

# Statement of Professional Contributions and Scholarship

## Situation Statement

My goal has been to extend the knowledge and resources of the University of Wisconsin (UW) to clientele in the agricultural community across Wisconsin. In 2014, I accepted my current position as Dane County Dairy & Livestock Educator after spending three years in Polk County as Agriculture Agent. Not only was this a change in locations, it also meant significant programming changes due to the difference in the positions and the makeup of the counties.

Situated in southern Wisconsin, Dane County is unique in that there is a distinct intersection of urban and rural influences on the agriculture industry. It is one of the most populous counties in Wisconsin, as well as being one of the most productive; the county ranks in the top ten for everything from dairy products to commodity crops. According to the 2012 United States Department of Agriculture (USDA) National Agricultural Statistics Service Agriculture Census, Dane County has 2,749 farms, with an average size of 183 acres of land. Dane County is ranked fifth in the state for the number of cows, fifth for milk production, and fourth in the state for number of cattle and calves (Wisconsin Agricultural Statistics, 2015). The City of Madison issues an average of 128 licenses for backyard chickens each year (City of Madison, 2017). The diversity of animal agriculture in the county indicates a need for diverse and appropriate educational programming.

In 2014, I developed a needs assessment survey with Heidi Johnson, Crops & Soils Educator, to determine the direction of future programming and to assess the educational needs of Dane County clientele. Surveys were distributed to farmers in the county; about 1300 surveys were mailed out, an electronic version of the survey was emailed, and surveys were distributed at meetings and workshops. The needs assessment had an 18% response rate. Survey respondents (n=236) indicated the highest priorities in the assessment for farm business management included: 1) farm succession and transfer, 2) cost of production, 3) renting and lease arrangements (**Exhibit 1**). In the dairy category, 1) housing and facilities, 2) feeding and nutrition, and 3) calves and heifer management were the highest rated priorities. For the livestock category, the top priorities identified in the assessment included: 1) feeding and nutrition, 2) animal health, pasture management, and 3) animal well-being (3-way tie).

During the review process for the Dane County Dairy & Livestock Agent position, it became a newly created 65/20 position with a College of Agriculture and Life Sciences (CALS) specialization. It is now the only one in the state. This position split the responsibilities of the agent between the county and state: 65% of the agent's work is for the county, and 20% is at the state or regional level working within a specialization of the agent's choosing. The additional 15% of my position is a buy-out for my involvement in the UWEX Civil Rights Leadership Team. It was recommended that a specialization be chosen based on a combination of county and state needs. Based on the needs of the county, the current gap in specialist support at the state level, and my previous interest and work in the topic, I chose human resource management (HRM).

Dane is a unique county with very diverse agricultural needs. Identifying the areas where I could have the greatest impact for residents has always been my priority. A combined approach of directly surveying farms through a needs assessment and soliciting feedback from Dane County leaders, UWEX state specialists, UWEX Dairy and Livestock educators, and others was utilized to identify on-going programmatic needs as well as emerging outreach issues which no one else was currently addressing. This approach helped identify where my skill set would provide the greatest return on investment for those served. UWEX Educators must be able to accurately assess how they can most effectively meet evolving clientele needs.

All of the respondents to my solicitation for feedback supported the importance of HRM on dairy farms, naming it as one of the top 5 issues facing the dairy industry. While UWEX resources exist to address the many traditional dairy production topics, HRM needs have gone unnoticed. Trends in the dairy industry rank it as one of the biggest challenges farmers will face when modernizing or expanding their herds. Currently, modern dairies need to decide between robots and hiring employees. Traditional dairy educational topics identified in my needs assessment have been met through programming collaboration with Mark Mayer from Green County (housing, facilities, and modernization) and Amanda Young from Dodge County (feeding and nutrition, dairy reproduction). This shared programming approach has enabled me to focus my efforts on farm management, particularly in the areas of HRM and farm succession. Based on input from the needs assessment survey and the HRM specialization with the UW Center for Dairy Profitability, the emphasis of my programming has been concentrated on the following programs: 1) Farm Business Management and 2) Dairy and Livestock Production. My programming priorities and plans for outreach have been affirmed by my Department Head during annual reviews. My focus in these areas began in Polk County and have evolved further in Dane County as I continue to develop resources where previously none existed.

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### Farm Business Management

#### Human Resource Management

In collaboration with Trisha Wagner and Jenny Vanderlin and Ken Barnett, from the Center for Dairy Profitability, I developed a HRM survey of Wisconsin farms during the spring and summer of 2013. A total of 220 farm owners/managers from 38 counties, impacting 1,903 employees, completed the survey. I took the lead role in writing one of the factsheets titled, *Human Resource Characteristics and Challenges for Wisconsin Farms*, presenting the characteristics and challenges of HRM as reported by Wisconsin farmers in the survey (**Exhibit 2**). Communication was reported as the biggest challenge Wisconsin farm owners and managers faced (23%) with regards to HRM. I authored an article for the *Wisconsin Agriculturalist* as part of the UWEX Dairy Team titled, "How well do you manage people?" (**Exhibit 3**) to increase awareness of the survey and its results. This research was featured in *Hoard's Dairyman* as well as other local and regional media publications.

The results of the 2013 Farm HRM survey indicated that farmers and managers felt that HRM programming was needed across the state. As primary investigator, I wrote a successful exploratory grant proposal titled, "Managing People, Managing Risk: Developing a Farm-Friendly Human Resource Management Curriculum", for the North Central Risk Management Education (RME) totaling \$3,000. An outcome of the project was the development of a bilingual HRM curriculum for farm managers and owners which I taught in Dane County after the curriculum was finalized in 2017.

I planned and organized a pilot program in 2015 to get initial feedback about the curriculum by working with Agriculture Agents Mark Hagedorn (Eau Claire County), Ryan Sterry (St. Croix County), Jerry Clark (Chippewa County), Steve Okonek (Trempealeau County), Carl Duley (Buffalo County), and Trisha Wagner (Jackson County) from the Northwest Region, and Simon Jette-Nantel (UW-River Falls). This program was offered in the winter of 2016 to 18 farmers and managers in two locations in the Northwest Region. I created the "Farm Culture" session in the pilot program and taught it at one of the two locations (Black River Falls). Using a Likert Scale of 1 (very low) and 5 (very high), evaluation data shows participants from both locations (n=12) gained knowledge in a pre- and post- evaluation survey (1-point increase in knowledge from a moderate to high level) (**Exhibit 4**). Additionally, participants provided us with valuable insight and positive feedback about the *Becoming the Employer of Choice* curriculum. From this feedback, I helped to facilitate changing the curriculum to add more modules and provide more opportunities for activities and scenarios for participants to engage with the material.

The *Becoming the Employer of Choice* curriculum was offered for the first time in the winter of 2017 in Dane, Fond du Lac, and Washington Counties. I took the lead in identifying county educators to host workshops and facilitated training them on the curriculum modules. Across all counties, a total of 80 farmers, managers, supervisors, and shift leads were reached for a total of 52 hours of teaching time. All participants were from dairy farms, ranging in herd size from 200-cows to 4,000-cows. Thirty-one participants were from Dane County. Not all participants were taught all seven modules and some did not return completed evaluations. Using a Likert Scale of 1 (poor) to 4 (excellent), the following modules were rated the highest in terms of usefulness across all the locations: "Reviews & Feedback" (3.73, n=19), "Developing a Motivated Workforce" (Motivation) (3.65, n=26), "The Farm Business Culture" (Business Culture) (3.63, n=22), and "Managing Conflict" (Conflict) (3.58, n=25) (**Exhibit 5**). Using the same Likert Scale, I evaluated participants on their knowledge of the topics before and after the meetings. Three of the four modules I authored showed the greatest increases in learning attained by participants for all locations: "Business Culture" (+1.54, n=22), "Motivation" (+1.43, n=26), and "Managing Conflict" (+1.26, n=25).

Based on past meeting results of the evaluations, fifty-nine participants highly valued the opportunity offered in these meetings to grow and develop their skills in HRM, as well as the information the meetings provided. The majority of participants across all the locations (69.5%, 41 responses) reported that they were experienced in employee management on their farm, indicating they had been "managing employees for a while" (exact wording). One participant noted that the information they learned through the workshops showed that they have "been managing, not leading" their employees. The top reason participants noted for attending these meetings was to improve their employee management skills (55 responses). The second highest reason was to get general information (33 responses). During and after the meetings, participants commented on the usefulness and importance of this programming in agriculture: "Thank you for offering this series. It is important to motivate and energize for continued growth". During the five-month follow-up, the Dane County participants reported talking to their peers about the *Becoming the Employer of Choice* program and emphasized the need for more HRM programming for dairy farms in the area.

Out of the seven modules of the *Becoming the Employer of Choice* curriculum, I was sole-author on "The Farm Business Culture" module (**Exhibit 6**). I was also co-author on three other modules, "Developing a Motivated Workforce" (secondary

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### Farm Business Management/Human Resource Management (continued)

author), “Chalking the Field” (secondary author), and “Managing Conflict” (primary author). While a team effort, each module passed through my hands for design and editing. I took the lead on designing and marketing the curriculum, acting as the primary contact for clientele or other educators interested in the curriculum. I also created a program evaluation and an action plan document to assist farmers and managers with applying the skills they learned through the curriculum.

I also took the lead in promoting the work of the Farm HRM workgroup team to clientele across the state of Wisconsin. I used my website design and management skills to create a UWEX For Your Information (FYI) website, *Human Resource Management in Agriculture* (**Exhibit 7**). It has had over 1,700 page-views with an average of one minute spent per page (on a total of seven webpages) since January 2016, according to Google Analytics.

Through my specialization in farm HRM, I had the opportunity to ‘be the face of UWEX’ producing and delivering numerous educational materials for multiple audiences across all agriculture industries. My scholarly work in HRM led to me being asked to present a session titled, “Finding and Keeping Good Farm Labor – Management Practices and Labor Laws”, at the Dairy Sheep Association North American Symposium in November 2015 to 83 national and international farmers, agri-business representatives, academics, and industry professionals. As part of this presentation, I authored an article for the conference proceedings (**Exhibit 8**). Through other local and regional meetings and workshops, and a college course, I reached a total of 122 additional farmers, agriculture consultants, industry professionals, and students in 2015. Thirty-five of whom were from Dane County. Wagner, Jette-Nantel, and I were contacted by *Hoard’s Dairyman* to develop an article about farm HRM. We co-authored an article, “Pump up your people”, published in the November 2016 issue (**Exhibit 9**).

An internal survey of UWEX ANRE colleagues in 2015 demonstrated a need among educators for professional development and training in farm HRM. With Wagner and Jette-Nantel, I organized a series of three professional development opportunities for Extension colleagues between 2015 and 2017. These events reached a total of 24 educators from Wisconsin and Minnesota. During the four-part webinar series in the spring of 2017, I presented the final webinar titled, “Understanding the roles, responsibilities, and key to success in supervision”, with Wagner (**Exhibit 10**). Twelve colleagues who participated in the webinar series reported through personal interviews after a four-month interval that they used the information in their work with farm clientele and have plans to program in HRM in the future. Educators responded that after the webinar series, they feel they are better prepared to answer questions from farm clients and know where to go to find the information needed.

### Business Development & Entrepreneurship

When I was in Polk County, the Annie’s Project for Beginning and Value-Added Women Farmers program was held over six weeks during 2013. In collaboration with Joy Kirkpatrick, Outreach Specialist at the Center for Dairy Profitability, and Agriculture Agents Katie Wantoch (Dunn County) and Ryan Sterry (St. Croix County), I wrote a \$5,700 grant to fund the program series. The program was a six-part workshop series which met with 21 participants, four from Polk County.

I took a key role in developing the program to expand access and provide educational opportunities tailored to beginning and established women farmers interested in local foods and value-added products. The project team primarily used word-of-mouth, through local email lists, print publications, and women farmer networks to advertise this program. I developed a PowerPoint presentation and taught a session titled, “Marketing & Food Handling”, which provided information and resources on marketing, post-harvest handling, and Good Agricultural Practices (GAPs) (**Exhibit 11**). I also developed and presented a session on grants and funding opportunities for farmers. I led the evaluation of the program, from survey development to analysis, which included coordinating the revision and update of the survey tools used in the program, and handling their distribution, collection, and analysis. As a result of my presentation, 15 additional women farmers became familiar with GAPs and GAP certification, compared with before the program, when only six participants reported knowledge of GAPs in the baseline survey (**Exhibit 12**). On a Likert Scale of 1 (poor) and 5 (excellent), participants (n=19) increased their knowledge by 1 point (from a 3 to a 4) for the marketing session and 2 points (from a 2 to a 4) for the grants and funding session when surveyed during the program. One participant noted that after the marketing session, “I will [sic] use to implement Good Agricultural Practices in my produce production”. As a result of our efforts, participants reported that within one year of the Annie’s Project program, they sought financing from a lender (5 responses), implemented good food handling practices (4 responses), and reviewed their farm tax records (4 responses).

I summarized information collected from the surveys and evaluations I created in a report used to communicate the impacts and outcomes of the program series. Eighty-five percent of participants indicated they have started or have

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### Farm Business Management/Business Development & Entrepreneurship (continued)

completed their business plans (**Exhibit 13**). Participants were asked to place a dollar value on the program. The average value reported was \$310, while the actual cost of the six-part program per person was \$40. Annie's Project participants continued this networking by sharing the information they learned with a total of 51 beginning and women farmers. Half of the women reported connecting with at least one other participant regularly. One participant stated, "*4-5 people from class continue to network for farm and business advice*". Other comments from participants during and after the program reinforced the value, the high-quality, and thoughtfulness of the program, including Extension Agent involvement.

Our scholarly work on this program was selected for presentation and poster display at several state and national conferences, including the National Conference for Extension Risk Management Education and the Joint Council of Extension Professionals (JCEP) – Wisconsin Conference. I presented a concurrent session on the program series, the evaluation results, and its impact titled, "Battle of the Sexes: Unique Programming Needs and Challenges of Women Farmers", at the Galaxy IV National Extension and National Association for County Agricultural Agents (NACAA) Annual Meeting and Professional Development Conference to 41 colleagues (**Exhibit 14**). I was primary author on an article of our scholarly work in agriculture business development and unique programming for farm women which was selected for publication in the peer-reviewed *Journal of the National Association of County Agricultural Agents* (**Exhibit 15**).

### Farm Succession & Transfer

Farm succession is an educational priority for Dane County farmers. I have worked to provide educational programming on this topic, in particular through outreach. I authored an article titled, "Getting it Right: Tips for Transferring the Farm", which has been published in local, regional, and national farm magazines (**Exhibit 16**).

I have worked with eight dairy farms in Dane County to date on farm succession and transfer planning. As a result of my facilitation and assistance, two of the farms successfully developed a plan and are in the process of transferring the farm to the next generation. Two of the farms decided not to pursue transferring the farm to the next generation, in part to avoid a breakdown in communication among the family members. In 2016, I wrote a \$15,000 grant proposal for the Dane County Farm Technology Days Show in 2016 to assist farm families in moving forward with their farm succession planning. The funding provided cost-sharing for farms to involve agriculture professionals' in the planning process, covering the expense of their time and travel to attend the series of planning meetings. Four Dane County dairy farms, impacting 1,060 dairy cows and 2,288 acres, have participated in this grant program in 2017. Three of the four farms have younger generation family members interested in taking over the farm. One of the farms does not have any interested family heirs and is working with a young person who started as an employee of the farm. My role is to strategize the needs and goals of the farm families and bring together a network of agriculture professionals to help develop an actionable plan for the future. Working with all eight dairy farms, I have spent a considerable amount of time in "face-time", meeting individually with farm families, in order to move the succession along. These farms reported through personal communication no action would have been taken on a succession plan without my assistance. The succession plan also helped each farm realize a savings of \$3,150 in consulting fees. These savings are a direct result of the goal-setting and strategic planning activities the farm implemented as a result of my advice and consultation.

Heidi Johnson and I worked with Wilson Law Group, LLC and Badgerland Financial, both in Madison, to collaborate on farm succession programming in Dane County. Neighboring Agriculture Agents and Joy Kirkpatrick, Outreach Specialist, were involved in the planning which led to the program being offered on a regional level. I took the lead on efforts in planning and execution of the Navigating Your Farm's Future program. This program was held in four locations in 2017 with involvement by UWEX, as well as lawyers from Wilson Law Group and tax accountants from Badgerland Financial. I created a PowerPoint presentation, "Farm Meetings", which I presented at two locations and was presented by colleagues at the other two locations (**Exhibit 17**). This program reached 101 participants. I have followed up with three of the participating Dane County farms to assist with their succession plans.

Effective communication between farm family members is a perennial issue in farm succession planning. Eighteen participants indicated on program evaluations they intended to hold regular farm meetings as a result of this program (N=60). The presentation was also rated as one of the highest in terms of usefulness, with an average of 3.5 on a Likert Scale rating of 1 (poor) to 4 (excellent). Participants reported an increase in their knowledge about the topic before and after the program (+1.1, from 2.3 to 3.4) (**Exhibit 18**). Participants liked the format of the workshops, with more interaction through one-on-one meetings in the afternoon for farm families to meet with farm succession professionals. As a result of our programming efforts, in a five-month follow-up with participants, 18 participants reported they have met with or have

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### **Farm Business Management/Farm Succession & Transfer (continued)**

begun to work with an agriculture service provider on their farm succession and transfer plan.

### **Dairy & Livestock Production**

#### **Dairy Management**

During the first year of offering the *Becoming the Employer of Choice* curriculum, I worked with two dairy farms in Dane County to train their farm managers and supervisors in the winter of 2016-2017. Farm human resource management directly affects dairy production as employees are directly responsible for animal health and well-being, milk quality, and feed and forage quality and management on the farm. Farm A is a 4,000-cow dairy operating on two farms with over 100 employees. Farm B is a 400-cow dairy with eight employees. A total of 19 supervisors, managers, and farm owners participated in the program from both farms. I developed pre- and post- survey tools to track changes in behavior and learning using a Likert Scale of 1 (poor) to 4 (excellent). As a result of the meetings, participants had positive changes in their behavior and felt more comfortable being a leader (+1), helping employees to understand the farm's vision (+1), and motivating employees (+0.25) (n=14) (**Exhibit 19**). Survey responses showed a positive change in identification of the farm's culture as integral to their role as manager on the farm, rather than only as the responsibility of the owners (+1). I also presented the "Managing Conflict" module at a producer group meeting in Dane County, reaching 10 farmers.

After a five-month follow-up from the winter program, 90% of the Dane County participants reported they have used the information they learned at the meetings in their work. Participants commented that the program provided them with tools to improve employee training, thereby reducing instances of animal abuse, improving milk quality, and reducing feed waste. Participants reported feeling like they have an improved relationship with employees and are better communicators, especially when giving feedback. Leading, rather than managing, employees and increasing their engagement in the work results in a 19% increase in operating income for businesses, compared to a 30% decrease when employees are not engaged (Willis Towers Watson, 2017). Improved worker productivity and engagement calculates into an estimated increased rate of return to the farm business of \$107.59 for Farm A and \$140.29 for Farm B per employee per day. Annually, this means an extra \$30,985.92 for Farm A and \$40,403.52 for Farm B in profit for the business for each employee they have on staff. The Professional Dairy Producers of Wisconsin (PDPW) has also shown the importance of human resource management to dairy farms by offering this topic in day-long educational events and as regular breakout sessions during their Annual Business Conference for the last five years.

Offering dairy farm employee management programming in Dane County led to further interaction with these farms. I worked with Farm A to bring University of Wisconsin-Madison dairy specialists to the farm to conduct a production efficiency analysis of the farm's parlors, calf barns, and cow housing, an on-going project in 2017. Farm A has decided to wait until 2018 to update their calf and milk cow facilities due to low milk prices in 2016-2017, reducing their working capital available for improvements. Managers overseeing the milking parlor on the new farm started this fall to implement changes in the milking routine to improve employee efficiency. I have also worked with Farm B on expanding their operation and siting a manure lagoon for nine months of storage. The dairy currently hauls its manure daily to the fields, and with changing environmental policies at the county-level, I worked with the Dane County Land & Water Resources Department and Dave Kammel, UWEX Agriculture Engineering Specialist, to determine facility layout and design options for the farm's expansion. As a result of my work, Farm B decided to move forward with building a lagoon for six months of manure storage, which will begin in 2018. My work with Kammel has led to 24 facilities consultations since I started with UWEX. Of the ten farms I worked with on facilities layout and design in Dane County, eight have expanded, upgraded cattle housing, or have installed animal handling facilities.

The public has an evolving interest in how animals are raised and cared for on the farm. The Dane County needs assessment revealed this was the second highest concern for livestock farmers. I responded by helping plan the 2016 Dairy & Beef Well-Being Conference. My role as chair of the planning committee resulted in collaboration with Agriculture Agents across the entire state of Wisconsin. The conference reached 120 total participants, 38 of whom were youth (high school students) and eight were from Dane County. Fifty percent of the attendees were farmers or managers. All survey respondents (n=53) the need for additional animal husbandry education for both the public and farmers in Wisconsin.

#### **Pasture Management & Grazing**

As one of the top educational needs in the county, farmers are interested in low-cost and improved dairy heifer management. Grazing is one such production practice for managing dairy heifers. Through my professional network, I

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### Dairy & Livestock Production/Pasture Management & Grazing (continued)

teamed with Laura Paine, Dairy Grazing Apprenticeship Program, and Pam Porter, UW-Madison Center for Integrated Agricultural Systems, on a research project to increase the number of dairy heifers grazed on permanent pasture in Dane County. I collaborated with Paine and Porter to write a grant proposal of \$15,000 from the Yahara Watershed Improvement Network (WINS). I sent out a survey to Dane County farmers to establish a baseline of perceived benefits and challenges of grazing to those who identified themselves as having dairy heifers. From 98 surveys sent, 10 were completed. Responding farmers had an overall positive view of the impact of grazing dairy heifers on the farm business (**Exhibit 20**). The biggest challenge to implementing grazing dairy heifers on their own farm, as reported by survey participants, was not enough land (6 responses), followed closely by a concern about taking land out of production of commodity crops (5 responses) (n=10). I also promoted the grant project and reporting on the results of the survey by co-presenting a concurrent session at the Grassworks Grazing Conference, reaching 28 attendees. I co-authored the PowerPoint presentation for this session (**Exhibit 21**). The same presentation was also featured at a regional Natural Resource Conservation Service (NRCS) meeting for nine farmers in North Central Wisconsin.

My programming focusing on managing dairy heifers on grass not only built interest in the topic, but helped recruit farmers to participate in the grant project. I authored an article, "Consider Grazing Replacements", for the *Wisconsin Agriculturalist* publication (**Exhibit 22**). I also organized the Dairy Heifer Grazing Field Day in the fall of 2015. The field day was held in collaboration with Ron Schoepp, a Sauk County dairy farmer, and Brian Pillsbury, NRCS Grazing Specialist. Twenty farmers attended, half from Dane County. Participation in the field day led one Dane County farm to agree to participate in the grant project. As a result of my work on this topic, *Progressive Dairyman* published a feature story highlighting the Dairy Heifer Grazing Initiative Project (**Exhibit 23**). Both these efforts led to positive recognition from Dane County board supervisors and the general public.

Two additional dairy farms in Dane County were selected to participate in the grant project. A total of three Dane County farms and three Confined Animal Feeding Operations (CAFOs) in Brown County participated in this project. The three farms were diverse in their production systems and experience with the topic: a 250-cow dairy farm was new to grazing, one farm had sold their dairy herd and decided to raise heifers on grass as replacements, and the third farm was a 60-cow pasture-based farm transitioning to organic. I collaborated with Matt Akins, UWEX Dairy Heifer Specialist, on a proposal for a UWEX ANRE internship for the summer of 2016 to conduct data collection on these farms.

The research project generated data on the key aspects of the sustainability of grazing dairy heifers: animal health and growth, time management and labor economics, and pasture productivity and environmental health. I authored a fact sheet (**Exhibit 24**) based on the results of the project. The results showed that while there are some benefits to animal health and a reduction in labor needs when grazing heifers, agricultural trends in the county, as well as historical preconceptions, are challenges for increasing the number of dairy heifers grazed in Dane County. The availability of land, competition for land, and the high cost of renting or purchasing farmland in Dane County, are significant barriers for farmers to implement dairy heifer grazing on area dairy farms. The benefits to the three participants from Dane County were an improved lifestyle because less labor was required to manage youngstock, and healthier animals which out-produced their counterparts in confinement operations.

The participation of the 250-cow dairy farm in this project was a result of my work in other areas of dairy and livestock production. I first met one of the owners of this farm at a Heart of the Farm workshop I organized in 2015 for farm women. I visited the farm in early summer of 2015 when they asked for a facilities expansion consultation with UWEX Agriculture Engineering Specialist, Dave Kammel. In a follow-up to that visit, they expressed an interest in the Dairy Heifer Grazing Project and I encouraged them to attend the Dairy Heifer Grazing Field Day to learn more. As a result of my outreach and their participating in the field day, they decided to participate in the research project for the 2016 growing year. I worked closely with this farm to provide technical assistance in selecting the pasture mix to transition a seven-acre alfalfa field and a five-acre corn field into pasture for 11 of their 18-month old dairy heifers. In collaboration with Ron Schoepp, I developed a grazing plan for the season to assist them in maximizing forage production and minimizing any health concerns related to grazing heavy alfalfa pastures. While the farmers decided not to continue to graze heifers in 2017 as a result of concerns raised by their agronomist about taking the land out of commodity crop production, in a follow-up survey, they reported the grazed heifers were healthier than their counterparts which were not grazed. The grazed heifers have calved and in my follow-up conversations with the farmers, they have seen a reduction in all types of calving concerns in the grazed heifers.

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### Dairy & Livestock Production/Pasture Management & Grazing (continued)

Transitioning from Polk to Dane County, I have continued my interest in educational programming on dairy and livestock grazing systems. In early 2017, I collaborated with the Dane County Land & Water Resources Department and Kirsten Jurcek, Grazing Specialist with Glacierland Resource Conservation & Development, to establish the Dane County Grazing Network. I have led the organization of the grazing network, developing the contact list and the logo, and planning the pasture walks. Three pasture walks are planned during the grazing season and two have been held. Interest continues to grow as the second pasture walk focused on organic dairy, had 45 participants attend.

At the inaugural pasture walk focused on beef cow-calf production with a fencing demonstration, 35 farmers and agency staff attended. Thirteen participants completed the Google online survey after the program (n=13). Comments from participants were positive and many expressed an appreciation for having a local network targeted at their unique needs, whereas previously farmers had to attend educational events through grazing networks in neighboring counties. On a Likert Scale of 1 (poor) to 4 (excellent), participants reported that they learned the most during the soil health demonstration (+1.5) and the discussion on fencing options (+1.5) (**Exhibit 25**). Most participants attended because the focus of the pasture walk was on grazing beef cattle (11 responses, 84.6%). As a result of the pasture walk, most participants will share the information they learned with other farmers (11 responses). Additionally, participants will consider the soil health of their pastures regarding future management changes (7 responses) and consider alternative fencing options (6 responses).

### Diversified Livestock Production

In July 2017, I adapted the agenda for the UWEX Beef Team's Cow-Calf Meeting road-show series to organize a meeting site at Arlington Research Station. To meet the needs of Dane County beef farmers, I developed the Summer Beef Meeting to focus on feeding and nutrition. I also incorporated youth-specific topics for the program to qualify as an educational meeting for the Dane County Fair. I collaborated with Dan Schaefer, UW-Madison Animal Sciences Professor, Caleb Karls, Arlington Beef Center Manager, and Lyssa Seefeldt, Marquette County Agriculture Agent, to offer this meeting to 17 beef farmers and 12 youth. Participants learned about current beef research projects at Arlington Research Station and had the opportunity to interact with University specialists and researchers. Using a Likert Scale rating of 1 (poor) and 4 (excellent), the financial presentation was the highest rated topic among all participants (3, n=19) and also saw the largest increase in knowledge before and after the program (+1.06) by participants (**Exhibit 26**). This is the second beef field day I have organized at Arlington Research Station, reaching a total of 51 beef farmers, youth, and agriculture consultants.

I have worked one-on-one with 30 livestock farmers in Dane County to improve their management and livestock production enterprises. In one instance, I was contacted by a female dairy farmer in early 2016 to discuss ways for her to diversify and add another enterprise to her family's 500-cow dairy in southern Dane County. I worked to strategize with her to determine her strengths and narrow down potential enterprises based on her interests. We identified her strength to be raising high-quality and healthy calves. As a result, we determined that raising their farm's Holstein bull calves was the most viable option with the highest return on investment, taking advantage of established facilities and her extensive knowledge of dairy animals. I created an enterprise budget for her to estimate her income raising dairy steers until weaning and then selling them as stockers. She sold over 50 steers in 2016, netting \$2,250 in profit. In late 2016, Tyson, a large meat processor, announced it was discontinuing the purchase of Holstein steers. I met with the farmer to discuss alternative options to diversify her income due to this change in the marketplace. She decided to raise meat chickens, requiring less upfront investment and using the same facility with minimum alterations. In the spring of 2017, the producer reported she had purchased 100 meat birds, had them processed, and is in the process of selling them through her market channels. We discussed diversifying her markets and combining a farm stand, as they are conveniently located on a busy highway, with selling informally through her extensive network. As a result of my work providing information and assistance with her enterprises, her family is currently participating in my farm succession grant. I am working to assist them in transitioning the farm to the next generation, their son and his new wife.

Home to the largest farmers' market in the U.S., Dane County has a growing sector of agriculture in local foods. There is an increase in interest among non-agricultural urban residents in food sustainability and youth development through raising chickens in their backyards. In order to meet this educational need, I organized two workshops in 2017 focused on poultry production. I developed and presented two sessions on "Marketing Your Poultry Products" (**Exhibit 27**) and "Update on the Veterinary Feed Directive" for the Raising Chickens 101 workshop in April 2017, which reached 16 participants. Both sessions were highly valued by participants and evaluations (n=16), using a Likert Scale rating of 1 (poor) and 4 (excellent), showed participants had the greatest increase in knowledge gained from the Veterinary Feed Directive session (+2). One

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### Dairy & Livestock Production/Diversified Livestock Production (continued)

participant commented on the usefulness of the marketing session, “*I was motivated to do more marketing with our business after we finished class*” (**Exhibit 28**). This workshop was targeted to poultry farmers owning over 300 chickens.

Targeting urban chicken owners, a Backyard Chicken Community Event was held at two community centers across the City of Madison in April 2017. Both events reached a total of 43 participants: over 44% of whom self-identified as races other than White and 16 of whom were youth under the age of 18. I collaborated with Dane County FoodWise educators, UWEX Specialists, and local community experts, to plan and present sessions at these events. The most significant impact of this poultry programming was that 18 participants reported they would start raising chickens as a result of the workshop they attended (n=24).

Polk County is tenth in the state for the number of small ruminants, sheep and goats. To meet this educational need, I organized and planned Small Ruminants workshops in Polk County in 2013 and 2014. These workshops reached 44 participants out of a total of 123 sheep and goat farms in the county. I collaborated with 4-H to offer youth education at each of these workshops to 16 youth. According to evaluations from the workshops, four beginning farmers owning 138 acres were impacted by this programming (n=30). Sixteen participants reported attending the workshop for the specific topics listed on the agenda. I have continued this programming in Dane County through the Dane County Grazing Network, offering a sheep pasture walk focused on parasite control and prevention.

### Feed & Forage Management

Accurately pricing forage and measuring inventories is very important to livestock owners. In response, I conducted the Hay Bale Weight Study, an on-farm research project between 2012 and 2014. This project was an idea developed with Lynn Johnson, Polk County beef farmer and Grazing Planner, whom I worked closely with on grazing programming in the county. I collaborated with Johnson and Otto Wiegand, Agriculture Agent in Burnett, Washburn, and Sawyer Counties, to identify farmers who produced and sold or bought hay. Twenty-seven dairy and livestock farmers from four counties in the Northwest Region, including nine from Polk County, participated in the project. Differing types and sizes of hay bales were weighed on scales to determine accurate weights. Bale weights were typically underestimated or over-estimated by about 100 pounds. Results were developed into a fact sheet, of which I was lead author (**Exhibit 29**). I presented the results of the research as a PowerPoint presentation in the “Hay Production” workshop series in March 2013 (**Exhibit 30**). The Hay Bale Weight Study has also been featured in the national *Hay & Forage Grower* magazine.

I surveyed participating farmers in the summer of 2014 to evaluate the usefulness and impact of the Hay Bale Weight Study. Sixteen farmers returned completed surveys (n=16). Nine of these farmers indicated they had made changes or implemented new practices to their forage management as a result of participating in the research study. The greatest impacts of the research on forage management were in starting a forage management inventory (6 responses), doing a hay forage analysis each year (5 responses), and feeding forage based on the hay bale weights (5 responses). Eight farmers responded the project helped them save money and four indicated this information made them more money. The monthly *Dane County UWEX Agriculture Extension Connection* email newsletter has been used to share results of this project. Results have also been discussed during one-on-one consultations with small and mid-sized farmers. These consultations resulted in fifteen horse owners and livestock farmers reporting that they used this particular knowledge when buying hay.

### Summary and Reflections

My educational programming has changed and evolved, adapting to trends in the agriculture industry and meeting the needs of my clientele. As the last 65/20 position in the state, I have developed a niche for myself in UWEX and built positive working partnerships, bringing UWEX to the forefront of farm human resource management programming in Wisconsin. My intent is to expand HRM efforts by collaborating with groups like Professional Dairy Producers of Wisconsin.

My HRM programming and involvement with the UWEX Civil Rights Leadership Team has enabled me to help further the development of desired skills in my colleagues statewide. In addition to networking, professional development, and utilizing relationships to enhance my programming, I now develop materials through a culturally-appropriate lens. This enables me to seek out new ways to reach diverse audiences and non-traditional clientele groups. I am excited about future plans to expand my agricultural education and outreach, further develop relationships, and continue to serve new clientele needs.