

TENURED PROFESSOR REVIEW – Otto Wiegand - 2014

INTRODUCTION

My general focus is livestock production and management in three counties in NW Wisconsin - Burnett, Washburn and Sawyer. My office and that of my counterpart Kevin Schoessow, the Agriculture Development Agent, are located at the Agriculture Research Station at Spooner. My specific work covers dairy, beef, other livestock, financial management, beginning farmer and grazing, while Kevin covers horticulture, Master Gardener, crops, soils, nutrient management and the food network. Kevin and I share duties related to farm energy, sustainable agriculture, work with Native Americans and other minorities, local marketing, tractor safety, pesticide applicator training, newsletters, press releases, community partners, county reporting, emergency management, four annual county fairs, three annual dairy breakfasts, and other activities common to the three counties.

The 1,200 farms in Burnett, Sawyer and Washburn include 87 dairy farms, at least 250 small beef farms ranging up to 60 animals, two dozen crop farms over 1,000 acres, and many small mixed farms. The counties are heavily forested with more than 2,000 lakes and 12,000 lakefront properties. Agriculture ranks behind tourism, forestry, manufacturing, and the public sector in jobs and income. Land devoted to agriculture is nonetheless substantial, making up two-thirds of non-forest land. Dairy farm numbers have declined, but cow numbers have remained stable and milk production has increased. The small beef farms are the fastest growing segment of livestock production. The majority of the soils in the three counties are light in texture with low pH and low water-holding capacity. Crop yields and land rental rates are below state averages.

I was hired to work on issues related to agricultural economics, dairy and livestock, plants and natural resources noted in my Position Description. The top five priorities of a needs assessment conducted in 2005 listed forages and grazing, land use and environment, livestock, farm business, and marketing. I chose to work extensively in three educational programs prioritized by both the position description and the needs assessment: (1) forages and grazing, (2) dairy, and (3) beef and other livestock. Economics is part of all areas. Land use, environment and natural resources are partially addressed under my grazing work and partially through programming with John Haack, the Extension Natural Resources Educator for the St. Croix River watershed, who also works in our office. In addition to my educational role, I have particular strengths in organization, leadership, teamwork, moderating events and connecting people with information and other people. I have focused heavily on client follow-up, capacity-building, improving contact lists, improving delivery and publicity for educational events, and finding solutions to immediate and long-term problems.

FORAGES AND GRAZING

I came to my position with an interest in the concepts of management-intensive rotational grazing. Grazing has lower input costs for livestock farmers and is more environmentally sustainable. To my surprise, my contributions to grazing and to the NW Wisconsin Graziers Network have greatly exceeded my initial expectations. NW Graziers, which began in the region in 1995, is one of at least a dozen networks in Wisconsin that promote the benefits of rotational grazing. When I arrived in

Spooner in 2004, NW Graziers appeared to be struggling to get things done. There was no clear leadership, so I stepped in to help. Now virtually everything NW Graziers does comes across my desk in one way or another. My specific goals for NW Graziers have been (1) to build its organizational structure, (2) increase the leadership capacity of the steering committee, (3) increase animals and acreage under rotational grazing, (4) provide grazing education, and (5) position the organization for the future.

I have worked extensively to fund and build NW Graziers. Since 2005, I have applied for, co-authored and co-signed eleven GLCI grants (Grazing Lands Conservation Initiative) totaling over \$250,000. GLCI funding is scheduled to end later this year. We are asking for supplementary NRCS funding, but in the absence of that, we are possibly moving toward privatizing NW Graziers. The grants have allowed NW Graziers to hire three grazing planners and three interns over time, and to hold conferences, pasture walks and other educational events. I assisted on a separate NW Graziers research grant of \$4,000 for legume inter-seeding with Schoessow and Ag Agent Ryan Tichich in 2005. In 2014, we received a \$500 grant from the Extension Livestock Team to do a comprehensive grazing survey. I helped to identify and hire the planners and interns. The original steering committee was made up of a half dozen local farmers. Since 2005, I recruited a woman landowner who was a retired accountant with good organizational skills, a retired agricultural professional with a PhD who is now farming, a retired technical college agriculture instructor, two other professionals currently engaged in farming, and other farmers.

Since the GLCI funding took effect in 2006, NW Graziers has written 161 grazing plans covering 10,000 acres (**Exhibit 1 – NW Graziers Technical Assistance Report**). I recruited many of the farmers, reviewed the plans, discussed farm progress with the planners, and did follow-up visits. I have written all of the semi-annual reports. Sixty-eight percent of the plans are fully implemented, 34% represent new farmers, 19% are women operators, and 50% used EQIP (Environmental Quality Incentive Program). EQIP funds seeding, fencing, waterers, wells and various conservation practices. According to local NRCS staff members who administer EQIP, the average award for graziers has been approximately \$5,000. Grazing planning has therefore provided material assistance for NW Graziers plan recipients valued over \$400,000 (81 x \$5,000). Graziers are considered fully-implemented when they have their animals rotationally grazing using the plan. It is a well-known fact that rotational grazing can double or triple forage yields over common pasturing methods. If one assumes the 107 farmers above who fully implemented their plans increased their yields by just one ton of dry forage per acre worth \$80 per ton, then those farmers could have gained \$530,000 per year (107 farms x 62 average acres per farm x \$80). Obviously, the extent of financial gain depends on weather, price of forage, and actual implementation of the plan.

There are additional benefits under the grants. Farmers with plans receive free soil sampling on their grazed acreage, free forage sampling and a free beginner grazier manual. The grant has paid an average of \$8 for each soil sample, \$16 for each forage sample, and \$25 for each manual. Using a conservative average of five soil samples per farm in the Report above, three forage samples and a free manual for 130 plans (some farms have more than one plan), these benefits add up to almost \$4,000. At least 200 soil samples have been provided to non-plan graziers. The value of follow-up consulting, learning and networking from attendance at conferences, pasture walks, grazing schools, farm visits, office visits and phone visits is impossible to calculate, but large.

Since 2005, there have been ten NW Graziers annual conferences attended by 750 persons, two grazing schools attended by 50 persons, and 60 pasture walks with 2,200 total attendance. All annual conferences have evaluations. I organized the majority of these events with support from Extension and network colleagues. I presented at both grazing schools, moderated nine of the conferences and moderated most of the pasture walks held in the three counties I work in. NW Graziers co-hosted about a third of these events with other networks including North Central, Lake Superior, Douglas County, Chippewa Valley, and St Croix Graziers. Conferences were held at WITC, UW-Barron, LCO College, Spooner Primary School and two private locations. A survey of 28 graziers was conducted in 2007 regarding my work and reported for Tenure in 2009. Another survey evaluating the work of the network will be conducted in 2014 covering a much larger number of producers.

My work with NW Graziers has gone very well. The pasture walks are probably the best tool I use for participants to learn from real situations and get to meet each other. Rotational grazing is now better understood and more accepted by farmers and county officials today than it was ten years ago. According to Wisconsin Department of Agriculture officials a few years ago, 26 percent of Wisconsin dairy farmers now practice rotational grazing. More than half of new dairy farmers employ it. Lower input and startup costs, higher

margins and better animal health have attracted new dairy graziers. An increasing rural residential population would rather see “happy” animals grazing outdoors.

Hay Sales

In response to the droughts in the Southern US and Midwest in 2011-12, I facilitated the movement of hay from NW Wisconsin to Texas, Oklahoma, Illinois, Iowa and S. Wisconsin. I took calls from farmers with hay and kept a running list of 25-30 farmers. I assisted farmers in listing their hay on the Wisconsin Farmer-to-Farmer website and the Upper Midwest Hay List website in Minnesota. I advised them about how to receive secured or upfront payment. Along the way, I contacted the Texas Dept. of Agriculture, the Family Farm Defenders, the Teamsters Union truckers, the railroads and other organizations involved in moving hay. One of my frequent contacts was the Swedish Lutheran Church of West Texas who were facilitating hay sales and donations, and rescuing abandoned or starving animals in that area. I was able to account for at least 50 semi-loads of large round bales and numerous loads of large squares and small squares that moved from NW Wisconsin. I wrote two articles on hay sales and hay quality for Wisconsin Agriculturalist.

Hay Bale Weight Project

A research project measuring the weights of large round bales was initiated by Jennifer Blazek and our Grazing Planner Lynn Johnson in 2012. Many buyers of large round bales do not know how much hay they are buying or what the quality is. There were 67 lots of hay weighed from about 20 farms in four counties. Thirty-seven lots were from 15 farms in my three counties. We found that the average of our guesses and the farmer guesses on the weights were at least 150-200 lbs. off. I added free forage sampling to the project using NW Graziers grant funds. Lynn has done the statistics and Jennifer will publish the results later this year. The project was featured this spring in Hay and Forage Grower Magazine.

DAIRY

Probably a third of the remaining 87 dairy farms in my counties are terminal generation farms. It has not been easy to get sizeable numbers of dairy farmers into seminars. Rather, I have been proactive in assisting dairy farmers one-on-one to define and attain their goals. Since Day One, I have used Extension Agricultural Engineer and State Specialist, Dave Kammel, to assist in modernization efforts (**Exhibit 2– Dairy Modernization Success Story 2013**). Dave visits twice a year, three to five farms each time. For each of the visits, we offered suggestions on different building options, layout and size. He provides written designs and cost estimates. Dave has made 65 farm visits on 42 different farms in Burnett (14), Washburn (14) and Sawyer (14) since 2005 with me. Dr. Brian Holmes made three visits in 2013. Ag Agent Vance Haugen of Crawford County visited four farms regarding low-cost parlors in 2009-10. Of the 42 farms visited with Dave since 2005, 35 are dairy including two milking sheep and one milking goats, and five are beef. Of the total, 13 have built new freestalls, 9 barn extensions, 11 parlors, 12 feed storage, 11 manure pits, and 8 feeding alleys. Six adapted rotational grazing practices, two went organic, one has a bottling plant, one has fish, two have farm stores, 12 bought additional acreage, six bought another farm, three sold out and 21 are transitioning to the next generation. In September 2008, I conducted a mail survey of 25 dairy farmers to evaluate my larger contributions to their knowledge and operations that was reported for Tenure.

I coordinated the Dairy Road Show program from 2007-09. I worked for the Dairy Team at Farm Technology Days and World Dairy Expo six times each since 2004. I have been proactive in visiting all types of farmers. I visited all of my dairy farms by 2009, more than 100 at the time, and have now done over 900 total farm visits in my three counties.

School For Beginning Dairy and Livestock Farmers

The Wisconsin School for Beginning Dairy and Livestock Farmers is a UW-Madison Short Course offering focusing on grazing and business planning and available via distance learning to remote locations around the state. The course is held on Thursdays over 14 weeks from November to March. Starting in 2007-08, I hosted one of the remote sites for six consecutive years, twice in Spooner, twice in Frederic (with Polk County), and twice at the LCO Tribal College in Hayward. There have been 61 students, of which 26 were full-time and 35 part-time. Washburn County has had the most students with 20, followed by Sawyer with 14, Burnett with 7, Polk with 6, Douglas and Barron with 4 each, St. Croix with 3 and other counties with 2. The course has generated over \$8,000, of which over \$5,500 has gone to Short Course and \$2,500 to Spooner Extension and its local Extension partners. Scholarships have amounted to \$2,800, or 34% of the total. The largest scholarship contributors have been LCO College, the Washburn County Community Action Agency, Bremer Bank of Amery, and NW Wisconsin Graziers Network. The 26 full-timers received graduation certificates. At least two have used Beginning Farmer as continuing education requirements for their lenders. The age of students has ranged from 14 to 70, of which the majority are middle-aged. Of the 26 full-timers, 10 are engaged full-time in farming or working on a farm, and another 10 own a farm and livestock, but have a job off the farm.

LIVESTOCK

Beef

In an effort to reach an increasing clientele of beef farmers, I have hosted nine regional cow-calf seminars with a total attendance of about 350. For nine years, I have been a member of the Northern Wisconsin Beef Producers Association. I attended about 10 of their events and presented on grazing at one of them. About half of the 60 pasture walks hosted or co-hosted by NW graziers in the past 10 years have been on beef farms. Beef farmers make up 65% of grazing plans done by NW Graziers (Revisit **Exhibit 1**). Most beef farmers in my three counties are cow-calf operations. There are a half-dozen feeder operations of over 100 animals. Stocker operations do exist, but are not common. The majority of the cow-calf operations are not profitable in most years, but have been so in recent years. Cow-calf operators tend to be in the business for other reasons. Many are former dairy farmers looking for a way to continue to use land, feed and equipment. Others are part-timers who work off the farm. A number are non-farmers with 4-H member children. Some just want to keep animals. All are taking advantage of tax laws that favor agriculture. I have spent considerable time trying to make cow-calf operations more profitable through grazing planning, on-farm seminars and pasture walks, focusing on value-added marketing, and being pro-active with farm visits and telephone contacts.

In September 2008, I conducted a mail survey of beef farmers to evaluate my larger contributions to their knowledge and operations. I repeated this effort in 2014 (**Exhibit 3 – Beef Survey**). The survey was sent to 10 beef farmers in each of my three counties. Almost all of them also had grazing plans, or they had attended at least four educational events. Eleven surveys were returned. Question 8 asked the farmer level of understanding before and after my efforts based on a Likert scale. Increase in understanding for livestock management was 46%, animal nutrition 50%, business decisions 26%, genetics 38%, forage species 80%, seeding methods 83%, rotational grazing 110% fencing and watering 59%, feeding 715, feed storage 56%, beginning farmer 68%, and weed control 63%. Other questions and comments are included. Obviously grazing component had a large impact.

Northern Safari

The Northern Safari of Agriculture Specialists is a series of seminars representing a collaborative effort between 5-6 Ag Agents covering 6-10 counties in NW Wisconsin, depending on who collaborates in a particular year. It

brings research and timely information to the northern-most parts of the state not normally reached by other traveling Extension programs. The Safari consists of 3-4 sessions from January-March. It was held for the 30th time this year. Topics in 2014 included climate change, land rentals and contracts, and native pollinators. In recent years topics have included hogs, sheep and goats, cover crops, poultry, forest health, grazing, strip tillage, the farm bill, fertilizers, retro-fit parlors and bio-digesters. My role has been organizer and moderator, however one year I did the Safari myself as a presenter. Attendance typically averages about 10 persons per site and subject. Spooner has always been part of the Safari and has often had the best attendance. In 2012, Spooner had 90 participants in three seminars.

Farming for Profit Series

The Farming for Profit Series was started by the NW Wisconsin Ag Agents in 2011 to provide in-depth education for a particular enterprise. It is generally held on six consecutive Monday evenings in January-March and for the past four years in Ashland, Superior, Ladysmith, Hayward or Siren, Spooner and Balsam Lake. Topics have included hay, a beef university, vegetables, and fruits. Each subject includes establishment, production, marketing and costs. Delivery is via webinar, although there is often a live speaker at one location. I presented at four locations for the hay series. In 2015, I would like to do a dairy series.

Other Livestock Activities

I hosted or attended four MAQA (Meat Animal Quality Assurance) meetings at Spooner attended by 70 persons, the most recent in 2013 and 2014. I was a trainer in 2014. I was certified in PQA (Pork Quality Assurance) in 2012 in Spooner with eight producers. I have hosted BQA and a Poultry Rules meeting in the past. There are no large swine operations in my three counties. Most poultry are in backyard flocks. There are three contract turkey farms with 24,000 birds each. I work less with horse owners, but have added a horse pasture walk to the NW Graziers schedule each year and focused on horses for the NW Graziers Annual Meeting in 2010. Sheep pasture walks are also held each year.

ENVIRONMENTAL WORK

Land use and environment was the second most important area on my needs assessment in 2005. During my first five years in Extension I focused more on dairy, beef, and grazing. The grazing work has a large environmental component. It addresses ground cover, soil improvement, water retention, erosion control and a host of other benefits to the environment. Our recent emphasis on cover crops in the local grazing community could be considered a direct result of drought and climate change. The keynote session and discussion panel for the 2014 NW Graziers Annual Conference in Siren, attended by 81 people, were agro-forestry and woodlot grazing issues.

Over time I have gotten to work more and more with John Haack, the Natural Resources Educator. I attended his St. Croix River Conference at UW-River Falls in four of the last five years. In 2013, I presented on the benefits of grazing to the environment. In 2014, I moderated a breakout presented by a River Falls grazing and organic dairy farmer. I have worked with John Haack, Kevin Schoessow and the Washburn County Land and Water Department on three nutrient management workshops, the latest in 2014. I have been a co-host of the agriculture and natural resources day that is part of Leadership Washburn County in eight of the past nine years. In 2014, we hosted a second irrigation seminar in four years featuring John Panuska and Scott Sanford from UW-Biosystems Engineering. I hosted two carbon credits meetings in 2009.

In 2013, my Farmer-to-Farmer trip to Kenya with George Roemer, Wisconsin dairy farmer and former USAID worker, focused on environmental risk management and worker safety in the leather industry (**Exhibit 4 – Trip Report**). George and I visited two hides and skins dealers, two tanneries, a leather crafters training institute, a leather product manufacturer, and a leather product retail store. We each presented one-day seminars to 25

industry and agency representatives. Environmental and worker safety risk areas were identified. Afternoon sessions were opened to discussions of individual business and overall industry concerns. A final 30-page report was written that included 27 specific recommendations. These included better enforcement, improved technologies for handling effluent, solid waste and toxic chemicals, more recycling, improved labeling, more training, better communication in the workplace, better zoning, better workplace design, improved physical protection for workers, less noise and air pollution, upgrading to international standards, improved government financial and policy support. Surveys and evaluations were conducted at each seminar. The top five environmental risks noted were water quality and effluent, worker safety, solid waste, toxic substances and air quality. The top policy risks were enforcement, tariffs and trade, product standards, and training. The top business risks were capital and credit, marketing, and lack and quality of raw materials. The evaluations for my seminar showed increases in knowledge of 70% for the environmental risk assessment presentation, 67% for the environmental discussion and 100% for the policy and business discussion.

WORK WITH WOMEN, MINORITIES AND LOCAL FOODS

I added Heart of The Farm Women's Conferences to my programming in 2011 and have held February events in Siren, Birchwood, Solon Springs (with Douglas County) and Cumberland (with Barron and Polk Counties). The conferences have been very popular and average attendance has been 40. Nineteen percent of grazing plans for NW Graziers have been written for women farmers and about 40% of grazing contacts are women. I held the NW Graziers Annual Conference at the LCO Tribal College in Hayward in 2013 and two Beginning Farmer courses there. I have exhibited at three local food conferences at LCO. I have exhibited at five of six Soup Stock local food events in Washburn and Polk Counties and presented at two of them since 2007. I also helped to organize a local food conference in Spooner in 2009.

INTERNATIONAL WORK

Since joining Extension in 2004, I have participated in several Farmer-To-Farmer trips, most of them related to my major program areas, and all on my vacation time:

- 2005 Honduras (through Winrock) – milk quality, farm record-keeping
- 2006 Guyana (Partners of The Americas) – milk quality, grazing
- 2009 Nicaragua (Partners) – grazing, forages
- 2010 Nicaragua (Partners) – tree forages (with Dr. Ken Albrecht)
- 2011 Nicaragua (Partners) – silage-making, bio-digesters, farm record-keeping (with Vance Haugen and John Cockrell)
- 2012 Kosovo (UW-CDP, Babcock) – milk quality, extension building (with Trisha Wagner)
- 2012 Mozambique (CNFA) – extension building
- 2013 Kenya (CNFA) – environmental risk in the leather industry (with George Roemer)

I have also recruited or helped to recruit or train a number of Farmer-to-Farmer participants for Guyana (Rick Klemme and several others), Ethiopia (producers Larry Jacoby and Judy Moses), Mali (George Roemer), Zambia (Vance Haugen), Kenya (Maria Bendixon), Ghana (Mark Kopecky), and others. Judy Moses was so enthused by her Ethiopia experience that she has since been to Mali (3x), Egypt and Guinea. I am a member of the International Team, presented at JCEP in 2011 and at an Extension international workshop in Mauston in 2012. I have given numerous talks in my community on my international travels and published in Wisconsin Agriculturalist on two trips. Some of my photos have been used for Farmer-to-Farmer promotions.

WORKING WITH COLLEAGUES

My position was multi-county to begin with, so I have always been interacting with three Extension offices and three county committees. In a larger sense, I have always been regional. NW Graziers covers an additional three counties – Polk, Barron and Rusk. Douglas County funded part of our operating funds for several years and was part of our mailing list. Most of my dairy farms are located in the southern parts of my counties next to larger dairy areas in Polk, Barron and Rusk, so it was logical to program in dairy with those counties. Many dairy programming events took place at UW-Barron and WITC in Rice Lake in Barron County. Douglas, Bayfield, Ashland and Iron Counties have not had a livestock agent during my tenure, so I have taken calls on livestock issues from those counties. I work with two different FSA and NRCS offices in my counties. I have worked more extensively with the LCO College in the past five years than before. I think that I have done a good job working with all of my colleagues in numerous locations in NW Wisconsin. In the past five years, I have served on Faculty Senate, SRP and as a mentor.

I did a 360-degree Cooperative Extension Feedback Survey among colleagues in 2014 to evaluate my standing with Extension and other professional colleagues with whom I work most closely (**Exhibit 5**). Twenty-six surveys were emailed that included colleagues from my office, Extension and Land & water Conservation from Burnett, Washburn and Sawyer Counties, LCO College Extension, Ag Agents from surrounding counties, FSA and NRCS from Spooner, and NW Graziers planners. Results from the 18 respondents were generally quite positive.

IMPLICATIONS AND REFLECTION

I continue to focus on the three original areas that I worked on during the first five years, grazing and forages, dairy, and other livestock, particularly beef. However, environment, women and minorities, and local foods have increased in importance in my second five years. My background is very strong in dairy. I grew up on and ran a dairy farm, got three degrees in Dairy Science, focused on ruminant nutrition, and have worked for a business doing dairy financial planning, but have not used this expertise as much as I expected. Had I been hired in a county like Manitowoc where I grew up, the Extension priorities would have been closer to my strengths. Dairy farms usually have their own service providers in cooperatives, nutritionists, crop consultants, dairy plant representatives and veterinarians. With NW Wisconsin dairies, I found a niche in dairy modernization, using Dave Kammel in particular, to reach my dairy farms.

The agricultural situation in NW Wisconsin has further helped to define my workday and programming. NW Wisconsin is an underserved area in terms of markets and service providers, so Extension has a greater role in responding to individual farmer inquiries. Land units and farm sizes are becoming increasingly smaller with a growing rural residential population. Farmers are looking for ways to make money on 20 or 40 acres. These farmers do not represent high production, but do pay significant taxes. I have had to retool myself to take on grazing, beef and smaller farms in general. High fuel prices and tighter county budgets have forced us to use more phone, mail, email and distance learning. Several years of drought dominated the agricultural landscape, necessitating additional programming to deal with alternative crops and feed shortages.

Perhaps because retirement is not so far off or because of my comfort zone and strength as an organizer, I am letting others do more of the teaching and spending more of my time setting up relevant, quality events with the best experts and the most learning and networking opportunities. After some time, we find out what works, what the clients want, and focus more on those things. This is, of course, also a moving target as situations and needs change. I like being behind the scenes, making things happen, and doing them well. I have gotten many compliments on the quality of my events.