



Pivotal Moments

A Quarterly Newsletter for Friends of HAREC



Oregon State University

HERMISTON AGRICULTURAL RESEARCH & EXTENSION CENTER

SPRING 2020

From the Director

by Clive Kaiser

Much has happened in the potato world this year. Winter was a time for reflection and reporting and HAREC faculty had a full complement of presentations at the WA/OR Potato Commission annual meeting in Kennewick, WA held Jan 21-23. Faculty reported on their research programs as well as the future of organoleptic traits for breeding programs.

HAREC was well represented and industry feedback was positive regarding delivery and content. Thank you for your input as this helps steer the future of research and extension programs at HAREC. Faculty also presented several novel research presentations at the Northwest Potato Research Consortium in Boise, Idaho on Jan 29-30, where industry evaluates the

integrated and cooperative research through review.

I attended both events to familiarize myself with the current research and to meet industry leaders. Thank you to all of you who made me feel welcome at both events. The partnerships that have been established with Commissions, marketing organizations and the research consortia over the past decades are much appreciated and valued.

It is at times like these that I realize how fortunate HAREC and the Faculty are to have engaged stakeholders, who care about the future and direction of the Experiment Station and support our efforts to serve you better.

At the end of winter, atypical weather resulted in heavy rainfall in the Blue Mountains. This coupled with a warm front that melted the accumulated snow and resulted in flooding in the foothills of the Blues. Both Umatilla and Walla Walla Counties were heavily impacted.

Luckily, lives were not lost during the floods. My thoughts are with those who lost assets & whose homes and properties were damaged. We are fortunate to live in a deeply invested and caring community and would like to express our appreciation to those volunteers and service providers who helped.

Following on the heels of the floods, nature decided to keep us focused on her – enter COVID-19. This resulted in rapid changes and responses, with decision making being forced upon us, sometimes on an hourly basis.

Our objectives at HAREC are to maintain safety of our clientele, stakeholders, faculty and staff, while continuing to deliver service of an exceptional level in both extension and research.

Given the need for isolating to comply with State and Federal Government instructions, we have taken the unprecedented step of closing HAREC to the public for one-on-one access. [Continued on page 2](#)

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All off-station travel has also been cancelled until further notice.

We remain “open” for business however and encourage everyone to continue to call on us for your extension needs. Please do so via our cell phone numbers and video conferencing where you have platforms installed on your phones e.g. Facebook and WhatsApp. We are also available to set up Zoom meetings if you need help in your fields. Please continue to interact via email too.

On the research side, agriculture has

been exempted as a critical need. Consequently, our farm staff is doing an amazing job of ensuring that critical services continue, and essential trials are going ahead. Advice given by most funding bodies was to postpone anything that could be held over for a year. This has been done where possible and these research projects will be initiated in 2021.

For those trials that will be performed in 2020, we are ensuring all safety measures are taken including social distancing & preventing cross-contamination of faculty and staff from equipment, facilities, vehicles etc. All faculty are

working from home whenever possible.

We encourage everyone to continue to follow the current CDC recommendations including practicing good hygiene and washing hands thoroughly for 20 seconds with soap.

I am confident that we will get through this unfortunate outbreak of COVID-19 and hope that those most vulnerable to the disease are spared its wrath.

A return to normalcy in time will be most welcome and we look forward to serving you in person when it is safe to do so.

Public Access Limited at this Time

Please call or e-mail us.

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Website: <https://extension.oregonstate.edu/harec>

More contacts on Page 3 and as separate attachment.



HAREC Mission Statement

To advance scientific knowledge in agriculture, natural resources and biofortified crops, and support and educate our diverse local clientele and community in the areas of irrigated agriculture, plant breeding, natural resources, human health and youth development.





OSU Nutrition Extension & Outreach Programs

<http://nutrition.extension.oregonstate.edu/>



OSU Plant Clinic - Corvallis

<https://bpp.oregonstate.edu/plant-clinic>

Nematode Testing - Corvallis

<https://bpp.oregonstate.edu/bpp/nematode-testing-service>



OSU Insect ID Clinic - Corvallis

<https://bpp.oregonstate.edu/plant-clinic/insect-id-clinic>



Umatilla County

<https://extension.oregonstate.edu/4h/umatilla>

Morrow County

<https://extension.oregonstate.edu/4h/morrow>



Multiple generations enjoy new ways to prepare and eat fresh fruits and vegetables at a FAVFF program. Visit FoodHero.org for recipes and fun food facts!

Umatilla & Morrow County Families Embrace Fruits and Veggies for Families Program

by Angie Treadwell, RD, LD, SNAP-Ed Program Coordinator

Over the last three years, SNAP-Ed has partnered with the Umatilla Morrow Head Start, Inc. (UMCHS) WIC program to secure grant funding from the Eastern Oregon Coordinated Care Organization's Community Benefit funds for the Fruits and Veggies for Families (FAVFF) program.



FAVFF is a produce distribution program paired with monthly hands-on nutrition and cooking instruction for the entire family.

Participants are screened for barriers to accessing healthy foods as well as health risk factors.

SNAP-Ed develops and teaches the cooking classes where participants and their families prepare and share a meal of 3-4 Food Hero

recipes utilizing the produce that they take home.



With over 950 individual contacts at the two-hour cooking workshops in 2019-20, participants have embraced the opportunity to learn and taste new ways to prepare fruits and vegetables.

The majority of the produce is purchased from local small farms and provided by the Oregon Food Bank through CAPECO.

Spring News in the Agronomy Program

by Ray Qin, Assistant Professor

Time is flying. Over the past 3 months, delivering research findings at growers' meetings (e.g., Hermiston Farm Fair, WA-OR Potato Conference) and visiting growers and industry representatives.

We are summarizing data and preparing publications. Currently, one manuscript on the effect of biochar and manure amendments on soil health and nitrogen (N) dynamics is being developed.

With the weather getting warmer, my team is preparing new field trials and lab experiments to address the growers' needs:

Potatoes: We will continue the field trials on evaluating the potassium and nitrogen requirements for new potato varieties.



A: Potato Blackspot Bruise
Photo: Mike Thornton

We will also conduct a new collaborative project on evaluating the practices (plant maturity & nitrogen fertilization) associated with blackspot bruise susceptibility (Photo A).

Cereal crops and grass seed crops:

We continue the field trials on 1) evaluating the effect of plant growth regulators (PGRs) on wheat



Photo B: Wheat & Bluegrass



and Kentucky bluegrass (KBG), 2) identifying the optimal nitrogen rates, 3) determining the interactions of PGRs and N, 4) evaluating the effect of various fertilization on soil health (Photo B), and 5) testing new KBG varieties and nursery wheat.

New rotational crops: We are selecting the best adzuki bean varieties and developing the best management practices for adzuki bean production in the region. Comparing to the conventional

rotational crops (e.g., wheat, corn), adzuki bean shows an advantage as a high-value crop and also benefits to soil health (Photo C).



Photo C: Adzuki Bean Varieties

We will continue the statewide project on testing industrial hemp in the region.

Forage crops: Our multi-state collaborative project on "mixing or intercropping between alfalfa and grasses on forage production, hay quality, and weevil control," is ongoing. The data collection will start this summer.

Cover crops: We completed the first trial in March.



Photo D: Winter Cover Crop

Three brassica crops and one cool season cereal crop showed excellent performance over the winter (Photos D & E).

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Photo E: Cereal Cover Crop

Mint: Collaborating with WSU scientists, we are continuing a multi-year project on determining the optimal N rates and water amount for spearmint in a field trial located in WSU-Prosser (Picture F).



Photo F: Spearmint Crop

The new season always brings a lot of hope. This year, my team will be expanding. Two postdoc scholars are expected to join the team by summer. One graduate student will join this fall semester. I strongly believe that our growing agronomy team will make significant contributions to the region.

HAREC Agronomy Program
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Agricultural Entomology Program

by Silvia Rondon, Professor
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"El hombre propone, Dios dispone," is a popular saying in Spanish that we use when things do not go as planned. No need to explain this, right?

Our program has many research plans, but many may not happen yet as we adapt to our new "normal". With some restrictions about what we can humanly do, we are going to finish what we started. We have our three core signature projects: Colorado potato beetle control, leafhoppers and phytoplasmas, and *Lygus* ecology and control.

Stay tuned...a lot of new information will be coming out from our program later this year and we are looking forward to sharing it with you.

Highlights of winter-early spring 2020 were receiving numerous invitations to producers' meetings around the northwest and beyond, and opportunities to meet great people along the way. Our last meeting of the season was to attend the WERA89 (Potato Virus and Virus-Like Disease Management) (<https://www.nimss.org/projects/vi>

[ew/mrp/outline/18280](https://www.nimss.org/projects/vi)) meeting in Reno Nevada.

The attendance was low, but the few that made it presented great information.

Scientists have a deep reservoir of ideas and creativity; and I would like to think that I, and my program, are not an exception. I ask our clientele to connect with us to help guide our future research because your feedback is important to us. It seems that the world is telling us that it is time to hit the reset key, and our program is no exception.

This short report represents my hope for better things to come. Be safe and healthy!

Irrigated Agricultural Entomology Program

Silvia Rondon, PhD

Professor Extension Entomology

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<http://blogs.oregonstate.edu/iaep/>



Invertebrate Ecology Lab (Terrestrial Folks)

We have been busy and hard at work in 2020 at the Invertebrate Ecology Lab! While our study subjects (terrestrial insects) have only recently started poking their heads out and flying around, we have been busy as bees analyzing data, writing grants and papers, finishing degrees, presenting at scientific conferences and working in the lab.

To highlight some of the presentations we have given; Sandy DeBano presented work at two national meetings, the national Entomological Society Meeting and the Society of Range Management meeting. In December, Sandy and graduate student, Katie Arstingstall, presented at the Hermiston Farm Fair, and in February, the whole lab presented posters and talks at the Oregon Chapter of the Wildlife Society meeting.

Most recently, Katie and fellow graduate student, Scott Mitchell, presented their work on *New Perspectives on Restoring Native Bee Habitat in Eastern Oregon* to the La Grande Journal club.

The winter months have been full of writing, analyzing data and conducting lab work.

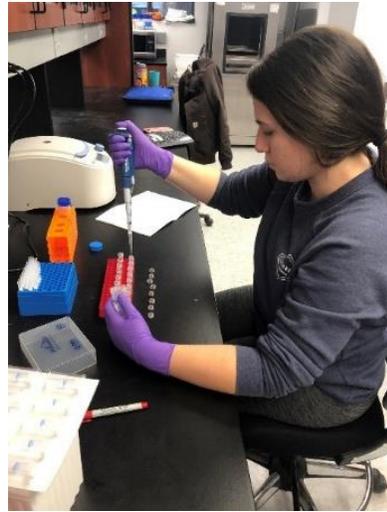
Scott has been wrapping up his master's thesis, which he



Scott Mitchell's thesis defense at OSU Corvallis.

successfully defended, on March 5, 2020 in Corvallis. Great job Scott!

Katie has been processing pollen samples in the lab and preparing for her thesis defense later this spring.



Katie Arstingstall performs a variety of field and laboratory work preparing for her defense.

With winter turning to spring, we are looking forward to nicer weather and days in the field. We are planning on conducting fieldwork in a wide range of ecosystems including projects that are new to us.

One new project and exciting new collaboration that we are looking forward to, will be sampling fruit orchards in the Columbia Gorge for beneficial invertebrates. This is in coordination with Dr. Andony Melathopoulos (OSU Pollinator

Health Extension, Corvallis) and Dr. Christopher Adams (OSU Extension Entomologist, Hood River). Another new project we are anticipating is sampling bee communities in grasslands and sagebrush steppe near Burns, Oregon. Our third big field project this summer will be revisiting one of our favorite places—Starkey Experimental Forest to begin work to understand how elk habitat treatments might help pollinator populations.

Bombus fervidus forages on sulfur lupine. Photo: Scott Mitchell



The sun is shining, and the flowers are starting to bloom, which serve as a healthy reminder, the world is still turning, regardless of all we see in the media!

Our favorite fuzzy little insects (the bees!) are starting to wake up & go about their business of pollinating all those flowers!



When times are tough, *bee* like this little gal (*Anthophora* sp.) and hang in there! Photo: Scott Mitchell

4-H Latino Outreach

by Anna Browne, 4-H Latino Outreach

On March 4th, 2020 more than 350 students from across Umatilla and Morrow counties participated in an **Ag and Energy Job Fair and Career Connections** event at the SAGE Center and BMCC Workforce Training Center in Boardman.

The event that began 4 years ago, provides local students the opportunity to learn about a variety of careers and workforce training available in our local region. Students were able to speak with industry experts, local colleges and more than 30 local employers.

Many employers also accepted applications and shared information about local summer employment opportunities and internships. Jacelyn Keys, director of the BMCC Campus in Hermiston, taught an engaging and informative class on resume preparation and how to keep your experiences and information current & timely.

Motivational speakers were added to the event this year. Featured this year were David and Danny Diaz.



Their inspirational story was featured in the Disney movie, *McFarland, USA*, brought a new level of engagement and excitement to the day and definitely set the bar high for years to come.

The Diaz brothers shared their story of hard work, dedication and the message that champions can come from anywhere.



The Diaz brothers meet Stanfield High School Students.

This event was planned in partnership between; OSU Extension 4-H Latino Outreach for Umatilla and Morrow Counties, BMCC Workforce Training Center in Boardman, the SAGE Center, and the Port of Morrow Workforce Training Portal.

Funding for this event was provided in part through a donation to the Oregon 4-H Foundation from a private donor.



Want to get involved with events like this?

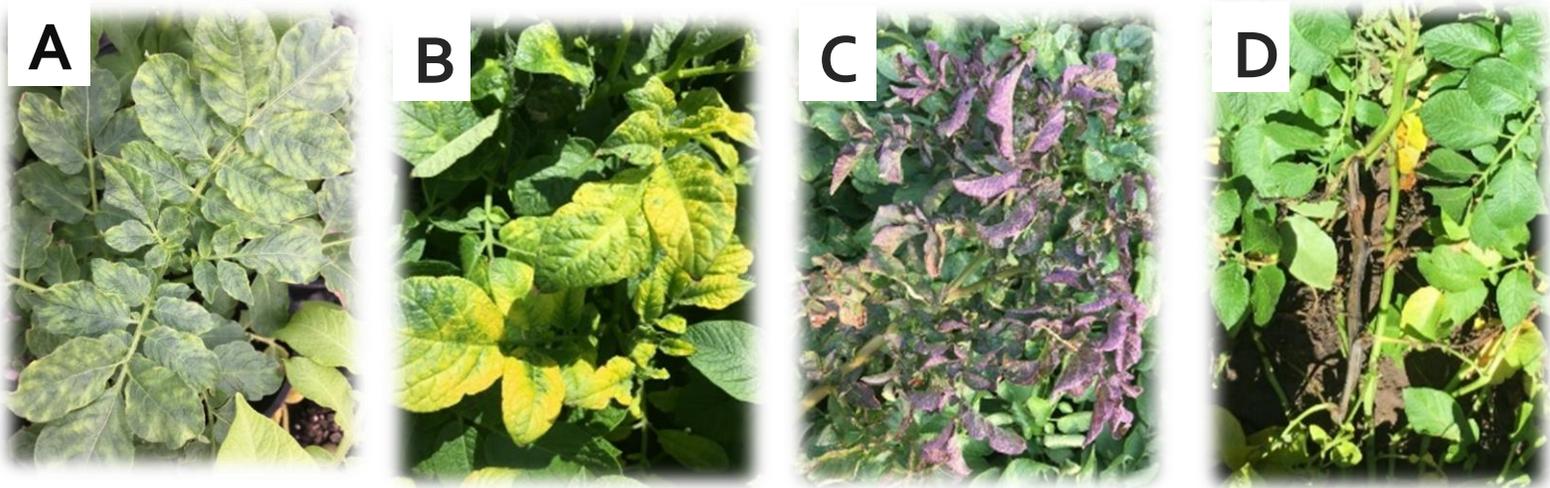
Contact Anna Browne, 4-H Latino Outreach & Open Campus Coordinator
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Plant Pathology Potato Disease Quiz

It's that time of year again! Potatoes are going into the ground throughout the Columbian Basin and it won't be long before potato vines will be sprawling across the fields.

With all that plant material in the field, foliar disease management is an important part of potato production. Foliar diseases can impact tuber yields and quality.

Below are pictures of four foliar potato diseases that frequently come through the Plant Pathology Diagnostic Clinic in Hermiston each year. Can you identify them?



Answers:

A- PVY (Potato Virus Y) showing the classic mosaic mottling

B- AMV (Alfalfa Mosaic Virus) showed by calico symptom

C- Phytoplasma (BLTVA- beet leafhopper-transmitted virescence agent) based on the purple leaves

D- Black Leg caused by *Pectobacterium atrosepticum*, *Pectobacterium carotovorum*, and/or *Dickeya* spp. as seen by the rotten and blackened stems

The HAREC Plant Disease Diagnostic Clinic staff is here to help, although at this moment we cannot accept face-to-face samples. Sample processing is limited at this time, but there are many ways that we can help get started on a diagnosis - over the phone or email. Consider sending Hannah photos of diseased plants through text or email. We can discuss potential disease diagnoses.

As the current public health situation changes and we have ability to take more samples into the lab again, we will keep you informed on the Plant Pathology website: <http://blogs.oregonstate.edu/hareccpath/>.



For phone or email inquiries please contact:

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Oregon Potato Commission Shares Timely Resources & Information for Small Businesses

Financial Resources & Updates for Small Businesses
March 30, 2020.”

Here are some links from the presentation where you may find timely information that independent businesses can use to navigate through this COVID-19 crisis.



Thank you to Gary Roth and the Oregon Potato Commission, who recently shared resources available to business owners in response to COVID-19.

Legislation overviews were presented in a webinar from the National Federation of Independent Businesses (NFIB), “NFIB COVID-19 Webinar Part III:

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|--|
| NFIB: https://www.nfib.com/content/analysis/coronaviruses/latest-on-coronavirus-from-nfib/ |
| Small Business Administration (SBA): https://www.sba.gov/disasterassistance/coronavirus-covid-19 |
| Department of Labor (DOL): https://www.dol.gov/agencies/whd/pandemic |
| Centers for Disease Control (CDC): https://www.cdc.gov/coronavirus/2019ncov/community/guidance-businessresponse.html |



Photo: Katie Arstingstall

Looking forward to summer, sunny days in the field & looking for bees!



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