Faculty Tenure Review Statement of Accomplishments, Impacts, Challenges and Future Program Directions

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The following is reflecting on the period between 2014-2018

As a faculty member in the University of Wisconsin Extension Department of Agriculture and Life Sciences I serve in a rather unique position. My programming efforts, partnerships and collaborations allow or require that I work in a rather large geographic area with quite a variable range of agriculture, horticulture and business-related activities. These efforts find me serving more and more as a regional educator working with clientele in up to 6 counties. My reporting and administrative responsibilities however are directed toward Burnett, Washburn and Sawyer Counties. Up until recently I served as Department Head for the Spooner Area UW-Extension office and was interim Department Head for the Washburn Co. UW-Extension office for about 1 year.

I work very closely with the staff at the Spooner Agriculture Research Station where I have shared responsibility on several projects including managing the Teaching & Display Garden and with several horticulture research and demonstration projects.

Agriculture is rather diverse in the region with a good representation of both smaller and midsize farming operations consisting of dairy, beef, crops, cranberry, small scale commercial fresh fruit & vegetables, greenhouse/nursery and other mixtures or enterprises. Agriculture enterprises are not all that different from other areas of the state; they are just more spread out and interspersed between rather large tracts of forested lands, lakes and rivers. Agriculture ranks behind tourism and forestry in jobs and income and there are a substantial number of seasonal residents and tourists. These demographics combined with two Native American tribal bands provide a rather diverse clientele base.

My office and that of my retired colleague Otto Wiegand are located at the Spooner Ag Research Station. Otto's programming covered dairy, beef and other livestock, farm management, beginner farmer and grazing. We shared a variety of other common programs and activities and collaborate substantially in many areas.

I have been an active member of the Fruit and Horticulture Team and less so with the Nutrient Management, Forage and Grains Team. I am currently a vice-chair for the Department of Agriculture and Live Sciences and until recently served as a co-leader of the Fruit Team and was on the mentor teams for several faculty.

To help frame my programing efforts, here is a statement that I have included on nearly all my written reports that I submit to the County partners.

All activities are intended to make our rural communities stronger by assisting small business development and helping rural property owners generate income from their lands, promoting volunteerism, community involvement and networking and encouraging self-sufficiency.

Goals of Projects/Initiatives (not listed in any order of priority)

1. *Coordinate and provide support and education to Master Gardener Volunteers*
2. *Encourage and support agriculture direct marketing and local food initiatives*
3. *Provide horticulture education to home owners and commercial business*
4. *Support agriculture business development*
5. *Coordinate horticulture research and demonstrations at the Spooner Ag Research Station*

Research/Demonstration projects: The follow table summarizes the current projects that I am involved in. My role varies depending on my responsibilities. I have listed the projects that directly impact my programming efforts.

Project Title	Principle Investigator	Kevin's Role	Time Line	Location
Adaptive Nitrogen Management in Corn	Carrie Loboski	Site-Manager	2018	On-farm Burnett Co
Seed to Kitchen Vegetable Collaborative	Julie Dawson	Site-Manager	2016-presnt	SARS
Cold Climate Grapes demonstration	Amaya Atucha	Site-Manager	2000-present	SARS
Hazelnut Improvement Project	Jason Fischbach	Observer	2008-resent	SARS
Spotted Winged Drosophila	Christelle Guedot	Site-Manager	2013-2016	SARS and On-farm
Organic Vegetable Trials	Erin Silva and Ruth Genger	Site-Monitor	2015-2018	SARS
Cover Crops demo & research	Kevin Schoessow & Phil Holman/Matt Ruark	Site-Manager & Observer	2016-present	SARS

Commercial horticulture development specifically: commercial fruit (grapes, small fruit, and tree fruit) and fresh market vegetables.

Seed to Kitchen and Organic Vegetable Trials: Fresh produce marketing through Farmers Markets, CSA, and other local food system venues is a small but slowly growing segment of our local economy. For years I have provided programming in this area through workshops, seminars, meetings, one-on-one consultations and field days. While quite small and not necessarily geared for commercial vegetable production, the Teaching & Display Garden located on the Spooner Ag Research Station was attracting more and more interest by commercial growers and by University staff interested in doing vegetable research.

In collaboration with Phil Holman, Spooner Ag Research Station superintendent and University staff I initiated conversations about this need and how the Research Station would be a perfect fit for local food research and outreach. While I was not directly involved with the funding or protocols, I did play a significant role in getting over one acre of organic vegetable production established.

Starting in 2015 I have been collaborating with Julie Dawson, Erin Silva and Ruth Genger all UW-Madison researchers on a variety of organic vegetable research projects. These projects include the Seed to Kitchen Collaborative (SKC), the National Organic Vegetable Improvement Collaborative (NOVIC) and the Organic Potato Improvement Project. All have research trials located at the Spooner Ag Research Station evaluating field production traits under organic management. The SKC also includes getting feedback from growers through on-farm trials and for culinary traits with participating chefs. In 2018, I solicited the participation of a Spooner Company (Botanic Oil Innovations) to fund an organic oil seed pumpkin variety trial.

My role has primarily been in providing outreach to regional growers through field days and grower visits and in having a broader conversation about local foods with the public. I also aid with harvesting and data collection. I have organized and participated in three summer field days at the Spooner Ag Research Station and made several on-farm visits to participating growers. I have also organized three winter update meetings to help research get feedback on the on-farm protocols and the project in general **(Exhibit 1).**

Another unique aspect of the SKC is collecting culinary feedback from local chefs and other foodies. The protocol requires blind taste tests of selected varieties both raw and cooked. Working with chefs has been an interesting process, and I am happy to say that once you get to know them they are a very passionate group to engage.

I share supervisory responsibilities of seasonal staff and student interns working on these projects with Phil Holman, Spooner Ag Research Station manager. As with all supervision there are teachable moments along the way and lots of opportunity to mentor and provide personal growth opportunity. Each season, I make a point to invite staff to job-shadow my work and give them opportunities to engage with growers, MGV and the public. They also are given the opportunity to attend field days and the annual Seed to Kitchen Farm to Table Dinner.

In addition to helping collect the needed data, a by-produce of these organic vegetable trials is the tons of produce that comes from this one-acre research plot. While not part of the research protocol I have made it a priority to see that as much produce as possible be donated to local schools, food shelves, Senior Centers, Tribal centers, and other non-profits for teachable moment opportunities. I have collaborated with UW-Extension FoodWise educators, Family and Consumer Education (FACE) teachers, county Aging & Disability Resource Center (ADRC) staff, Tribal youth and elder educators, and Master Gardener Volunteers on a variety of methods to teach farm to table concepts, healthy eating, how to grow your own food, plant breeding and research, or general conversations about local food systems.

In addition to the ~20,000 lbs of food that is distributed each year, there is also hands-on learning happening because of my efforts. I have received numerous thank you cards for the produce donations, and many testimonials about how the produce was used and how it has positively impacted learners and people in need.

I am happy to report that the SKC and other organic vegetable research will continue in 2019. I hope to build on my on-going relationships with chefs, growers and other industry partners. It has been exciting to see new user groups become engaged in my programming efforts and in bringing research projects to the Spooner Ag Research Station. To my knowledge the Spooner

Station has never had organic vegetable research or the associated participation by cooperating plant breeders from other Universities, companies and private individuals.

I also look forward to increasing the awareness of local foods and their role in healthy eating and economic development. I will continue to partner with local schools, FoodWise educators, and local senior nutrition food sites to educate eaters about not only the benefits of eating fruits and vegetables, but also in educating them about farm to table concepts and how to support local growers. Finally, I will keep following my passions about gardening and teaching others to grow their own food.

Cold-Climate Grape and Commercial Fruit development: While NW Wisconsin is not noted for its commercial fruit industry (excluding cranberry) we are seeing increases acreage and signs of successful small-scale fruit businesses. To remain successful growers, need production, marketing and risk management information.

I have addressed this need through one-on-one consultation, workshops and field days, trainings and site-visits. I have also facilitated grower peer support through networking and group discussion. While these growers may be small, their businesses do add to the diversity of our local agriculture industry and they do contribute to the local economy.

For well over a decade I have been a 'go to' UW-Extension resource for cold-climate grape and small-scale commercial fruit production information in NW. I continue to be an active member of the UW-Extension Fruit team and have worked closely with colleagues, state specialists, regional businesses and growers. I have attended both the MN Cold Climate Grape Conference and the WI Fresh Fruit & Vegetable Conference, the SW Michigan Viticulture Day and various UW-Extension sponsored vineyard walks, grower schools, fruit clinics and other events. I am a member of the Wisconsin Grape Growers Association (WGGA) and past member of the MN Grape Growers Association (MGGA).

I have taken a lead role in holding fruit management and pruning workshops, hosting and organizing regional fruit clinics and IPM workshops, and working with local fruit growers. I maintain a regional grape and fruit growers email list that is used extensively to promote my educational programs and share other appropriate information coming from UW-Extension and other multi-state Extension sponsored projects. In 2015 I was invovleved in organizing the Beginner Grape School at the Wisconsin Fresh Fruit & Vegetables Growers Conference and was one of the featured presenters. **(Exhibit 2)**.

My advocacy for cold hardy grape research and information resulted in the development and planting of a wine-grape variety trail at the Spooner Ag Research Station. This trial is part of a state-wide effort with similar research trial vineyards at West Madison and Peninsular Ag Research Station. The Fruit Team was listed as the Primary Investigator (PI) on the project in Spooner; however, I was very much involved.

This trail vineyard was established in 2008, however due to establishment challenges planting of varieties weren't completed until 2010. In 2014, 41% (79/192) vines were well enough established to be harvesting fruit, 25% (48/192) vines were still establishing, and 34% (65/192) vines are dead. This preliminary data was proving useful in validating those varieties that were indeed hardy to Zone 3 condition. However, I am sad to report that because of budget cuts and lack of ongoing support from UW-Madison or the grape industry, the Spooner Ag Research

Station cold-hardy grape variety trial vineyard was abandoned and subsequently removed in in 2015.

As a result, nearly, all the cold-hardy grape research is located at the West Madison Station with a limited amount still occurring at Peninsular Ag Research Station.

With the removal of the research vineyard at Spooner, I now only have the 60 or so grape plants located in the Teaching & Display Garden to focus my hands-one outreach efforts on. I am the sole person who is responsible for maintaining and managing these grapes that I use for various hands-on teaching and demonstration purposes. With that said, they still garner a great deal of interest by hobbyist and a few local commercial vineyards.

In addition to grapes I also provide programming to other small-scale commercial fruit growers. These being mainly pick your own and direct marketing/agro-tourism/local food type businesses. The most common crops are blueberries, raspberry, strawberry and apple.

IPM still remains a big part of my work with commercial fruit growers. Although my partnership with UW-Extension Fruit Entomologist Christelle Guedot, on the Spotted Wing Drosophila (SWD) monitoring ended in 2016, the awareness that was created with that project has been very much appreciated by local growers and home gardeners alike. To help educator local clients about SWD I developed the following factsheet **(Exhibit 3).** Because of my programming with SWD and other IPM topics several fruit growers have made investments in air-blast sprayers, pest monitoring practices and other strategies such as harvest timing, freezing of fruit or in some cases abandoning high risk crops like raspberry.

My plans are to continue to support this new and emerging niche industry by providing non-biased information to current and future fruit growers. Their success will be dependent on having a good understanding of production practices and a thorough understanding of IPM. I will continue to help these growers understand their local marketing options and how to minimize risk as they continue to grow their businesses.

I will continue to develop my expertise and experience with small-scale fruit production, management and marketing through networking and professional development. I will continue to work cooperatively with UW-Extension colleagues to provide fruit information and outreach to regional growers.

***Agriculture Development*:** Specifically cover crops and soil quality, nutrient management, and grazing

<u>Cover Crops and Soil Health</u>: While the concepts of soil quality are not new, there is a renewed interest in using cover crops and improving soil quality for both environmental and profit. Our short growing season and current cropping practices has made adoption of cover crops somewhat of a challenge, especially for our cash crop farmers. Farmers need alternative approaches and techniques to diversify their rotations with cover crops while maintaining profits. Our grazing community is also looking at cover crops to improve soil quality and increase forage production.

My programming efforts to address these concerns has been through partnerships with NRCS, County Land & Water Departments and the Spooner Ag Research Station. Since 2014 I have participated in several train-the-trainer workshops on soil health and cover corps and how to use

the soil health test kit sponsored These trainings were offered by NRCS and the UW-Extension cover crops work group. Using this training, I have helped co-sponsor four soil health and cover crops field days. Three of these being on producer's farms and one at the Spooner Ag Research Station. Soil Health and cover crops have also been presented at the grazing community at conferences and pasture walks and to vegetable producers and home gardeners at field days and training sessions.

Nutrient Management: I facilitated an agronomic listening session in January of 2017 to get feedback from local farmers on issues important to them with specific focus on soil health, cover crops and water quality. Although farmers were supportive of soil health they seemed more amenable to adapting no-till practices than cover crops (due to increased risk) and they were interested in learning how managing nitrogen inputs to address groundwater issues. The farmers also favored on-farm demos and field days as ways to learn about best management practices.

Since this meeting I have partnered with a local cash crop farmer to host an adaptive nitrogen management for corn on-farm research trial in partnership with Carrie Laboski at UW-Madison. This is part of a state-wide effort looking at multiple nitrogen fertilizer products, rates and timing of applications to assess best practices for efficient use of nitrogen on corn.

My role was to coordinate the planting and weed control of the plot with the local farmer and set up the replicated plot and apply all nitrogen treatments, collect soil samples, harvest data and other needed plot data and maintenance.

During the growing season I had several conversations with the famers about the project, and near harvest, I set out plot signs directing interested farmers to view the plots. I also included information about the research project, the plot map and related nitrogen management in corn recommendations in a handout box at the edge of the field. **(Exhibit 4).** Results from the on-farm and compiled state-wide results will be shared with farmers in an upcoming newsletter and email list and shared with local media and posted to our website and Facebook page.

I hope to continue to partner with local farmers on doing more on-farm research and/or demonstration trails in cooperation with our state specialists that address agronomic, soil health and water quality concerns.

Grazing: I continue to provide information, resources and outreach on topics related to pasture management, forages, soils, cover crops and weed and pest management to farmers and the grazing community. However more recently I have taken on more leadership in supporting and advising the Northwest Wisconsin Graziers Network. This organization has a long history of partnering with UW-Extension in carrying out its mission of forage management using livestock in a manage grazing system. With the retirement of my colleague Otto Wiegand, who was very involved with this group I have taken on more direct role with the organization.

My role is to help the organization become more self-sustaining and self-directed. Up until recently the NW Graziers Network had access to funding through grants and lots of support from Otto. Working with farmers and other key partners such as NRCS and County Land & Water Conservation Departments we are looking to better organize the network through committees, and some strategic alliances. While I am not 100% responsible for changes, I am part of the leadership team that is moving the organization in what we hope is a sustainable direction.

The network has made strides in developing funding streams and has opened its own checkbook to handle monies. A draft mission statement and purpose has been developed along with a draft template for becoming a 501c3 non-profit. The leadership team has been reaching out to other conservations groups and potential business partners for additional support. The leadership team was also influential in getting the Washburn Co Land and Water Conservation Department to apply for and receive funding for a farmer lead counsel, which will include two grazers as part of the farmer group.

While I cannot take credit for past efforts, my new role with the NW Graziers Network has certainly maintained the groups impacts. This past year there were two very successful grazing conferences each having over 75 people in attendance. There were also six pasture walks through the growing season with over 150 total attendees. I had direct teaching at four of the pasture walks and played a very significant role in the organization and facilitation of the conferences.

In addition to my efforts with the Graziers Network I also helped organized a grazing conference professional development for UW-Extension staff and colleagues in Aug of 2018. Working in collaboration with Team Forages co-leaders Richard Halopka and Yoanna Newman I help organize and help lead discussions on grazing topics. The conference was held at the Spooner Ag Research Station and included field tours of forage research plots on the station and discussions about forages and pasture management at a bison ranch. The host bison farmer has been a long-time partner and member of the Grazing Network and has done on-farm research and demonstrations on cover crops, silvopasture and alternative forages in cooperation with UW-Extension and Yoana Newman.

I will continue to provide information, educational resources and outreach on forage management and leadership support to the NW Graziers Network and actively participate in their pasture walks and conferences. My long-term goal however, is to keep them heading in the direction of being more self-directed and sustaining as an organization without so much reliance on UW-Extension.

Home horticulture: Specifically outreach and teaching associated with the Spooner Agriculture Research Station Teaching and Display Garden, community presentations, and plant health diagnostic services.

<u>This summer marks the 20th season I have managed the Teaching & Display Garden (T&DG).</u> This 1-acre outdoor classroom garden is a joint project between UW-Extension (myself), the Spooner Ag Research Station and Master Gardener Volunteer. It includes a Monarch WayStation perennial garden focused on pollinator plants, displays of annual flowers and vegetables, a Kids Garden area, cold-hardy wine and table grapes, apples and small fruits.

The T&DG is an official All-America Selections (AAS) Display Garden. The garden is open to the public and in 2018 host 21 unique horticulture education events for over 750 participants. Of those 21 events I had an educational role in 15. An estimated 3,000 people visit the garden each season. It is signed with individual plant names, and other ‘teachable moment’ signs explaining to garden visitors different plant types, planting arrangements and techniques or different pruning and training styles.

For the sixth consecutive year the T&DG has been recognized for its educational efforts, creative landscape designs and promotions of proven varieties by the AAS organization in their National Landscape design contest.

Every spring I teach several pruning classes **(Exhibit 5)** and an apple grafting class **(Exhibit 6)** and give several horticultural talks throughout the year to local garden clubs and community groups, and answer over 50% of the 300 or so Plant Health Diagnostic and horticulture/natural resources enquires.

Master Gardener Volunteer Program: Up until the last year or so, I was heavily vested in to this program. I organized and taught the training, attended nearly all the MGV association meeting, contributed to the newsletter, was involved in many of their educational events and did a lot of promoting, advising and oversight for the program. I have substantially stepped back and serve mostly as the groups advisory person and only on occasion take an active role in their educational events **(Exhibit 7).**

With that said, the North Country Master Gardener Association is still very active in supporting UW-Extension's mission in providing community outreach in horticulture. There are currently 45 certified members across Burnett, Washburn and Sawyer Counties. They are hugely invested with the educational events in the Teaching & Display Garden. Highlights in recent years have been the annual Twilight Garden Tour (attendance ~250), the Kids in the Garden series, the Mini Master Gardener Short Course, efforts at Fort Folle Avoine historical park, school gardens and various presentations in local communities to name but a few.

While home horticulture and the MGV program take up a substantial amount of my time and efforts, I am slowly transitioning more time to forage management through grazing, soil quality and nutrient management and local foods.

Other noted accomplishments: I have been somewhat regular guest on the Larry Mieller show on *Garden Talk* on Wisconsin Public Radio. I have been a guest on five different shows and one re-broadcast for a total of six-time slots. It is estimated that the very popular call-in radio show attracts upwards of 70,000 listeners per week. The live show is archived and available on-line as a podcast. https://www.wpr.org/shows/garden-talk-improving-soil

I received the Wisconsin Garden Club Federation Bronze Award in 2015. The award is presented for exceptional and outstanding accomplishments in any field that advances the WI Garden Club Federation objectives. They specifically mentioned my work with the Teaching & Display Garden for being recognized as a definite and stimulating influence within the state **(Exhibit 8).**

As previously mentioned the Teaching & Display Garden has been recognized by the All-American Selections organization for six consecutive years. My efforts with the help of MGV has resulted in two 1st place awards, three 2nd place awards and one honorable mention. We competed against 15-20 other category one gardens (less than 10,00 visitors) in this national contest. **(Exhibit 9).**

Because of the national AAS awards I was interviewed by the Milwaukee Journal Sentinel for an article that appeared in June of 2018 **(Exhibit 10).**

I produced and posted my first YouTube video this year and hope to do more in the future. Here is the link to the video that was posted on our Facebook page. https://youtu.be/OTQgb5TXBlo