

GENERAL OVERVIEW

I served as a University of Wisconsin-Extension (UWEX) Agent in two bordering, yet unique, counties in Northwest Wisconsin. From September 2006 through August 2010, I was the Agriculture (80 percent) and Horticulture (20 percent) Agent for Polk County. In late August, 2010, I was hired as the Agriculture Agent in St. Croix County. St. Croix and Polk Counties have strong traditions in dairy production, but increasingly are being influenced by a growing Twin Cities population.

The Polk County Agriculture and Extension Education Committee (AEEC) directed the Agriculture and Horticulture positions to be combined into a single 80 percent agriculture / 20 percent horticulture appointment in 2003. Comprehensive needs assessments were conducted in 2003 by my predecessor and by me in 2007. The 2007 survey was distributed to 250 producers, with a 28 percent (n=71) response rate. Survey respondents ranked Farm Financial/Business Management, Grain Production, and Dairy Production as their top three educational needs ([Exhibit 11](#)). Local circumstances played a role in defining programmatic needs in Polk County. Drought conditions persisted in the region over a five year period until the summer of 2010. Forage production was negatively impacted by the dry conditions, placing added stress on dairy and livestock producers. Consumer horticulture was the top priority at that time for the AEEC to fulfill the 20 percent horticultural time commitment in the position description. Master Gardener Volunteer (MGV) training and retention emerged as a need during my tenure in Polk County.

Agriculture program development in St. Croix County is unique because of the strong cross county relationship with agricultural programming in Pierce County. Historically, the Pierce County Agricultural Agent has provided specialized expertise in row crop production, and St. Croix County has provided expertise in Dairy and Livestock programming. This relationship has evolved over time and has been beneficial to both counties, and remains a high priority.

I collected St. Croix County needs assessment information from 21 written survey responses and 12 personal contacts. Financial business planning, benchmarking, and profitability were identified as the top Farm and Financial Management educational priorities. Facilities, future farm viability, and rising feed costs became unifying themes for Dairy and Livestock producers. Direct marketing, preservation of farmland, and rural/urban relations were additional topics of importance. I also utilized information provided from agricultural visioning and focus group sessions conducted prior to my hiring in St. Croix County to identify needs. Visioning session attendees identified Farm Business Management, Dairy and Livestock production, and Direct Marketing as the top subject matter needs. Communication with the non-ag public and preservation of farmland were key themes during the visioning sessions ([Exhibit 12](#)).

In this document, I will focus the discussion on the major program areas of Farm and Financial Management, Dairy Management, and Horticulture. My Farm and Financial Management and Dairy Management programming has impacted both counties, whereas my Horticulture programming was predominantly completed in Polk County.

FARM AND FINANCIAL MANAGEMENT

Producers ranked Farm and Financial Management as their number one educational need in the 2007 Polk County Needs Assessment Survey ([Exhibit 11](#)). Farm record keeping and financial analysis closely followed as educational priorities. Participants in the St. Croix County agricultural visioning sessions ranked Farm and Financial Management as their top priority, with 34 percent of participants ranking it as their first or second choice.

Farm Financial Analysis:

Assistance with financial analysis is a priority with producers in Polk and St. Croix Counties. A specific example was dairy producers' ability to meet short term cash needs in 2009, a problem resulting from a combination of historically low milk prices and tighter lender requirements. This specific need was addressed through the "Taking Charge in Challenging Times" workshop I taught for nine participants. My specific teaching role focused on tax implications and options for managing losses for the year due to poor milk prices. I prepared newsletter articles further explaining the issue, such as the article I wrote focusing on current ratios and working capital for the Heart of the Farm newsletter ([Exhibit 2](#)). Later on, I worked one-on-one with eight producers and their data to complete financial benchmarking analyses. These analyses went beyond the typical enterprise analysis by analyzing the whole farm business, and identifying enterprises to further investigate.

Farm Financial Analysis - Case Study:

I worked with producer A on various farm management issues since my arrival in St. Croix County, and in February of 2011 I was asked to join their farm management team. Farm management teams are an effective approach to bring a producer, employees, and farm advisors together. Producer A's primary intent, when asking me to join the management team, was to help with a financial analysis of the business. Producer A had participated in data collection for the Agricultural Financial

FARM AND FINANCIAL MANAGEMENT – Farm Financial Analysis - Case Study (continued):

Advisor (AgFA) financial analysis program and we made the decision to further investigate data from 2009 and 2010. I met with producer A twice on the farm to gather data from the farm's financial records. Using the data, I was able to complete individualized farm financial reports ([Exhibit 13](#)). Producer A had concerns that some expense categories deviated from industry averages. I used statewide AgFA benchmark data from the Wisconsin AgFA Dairy Farms Profitability Report ([Exhibit 4](#)) I co-authored with Jenny Vanderlin, UW-Center for Dairy Profitability Assistant Director, to provide benchmark numbers to address these concerns. This report is also available online at: <http://cdp.wisc.edu/Financial%20Benchmarks.htm>

Information from the financial report has been used by the management team to direct more attention to the heifer enterprise. This herd has grown by over 200 head in the past five years, and during that period of growth, economic efficiency in the heifer enterprise declined. After reviewing the AgFA financial benchmark information I prepared for the farm with their lender, Producer A determined they are not willing to make a capital investment to upgrade heifer facilities without also expanding the lactating herd for cash flow purposes. I have continued to meet with Producer A's farm management team to provide information on agreements that would place heifers with a custom heifer grower, at a savings of \$1.25/head/day versus continuing to raise their own heifers. Planning is currently ongoing for expanded cow housing and a new milking center, with the intent to increase cash flow so that an investment in heifer housing can be made in the next five years.

Farm Financial Analysis Reflection:

To date, I have completed eight individual farm financial reports. Creating these reports is time intensive, but they benefit the individual farm through the personal analysis generated, and they contribute to the public good by providing data to the statewide AgFA database. Without efforts to collect data from individual farms, the database to create benchmark and farm profitability reports ([Exhibit 4](#)) would not be possible. Efforts are underway to update the Wisconsin AgFA Dairy Farms Profitability Report with 2010 production data. I intend to place more effort on collecting AgFA data from early career farmers to help them fulfill beginning farmer loan requirements. Keeping in mind UWEX Agents increasing time constraints, I plan to work with Center of Dairy Profitability staff to develop more user friendly input forms for the AgFA program, specifically by utilizing Schedule F tax data.

Understanding Farm Succession:

In both counties, the average farm operator age is 56 years, and over 50 percent of farmers are 55 years of age or older (Census of Agriculture, 2007). Farm succession planning is the process of making decisions about who will operate the farm, compensation for exiting operators, and ensuring the next generation has competent management skills. A comprehensive survey of farmers completing farm succession plans, including farms I advised, was published in 2009. Fifty-three percent of respondents indicated it took one year or more to complete their farm succession plan. The top challenges to completing a succession plan were determining future financial viability and gaining sufficient knowledge for decision making. To address these needs, I have taught three Farm Succession/Farm Business Arrangements workshops for over 60 participants since 2008. While the content of each workshop has varied, the objective of giving farmers the tools to work more efficiently with their succession advisors has remained the same.

Related programming has been directed towards beginning farmers, first by hosting the 15 week "School for Beginning Dairy and Livestock Farmers," a UW-Madison Short Course program. Four students took part in the full 15 week curriculum, five students attended individual sessions of their choosing, and four additional students piloted an on-line option for participation. With my increasing involvement with beginning farmers, my educational role for the 2011 farm succession workshop focused on financial implications for the next generation ([Exhibit 9](#)). Twenty-eight producers and their family members attended this session. Additionally, I took leadership in program development and coordination for three "Transferring the Farm in a High Stakes Era" workshops held in the Western District in 2010. Over 200 participants attended these workshops, with 85 percent indicating in a post workshop evaluation that they planned to use information from the workshop to develop a farm succession plan. Our team received a Workgroup Responsiveness and Leadership Award for this program from the ANRE program area in 2011.

Understanding Farm Succession - Case Study:

Producer B contacted me in the spring of 2010 for assistance in developing a business plan to start his own dairy farm. This producer was a "School for Beginning Dairy and Livestock Farmers" student, and needed assistance applying the budgeting concepts covered in class to his situation. Initial planning revolved around building equity through cattle housed at his employer's farm, and to develop cash flow projections. A challenge with financial planning for beginning farmers is they have little financial history. My role was to provide benchmark financial figures as a starting point, and give direction on how to adapt those figures to his plan. This information enabled producer B to continue developing his business plan.

FARM AND FINANCIAL MANAGEMENT – Understanding Farm Succession - Case Study (continued):

By fall, producer B had located a dairy barn and was negotiating a rental arrangement. Four additional meetings were held to address rental arrangements and long range budgeting. The long range budgeting process was critical because it was required by prospective lenders. Using a software program called FINPACK, I was able to compile the financial data into a long range budget ([Exhibit 14](#)). A challenge we faced was the initial plans called for more capital outlay for facilities than the financial projections supported. Six different capital purchase scenarios were evaluated before finding a set of options that were financially feasible and acceptable. I became more involved in other areas of planning, specifically lower cost options to improve cow comfort. Ultimately, producer B secured financing to purchase a dairy herd and is working with his landlord to finance facility improvements. Follow-up in November of 2011 revealed that this producer had adopted several aspects of the plan we created. These changes include low-cost renovations to cow housing, milking facilities, ventilation, and formation of a crop-share agreement. These improvements resulted in an increase of 33 pounds of milk/cow/day (58 pounds/cow/day to 91 pounds/cow/day), and a 100,000 count reduction in somatic cell count from year ago levels. This equates to over a \$6,000 increase in gross monthly revenue compared to this time one year ago. While revenue is on track to meet the goals set forth in the long range plan, unplanned capital expenditures to update feed storage and handling pose a major threat to cash flow for this young producer. Continued follow-up planning this next year will be necessary to aid this producer with strategies to improve cash flow.

Understanding Farm Succession Reflection:

Although financial planning using FINPACK can be time consuming, the information it provides has a high impact for the producer. I have worked with six producers to complete FINPACK long range budgets, three of which have been used for farm succession planning, and I plan on completing more in the future. As my career UWEX career progresses, I see the need to further develop my skills in assisting families with farm succession beyond the financial implications, particularly inter-generational communication.

Corn Silage Pricing:

Determining a fair price for corn silage is challenging. The challenges include: 1) it is highly perishable, 2) not economical to transport long distances, and 3) other feedstuffs are not nutritionally comparable. During the fall of 2007, Northwest Wisconsin producers faced a severe drought that left livestock producers with inadequate feed inventories. Concurrently, cash grain producers experienced damages to corn intended for grain. Compounding the problem, the nutritional content of drought stressed corn did not conform to published research values. Harvesting this crop as corn silage rather than grain was a logical solution for both growers and livestock producers; however, buyers and sellers of corn silage needed a pricing tool for negotiating arrangements. I co-developed an objective method for pricing corn silage with St. Croix County Agriculture Agent Lee Milligan and UWEX Corn Specialist Dr. Joe Lauer. Corn Silage Pricer is the Excel Spreadsheet which we developed ([Exhibit 7](#)). I shared this spreadsheet electronically with UWEX colleagues, University of Minnesota Extension staff, producers, and industry professionals, and it is available publicly at the Team Forage website:

<http://www.uwex.edu/ces/crops/uwforage/Silage.htm>. Sixteen factors that affect crop value were combined, allowing users the flexibility to enter their own unique values in the spreadsheet. Furthermore, we provided users the option to price the feedstuff from both buyer and seller perspectives. Providing both perspectives of input creates a price range to begin the negotiation process. As the spreadsheet became widely utilized, advice from users encouraged us to make revisions to allow for more adjustments in nutritional analysis, milk prices, and pricing harvested versus standing corn.

Sixteen UWEX Agriculture Agents responded to a survey to measure the effectiveness and impact of the Corn Silage Pricer spreadsheet use among their clientele ([Exhibit 15](#)). Agents indicated they had collectively used the spreadsheet with producers between 265 and 303 times. Additionally, the agent survey revealed that seven agribusiness consultants utilized the spreadsheet with their customers. Agents reported an additional 73 producers learned through demonstrations as part of their presentations. Comments returned by the agents surveyed included: *“Very good tool. Sure seems like scholarly work to me”* and *“This spreadsheet works very well and helps the buyer and seller understand the economic considerations from each other’s standpoint. Good spreadsheet.”* One agent’s response noted that it is not uncommon to receive questions from both the buyer and seller, affirming our approach of providing a pricing range. In Polk and St. Croix Counties, I demonstrated the spreadsheet as part of three group presentations and individually with 20 producers. The development of this spreadsheet has improved decision-making in hundreds of buyer/seller circumstances and its use has expanded among colleagues, specialists, and agribusiness professionals who multiply the spreadsheet’s impact to through their customers.

Corn Silage Pricing Reflection:

Use of this spreadsheet is anticipated to increase, and has recently been utilized by specialists and agribusiness professionals in neighboring states. I intend to continue use of the tool in new educational programs I deliver as well as with one-on-one clientele requests. As new Agriculture Agent colleagues are hired, I want to share this decision-aide with them in hopes that

FARM AND FINANCIAL MANAGEMENT – Corn Silage Pricing Reflection (continued):

it will help them objectively answer questions from their clientele. I will continue to update this tool as University recommendations and commodity prices change.

Agricultural Enterprise Area Development:

St. Croix County experienced a 33.6 percent increase in population between 2000 and 2010, making it Wisconsin's fastest growing county by percent. Growth in southern Polk County has mirrored that of St. Croix. New tools to curb the loss of farmland were passed through The Wisconsin Working Lands Program. The program has three components, one of which is the development of Agricultural Enterprise Areas (AEA's). Purposes for the establishment of AEA's include maintaining areas of large contiguous farmland, encouraging public and private investment in agriculture, and providing an opportunity for landowners to become eligible for Farmland Preservation tax credits.

Concerned landowners in Polk and St. Croix Counties sought the assistance of UWEX to help them initiate the AEA petition process. The pilot round of petitions allowed for a maximum of twelve designations totaling 200,000 acres throughout the state. St. Croix County Community Resource Agent Pete Kling, and myself representing Polk County, collaborated to host informational sessions and identify prospective petitioners. Fifteen contiguous landowners signed on as petitioners for the Squaw Lake AEA, located on the border of Polk and St. Croix Counties. An additional seven landowners, three agribusinesses, and six community organizations signed on as supporting cooperators. I was responsible for composing responses to questions 1-3 and 9-11 ([Exhibit 16](#)) for the AEA petition narrative. The Squaw Lake AEA encompasses 9,718 acres, of which nearly 8,850 acres is assessed for agricultural use. If the landowners in the area applied for the minimum additional property tax credit of \$2.50/acre, the economic benefit would total over \$22,000 annually. Most landowners are eligible for higher incentives of \$5 or \$7.50/acre, raising the potential economic impact closer to \$60,000 annually. The AEA is the only means that Polk County landowners, within the AEA, qualify for property tax credits. The Squaw Lake AEA was one of twelve petitions selected for funding in the pilot round for AEA applications.

Agricultural Enterprise Area Development Reflection:

As a result of the AEA designation, landowners in St. Croix County have attracted investment in a bio-gas production project. Investors noted that the AEA designation demonstrates a long term commitment from agricultural producers to remain in the area and be bio-gas feedstock suppliers. Currently, I am engaged in related land use education through the St. Croix County Land Evaluation and Site Assessment (LESA) workgroup. The LESA system will be used to update Farmland Preservation Areas and Zoning. As a workgroup member, I have devoted time to educating our county governing committee on agriculture's impact. Of our seven person governing committee, only one is actively engaged in agriculture. Communicating the value of agriculture to this group is challenging but important.

DAIRY MANAGEMENT

Dairy production is the leading agricultural commodity in Polk and St. Croix Counties, creating nearly \$78.6 and \$102.4 million in economic activity, respectively (Steven Deller, Professor of Agricultural and Applied Economics, UW-Madison, 2008). Dairy production has a significant impact on the greater economy by providing milk to nine processing plants in the combined counties. The 2007 Polk County needs assessment survey ranked dairy producers top three educational needs as reproduction/herd health, nutrition, and heifer management. The St. Croix County needs assessment identified facilities, future farm viability, and feed costs as priority areas. Nutrient management was a concern in both needs assessments.

Dairy Cattle Reproduction:

A workgroup comprised of myself, Sauk County Agriculture Agent Denise Brusveen, and UWEX Dairy Specialists Paul Fricke and Kent Weigel, was formed to collect data on the use of female gender biased (i.e. sexed) semen by dairy producers. My primary roles in this workgroup were to develop the survey tool, collect data from farmers in Polk County, and prepare a presentation template. The survey was distributed by County Agricultural Agents over the winter of 2007-08 ([Exhibit 8](#)), resulting in 347 survey responses. When first released commercially, the fertility of sexed semen was significantly less than non-sexed semen; however, responding producers indicated that 42 percent were using this technology on lactating cows. This indicated that producers were more willing to apply its use on older, less fertile cows, than University recommendations called for. Our survey indicated that 40 percent of respondents were "satisfied" or "very satisfied" with the fertility of sexed semen. The higher cost of sexed semen versus non-sexed was the greatest factor for poor satisfaction, with less than 30 percent of respondents being "satisfied" or "very satisfied." This prompted our workgroup to place a bigger emphasis on addressing producers concerns over costs, leading to development of an economic cost/benefit analysis tool.

I was the lead author for the article based on this survey "Why they Use Sexed Semen" printed by Hoard's Dairyman, a national dairy industry publication ([Exhibit 3](#)). A Hoard's Dairyman readership survey found that 94 percent of those surveyed remembered seeing the article and 64 percent found it useful ([Exhibit 17](#)). Corey Geiger, Associate Editor for

DAIRY MANAGEMENT – Dairy Cattle Reproduction (continued):

Hoard's Dairyman, indicated these ratings are extremely high for an article relating to artificial breeding or reproduction.

Cooperating with Paul Fricke and Clark County Dairy and Livestock Agent Maria Bendixen, we developed a multi-location workshop to address dairy cattle reproduction. I presented the findings of the sexed semen survey ([Exhibit 6](#)) at these workshops. This presentation, and accompanying fact sheet, is also available on the Extension Dairy Cattle Reproduction website at: <http://www.uwex.edu/ces/dairyrepro/topics.cfm>. Over 50 producers, veterinarians, and industry professionals attended two of these workshops. Evaluation results from one location revealed the following about my presentation (1 = low and 5 = high): usefulness of topic = 3.7; attendees rating their knowledge a 4 or 5 pre-workshop = 34 percent; attendees rating their knowledge a 4 or 5 post-workshop = 55 percent.

Additional evaluation follow up in 2011 found that producers had applied information from the workshops for use on their farms ([Exhibit 18](#)). One respondent noted that having applied data from peer farms gave them more confidence to use sexed semen, particularly on first lactation cows. In the three years since beginning to use sexed semen, their herd has grown by 100-150 head without purchasing animals. Using a conservative price for replacement Holstein heifers of \$1,200, the value of these additional heifers is near \$120,000 to \$180,000 for this farm over a three year period.

Assessing the economic impact of changes to dairy cattle reproduction programs is challenging at the farm level. As one respondent indicated in the dairy reproduction programming evaluation ([Exhibit 18](#)) a suggested change to their reproduction program resulted in 20 percent of cows bred earlier with no loss of fertility. Research has concluded that each new pregnancy generates \$200-500 of income to the dairy operation. The earlier a cow becomes pregnant the more valuable that pregnancy becomes. Thus, this producer was able to place 20 percent more cows near the \$500 pregnancy value than the \$200 level. Encouraging producers to make small changes, such as those proposed in the fact sheets prepared for the dairy cattle reproduction display at the 2010 Farm Technology Days (FTD) ([Exhibit 5](#)), can have a significant economic impact to an individual farm. This factsheet was distributed at FTD, and is currently available at the St. Croix County UW-Extension website: <http://stcroix.uwex.edu/agriculture/dairy-and-livestock/>.

I have guest lectured for the Wisconsin Indianhead Technical College large herd management class, covering dairy cattle reproduction. These teaching opportunities have been used to present data on new technologies, including new technology for diagnosing pregnancy. Recently, blood pregnancy tests for cattle have been made commercially available. While early pregnancy diagnosis is an advantage offered by the blood test, if left unchecked, false positive results will nullify the economic advantage. With the average value of a pregnancy ranging from \$200-500, small errors in application can add up to a large economic downfall. One attendee at this lecture was able to reduce by two-thirds the number of cows examined by the veterinarian, and at the same time work with their veterinarian to identify any false positive results. The blood pregnancy test at this farm can be completed for \$4.50 less per cow versus exam by the veterinarian. I later summarized the advantages and disadvantages in an article I wrote covering new pregnancy test options for the Wisconsin Agriculturist ([Exhibit 1](#)).

Dairy Heifer Management:

Raising replacement dairy heifers is the second greatest cost for the dairy industry, yet many producers struggle to quantify heifer raising costs. The Intuitive Cost of Production Analysis (ICPA) project in 2007 evaluated the economic costs and labor efficiencies associated with raising heifers on Wisconsin farms. As a collaborator for this project I worked with two producers in Polk County to collect labor and cost data to contribute to the statewide database. One contributing producer used the results to affirm that their current practices were meeting the industry standards, and the second used the results to re-evaluate labor for the calf enterprise. I presented the results of the project to the cooperating producers and to 27 workshop participants in Balsam Lake and Menomonie. At the Menomonie meeting site respondents (n=21) indicated an increase in knowledge of the economic costs and labor efficiencies of raising replacement heifers from 2.67 to 3.76 (1 = no knowledge and 5 = very knowledgeable) ([Exhibit 19](#)).

Facilities and handling are an additional element to my heifer management programming. I presented on calf barn ventilation to 18 participants for the Dairy Roadshow in Amery (adapted from Agricultural Engineering Specialist Brian Holmes). Respondents (n=12) indicated an increase in their principal understanding regarding new ventilation recommendations by 25 percent ([Exhibit 20](#)). Through this workshop I connected with six producers to conduct site visits related to dairy heifer facilities. Individual follow up in the spring of 2011 indicated the following actions resulted:

- Two farms modified calf barn pens to allow for better ventilation
- One farm constructed a new heifer barn
- One farm constructed a new feed lane and rail

DAIRY MANAGEMENT – Dairy Heifer Management (continued):

Two Calf Care workshops were held in 2010 in Clear Lake and River Falls, with a total of 23 participants. At the River Falls location I moderated a producer panel covering automated calf feeders, a new technology being adapted. I followed up with three producers regarding automated feeding. After a site visit with one of the producers, he was able to conclude his current facilities would not convert well to the system. One producer is still undecided, but has sought the assistance of UWEX for a building plan that incorporates an automated feeding system. The third producer has not further pursued the system.

Nutrient Management Education for Farmers:

Both counties have watersheds facing greater nutrient management restrictions as part of the Environmental Protection Agency's Total Maximum Daily Load (TMDL) project. With over 250 named lakes and waterways, the Polk County Strategic Plan identified water quality as a top priority. The Land and Water Conservation Department (LWCD) in St. Croix County has identified nutrient management planning as one tool to meet TMDL requirements. Working with dairy farmers on nutrient management is important environmentally and is a key to addressing urban concerns with agriculture.

I implemented nutrient management farmer education programs in 2008 for Polk County and in 2010 for St. Croix County. In Polk County I authored the grant application and was fiscal agent. For St. Croix County, I took greater leadership in delivering the educational program. To date, 25 plans covering 7,100 acres have been completed. Twenty-one of these producers received a total of \$18,000 in cost share funding through Multi-Agency Land and Water Education grants. In addition, four of the St. Croix County producers used the training to satisfy nutrient management performance standards for Farmland Preservation Tax Credits, opening their eligibility to an additional \$9,000 in funding.

The program I developed for Polk County consisted of two classroom sessions and an on-farm meeting for manure spreader calibration. Regional UWEX Specialist Paul Kivlin, LWCD staff, and I co-taught these sessions. I worked with three of the participants to collect and map soils information. For the St. Croix County program, I was responsible for teaching the manure, nitrogen, phosphorus, and potassium curriculum. All program participants (n=25) completed a nutrient management plan. Post-workshop evaluations were conducted from the St. Croix County training, and indicated 100 percent of the St. Croix County participants (n=13) improved their soil's fertility, improved the way they spread manure, and would recommend the program to other farmers ([Exhibit 21](#)). Seven participants indicated the training helped them save money, of which, six placed a dollar value on that savings ranging from one to twenty dollars per acre. Using an average savings of ten dollars per acre for the 1,500 acres these six producers operate, the total savings was \$15,000 for the 2011 crop year. The remaining six participants stated they did not save money, but redistributed their fertilizer dollars more effectively.

Nutrition and Feeding:

Rising commodity prices have peaked interest in controlling feed costs on dairy farms. Persistent drought from 2006 to 2009 further exasperated the issue of high purchased feed costs in Polk County. I saw a need for educational efforts regarding feeding decisions based on fluctuating market conditions. Decision making in response to rising feed prices was the topic of the Dairy Decisions Workshop I taught for fourteen participants. My educational role focused on decision making tools ([Exhibit 22](#)) and methodologies in a high priced feed and crop input environment. Exercises used for this workshop revealed that feeding high priced grains is still profitable early in lactation. Forage production was included in this workshop because of record high input costs for alfalfa at that time. The teaching evaluation from this workshop indicated an increase in knowledge of +0.6 points (1 = no knowledge and 5 = very knowledgeable) ([Exhibit 23](#)) on the use of decision making tools. I have since worked with UWEX Specialists Victor Cabrera and Randy Shaver, and County Agriculture Agent Paul Dyk, on collecting farm level ration cost data. I have continued to use this data to help producers analyze their feed costs and overall cost of production.

Dairy Management Reflection:

I plan to continue working with dairy producers on reproduction, genetics, and herd health issues. UWEX has an obligation to work with producers to sort through the information they receive from all sources, and determine what has a sound research basis and is applicable to their situation. I will be seeking more opportunities to conduct applied research in these areas. One of my skills in this area I want to build upon is conducting hands-on learning, such as the ultrasound demonstrations I did at Farm Technology Days. Indications are that I will be receiving more demand for these hands on trainings for producers and farm employees in the Pierce and St. Croix County area.

Rising feed costs will be a focus of my future programming, including decision making tools, feed efficiency, and managing storage losses. As I have transitioned from Polk to St. Croix County, I had to adapt to differences in production systems between the counties, such as less involvement with grazing planning and grazers networks. One aspect of my programming that has remained the same is nutrient management planning training. St. Croix LWCD staff and I estimate there are over 40 farms in the county without nutrient management plans that will need plans to meet compliance for the Farmland

DAIRY MANAGEMENT – Dairy Management Reflection (continued):

Preservation program. I have already begun to work with bio-gas and anaerobic digester projects in St. Croix County's AEA, and anticipate more work in this new direction.

HORTICULTURAL EDUCATION

Training and Advising Master Gardener Volunteers:

The Polk County Master Gardener Association (PCMGA) plays a significant role in educating local residents on home horticultural issues, helping with community service projects, and promoting UWEX's research based materials. After declining volunteer participation in 2007-2008, PCMGA volunteerism grew to over 1,000 hours volunteered in 2009. Between 2009 and 2010, I facilitated two general Master Gardener Volunteer (MGV) trainings in Polk County, training a total of 20 new MGV's. The statewide curriculum was used as a guide for the training sessions, with a mix of distance education and myself delivering the material. I was the lead trainer in 2010 for sessions covering wildlife, soils, turf, container gardening, and plant propagation. The teaching outline ([Exhibit 10](#)) I developed for container gardening was used for MGV training, and later adapted for public presentations for the Polk County Aging Department.

A course evaluation survey was sent to the twenty MGV training class participants from the 2009 and 2010 trainings in August of 2010 (n = 7; 35 percent response rate). Evaluation results ([Exhibit 24](#)) found that all respondents felt the course content, length, and diversity of topics was appropriate. Additionally, 100 percent of respondents Agreed or Strongly Agreed that the information presented was high quality, and over 70 percent Agreed or Strongly Agreed that I was an effective teacher. Eleven of the MGV's I trained reported volunteer hours in 2009 or 2010. Volunteerism of these eleven MGV's, measured in hours of youth education, community education, and support services totaled over 473 hours. Between 2006 and 2010 the MGV's I advised donated a total of 4,472 hours of service. According to Independent Sector, (<http://www.independentsector.org>), the dollar value of a volunteer hour was \$18.77 in 2006 and increased to \$20.85 in 2009. Using an intermediate value of \$19.81, the cumulative value of the 4,472 volunteer hours contributed by the MGV's I advised is \$88,590.

In reviewing the comments from the MGV course evaluation survey, participants shared how they have utilized their training in the community. Responses ranged from "confidence to take on projects and the importance of planning," "was able to get kids more involved in gardening," to "yes, every day of my life!" Perhaps the best example is an unsolicited communication I received from a 2009 MGV.

Hi Ryan, I just mailed you my Master Gardener hours for last year – you would not believe what those few little volunteer hours have turned into!!! Those first volunteer hours were for taking care for the indoor plants at the Amery Regional Medical Center (ARMC)...after six months of doing that, and because so many people were asking me for plant advice I was also asked if I would put out a monthly newsletter in partnership with the head groundskeeper. We are now in the beginning stages of forming the ARMC garden club...we want to start a kitchen garden on the hospital grounds to produce fresh produce for the hospital and local food shelves. I'll keep you posted – Thanks! B.B.

Training and Advising Master Gardener Volunteers Reflection:

Looking back at my four years of experience with the PCMGA, I learned that with guidance MGV volunteer projects can be premier examples of transformational education. The PCMGA has become a go-to resource for horticultural information in the community; however, volunteer retention is a major threat to the future of the organization. As a relatively small MGV association with thirty or less members over the past five years, the bulk of the responsibilities fall upon less than a dozen members. I believe I had success with helping the group transition their volunteer projects from a garden planting and maintenance focus to a stronger educational role. St. Croix and Pierce Counties have a joint Master Gardener program managed through the Pierce County UWEX office, thus my current involvement in MGV programming is diminished compared to my role in Polk County.

Local Foods Development for Schools and Government:

A portion of my Horticultural responsibilities in Polk County focused on educating local government and schools about local foods development. One example is the Got Dirt? – Youth Garden Initiative. The Got Dirt? – Youth Garden Initiative curriculum is available statewide and was adapted for use in Polk County. This program brings gardening information and student curriculums to teachers to help them incorporate school gardens in the classroom. In collaboration with the Polk County Health Department, I was the lead trainer for twenty-six teachers, food service personnel, and Cooperative Education Service Agency staff. Eighty-five percent of the attendees found the information provided in the workshop useful ([Exhibit 25](#)). Through the Got Dirt? program, the Luck and Osceola school districts, along with Polk County Early Learning Development, were able to secure grant dollars to start school gardens in 2010. The Luck school garden has gone on to incorporate fresh vegetables from the garden into the school lunch program. Leafy greens grown over the summer are

HORTICULTURAL EDUCATION – Local Foods Development for Schools and Government (continued):

donated to the food pantry. Ann Goldbach, Luck Elementary School principal, has placed an emphasis on having families take turns caring for the garden over the summer months. *“When the families are involved kids do better in school. The school garden provides an opportunity for students and parents to work side by side, introduces children to where their food comes from, and provides healthy vegetables for our lunch program.”*

The Polk County Early Learning center provided a unique opportunity to work with school staff and involve other county employees. Because of the garden’s close proximity to the Early Learning Center, Library, Government Center, and Salvation Army Serenity House, it offered an excellent opportunity for collaboration. Through the summer of 2010, I facilitated the team that coordinated garden activities, including taking the lead in planning and planting the garden plot. Indirectly, this training led to my involvement with MGV’s doing similar projects for the Amery Regional Medical Center and St. Croix Falls Hospital. These institutions were not our target audience; however, the materials adapted well for these MGV projects.

In the summer of 2010, I worked with the Polk County Aging Programs Director on container gardening education for senior meal sites. The aim of this project was two-pronged. First, the Aging Program wanted to partner with UWEX to promote more fresh fruits and vegetables in the diet. Secondly, I wanted to raise awareness of gardening in small spaces. Several participants noted they had vegetable gardens in the past, but because they now lived in senior housing they no longer had access to garden plot space. Others who had access to garden plots no longer gardened because of physical limitations. The program was offered to ten seniors at two senior meal sites with positive feedback from the Aging Program’s Director ([Exhibit 26](#)).

Another area of interest for local governments is developing capacity for local food production. During my time in Polk County I regularly worked with AmeriCorps VISTA volunteers devoted to this issue, particularly helping to fill knowledge gaps of local agriculture as they conducted a feasibility project. Through a Western district resource management team grant, Polk County Community Resource Agent Bob Kazmierski and I collaborated with a local stakeholder group to produce the Eats and Arts Guide ([Exhibit 27](#)). The Eats & Arts Guide was distributed to 22,000 households in Polk County in 2009.

Local Foods Development Reflection:

My experiences with local foods development have been more diverse than I ever imagined when first planned. Tying local foods programming to local government aided the Polk County UWEX office in meeting its’ political effectiveness goals by aiding other county departments, such as the service I provided to the Aging Department and Early Learning Center. While the scope of my work with the Polk County garden grew beyond my original intent, in the end it was a great opportunity for me to live through the ups and downs of a first year school garden project. I believe that practical experience helped add credibility to the educational information I was providing to the project. As my programming has transitioned to St. Croix County I have been less involved with local foods, but in the future anticipate providing more financial education to growers.

CONCLUSIONS

The path of my UWEX career is unlike many, as I have had the experience of working in two counties. My opportunity to move to St. Croix County granted me the chance to start new again, with knowledge I wish I had when first starting my career. Delivering high impact programs with sound information is key to our jobs, but my transition to St. Croix County allowed me to focus more on building relationships from the start, something I undervalued earlier in my career. Working for UWEX has afforded me the opportunity to grow as an individual through those relationships, while still having the opportunity to continue my involvement in research and valuing clientele over sales.

As I look to the future, I foresee the need to further develop my skills in Farm and Financial Management to address the greater diversity of farm sizes and enterprises in the area. I aspire to include more field research as part of my work, as I believe that research conducted by county based faculty offers opportunities for hands-on learning, greater stakeholder involvement, and adds to the scholarly work done by UWEX County Agents. On a broader scale, I anticipate taking a greater leadership role within my county office through department head duties and fulfilling our office’s objectives within St. Croix County’s strategic plan. At the University level, I look forward to mentoring our newer colleagues as I now have a greater appreciation for the guidance and encouragement my mentors have given me.

Over the past five years I have found that UWEX users value my work when I can provide specific information pertaining to the issues they face every day. Because of this, I believe my work in the future will be driven more towards one-on-one and peer group delivery. Our work to sift and winnow through research based data that help our clientele best apply solutions to their problems should not be undervalued. The verbal appreciation and continued requests for assistance have helped assure me that I am fulfilling people’s expectations of their UWEX Agriculture Agent.