and organizers of this conference plan to synthesize the information into regional priorities to guide future efforts.

As a student that is interested in engaging with producers to form relevant research questions, I learned a lot from listening to and networking with individuals who have spent careers as researchers and advocates for agricultural producers. From gaining tips on how to host an effective field day, to learning about the latest perspective on humus formation and the contentious nature of soil organic matter, I learned a lot and connected with great people. I hope to bring a workshop like this to Montana one day.

Lab Focus - Ivie Lab

By Mike Ivie, Associate Professor

The Montana Entomology Collection in Marsh Lab is not a sleepy, dusty graveyard for bugs; it is a very active and vibrant facility. It houses the largest and most diverse natural history museum in Montana, with an estimated 3 million specimens. When we took the 2019 photo of the group, there were 17 people, and two missing. This is not including the several summer workers we will be adding, nor the people who visit the collection to use the facility. The group includes extension people, faculty and staff researchers, six graduate students and several undergrads and volunteers. Projects range from support of identification needs to research projects on the bees of Montana, detection of exotic invasive species and faunistic projects on several groups in Montana and the West Indies. A recent project funded by the Council on Library and Information Resources (CLIR) through their

"Digitizing Hidden Special Collections and Archives" program, in cooperation with the MSU Library and Ecology Department, will be ramping up to put some of our data online. PSPP faculty, staff, and students are welcome to drop by and see the facility in Room 50, Marsh Lab.

Montana Ag Live Spring Schedule

April 7 - John Helle, Dillon Montana, sheep prod and wool processor, "Adding value to the Montana sheep industry, wool, wool and more wool."

April 14 - Bob Quinn, author and well known organic producer from Big Sandy, Montana, "Growing and marketing organic commodities profitably in Montana".

April 28 - Mark Bausch, potato producer and processor and owner of Bausch Potato, Whitehall Montana, "Bringing a Montana spud to a restaurant near you".

May 5 - Darrel Stevenson, Stevenson Angus, Hobson, Montana, "Montana beef: exporting seed stock internationally".

May 12 - Jake TeSelle, Crooked Yard Hops, "The issues and rewards of growing hops in Montana".

May 19 - Matt Roschiller, Gallatin Valley Botanicals, "Farm to table: truck farm".

2019 Field Days

June 27, NARC (Havre) – 3:30pm. Dinner included.

July 10, CARC (Moccasin) – 8:30am. Lunch included.

July 16, EARC (Sidney) – 8:30am. Lunch included.

July 18, NWARC (Creston) – 11:30am. Lunch included.

July 23, Post Farm (Bozeman) – 8:00am. Lunch included.

July 25, WARC (Corvallis) – 4:30pm. Dinner included.

WTARC (Conrad) and SARC (Huntley) host a field day every other season.

Invited Talks

Yellowstone Public Radio 30 minute radio program by Stella Fong *Flavors Under the Big Sky*, featuring Florence Dunkel and her BIOO 162 students, Marcy Gaston, from MSU Dept of Health and Human Development, and guest chef, Joseph Yoon, Brooklyn, New York. March 18, 2019.
<https://www.ypradio.org/post/flavors-second-annual-bug-cook-msu-bozeman>.

Florence Dunkel gave the concluding lecture in the 2019 Great Falls Lecture Series, Bringing the U to You, MSU Great Falls, Great Falls, Montana. "What's for Dinner? Rethinking the Dinner Table" March 7, 2019.

Grants

Jamie Sherman, Brewer's Association, "Winter and Spring 2-row Malt for Conventional and Organic Systems"

Nina Zidack, Montana Department of Agriculture, "A Relational Database for the Montana Seed Potato Certification Program and Developing Novel Resistance to PVY through Gene Discovery and CRISPR".

Publications

Grozinger, C.M. and Flenniken, M.L. (2019) Bee Viruses: Ecology, "Pathogenicity, and Impacts". Annual Review of Entomology Vol. 64:205-226, doi.org/10.1146/annurev-ento-011118-111942.

Liu, E. A. A . Abdelraouf, B. Bicego, V. R. Joshi, A. Garcia y Garcia, "Deficit irrigation: a viable option for sustainable confection sunflower (*Helianthus annuus* L.) production in the semi-arid US", Irrigation Science, November 2018, Volume 36, [Issue 6](#), pp 319–328.

GunNam Na, Xiaopeng Mu, Paul Grabowski, Jeremy Schmutz, Chaofu Lu, "Enhancing microRNA167A expression in seed decreases the γ -linolenic acid content and increases seed size in *Camelina sativa*", *The Plant Journal*, <https://doi.org/10.1111/tpj.14223>.

Zaeema Khan, Hande Karamahmutoglu, Meltem Elitas, Meral Yuce, Hikmet Budak, THROUGH THE LOOKING GLASS: Real-Time Imaging in Brachypodium Roots and Osmotic Stress Analysis, *Plants* **2019**, 8(1), 14; <https://doi.org/10.3390/plants8010014>

Moving On

By Toby Day, Horticulture Extension



Hello all, As you might have already heard, I will be starting a new chapter in my professional life working in the private sector. It was a very hard decision for me to leave my friends and colleagues whom I have met and worked with throughout

my years in Extension and in the Department of Plant Sciences and Plant Pathology. I've enjoyed nearly every minute I have worked at MSU.

Many may not know this, but I have really been with MSU since 1992 when I began as an undergraduate student (minus only two years here and there). When I finally declared a major in Horticulture, I met Dr. Bob Gough, who later encouraged me to look at Extension. I enjoyed and hung on nearly every word Dr. Bob spoke in class, and later tried to answer the questions on MT Ag Live before he would while I was sitting at home every Sunday night. He later became my mentor throughout my career until his passing. I still think about Bob and the hero he was to me.

Also, as an undergraduate, I had the pleasure of working with David Baumbauer at the PGC. David taught me so much about properly growing plants, common sense, and mostly why I need to learn to clean up after

myself. Thank you, David. Or should I be the first to say Dr. Dave? (Woohoo!)

After graduation, I took a position working for Bernie Schaff at the Arthur H. Post Farm as the Assistant manager. I really enjoyed working with Bernie, one of my favorite people at MSU. It was Bernie that taught me to say no – at least a first. Then to soften up, show compassion, and then get the job done. I still miss Bernie.

After my stint at the Post Farm, I returned to school to get my Master of Plant Science with Dr. Tracy Dougher. It was Tracy that made it possible for me to graduate. Gully washers that destroy whole research plots, statistics (ugh!) and a disdain for writing were not hurdles for Tracy, but merely teaching moments that, if you keep moving forward, you will get somewhere. For that advice, I am so grateful. There are few mentors in life that have as much patience and understanding as Tracy.

After a brief stint with landscaping, I finally got into Extension as the agent for Silver Bow County in Butte, Montana. It was in Butte where I learned that Extension was perfect for me as it is primarily a communication job. Well, if you know me – I like to talk! It wasn't too long before I realized that I loved the outreach that MSU has and really became a cheerleader for MSU Extension.

In 2009, I was hired as the Horticulture Specialist, the career that currently I am leaving. In my time here on campus, I have met some amazing people – way too long to list! My best wishes and luck to the ladies at the Schutter Diagnostic lab, who don't get enough credit for all the hard work they put into Extension. Thank you to the administration staff – Jill, Karen, Irene. Without you I would never have been on top of all that paperwork! Thank you to Dara Palmer, Master Gardener Coordinator. I knew you were a good hire! Keep up the great work.

Finally, to everyone else in the Plant Sciences and Plant Pathology Department (past and present), thank you for keeping me sane throughout the years. I have enjoyed my time here very much. I will still be working in Bozeman, so look me up from time to time. I would love to catch up.

Recipe of the Month

Fruit Pizza

1 (18 ounce) package refrigerated sugar cookie dough
1 (8 ounce) package cream cheese, softened
1 (8 ounce) container frozen whipped topping, thawed or use real whipped cream
2 cups sliced fresh strawberries



1/2 cup white sugar
1 pinch salt
1 tablespoon cornstarch
1/2 cup orange juice
2 tablespoons lemon juice
1/4 cup water
1/2 teaspoon orange zest
Preheat oven to 350 degrees F (175 degrees C). Slice cookie dough and arrange on greased pizza pan, overlapping edges. Press dough flat into pan. Bake for 10 to 12 minutes. Allow to cool.

In a large bowl, soften cream cheese, then fold in the whipped topping. Spread over cooled crust. You can chill for a while at this point, or continue by arranging the fruit.

Begin with strawberries, sliced in half. Arrange in a circle around the outside edge. Continue with fruit of your choice, working towards the middle. If bananas are used, dip them in lemon juice so they don't darken. Then make a sauce to spoon over fruit. In a saucepan, combine sugar, salt, corn starch, orange juice, lemon juice and water. Cook and stir over medium heat. Bring to a boil, and cook for 1 or 2 minutes, until thickened. Remove from heat, and add grated orange rind. Allow to cool, but not set up. Spoon over fruit. Chill for two hours, then cut into wedges and serve.

April Birthdays

Megan Hager	5
Mike Giroux	12
Sarah Eilers	13
Chance Noffsinger	14
Toby Day	15
Dongjin Kim	18
Matt Lavin	20
Andreas Fischer	25
Nina Zidack	26
Rebekah VanWieren	28
Lipi Parikh	29

