

# Wisconsin Grazing Initiative 2012 Annual Report

A compilation of regional and statewide managed grazing Education, Research, and Technical Assistance projects made possible by the Wisconsin Grazing Lands Conservation Initiative (GLCI), 2009-2011



The **Grazing Lands Conservation Initiative** is dedicated to the protection and improvement of private grazing lands. The organization was founded to provide high quality technical assistance on privately owned grazing lands on a voluntary basis and to increase the awareness of the importance of grazing land resources.

# Wisconsin Grazing Initiative 2012

Published January 2012

A summary of completed projects in the year 2011  
Includes updates and highlights from all grants in progress  
from 2009-2011 funds

## Program Goal Statement

Our mission is to expand the use of profitable, grazing-based livestock production systems that foster environmental stewardship. This will be accomplished through high quality technical assistance to owners and operators of private land, university and producer coordinated research, and educational programs.

## Supporting Organizations

Project Oversight

Wisconsin Grazing Lands Conservation Initiative, Contact: Chairman Mary Anderson, River Country RCD, P. O. Box 645, Whitehall, WI 54773, (715) 579-2206, [maryc@rivercountryrcd.org](mailto:maryc@rivercountryrcd.org)

Budget and Fiscal Manager



**United States Department of Agriculture**

**Natural Resources Conservation Service**

Wisconsin Natural Resource Conservation Service, [www.wi.nrcs.usda.gov](http://www.wi.nrcs.usda.gov), Contact: Brian Pillsbury, State Grazing Specialist, 505 Broadway Room 232, Baraboo, WI 53913, (608) 355-4470, [brian.pillsbury@wi.usda.gov](mailto:brian.pillsbury@wi.usda.gov)

Grant Program Administrator



Wisconsin Department of Agriculture, Trade and Consumer Protection, [www.datcp.state.wi.us](http://www.datcp.state.wi.us), Contact: Laura Paine, Grazing and Organic Agriculture Specialist, 2811 Agriculture Drive, PO Box 8911, Madison, WI 53708-8911, (608) 224-5120, [laura.paine@wi.gov](mailto:laura.paine@wi.gov)

Report Author and Editor



UW-Madison Center for Integrated Agricultural Systems, [www.cias.wisc.edu](http://www.cias.wisc.edu), Contact: Steve Neary, 1535 Observatory Drive, Madison, WI 53706, (262) 617-0941, [glcittracking@gmail.com](mailto:glcittracking@gmail.com)

# **GLCI Grant Highlights 2009-2012**

Total Projects Funded = **54**

**10** Research Projects

**21** Educational Projects

**23** Technical Assistance Projects

**Total Funding Provided = \$1,736,157**

## **Completed Activities in 2011:**

### **Pasture Walks, Farm Tours and Demos**

**85** throughout Wisconsin

### **Educational Workshops, Conferences and Meetings**

**133** throughout Wisconsin

### **Grazing Plans Written**

**352** plans (new and revised) with over **20,341** acres  
planned and managed

### **College Partners**

University of Wisconsin-River Falls

University of Wisconsin-Madison

University of Wisconsin-Eau Claire

WI Technical Colleges

### **Publications Created**

The Grazing Planner

Grassworks Quarterly Newsletter

### **Media Connections**

Television, Radio, Newspapers, World Wide Web

### **Non-Traditional Audiences**

Amish, Mennonites, Beginning Farmers, Women, Asian,  
Native American, African American, Disabled Farmers

## Introduction from GLCI President Mary Anderson

WOW- Wisconsin! We are continually amazed at the accomplishments of the multitude of grazing projects funded by the Grazing Lands Conservation Initiative. With the publication of the 6th edition of the Wisconsin Grazing Initiative Annual Report, we are proud to highlight the project accomplishments as well as summarize activities around the state with regard to grazing education, research, and technical assistance.

We are excited to provide you this summary and hope you find this book as interesting and invigorating as we did. These projects are the direct result of a variety of partners and their local dairy and livestock farmers working together to identify and address the grazing educational, research and technical assistance needs within their local community. These unique partnerships are doing their part to ensure that Wisconsin livestock agriculture remains profitable, progressive and growing while being friendly to our environment and our neighbors.

Funding for these amazing projects is provided annually and each project can last up to three years. In the first section of the book, we are proud to present final reports of projects that were completed in 2011. There are also summaries of each of the projects that were funded in 2010 and 2011 and are on-going. We are proud of the farmers, agencies, and organizations whose projects are summarized within this report. We applaud all of their achievements!

The Wisconsin GLCI has been working hard since the 1999 to identify and leverage funds that are focused at expanding the promotion, research and development of grazing systems on private lands. Over those years, almost \$8 million has been allocated from the federal and state budgets to expand the use of profitable, grazing-based livestock production systems that foster environmental stewardship. Each of these dollars has been matched with an additional \$.40 in partner contributions. Wisconsin continues to be the leader in fostering the development of grazing based farm businesses building upon the sturdy foundation built by the Wisconsin GLCI.

The Grass is Greener on our side of the fence!

A handwritten signature in cursive script that reads "Mary C. Anderson". The ink is dark and the signature is fluid, with a large 'M' and 'A'.

Mary Anderson, President  
Wisconsin Grazing Lands Conservation Initiative



## Accomplishments

While each of the GLCI-funded education, technical assistance and research projects has taken its own approach to promoting Management Intensive Grazing (MIG) in Wisconsin, there are enough similarities between many of them to consider their accomplishments and discoveries together. The education projects summarized here were completed between 2009-2011. Some carried out efforts to educate a specific group, others considered the overall community they were trying to reach, and yet others aimed to educate on a statewide level. All-in-all, their one common goal was educate the farming community as well as the general public about managed grazing and its economic, environmental and social benefits.

**Education:** Completed project accomplishments include:

- An estimated **20,422** farmers were served directly through pasture walks, meetings, classes, workshops, one-on-one consultations, farm visits, etc., based on reported attendance at each event (some farmers may have attended more than one event).
- **85** pasture walks, farm tours and demos occurred during the grazing season.
- **133** winter meetings, conferences or workshops were held.
- Tens of thousands of people were introduced to managed grazing through targeted print, television, radio, and internet publicity.

**Technical Assistance:** Each of the GLCI funded technical assistance projects were designed to develop, deliver and assist farmers with new and existing grazing plans. The completed projects reached over **231** new graziers and created plans for those farmers totaling over **12,128** acres of well-managed pasture. In addition, over **121** farmers received continued plan assistance on another **8,213** acres of pasture. This assistance helped to prevent over 3,000 tons of soil erosion and 10,000 pounds of phosphorus runoff from entering Wisconsin's precious streams, rivers and lakes.

**Research:** GLCI funded research projects described here were carried out between 2008-2011. The research projects:

- Involved farms using managed grazing, research stations and university farms for the experiments.
- Were completed by both farmers and researchers.
- Contained educational and outreach components that provided distribution of research-based information to graziers across the state.

The success of these projects can be measured qualitatively, as well as quantitatively. The following themes expressed by the project leaders and participants are key to the future success of programs and activities that support managed grazing:

- Projects are very successful when they incorporate research-based information and farmer-to-farmer learning
- Public events and media coverage of these projects increased general awareness of managed grazing and its many benefits to Wisconsin's rural landscape, communities and economy.

# Table of Contents

## Completed Projects

### A. Education

1. Marathon and Lincoln Co. MIG Promotion and Implementation Project.....	8
2. Grazing Education and Demonstration in the Lake Superior Basin.....	9
3. Southeast Wisconsin Grazing Education Program.....	10
4. Managed Grazing Success: From Soil to Sales.....	11
5. Grassworks Annual Grazing Conference.....	12
6. Grazing Education for South Central WI Farmers.....	13
7. NW WI Graziers Network Education and Demonstration Project.....	14
8. North Central Graziers MIG Education and Demonstration Project.....	15
9. Managed Grazing Education in the Chippewa Valley.....	16
10. Southeast Wisconsin Grazing Education Project.....	17
11. WI School for Beginning Dairy and Livestock Farmers.....	18
12. Providing Research-Based Educational Grazing Resources.....	19

### B. Research

1. Evaluation of Legume-Fescue Mixtures for Organic Grazing.....	20
2. Potassium Fertility Rates for Management Intensive Grazed Pastures.....	22
3. Assessment of Prior Grazing Experiences on Adaptation to Pasture.....	25
4. Grazing Management Effects on Pasture Productivity, Plant Morphology and Persistence.....	26
5. Are Graziers and Plant Breeders Responsible for Reed Canary Grass Invasion?.....	28

C. Technical Assistance.....	29
------------------------------	----

## Projects in Progress: Highlights and Updates

### A. Education

1. Grazing Outreach in the SW WI Grassland & Stream Conservation Area.....	31
2. St. Croix Valley Graziers Educational Assistance Program.....	31
3. Wisconsin Grazing Schools.....	32
4. Columbia/Dodge Grazing Network: Continuing to Build on our Success.....	32
5. Broadening the Outreach for Grazing Education and Success.....	33
6. Grassworks Annual Grazing Conference.....	33
7. NW WI Graziers Network Education and Demonstration Project.....	34
8. Managed Grazing Education in the Chippewa Valley.....	34
9. Central Wisconsin 7-County GLCI Grant Program.....	35

### B. Research

1. Quantifying Nutrient Loss in Runoff from Grazing Cattle.....	35
2. Pasture Feed Budget Maps.....	36
3. Assessing Potassium and Phosphorus Needs of Pasture Swards in Managed Grazing Systems.....	36
4. Energy Intensity, Carbon Footprint and Environmental Impact of Pasture-Based Dairy.....	37
5. Evaluating Effectiveness and Economics of Farmer-Selected Management Methods.....	37

C. Technical Assistance.....	38
------------------------------	----



# Completed Projects

Summaries of Technical Assistance,  
Education and Research projects  
completed in 2011



## Marathon and Lincoln County Managed Grazing Implementation and Promotion Project (910-2)

The educational efforts of this project are part of an on-going comprehensive plan to implement managed grazing in Lincoln and Marathon Counties. Efforts continue to be successful by attracting both experienced and new graziers to every event. This mix strengthens the efforts as the new graziers learn from the experienced and the experienced always seem to pick up one or more useful lessons as well. The events hosted by this project are well attended, averaging at least 30 people at each pasture walk and well over 100 at the Annual Winter Conference. The successful education efforts of this project continue to feed and drive its one-on-one technical assistance, which typically results in new grazing plans and ultimately new acres under managed grazing.

An unexpected opportunity that arose during this project was an extensive partnership with GrassWorks, working on the new Dairy Grazing Apprenticeship program. The Project Manager of this new GrassWorks initiative is from the Marathon/Lincoln county area along with three of the four new apprentices and master graziers. The GrassWorks effort runs parallel to this project's to work with new graziers and new farmers, in particular, and this project is looking forward to a long and fruitful relationship with the new Dairy Grazing Apprenticeship program.

The educational activities of this project are reaching an unprecedented number of new farmers who are eager to learn, attend many educational events and proceed to develop and implement grazing plans for their new farms. Their energy, openness and passion are drivers of many of this current network's activities and will mostly be the lifeblood of managed grazing for years to come in North Central Wisconsin.

### Grant Project Objectives:

- 1) Reduce cropland erosion and animal waste runoff into the waters of the state
- 2) Attract and educate beginning farmers and farmers new to grazing about MIG
- 3) Educate agricultural lenders, educators, and agri-business professionals about the benefits of MIG

### Accomplishments

- 14 pasture walks (570 attendees)
- 2 grazing workshops (60 attendees)
- Winter grazing conference (124 attendees)
- Grazing summer school for UWSP students (135 attendees)
- 15 newsletters sent to 1,250+ person mailing list
- Reduced 2,450 tons of soil erosion on 1,225 acres of land
- Reduced 9,800 lbs of phosphorus runoff on 1,225 acres of land
- 3000+ one-on-one contacts
- Served Amish, Mennonite, and Women farmers

### Partners

NRCS, Pri-Ru-Ta RC&D, Golden Sands RC&D, Northcentral Technical College, UWEX, UW-Stevens Point

### Project Location

Northcentral WI

### Contact Info:

Paul Daigle  
Marathon Co. Land Conservation  
210 River Dr.  
Wausau, WI 54403-5449  
(715) 261-6006  
[paul.daigle@co.marathon.wi.us](mailto:paul.daigle@co.marathon.wi.us)



## Grazing Education and Demonstration in the Lake Superior Basin (920-2)

One of the main goals of this project was to demonstrate the economic feasibility of managed grazing in beef and dairy production, along with sheep, goats, poultry, swine and horse operations for area farmers. This was done by encouraging livestock producers, resource professionals and researchers to learn more about the use of managed grazing on northern pasturelands through pasture walks, workshops, field days, newsletters and face to face contact.

One unique activity that took place during this project was a May 2011 pasture walk and field day with an all grass organic beef producer located in Ashland County. Many different topics were covered and two business representatives (MOSA & Organic Valley) were present to provide information and resources. Despite poor weather, this event had the best turn out so far for this region. The main focus of the event was on grazing, but with an organic emphasis (markets, requirements, challenges). There was also a nationally recognized grazing expert who attended and gave a very informative presentation.

Overall, the event was a great learning experience not only for attendees but also for the project managers. For the event, there were many contributions from Organic Valley, Midwest Organic Service Association and South Shore brewery. Other than postage, the cost for the field day was low. A small registration fee was implemented (first for this region for a grazing pasture walk) to cover costs. Promotion was key to the success of the event, and several organizations graciously gave free postings on their website event calendars, including MOSES, MOSA, GrassWorks and Organic Valley.

In the future, this project would like to see an increase in social media presence via venues like Facebook, Twitter and YouTube.

### Grant Project Objectives:

- 1) Improve the ecological and productive condition of each producer's land, while protecting the area's high quality surface water resources
- 2) Improve the economic profitability of farmers' milk and beef production by improving pasture production, and limiting fixed and variable costs
- 3) Improve the social well-being in area rural communities through increased jobs on farm and at processing facilities made possible by growth in beef and dairy production by the adoption of MIG

### Accomplishments

- 5 pasture walks (35 attendees)
- 1 grazing workshops (25 attendees)
- Co-hosted grazing conference
- 250 one-on-one contacts
- Served women farmers

### Partners

NRCS, Organic Valley, NW WI Graziers Network, Ashland Land Conservation Department, Midwest Organic Service Association, UWEX, GrassWorks, MOSES

### Project Location

Northcentral WI - Lake Superior Basin

### Contact Info:

Lanice Szomi, Pri-Ru-Ta RC&D  
925 Donald St Rm 102  
Medford, WI 54451  
(715) 748-2008  
[lanice.szomi@rcdnet.net](mailto:lanice.szomi@rcdnet.net)

## Southeast Wisconsin Grazing Education Program (922-2)

The grazing education specialist and the technical grazing specialist spoke directly to at least 419 individuals who were interested in grazing at some level. This contact was made at events like grazing workshops, grazing network meetings, the MOSES Organic conference and the GrassWorks Grazing conference.

Since the beginning of the project period, 29 grazing plans had been requested, with four of those requests coming from women farmers. The technical grazing specialist is currently working with those farmers that requested plans.

Finally, Town and Country RC&D members spoke to the general public via several venues, including a radio broadcast interview, the Town and Country annual meeting, and a CSA open house at the Urban Ecology Center.

Since January 1, 2010, the Town & Country Grazing education specialist worked to build relationships with agency partners throughout the 13 county TCRC&D area including: NRCS, UW-Extension, Soil and Land Conservation personal and other Grazing Education Coordinators. The specialist also reengaged farmers who were previously connected with the Southeastern WI Grazing Network, created a Grazing Advisory Committee, and surveyed grazing farmers to assess their educational needs and coordinating with partners for the 2010 and 2011 workshop and pasture walk seasons.

### Grant Project Objectives:

- 1) Involve 500 existing, new and/or potential graziers in grazing education activities
- 2) Have 40 farmers request grazing plans, including 10 women farmers
- 3) Involve 600 members of the general public in educational grazing events

### Accomplishments

- 3 discussion groups/workshops (91 attendees)
- 5 pasture walks
- 40 one-on-one contacts
- Served women farmers

### Partners

UWEX, MOSES, GrassWorks, Urban Ecology Center, Glacierland RC&D, Organic Valley, UW River Falls, Frank Organic Feed & Supply

### Project Location

Southeast WI

### Contact Info:

Diane Herman  
 Town & Country RC&D  
 134 W Rockwell St  
 Jefferson, WI 53549  
 (414) 774-6562  
[dianeherman3dmd@wi.rr.com](mailto:dianeherman3dmd@wi.rr.com)

## Managed Grazing Success: From Soil to Sales (10201)

This project addressed all of its objectives utilizing mainly workshops, pasture walks and seminars. One example of achievement of objective one was sponsorship of a dung beetle and soil fertility pasture walk held on a multi-species farm. This activity broadened the conversation on the benefits of grazing different animals profitably and building soil fertility.

In cooperation with GrassWorks, the project helped sponsor Dr. Don Huber to speak to the network. Dr. Huber addressed the role of glyphosate in soil fertility and availability of nutrients. He did sessions for producers and for consumer awareness. Finally, this project co-hosted (with Grassway Organics) Sabino Cortez and Will Winter for a day long workshop addressing the production and benefits of on-farm compost.

Objective two was accomplished via a natural pig day-long workshop held at Kiel. The workshop featured a presentation by Dr. Will Winter and a pasture walk at Golden Bear Farms. Animal care and husbandry was a main focus at this workshop. Also, in cooperation with GrassWorks and Grassway Organics the project hosted a day workshop on Pastured Poultry for beginners. Early in the grant period, a grazing goat pasture walk was held that was extremely successful. The walk helped break through barriers, showing that grazing goats can be profitable and is a viable alternative.

Working with Gerald Berg and RiverSide Nature Center, the project sponsored a consumer pasture walk at the David Heidel farm in order to increase awareness about grass-fed meat. David shared information about his farm that has been grass-based for 17 years. Each participant was able to taste grass-fed beef, pork, and milk products. Other consumer events and festivals gave people the opportunity to taste grass-based food and learn about the environmental and nutritional benefits of MIG.

### Grant Project Objectives:

- 1) Increase knowledge for building soil fertility
- 2) Increase farmer knowledge of natural animal care and management
- 3) Increased consumer awareness and purchasing of grass-fed meat

### Accomplishments

- 3 grazing workshops (150 attendees)
- 3 pasture walks (50+ attendees)
- 425 one-on-one contacts
- Served women farmers and other minority groups

### Partners

UWEX, NRCS, GrassWorks, Grassway Organics, Glacierland Swine Group, Golden Bear Farms, Gerald Berg, RiverSide Nature Center, Organic Valley, Jeff Leen Farms, Dairy Business Innovation Center

### Project Location

Northeast WI

### Contact Info:

James Costello  
Glacierland RC&D  
3071 Voyager Dr Suite E  
Green Bay, WI 54311  
(920) 465-3006  
[office@glacierland.org](mailto:office@glacierland.org)

## GrassWorks Annual State Grazing Conference (10204)

The 2011 Grazing Conference was held February 13-15 at Wilderness Territory Resort in WI Dells, WI. Evaluation tallies corroborate informal feedback and indicate a high level of satisfaction with the event and enthusiasm about managed grazing. From Sunday evening through Thursday afternoon, the conference drew nearly 400 people from around the state and featured four keynote speakers, 25 breakout sessions and 40 exhibitors. Keynote speakers Nina Planck, John Ikerd, Michael Perry and Patricia Richardson each brought their own energy, style and expertise and contributed to the well-rounded and positive atmosphere.

The educational tracks covered a broad range of topics, including an advanced track on soil issues such as "Increasing Organic Matter," "Trace Minerals and Animal Health," "Milk As Fertilizer" and "Soil Life and Glyphosate." The Tradeshow was well-integrated into the event and featured a diversity of grazing related companies, organizations and agencies. Meals showcased local grass-fed food. Networking opportunities were cited as among the most valuable aspects of the conference by attendees.

The Grazing Conference met objectives by providing experienced as well as beginning graziers of all species with practical information and resources for implementing and/or improving their grazing operations. It also helped to energize and inspire attendees by creating a positive, optimistic environment in which to meet with others and build community.

GrassWorks communications efforts focused on building a new website that is easier to navigate, more attractive, accessible, professional and comprehensive. The pasture walk calendar received more than 2000 hits over the summer. Resources are well organized and easy to find. The marketplace section is picking up traffic and attracting new members who want to promote their products or advertise in the classifieds section.

### Grant Project Objectives:

- 1) Increase knowledge of various aspects of grazing within the grazing community via current research and other available resources
- 2) Increase cohesiveness within the grazing community, including farmers, researchers, educators, advocates and consumers/citizens
- 3) Increase awareness and adoption of grazing practices by those new to the grazing community
- 4) Improve management practices of established graziers

### Accomplishments

- 29 educational presentations, including 4 keynote speakers
- 40+ vendors and exhibitors
- 400 attendees
- Partner in Blue Sky Greener Pastures initiative
- Booths at 5 major conferences
- Newsletters/Factsheets (2500 recipients)
- Served Mennonite and Women farmers, International students

### Partners

NRCS, UWEX, DATCP, LWCD's and RC&D's from across the state

### Project Location

Statewide

### Contact Info:

Gerald Jaeger, President  
Grassworks, Inc.  
N1387 Rolling Drive  
Campbellsport, WI 53010  
(920) 533-4725  
jaeger@kmoraine.com



## Grazing Education for South Central Wisconsin Farmers (10211)

The project completed all 3 components outlined in the original objectives. Introductory training was completed by 15 students at the Reedsburg site and 11 at the Watertown location. The advanced training sessions at Reedsburg had 19 enrolled and was often attended by additional farmers and spouses as guests of those enrolled. Pasture walks were conducted from June through September as part of the training and included members of the Greater Sauk Graziers Network.

Class members were polled at the end of each session regarding the benefit of the topics presented that day. They were asked if the topic would enhance or modify their managed grazing practice. Pasture walk sessions were not evaluated. For all sessions, 100% of the enrollees found the class to be beneficial. 97%, 99% and 99% of Reedsburg introductory, Watertown introductory and Advanced Class enrollees, respectively found the individual class topics to be somewhat or very beneficial. Over 90% of the enrollees said they would adjust their grazing plan or system due to the topics discussed at the sessions. These results exceeded the goal of at least 70% impact in the project plan.

One unique opportunity that arose during the project was a result of one of the members of the advanced class belonging to a bordering grazing network. She invited the Greater Sauk Network to join hers in co-sponsoring a walk at her farm. This was a boon for several reasons. First, it added a new host to a relatively small pool of potential pasture walk hosts within the Greater Sauk Network. Secondly, it was a great opportunity to see a new managed grazing example and a unique watering system. Another unexpected opportunity arose through cooperation with a third grazing network to host a walk featuring goat management. This turned out to be a nice way to reach a "minority" species group and have a significant turnout.

### Grant Project Objectives:

- 1) Deliver introductory managed grazing training to 30 farmer-students at Madison College – Reedsburg and Watertown sites
- 2) Deliver Advanced Managed Grazing training to 15 practicing graziers at Madison College – Reedsburg
- 3) Coordinate the Greater Sauk Graziers Network

### Accomplishments

- 3 training classes (46 attendees)
- 3 pasture walks (75 attendees)
- 40 one-on-one contacts
- Served Amish and women farmers

### Partners

NRCS, DATCP, UWEX, MATC, Ocooch/Iowa Co. Grazing Networks

### Project Location

Southcentral WI

### Contact Info:

Doug Marshall  
300 Alexander Ave  
Reedsburg, WI 53959  
(608) 524-7727  
[dmarshall@matcmadison.edu](mailto:dmarshall@matcmadison.edu)

## Northwest Wisconsin Graziers Network Education and Demonstration Project (10214)

NW Graziers educational activities include pasture walks, winter conferences, seminars, grazing planning, planning follow-up and other on-farm and individual contacts. The Network hosted or co-hosted a record ten pasture walks in 2010, with an average attendance of 35. Subjects covered at the walks included weed control, multi-species grazing with cattle, sheep or goats, large-scale pastured-poultry, local marketing, organic dairying and fencing. Since mid-2004, there have been 1400 attendees at pasture walks held or co-sponsored by NW Graziers.

The winter conference in 2011 in Spooner attracted a record 101 persons, up from 81 in 2010 and 93 in 2009. Featured speakers included sheep and beef-grazing expert, Dr. Ben Bartlett from Michigan State, and horse expert, Dr. Krishona Martinson from Minnesota. Also included were hog grazer, Matt Cogger from Ashland, and poultry grazer and UW-Agent Agent, Jason Fischbach from Ashland/Bayfield.

The project also manages an informal mentoring program. Lynn Johnson, the NW Graziers intern and steering committee member, worked with about 15 graziers in 2010. At least half of mentoring relationships have resulted in longer-term relationships with multiple phone calls or farm visits. Other mentors include Randy Gilbertson, UW Extension Ag Agent Otto Wiegand, and Cheyenne Christianson, a long-time, organic dairy grazer in Barron County.

This project is currently hosting a distance education site for the WI School for Beginning Dairy and Livestock Farmers for the fifth consecutive year.

### Grant Project Objectives:

- 1) Conduct comprehensive educational instruction to increase acres of managed grazing in NW WI counties
- 2) Use grazing mentors to provide advice and support to beginning graziers
- 3) Conduct pasture evaluations, weed surveys, collect soil samples, and support on-farm demonstrations and research projects
- 4) Educate local and county governments about the environmental benefits of managed grazing

### Accomplishments

- 19 pasture walks (665 attendees)
- 2 winter conferences (182 attendees)
- 2 cow/calf seminars
- 675+ one-on-one contacts
- Served Hispanic, Native American, Amish, Mennonite and women farmers

### Partners

NRCS, DATCP, UWEX, UWRF, Pri-Ru-Ta RC&D, CVTC, UW Madison, GrassWorks, County LWCD's, NC/ River Country/ABDI Graziers, NW Regional Food Network

### Project Location

Northwest WI

### Contact Info:

Otto Wiegand  
Pri-Ru-Ta RC&D  
W6636 Hwy 70 Spooner, WI 54801  
(715) 635-3506  
[otto.wiegand@ces.uwex.edu](mailto:otto.wiegand@ces.uwex.edu)

## North Central Graziers Education and Demonstration Project (10215)

One of the main deliverables of this project was a winter grazing conference held in two parts (day/night) in Stetsonville on March 10, 2011. The conference was well-attended and had a wealth of speakers, including Dr. Dennis Cosgrove, Dr. Paul Onan, Janet McNally, Francis Thicke, Joe Shultz and Dr. Guy Jodarski. The conference proved to be a very educational and informative day for all of the farmers that attended, according to evaluations. The evening session with Janet McNally & Francis Thicke had equally positive results. This, along with great discussion among participants and with the speakers throughout and after their presentations proved to be a recipe for success.

This project had several very well-attended pasture walks that were topic specific. Three winter farmer discussion group meetings were held at the Ladysmith Library. Goals of these meetings were to foster communication among farmers in the area, as well as to spark discussion on various grazing topics. For each meeting, a different speaker was brought in. Rhonda Gildersleeve and Daniel Olson covered various topics, including extending the grazing season, varieties that work well in Wisconsin, and pasture forages that work well with low and no-grain situations. MOSES educator Joe Pedretti spoke about steps necessary for organic certification, with an emphasis on dairy transitioning.

One unplanned outcome of this project was a newly forged partnership with GrassWorks, the Department of Workforce Development and the WI Technical College System. This partnership helped to develop the WI Dairy Grazing Apprenticeship program that is currently in its first year in Wisconsin. The purpose of this program is to train new dairy graziers across the state. The project manager was a co-author on the curriculum for this program.

### Grant Project Objectives:

- 1) Help landowners improve the ecological and productive condition of private grazing lands
- 2) Improve the economic condition of farmers
- 3) Improve the social well-being in area rural communities

### Accomplishments

- 2 pasture walks
- 2 winter conferences (87 attendees)
- 3 winter discussion groups (50 attendees)
- 600+ one-on-one contacts
- Grazing newsletter (2500 recipients)
- Served Amish, Mennonite and women farmers

### Partners

NRCS, DATCP, UWEX, Pri-Ru-Ta RC&D, GrassWorks, Marathon County LWCD, Golden Sands/River Country/Lake Superior/Northwest/Northcentral Graziers, Byron Seeds

### Project Location

Northcentral WI

### Contact Info:

Lanice Szomi  
Pri-Ru-Ta RC&D  
925 Donald St Rm 102  
Medford, WI 54451  
(715) 748-2008  
[lanice.szomi@rcdnet.net](mailto:lanice.szomi@rcdnet.net)

## Managed Grazing Education in the Chippewa Valley (10216)

The educational program accomplished the goals and implemented all of the events that were planned. Through cooperation with other networks, time was saved so that the project coordinator could pursue and complete other opportunities as they came. In total, this project hosted eight summer pasture walks and one winter pasture walk on various farms throughout the Chippewa Valley.

Eleven public outreach events were held. This was possible due to the fact that opportunities were abundant and resources were readily available to the project. In addition, this project held three classroom learning events, two grazing network planning meetings, and the West Central Wisconsin Winter/Spring Grazing Conference.

The network educator, Kevin Mahalko also participated in several statewide professional development meetings and worked to ensure that funding for the network is available and that the local networks like the Chippewa Valley Graziers can continue to do such important work.

One highlight opportunity of the project was hosting plant pathologist Dr. Don Huber to talk about the effects of glyphosate and GMO crop production concerns. Dr. Huber was brought to the area in cooperation with Grassworks and conservation partners around the state.

After the meeting, there was an overwhelming response via telephone calls, emails and follow up contacts. Kevin Mahalko helped arrange press coverage and the Country Today newspaper ran a balanced front page headline story about glyphosate and Dr. Huber. The project representatives didn't take a stance on the issue other than that people should consider the implications of this research and see if it is proven to stand up to further scientific review.

### Grant Project Objectives:

- 1) Provide educational opportunities for the Chippewa Valley Grazing Network and inform the public about our events and benefits of Managed Grazing
- 2) Conduct educational events and public outreach through a variety of learning opportunities.
- 3) Provide farm visits and public outreach at agricultural and community events to promote and initiate the practice of managed grazing.

### Accomplishments

- 14 presentations/workshops/meetings (770 participants)
- 9 pasture walks (290 attendees)
- Held spring grazing conference (116 attendees)
- Booths at 3 regional conferences (4000 attendees)
- 560+ one-on-one contacts
- Served Asian, African American, Hispanic, Native American, Amish, Mennonite, women, economically challenged and disabled farmers

### Partners

NRCS, USDA, DATCP, UWEX, UWEC, St Croix/NorthCentral/NW/Central WI River/Coulee/PriRuTa/Golden Sands Graziers, Organic Valley, Midwest BioAg, Marathon/Lincoln Co. LWCD, GrassWorks

### Project Location

Chippewa Valley

### Contact Info:

Clifford Keepers River Country RC&D  
1304 N Hillcrest Pkwy Suite B  
Altoona, WI 54720 (715) 834-9672  
rivercountry@rivercountryrcd.org



## Southeast Wisconsin Grazing Education Project (10220)

Over the course of the grant period, farmers who have been connected to one another through the Southeastern Wisconsin Grazing Network pasture walks and workshops have begun mentoring one another on various grazing topics and assisting beginning farmers. They've also begun to network and help each other distribute their products. This developing camaraderie is strengthening the grazing network and furthering the goals set forth by this project.

An interesting opportunity arose for this project during the summer of 2011. University of Wisconsin Whitewater biology professor and researcher, Dr. Nadine Kriska, contacted the project's grazing educator and requested assistance with a preliminary dung beetle study near the university. The grazing educator coordinated a convenient location and also educated researchers on managed intensive grazing and forage differences that would affect manure textures. Dr. Kriska is seeking expansion of the study area for the 2012 pasture season to encompass additional grazing farms in southeastern Wisconsin. The grazing educator helped coordinate additional farms within close proximity to the University so more detailed studies can be performed and better knowledge can be gained about dung beetles in southeastern Wisconsin.

The grazing educator was asked by Tall Pines & Drumlin Area Land Trusts to partner and assist with education on a field trip for the Land Trust Alliance national rally. The field trip was held on October 14, 2011. This was a unique opportunity to educate agricultural preservation leaders from across the country regarding the benefits of management intensive grazing systems and sustainable farming practices. It is also an excellent example of combining state and federal resources to protect prime farmland from development and assure financial success through sound agricultural practices.

### Grant Project Objectives:

- 1) Assist beginning farmers and existing conventional farmers to apply managed rotational grazing practices
- 2) Maintain and improve the existing and transitioned managed rotational grazing lands, therefore helping farmers increase their profit margins
- 3) Increase public awareness on the environmental and socioeconomic value of managed grazing practices

### Accomplishments

- 4 pasture walks (123 attendees)
- 1 field trip (51 attendees)
- 6 workshop/demos (204 attendees)
- 450+ one-on-one contacts
- Served women farmers

### Partners

NRCS, DATCP, UWEX, Gallagher Fencing, Frank Organic Feed, WI Sheep Breeders Coop, Columbia/Dodge Graziers, Land Trust Alliance, Tall Pines/Drumlin Area Land Trust, WI DNR, FSA, Layne Christensen Co., Badgerland Financial, WI DNR, UWW, WI Ag Tourism Association, WI Bed and Breakfast Association

### Project Location

Southeast WI

### Contact Info:

Kirsten Jurcek, Town&Country RC&D  
134 W Rockwell St  
Jefferson, WI 53549  
920-541-3208  
kirsten.jurcek@tacrcd.com

## Wisconsin School for Beginning Dairy and Livestock Farmers: Farm Business and Grazing Management Training (10223)

Throughout the course of this grant, the three-term pasture-based dairy/livestock seminar was held at five distance education sites and on the UW-Madison campus. For the 2011-2012 session, there were about 40 students enrolled in the class. The class covered a wide range of topics, including: dairy and beef pasture management, farm selection and grazing system layout, marketing strategies, dairy goat production and start-up business models. A recent graduate survey shows that over 75% of all graduates of the School are farming in some way.

The School held its Eighth Annual Ride to Farm bike ride during the grant period. The purpose of the Ride is to raise money for the School and to raise public awareness about managed grazing. The 2011 Ride raised almost \$5,000 which goes to support the School in the form of student scholarships.

One new deliverable created by the project this year was the completion of a working draft of a first ever mentor-intern handbook for dairy and livestock farmers. It is titled, "Passing on Farm Knowledge: a mentor-intern handbook for dairy and livestock farmers." This is a very unique handbook that outlines the great importance of mentors and interns in building community among farmers and in helping new farmers succeed.

This fall, a pair of WSBDF graduates, Ryan and Cheri Klussendorf, were honored with the WI Farm Bureau's Outstanding Young Farmer award based on their financial success. They met each other in the WSBDF classroom in 2000 and married soon afterwards. They started their own pasture-based dairy farm several years later without family assistance and only \$10k to their name. They used the business plans they wrote in WSBDF class to obtain their start-up farm loan, and they attribute the WSBDF as the principal reason they are farming today.

### Grant Project Objectives:

- 1) Teach and train individuals in start-up pasture-based dairy and livestock farming; to help would-be farmers design, implement and operate a managed grazing system as the major source for their livestock feed
- 2) Increase the number of acres (particularly highly erodible land) in managed, pasture-based farming
- 3) Increase the number of people entering farming in Wisconsin

### Accomplishments

- 3 terms of classes (40 students)
- 2 on-farm student internships
- Had promotional booths at 6 conventions/conferences (500+ attendees)
- 1 winter farm tour
- Distributed annual newsletter (750 recipients)
- 500+ one-on-one contacts
- Served women farmers

### Partners

UW Madison, CIAS, UWEX, NRCS, DATCP, USDA FSA Beginning Farmer Loan Program, WITC, Organic Valley, Culver's, Family Dairies USA, American Transmission Company, WMMB, Faith Technologies, WFU, WE Energies, WI Cattlemens

### Project Location

Statewide

### Contact Info:

Richard L. Cates Jr.  
UW Madison CIAS  
1535 Observatory Dr.  
Madison, WI 54311 (608) 265-6437  
[rlcates@mhtc.net](mailto:rlcates@mhtc.net)

## Providing Research-based Educational Grazing Resources to Wisconsin's Agricultural Communities (10225)

During the course of this grant period, thirty-one formal educational presentations were made around the state in response to requests by grazing networks, industry, and government agency partners. Presentations provided information on a variety of grazing-related topics to 783 participants.

In addition, requests were received for research-based information from over 190 agricultural producers, Extension colleagues and partner agency contacts on a wide variety of pasture and grazing-related topics through phone, email and personal contacts. Thirteen on-farm consultations were also provided as requested.

Requests for assistance and information came from 33 Wisconsin counties and five states. As the use of managed grazing systems has grown throughout Wisconsin, so has the need for transfer of practical research-based information into the hands of those who can use it on their farms. Additional educational needs exist within the allied agriculture industries to support more widespread visibility, acceptance and adoption of pasture-based farming systems in Wisconsin. This project contributed partial support for statewide UW Extension specialist capacity to address these needs. The grant support provided has allowed the project manager to be responsive to diverse requests for educational presentations as well as serve as a source of objective, research-based information for local Extension colleagues, grazing agency contacts, producers, and related ag interests.

A variety of surveys and conversations through efforts such as the CIAS-led "Blue Skies, Greener Pastures" project has demonstrated the need and desire for expanded statewide Extension specialist capacity, and this GLCI grant project was critical to providing support to meet those needs.

### Grant Project Objectives:

- 1) Develop educational materials to meet the needs of dairy and live-stock producers, agribusiness partners, and government agency interests for research-based information on pasture-based farming systems
- 2) Facilitate identification, development, coordination and support of on-farm pasture research opportunities across Wisconsin
- 3) Provide statewide UWEX support via consultation to individual, group, and/or on-farm requests from farmers for research-based answers to pasture management questions

### Accomplishments

- 31 educational presentations (783 participants)
- 190 individual consultations with producers, UWEX personnel and partner agencies
- 203 one-on-one contacts
- Served Women farmers

### Partners

NRCS, DATCP, UWEX, USDA, Local LWCD's/RC&D's/Grazing Networks

### Project Location

Statewide

### Contact Info:

Rhonda Gildersleeve  
 UWEX Iowa County  
 222 North Iowa Street Suite 1  
 Dodgeville, WI 53533  
 (608) 723-6243  
[rhonda.gildersleeve@ces.uwex.edu](mailto:rhonda.gildersleeve@ces.uwex.edu)

## Evaluation of Legume-Fescue Mixtures for Organic Grazing Systems (934-3)

This project was a continuation of pasture forage research that began in 2005. The main goal was to evaluate three legume mixes with meadow and smooth-leaved fescues for use in a management intensive grazing system. Secondary goals included establishing best practices for type of legume, how to seed and additional soil amendments. In addition, this project sought to determine the ease and cost of establishment, yield and quality of sward, as well as legume persistence.

Paddocks were seeded in two ways to Kura Clover and Kopu II white clover in an evaluation of ease of establishment, yield, quality and longevity in existing pasture. One method was frost seeding and one was renovation by minimal tillage, non-herbicide methods with smooth leaf fescue as a companion. Establishment costs (seed, equipment & labor) ranged from \$25/a for frost seeding Kopu II to \$90/a for renovation with Kura.

### Contact Info:

Jim Munsch  
Deer Run Farm  
S 995 Bagstad Ln  
Coon Valley, WI 54623  
(608) 452-3769  
jmunsch@mwt.net

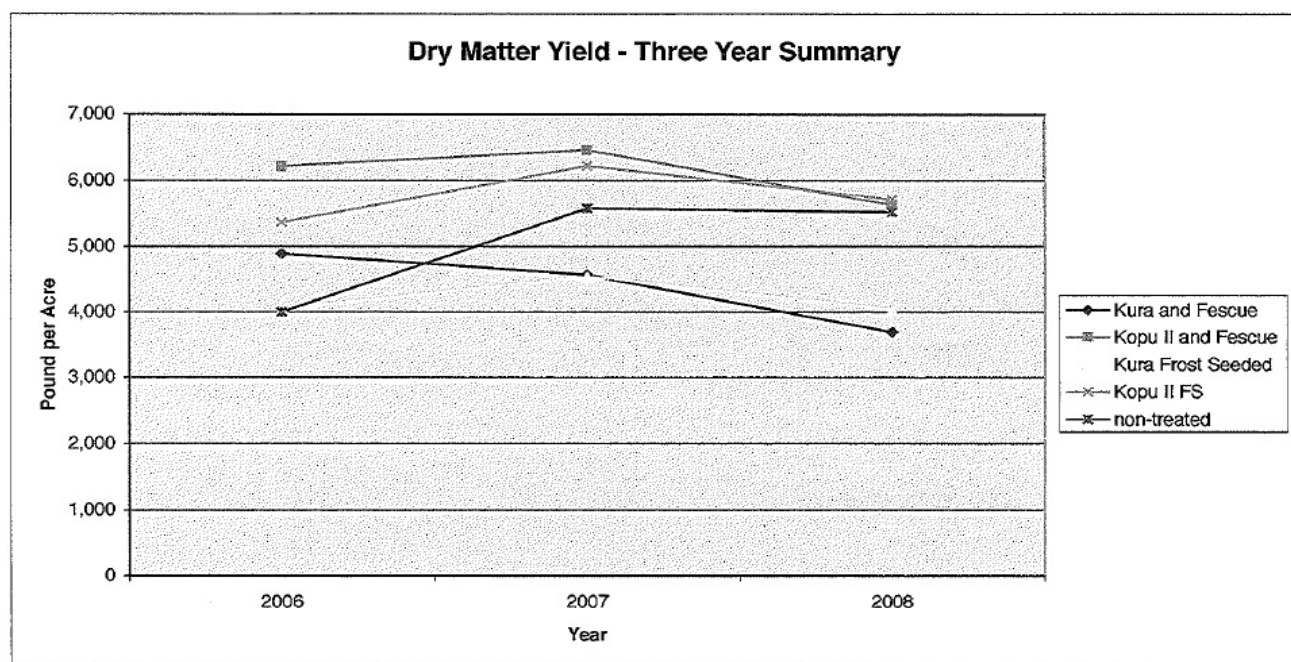
### Project Location:

Westcentral WI

### Primary audience and participants:

Organic Graziers statewide

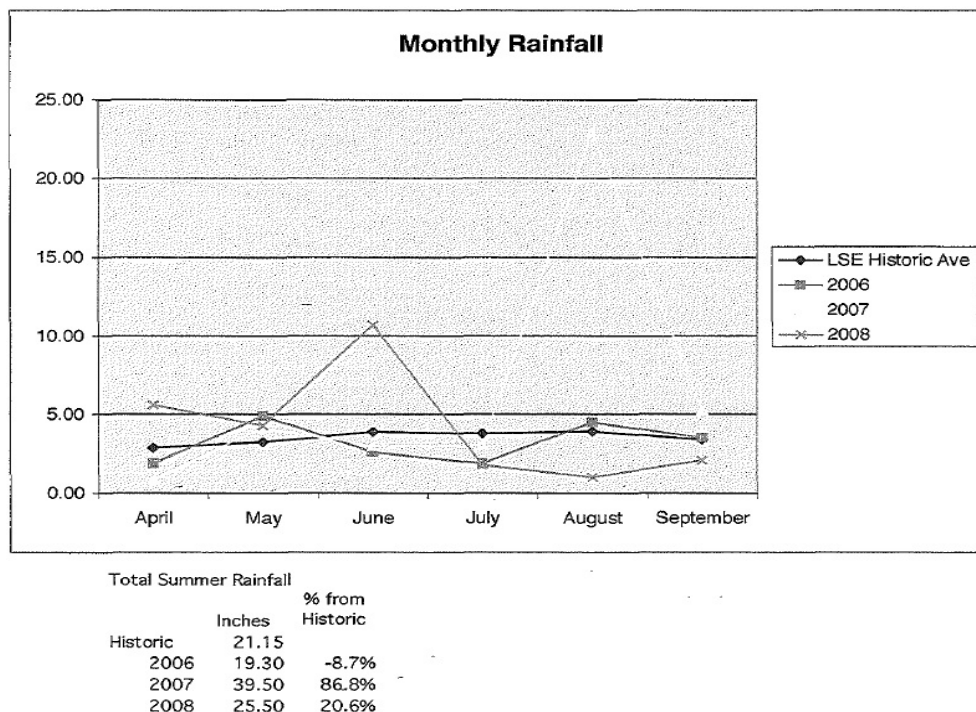
Frost seeding was effective for white clover but not for Kura. Over time, it appears the frost seeded white clover treatment equals the renovation method in yield and persistence of the clover stand. See yield summary data below. On the renovated fields Kopu II established much better than Kura. Kopu II was far ahead of Kura for three years. However, there is now (4 years in) visual indication that Kura is becoming established but even now not as well as Kopu II. Data suggest that in the first year after establishment Kopu II could give something in the order of a 30% improvement in dm yield with frost seeding to 50% for the renovated treatment. Through three years Kopu II consistently outperformed Kura with these establishment methods. See summary data below.





## Evaluation of Legume-Fescue Mixtures for Organic Grazing Systems (934-3)

Rainfall amount and timing had dramatic effect on the legume component. See yield summary chart (previous page) and read in conjunction with rainfalls. Both clovers were set back significantly by near-drought conditions in the last months of 2008; Kura worse than Kopu II. UW Extension agent Rhonda Gildersleeve points out this is due to Kura being a rhizome-bearing clover that protects itself in drought by transferring energy to the rhizomes at the expense of the above-ground portions of the plant.



On a macro basis applying the Kopu II treatments increased annual Crude Protein yields anywhere from a few pounds more to nearly twice as much as the non-treated paddocks. An approximation of CP production was made by making an annual summation of the product of CP% of samples used to measure yield. See table below. In the three years for which data exist, (cost, yield and nutritional) the return on investment in establishing Kopu II ranges up to 150% versus non-treated.

**Crude Protein Theoretically Available (Sum of DM Yields times CP% of Yield Sample)**

Paddock	Treatment	2006		2007		2008	
		CP (Lb/a)	Vs Control	CP (Lb/a)	Vs Control	CP (Lb/a)	Vs Control
21	Kura and Fescue	1009	1.34	841	0.69	546	0.62
22	Kopu II & Fescue	1525	2.03	1340	1.10	901	1.02
23	Kura FS	1036	1.38	887	0.73	506	0.57
24	Kopu II FS	1281	1.70	1286	1.05	888	1.01
25	Non-treated	753	1.00	1219	1.00	882	1.00
29	Alfalfa & fescue					164	
H1	Alfalfa & fescue					143	

## Potassium Fertility Rates for Management Intensive Grazed Pastures (935-3)

This project aimed to demonstrate to graziers the importance of soil testing and the application of needed rates of phosphorus, potassium, and lime. The research was conducted on four farms in Clark and Marathon counties from 2007 to 2010. In 2010, Farm 4 dropped from the project due to changes in the farm acreage.

The soil types and phosphorus and potassium soil test levels for the farms were as follows: Farm 1 - Fenwood-Rozelville silt loam (high and low), Farm 2 - Fenwood-Rozelville silt loam (optimum and very low), Farm 4 - Withee silt loam (excessively high and low), Farm 5 - Flambeau silt loam (low and very low).

**Contact Info:**

Kenneth Barnett  
126 Larkspur Lane  
Wausau, WI 54401  
(715) 355-4531  
ken.barnett@ces.uwex.edu

**Project Location:**

Northcentral WI

**Primary audience and participants:**

Graziers statewide

Lime, phosphorus, and potassium were applied based on UWEX fertility recommendations. Lime was not needed at any of the farms. Phosphorus was applied at the optimum rate. Potassium fertilizer treatments included: 0 percent (treatment 1), 20 percent (treatment 2), 60 percent (treatment 3), and 100 percent (treatment 4) of the optimum  $K_2O$  rate.

The optimum amount of 0-0-60 applied for the treatments varied between the farm sites reflecting differences in yield predicted by the farm cooperator. Three farms (2, 4, and 5) had a predicted yield of 2.0 to 3.0 tons per acre and an optimum  $K_2O$  rate of 130 pounds  $K_2O$  per acre. One farm (1) had a predicted yield of 3.1 to 4.0 tons per acre and an optimum  $K_2O$  rate of 180 pounds  $K_2O$  per acre. The two Marathon County farms (1 and 2) grazed beef herds. The two Clark County farms (4 and 5) grazed dairy herds.

Soil tests and legume content were measured in spring 2007, fall 2008, and fall 2010. Pasture growth was measured before and after grazing events and dry matter production and pasture intake were calculated. Pasture forage quality was measured at alternate grazing events and a mean seasonal value for the measured parameters was used in the analysis. The net value of production for total grazed/clipped was calculated by comparing the cost of fertilizing with  $K_2O$  with the yield and value of the fertilized pastures. The value of the fertilized pasture was set at \$98.53 per ton dry matter which was the mean value of Grade One large round bales in the Midwest (from Jan. 1, 2007 to August 31, 2009). Potash was valued at the fall 2009 price of \$550 per ton.

Data analysis included total forage produced (pounds dry matter per acre); total forage grazed/clipped (pounds dry matter per acre); net value of production for total grazed/clipped; percent crude protein; percent acid detergent fiber (ADF); percent neutral detergent fiber (NDF); total digestible nutrients (TDN); relative feed value (RFV); and net energy lactation (NEL).

Increasing the potash fertilization levels up to a maximum of 215 (farms 2, 4, 5) to 300 (farm 1) pounds per acre did not result in a significant increase in the total forage produced. There were significant fertilizer treatment effects for the net value of production for total grazed/clipped. The increase/decrease in total forage grazed/clipped (pounds of dry matter/acre) compared to the control was as follows: treatment 1: 0; treatment 2: -178; treatment 3: -15; and treatment 4: +129. Since there was increasing costs as more potash fertilizer was applied and either a decrease or little increase in total forage grazed/clipped, these results were not surprising.

## Potassium Fertility Rates, Continued

For the net value of production for total grazed/clipped (Table 1), treatment 1 was significantly greater than treatments 2 to 4. Treatment 4 was significantly less than treatments 1 to 3.

	Total Forage Produced lbs dry matter/acre	Total Forage Grazed/Clipped lbs dry matter/acre	Net Value of Production Value for Total Grazed/Clipped <sup>1</sup> \$/acre			Total Forage Produced lbs dry matter/acre <sup>1</sup>	Total Forage Grazed/Clipped lbs dry matter/acre	Net Value of Production Value for Total Grazed/Clipped \$/acre
Treatment				Year	Farm			
1	6708	2911	146 a	2007	1	6603 de	2983 cd	110 def
2	6663	2733	125 b	2007	2	3536 g	2099 g	120 bcde
3	6793	2896	109 c	2007	4	7863 c	2321 efg	80 fg
4	6817	3040	88 d	2007	5	6803 d	2705 cdefg	106 ef
Year				2008	1	6139 def	3204 bcd	115 cde
2007	6201 c	2527 c	104 c	2008	2	3461 g	2494 cdefg	96 f
2008	7741 a	2430 c	89 c	2008	4	12,319 a	1689 g	56 g
2009	6506 bc	2986 b	123 b	2008	5	8857 b	2432 defg	93 f
2010	6566 b	3874 a	161 a	2009	1	6329 def	3634 b	140 bcde
Farm				2009	2	3287 g	2251 fg	84 fg
1	6223 c	3373	127	2009	4	8171 bc	3213 bcd	153 b
2	4097 d	2821	123	2009	5	8215 b	2901 cde	116 cde
4	9451 a	2408	97	2010	1	5875 f	3656 bc	143 bcd
5	7898 b	2891	116	2010	2	6102 ef	4439 a	192 a
				2010	5	7720 c	3527 bc	147 bc

**Table 1 (Above, L), Table 2 (Above, R):** Production values. Means within a column for treatment, year, or farm followed by the same letter are not significantly different at the .05 probability level.

There were significant year effects for all three production parameters. The 2008 values for total forage produced were significantly higher than the other years. 2010 values for total forage grazed/clipped and net value of production for total grazed/clipped were significantly greater than the other years.

There was no significant treatment by year effects. There were significant year by farm effects for the total forage produced and grazed/clipped and the net value of production for total grazed/clipped (Table 2). There were no patterns in the differences. None of the forage quality parameters were significantly affected by the fertilizer treatments. One would have assumed that an increase in potassium fertilizer would have improved some of the forage quality parameters. There were significant year effects for all the forage quality parameters. There were no patterns in the differences.

The 2007, 2008, and 2010 values for soil pH, soil percent organic matter (OM), soil phosphorus (P), soil potassium (K), and legume content data were analyzed separately. The high treatment (four) had a higher soil K level (104.7 ppm) than the other three treatments (Table 3). Treatments one and two were not significantly different from each other. Treatment one (control) had the lowest value and was significantly different than the other three treatments. Since the potassium fertilizer rate was based on a higher yield than was achieved at the farms, it was not a surprise that the potassium level increased in the soil. There was a significant year by fertilizer treatment effect for soil K (Table 4). Treatment 4 in 2010 had the highest value, followed by 2008. The values for 2007 were the lowest measured.

## Potassium Fertility Rates, Continued

	soil pH <sup>1</sup>	soil %OM	soil P ppm	soil K ppm
Treatment				
1	6.2	3.3	18	65 c
2	6.2	3.3	19	78 b
3	6.2	3.3	19	84 b
4	6.1	3.3	20	105 a
Year				
2007	6.2	2.9 b	16 b	63 b
2008	6.1	3.5 a	20 a	92 a
2010	6.2	3.5 a	21 a	94 a
Farm				
1	6.5 a	4.0 a	31 a	74
2	5.8 c	3.4 b	12 b	76
5	6.2 b	2.6 c	14 b	100

**Table 3 (L), Table 4 (R-Top), Table 5 (R-Bottom):** Soil Parameters. Means within a column for treatment, year, or farm followed by the same letter are not significantly different at the .05 probability level.

Year	Treatment	soil pH	soil % OM	soil P (ppm)	soil K <sup>1</sup> (ppm)
2007	1	6.2	2.9	16	63 d
2007	2	6.2	2.9	16	63 d
2007	3	6.2	2.9	16	63 d
2007	4	6.2	2.9	16	63 d
2008	1	6.3	3.6	18	67 c
2008	2	6.2	3.6	21	92 b
2008	3	6.1	3.6	21	87 bc
2008	4	6.0	3.4	20	122 ab
2010	1	6.2	3.4	19	66 c
2010	2	6.2	3.6	20	80 cd
2010	3	6.2	3.5	19	102 b
2010	4	6.2	3.5	24	130 a

Year	Farm	soil pH <sup>1</sup>	soil % OM	soil P (ppm)	soil K (ppm)
2007	1	6.7 a	3.3 bc	21 b	74 c
2007	2	6.0 d	3.1 c	15 cd	55 c
2007	5	6.0 d	2.3 e	12 de	60 c
2008	1	6.5 b	4.4 a	36 a	72 c
2008	2	5.7 e	3.4 b	12 de	101 b
2008	5	6.2 c	2.8 d	12 de	103 b
2010	1	6.4 b	4.4 a	37 a	76 c
2010	2	5.8 e	3.5 b	8 e	71 c
2010	5	6.4 b	2.6 d	17 bc	136 a

Legume content, which can be affected by potassium fertility (and other factors) was not significantly affected by the increasing rates of potassium fertilizer. It was significantly lower in 2010 compared to 2007 or 2008.

In summary, increasing the amount of potassium fertilizer did not increase the amount of pasture forage produced or grazed or most of the other parameters measured. The only significant fertilizer treatment effects were for the net value of production for total grazed/clipped and soil potassium level. These results were a surprise for two reasons. One, the soil test potassium levels (0 to 6 inch soil depth) at the start of the demonstration were in either the very low (farm 2 and 5) or low (farm 1) ranges and it was expected that adding potassium fertilizer would have a significant effect. Second, potassium fertilizer was applied according to the University of Wisconsin-Extension fertility recommendations. Thus, the results bring into question the current potassium fertility recommendations for pasture.

Further research should be conducted on subsoil fertility. The subsoil fertility groups are the underpinnings of phosphorus and potassium fertilizer recommendations. The results of soil testing with the long-term cropping systems research with the Wisconsin Integrated Cropping Systems Trials have demonstrated that subsoil potassium levels may decrease over time if crop removal exceeds potassium applications. The subsoil phosphorus levels appear to be unaffected. Further research on pasture potassium fertility around the state should be instituted soon. This research should be at various sites around the state with different soil types and geographic locations.



## Assessment of Prior Grazing Experiences on Adaptation to Pasture and Performance of Dairy Heifers as Lactating Cows (936-3)

To evaluate the impact of grazing experiences early in life on grazing behavior and performance of lactating dairy cows, a 3-year study was conducted. Forty one Holstein (H) and 23 Holstein-Jersey crossbred (HJ), weaned calves born between January and April 2008 were randomly assigned to one of 4 treatment (n = 16 per treatment) in a completely randomized design.

Treatments were combinations of managing heifers in confinement or on pasture: **T1**, grazed 2008 and 2009; **T2**, grazed 2008 and confined in 2009; **T3**, confined in 2008 and grazed in 2009; **T4**, confined in 2008 and 2009. All heifers grazed as lactating cows in 2010. In 2008, T1 and T2 heifers grazed for 41 days on Italian ryegrass (*Lolium multiflorum*) pasture from August through October, and T3 and T4 were housed in bedded pack pens and fed TMR. During 2008, heifers body weight (BW) and body condition score (BCS) were recorded. In 2009, T1 and T3 grazed Italian ryegrass (*Lolium multiflorum*) pasture for 65 days from June-September, 2009, while T2 and T4 remained in confinement.

**Contact Info:**

Dave Combs  
UW Madison Dairy Science  
934F Animal Sci Building  
1675 Observatory Dr  
Madison, WI 53706  
(608) 263-4844  
dkcombs@facstaff.wisc.edu

**Project Location:**

Marshfield, Arlington

**Primary audience and participants:**

Graziers statewide

All 4 treatment groups calved between January and April, 2010, and grazed mixed pasture as primiparous cows for 61 days from May through July. In 2009 and 2010 grazing activities were assessed by visual observation. The activity of each heifer was recorded every 15 min during 9 hours (0700 hours to 1600 hours) in 2009 and 8 hours (0700 hours to 1500 hours) in 2010, on selected days of the study. Heifers' activities were categorized as: walking, drinking water, grazing, lying down or standing but not grazing. To assess how previous grazing experience affects heifer movement on pasture, portable GPS units were attached to neck collars on each heifer on the same days and hours that heifer activity was monitored by visual observation. The GPS units recorded the location and distance walked of each heifer. Besides the visual observation and GPS recorded, daily milk was also recorded in 2010.

In 2009 on day 1, heifers that had grazed in 2008 spent more time grazing than heifers with no grazing experience (78 vs. 35 % of the time,  $P < 0.05$ ). As lactating cows in 2010 on day 1, time spent grazing was 62, 59, 76, and 13% for T1, T2, T3 and T4, respectively, with T4 ranking lowest ( $P < 0.05$ ). In 2009 and 2010 on days 1-3, experienced heifers walked a greater distance in the pasture than inexperienced heifers. Milk production was lowest ( $P < 0.05$ ) initially for cows with no previous grazing experience (T4). Cows that had not grazed in 2009 (T2 and T4) produced less milk than those that had grazed in 2009 (T1 and T3) on days 1-3. However, average daily milk over the entire experiment was not significantly different ( $P > 0.05$ ) (30.5, 30.1, 31.5 and 29.6 kg for T1, T2, T3 and T4, respectively).

Results indicate that previous grazing experience can impact behavior and milk production during the first days on pasture. After this time, experienced and inexperienced dairy cattle presented similar grazing behaviors and performance. This study showed that experienced and inexperienced cattle adapt to a new grazing environment within a few days, and that adaptation to environment is essential for development of grazing skills for heifers on high quality pastures.

## Grazing Management Effects on Pasture Productivity, Plant Morphology and Persistence (939-3)

Although grazing-based producers must make pasture management decisions on the basis of animal requirements for feed or on the basis of practical aspects of farm management, these decisions are often made without adequate understanding of their potential impact on future grass growth and persistence. Some examples include late fall grazing to take advantage of late-season moisture, putting cows on immature grass early in the spring to reduce hay use, grazing pastures to lower residual sward heights to increase the effective fiber content of the diet, or grazing drought-stressed pastures out of necessity.

Particular decisions may not appear to have an immediate impact on grass growth, but defoliation at different points in the grass plant's life cycle may have implications for subsequent growth and survival. This research aimed to increase producer knowledge on the impact of grazing management decisions on subsequent pasture growth.

### Contact Info:

Randy Jackson  
UW Madison Agronomy  
463 Moore Hall  
1575 Linden Dr  
Madison, WI 53706  
(608) 261-1480  
rdjackson@wisc.edu

### Project Location:

Prairie du Sac, WI

### Primary audience and participants:

Graziers statewide

Research conducted at the US Dairy Forage Research Center was implemented on existing one acre paddocks of orchardgrass, meadow fescue, reed canarygrass, and quackgrass that had been rotationally grazed for two years. Treatments were assigned a randomized complete block design with two replicates; a split-plot arrangement of grazing management treatments (total of four replicates) were overlaid on each of the grass treatments, with each 12 x 25' plot separated by electric fence. Within each paddock, two experiments were conducted in 2009 and 2010: one investigated how **time** of grazing (spring, summer, and fall) effects grass growth and a second investigated how the **extent** of grazing effect grass growth.

For the **timing** experiment, grass was grazed in the spring (early to late May) each time it reached 6" (immature), 12" (vegetative), or 18" (mature) to a 3" residue. During the remainder of the growing season, these plots were grazed according to conventional management (12" sward grazed to 3" stubble). These same treatments were also implemented in the summer (early July to early August) and fall (mid September to mid October), with grazing during the remainder of the season according to rotational management. For the **extent** of grazing experiment, plots were grazed throughout the season when grasses reached a vegetative (10-12" height) or mature (18" or greater) stage to remove 50, 75, or 100% of the sward on a height basis.

Before and after a plot was grazed in either experiment the following were measured: grass maturity, forage yield and quality, and height. Post-grazing height measurements confirmed treatments. At the end of spring, summer and fall, species composition, tiller density, and sward density of all treatments were assessed. At the end of the grazing season, plant carbohydrate concentration and potential tiller density (soil-plant cores removed from field and grown in greenhouse) were also measured. The general effect of grazing treatments on yield and persistence was measured the following spring.

## Grazing Management Effects, Continued

In the **extent** of grazing experiment, environmental factors such as soil temperature, soil moisture, available light (LAI), inorganic nitrogen concentrations, and net N mineralization rates were also measured throughout the growing season. These environmental factors were later evaluated as potential mechanisms for significant differences in productivity (both above- and below-ground) across each management strategy. Below-ground growth was measured in these plots with the use of root in-growth cores. Thus, both annual forage yield and root growth were collected.

Considerable differences were found to exist among them in both their production potential and general response to management-intensive rotational grazing (MIRG) techniques. While changes in extent of defoliation had no significant effect on above-ground production of orchardgrass and reed canarygrass, mature grasses produced significantly more forage annually than vegetative grasses. Maturity at grazing by extent of defoliation interactions on above-ground production were found for both meadow fescue and quackgrass. Root growth also varied across species, with no effect of treatment on root growth of orchardgrass and quackgrass.

Leaf developmental stage did have an effect on root growth of meadow fescue, however, the grazing of mature grasses produced significantly more root biomass annually than vegetative grasses. Both leaf stage and extent of defoliation affected the root growth of reed canarygrass. Several environmental factors were significantly affected by grazing management, but only one environmental factor presented as a possible mechanism for annual productivity changes. This factor was soil moisture, which could help explain significant changes in above-ground production and root growth for reed canarygrass, but not for other species. Reed canarygrass typically thrives in high-moisture environments, and thus favors a high soil moisture content although it is capable of tolerating a wide range of soil moisture regimes.

These results show that above-ground production in response to environmental factors, extent of defoliation, and leaf developmental stage at grazing varies among perennial grass species. Therefore, producers should not only understand growth mechanisms underlying production responses for individual forage species, but also how pasture productivity differs significantly with management strategy. Previous general recommendations for grazing interval length and extent of defoliation for tall-growing cool-season grasses may need to be re-evaluated in certain situations. For example, forage production of reed canarygrass and orchardgrass significantly increased when grazed at maturity, irrespective of percent biomass removal.

Results of the timing portion of the experiment have not been completely summarized yet. Results to date are the following: maximum mean annual yield (5060 lbs/acre) was obtained when grasses were grazed at 18 in. (mature) in the spring, although yield during the remainder of the season was reduced 500 lbs/acre and tiller density was reduced 10 to 30% compared to grazing at 12 in. for the whole season. Grazing at 6 in. in early May reduced productivity by 30% during the remainder of the season in one year compared to grazing at 12 in for the whole season. Grazing at 6 in. in late July during drought reduced productivity 20% during the remainder of the year. These results suggest that grazing short, vegetative grass when followed by moisture stress will have a detrimental effect on pasture productivity.

## Are Graziers and Plant Breeders Responsible for Reed Canary Grass Invasion? (941-3)

This project successfully accomplished all of the objectives outlined in the original proposal. The first objective was to compare North American native, European wild, cultivars, and known wetland invader populations established under multiple nutrient and hydrologic regimes. A series of invasiveness-related traits was measured and analyzed for differences between populations.

The second objective was to complete biogeographic analysis of approximately 100 accessions of reed canarygrass collected from across Europe, Asia, and North America using molecular techniques. The completion of this objective facilitated development of a framework for evaluating the biogeographic origin of known wetland invaders in North America.

The third objective was to evaluate the biogeographic origin and improvement status of over 300 reed canarygrass accessions collected from wetlands throughout North America. The biogeographic origin of 231 present-day populations of reed canarygrass in North America was determined. The improvement status of each accession could not be determined due to a high level of diversity both within and among cultivars of the species, although the research suggests that the breeding of cultivars is not responsible for the invasiveness of the species.

Overall, it was determined that bred varieties of reed canarygrass are no more productive in wetlands than some Eurasian wild populations, although some varieties are more productive than Eurasian wild populations in fertilized upland environments. There is little geographic structure among populations in Europe and Asia, suggesting that the use of the species in agriculture in Europe for the past 200 years has led to significant mixture of populations in these regions. Analysis of early North American herbarium specimens confirmed the existence of a unique native North American population of the species that was present throughout North America in the late 19<sup>th</sup> century and may still be present in Alaska and remote regions of Canada. The vast majority of present-day North American populations (>99%) are of Eurasian origin. In addition, there is no evidence of an invasive genotype or over representation of sub-populations closely related to modern varieties, indicating that the development of improved varieties is unlikely to be the cause of invasion by the species.

This research determined that improved forage varieties of reed canarygrass are not responsible for invasion by the species. Additional research evaluating the forage quality and productivity of native North American populations of reed canarygrass could lead to the development of improved varieties of the species.

**Contact Info:**

Michael Casler  
UW Madison Agronomy  
463 Moore Hall  
1575 Linden Dr  
Madison, WI 53706  
(608) 890-0065  
mdcasler@wisc.edu

**Project Location:**

Statewide

**Primary audience and participants:**

Graziers statewide



## Completed Technical Assistance Projects

<b>Grant #</b>	<b>Organization</b>	<b>Area Covered</b>	<b>New Plans</b>	<b>New Acres</b>	<b>Revised Plans</b>	<b>Revised Acres</b>
<b>923-1</b>	Town and Country RC&D	Dane, Dodge, Jefferson, Rock, Washington Co.	9	261		
<b>924-1</b>	Glacierland RC&D	Calumet, Fond du Lac, Manitowoc, Sheboygan, Winnebago Co.	7	444		
<b>925-1</b>	Columbia County LWCD	Columbia Co.	7	403	5	241
<b>926-1</b>	River Country RC&D	Dunn, Eau Claire, Pierce, St. Croix Co.	9	400	6	571
<b>927-1</b>	River Country RC&D	Chippewa, Clark, Dunn, Eau Claire Co.	12	656	20	1013
<b>928-1</b>	Marathon County Conservation, Planning and Zoning Department	Lincoln, Marathon Co.	28	1,330	2	216
<b>930-1</b>	Pri-Ru-Ta RC&D	Ashland, Bayfield, Douglas, Iron Co.	8	483	2	140
<b>931-1</b>	Vernon County LWCD	Vernon Co.	7	318		
<b>932-1 and 10108</b>	River Country RC&D	Buffalo, Clark, Eau Claire, Jackson, Trempealeau Co.	12	753	25	1,955
<b>10102</b>	Glacierland RC&D	Fox Valley, Sheboygan Co.	20	1,600	5	240
<b>10103</b>	Golden Sands RC&D	Marquette, Portage, Waupaca	9	405		
<b>10109</b>	River Country RC&D	Chippewa, Clark, Dunn, Eau Claire Co.	12	498	21	1,135
<b>10110</b>	River Country RC&D	Barron, Dunn, Pierce	10	343	5	433
<b>10111</b>	Sauk County LCD	Sauk Co.	8	194		
<b>10112</b>	Southwest Badger RC&D	Crawford, Grant, Lafayette Co.	11	667	2	200
<b>Totals</b>			<b>169</b>	<b>8,755</b>	<b>93</b>	<b>6,144</b>



# On-Going Projects

This section contains highlights and updates from all on-going Technical Assistance, Education and Research projects



## Grazing Outreach in the SW WI Grassland and Stream Conservation Area (917-2)

### 2011 HIGHLIGHTS

-This project has become primarily focused on demonstrating the potential of using goats to manage vegetation in overgrown savanna remnants in southwest Wisconsin.

-Held a goat grazing demonstration at Yellowstone Lake State Park on August 17th with 90 attendees. In attendance was DNR wildlife manager Bruce Folley, as well as UW Madison Landscape Architecture professor John Harrington and his summer Landscape Ecology class.

-Continued consulting with US Fish and Wildlife service and UW to identify potential farms interested in conservation grazing.

-Will continue to work with DNR in SW grassland project area as opportunities arise.

### Grant Project Objectives:

- 1) Increase awareness of managed grazing as a method to provide habitat for grassland birds and maintain grass cover in riparian areas through educational activities and programs
- 2) Support goals of DNR SW Grassland and Stream Conservation Area Feasibility Study and Master Plan conservation strategies
- 3) Encourage a few clusters of landowners adjacent to each other to create large blocks of land managed with late-cut hay/grazing or controlled riparian grazing

Contact: Carl Fredericks (608) 437-4395 [rehlfred@mhtc.net](mailto:rehlfred@mhtc.net)

## St. Croix Valley Graziers Educational Assistance Program (10217)

### 2011 HIGHLIGHTS

-Held informative workshop where Dr. Don Huber (Purdue) spoke about issues related to GMO crop production and the effects of the herbicide glyphosate, with 50 attendees.

-Held 3 pasture walks with 104 total attendees.

-Partnered with Chippewa Valley Grazing Network to help prepare posters and other materials for 2011 Farm Technology Days.

-170 one-on-one contacts.

-Worked with women farmers.

-Over the next 6 months, project managers will assemble and create final grant report.

### Grant Project Objectives:

- 1) Provide on-farm educational events for farmers, ag professionals and the general public about the benefits of MIG and how a grazing operation manages the various stages of grass during the entire growing season
- 2) Provide educational opportunities on beginning and advanced grazing management topics
- 3) Provide direct, on-farm, one-on-one educational sessions for beginning and advanced graziers, and landowners who are interested in implementing MIG systems on their farms

Contact: Mark Moelter (715) 834-9672 ext. 120 [Rivercountry@rivercountryrcd.org](mailto:Rivercountry@rivercountryrcd.org)

## Wisconsin Grazing Schools (10224)

### 2011 HIGHLIGHTS

-Held a two-day grazing school in Fond du Lac on June 28th and 29th. There were 22 total students in the class.

-Project managers will be assembling at the 2012 GrassWorks grazing conference to determine the dates and locations for 2012 schools.

### Grant Project Objectives:

- 1) Provide two-day grazing school workshops through UW River Falls
- 2) Provide new farmers with the knowledge to create a successful grazing operation

Contact: Diane Herman (414) 774-6562 [dianeherman3dmd@wi.rr.com](mailto:dianeherman3dmd@wi.rr.com)

## Columbia/Dodge Grazing Network: Continuing to Build on our Success (10226)

### 2011 HIGHLIGHTS

-Hosted four pasture walks with 120 total attendees. Topics included managed grazing for beef, dairy, sheep, goats and poultry. One walk also featured a sheep and goat parasite program.

-Positive press was generated in *WI State Farmer* and local Waupun newspapers for grazing events.

-A planning meeting for the Columbia-Dodge Grazing Network was held in Randolph on December 13, 2011. The group worked on planning and organization of a Winter Seminar to be held January or February 2012. The group also planned the final series of pasture walks for this grant. Finally, the group is working to establish the future direction of this organization as the grant is fulfilled. Farmer/grazers will be encouraged to take a more active leadership role in planning and facilitating future events.

### Grant Project Objectives:

- 1) Provide grazing management education to Columbia and Dodge county livestock and dairy farmers through teaching, technical assistance and farmer to farmer learning
- 2) Promote environmentally sound grazing management and enhance awareness among graziers and natural resource managers of the value of well-managed grazing in natural resource protection
- 3) Evaluate the effectiveness of on-going education and technical assistance efforts in Columbia and Dodge counties

Contact: George Koepp (608) 742-9682 [george.koepp@ces.uwex.edu](mailto:george.koepp@ces.uwex.edu)



## Broadening the Outreach for Grazing Education and Success (11201)

### 2011 HIGHLIGHTS

-Project manager attended a DATCP-sponsored workshop regarding developing on-going, working graziers groups, and is researching the possibilities of a forage study course and networked graziers groups.

-Will be co-sponsoring a workshop with GrassWorks in April featuring national speaker Jerry Brunetti addressing numerous topics regarding soil, animal, and human health interactions.

-The second annual Natural Pig workshop will be expanded to a 1 ½ day event to be held in mid June. Speakers and agenda are being finalized, with topics to include production, marketing, and pork carcass breakdown and value added products.

### Grant Project Objectives:

- 1) Educate farmers and the general public on the benefits of managed grazing
- 2) Hold educational events that promote and demonstrate management intensive grazing

Contact: Harvey Work (920) 579-1544 [harveywork@gmail.com](mailto:harveywork@gmail.com)

## GrassWorks Annual Statewide Grazing Conference (11204)

### 2011 HIGHLIGHTS

-Hired Lanice Szomi as the new grazing conference planner.

-2012 conference will be held January 12-14 at the Patriot Center in Wausau. Keynote speakers, presenters and discussion topics have all been finalized.

-Promotion of the event is on-going, and over 2000 informational brochures were mailed.

-The GrassWorks website is continuously being updated to improve navigation and access to grazing resources. The pasture walk calendar received over 2000 hits in 2011.

-GrassWorks continues to partner in the Blue Sky, Greener Pastures initiative and has played a significant role in promotion via newsletter, website and personal connections.

### Grant Project Objectives:

- 1) Increase knowledge in the grazing community through improved communication and access to grazing resources
- 2) Increase grazing community cohesiveness and inspire graziers
- 3) Increase adoption of grazing by those new to the practice, and improve existing grazing operations through educational presentations and demonstrations
- 4) Increase public awareness on the environmental and socioeconomic value of managed grazing lands

Contact: Bridget O'Meara (715) 808-0060 [info@grassworks.org](mailto:info@grassworks.org)

## Northwest Wisconsin Graziers Network Education and Demonstration Project (11209)

### 2011 HIGHLIGHTS

- Grazing planners mentored at least 30 farmers in 2011.
- Held 9 pasture walks covering various topics including pasture renovation, out-wintering, kura clover, fencing, dairy rotation and more. Total walk attendance for the 9 walks was 313 people.
- Collaborated with UW Extension, NRCS, and other local LWCD and RC&D agencies across the state on walks, demonstrations and educational events.
- Will plan 2012 pasture walks and discussion groups over the next six months. In addition, planning has begun for the annual conference which will be held in Spring 2012. The focus of this year's conference will be dairy production.

### Grant Project Objectives:

- 1) Conduct comprehensive educational instruction to increase acres of managed grazing in NW Wisconsin counties
- 2) Use grazing mentors to provide advice and support to beginning graziers
- 3) Conduct pasture evaluations, weed surveys, collect soil samples, and support on-farm demonstrations and research projects
- 4) Educate local and county governments about the environmental benefits of managed grazing

Contact: Otto Wiegand (715) 635-3506 [otto.wiegand@ces.uwex.edu](mailto:otto.wiegand@ces.uwex.edu)

## Managed Grazing Education in the Chippewa Valley (11211)

### 2011 HIGHLIGHTS

- Due to a late start (Oct 2011), the main accomplishment of the project thus far was to host a planning meeting for the Chippewa Valley Graziers Network on November 15<sup>th</sup>, 2011. There was positive feedback from attendees, and their ideas will be the driving force for events in the coming year. There was an interest in all aspects of grazing, from milk cows to home-based direct marketing of niche livestock and products.
- Project manager attended a River Country Council meeting to ensure that the grazing commitment remains strong with the council and that it is looking for ways to best help the local grazing community and other conservation partners.
- In the next six months, this project will be hosting winter meetings, a pasture walk and a Spring grazing conference.

### Grant Project Objectives:

- 1) Provide educational opportunities for members of the Chippewa Valley Grazing Network and the public to promote the implementation of proper MIG practices, including 7 pasture walks, a Winter Grazing conference, presentations to local FFA and Ag high school students, WSBD Distance Education classes
- 2) Provide one-on-one farm visits to the network members who request a consultation visit. Efforts will be made to work with Amish and Mennonite communities to promote MIG
- 3) Help farmers transition to MIG

Contact: Kevin Mahalko (715) 579-5229 [info@rivercountryrcd.org](mailto:info@rivercountryrcd.org)

## Central Wisconsin 7-County GLCI Grant Program (11214)

### 2011 HIGHLIGHTS

- Hosted two pasture walks with 15 total attendees.
- Hosted one focus group at the UW Extension in Mauston with 13 attendees. Attendees ranged from beef to dairy producers, and ranged from conventional production to organic.
- Currently planning two winter meetings for March 2012. The meetings will feature speakers Ben Bartlett and Peter Arnold.

### Grant Project Objectives:

- 1) Provide on-farm educational events and demonstrations for farmers, ag professionals and the general public about the benefits of MIG
- 2) Increase knowledge of MIG among farmers in the program
- 3) Increase financial gains for farmers in the program by providing the knowledge to increase production, improve marketing strategies and minimize costs

Contact: Kenneth Williams (920) 787-0416 [ken.williams@ces.uwex.edu](mailto:ken.williams@ces.uwex.edu)

## Quantifying Nutrient Loss in Runoff From Grazing Cattle (10301)

### 2011 HIGHLIGHTS

- Continued monitoring of runoff constituents including sediment, nitrogen, and phosphorus from eight pasture watersheds at the UW Platteville Pioneer farm. There have been 12 runoff events since August 2010 generating 80 runoff samples. Runoff samples continue to be analyzed for nitrogen and phosphorus at the Dairy Forage Research Center in Madison, WI. The project will continue to monitor runoff during this watershed calibration period.
- Conducted spring and summer/fall survey visits on four grazing farms located near Blanchardville, Edgar, and Richland Center, WI. Collected seasonal management information, including general farm layout, herd inventory, cattle diets and feed management, herd management and housing, manure management, and cropping systems.

### Grant Project Objectives:

- 1) Measure N and P loss in runoff from 8 pastures representing different grazing management strategies
- 2) Use the runoff data to validate the ability of our SurPhos model to predict P loss in runoff from grazed pasture
- 3) Use SurPhos to simulate annual P loss from 5 WI grazing farms using producer-collected data

Contact: Peter Vadas (608) 890-0069 [peter.vadas@ars.usda.gov](mailto:peter.vadas@ars.usda.gov)

## Pasture Feed Budget Maps (10303)

### 2011 HIGHLIGHTS

-Three farms were visited twice during the 2011 growing season. Unstructured interviews during pasture walks were used to gather information about grazing management that will be described in case studies currently being written. Case analysis of these farms suggests that maps of grass yields were not useful because farmers were not making decisions based on quantified per cow grass intakes. Another complicating factor was that the farms were also feeding stored feed (silage) at various times during the grazing season to maintain milk production.

-The project is roughly a year behind schedule compared to the original proposal timeline due to starting data collection in 2011 rather than in 2010. Over the next 6 months, case studies of farms interviewed in 2011 will be completed and additional farms for 2012 data collection will be identified. Sampling protocol will also be finalized.

### Grant Project Objectives:

- 1) Create maps of available pasture dry matter on five study farms
- 2) Use case study analysis to explain how the data is collected and used in pasture feed budgeting

Contact: Carl Fredericks (608) 437-4395 [rehlfred@mhtc.net](mailto:rehlfred@mhtc.net)

## Assessing Potassium and Phosphorus Needs of Pasture Swards in Managed Grazing Systems (10308)

### 2011 HIGHLIGHTS

-Developed a presentation on Advanced Soil Fertility for Pastures and presented it at the Two Blades of Grass Seminar in Dodgeville in October.

-A written literature review continues to be developed.

-An extension bulletin on soil fertility management for pastures will be developed once the literature review is completed.

-Planning has begun for pasture walk some time during the 2012 growing season.

### Grant Project Objectives:

- 1) To evaluate the adequacy of UW's nutrient application guidelines for potassium and phosphorus on pasture swards in managed grazing systems

Contact: Carrie Laboski (715) 263-2795 [laboski@wisc.edu](mailto:laboski@wisc.edu)



## Energy Intensity, Carbon Footprint and Environmental Impact of Pasture-Based Dairy (10309)

### 2011 HIGHLIGHTS

- Continued reviewing literature and working on model development.
- Work has begun on a questionnaire to be used in interviews and focus groups with farmers.
- Project manager has submitted a proposal for the IRB to obtain approval for conducting interviews and focus groups.
- Over the next six months, the project manager will visit farms and conduct interviews and focus groups with farmers and analyze data from the focus groups. On-going improvement and validation of the project model will also take place.

### Grant Project Objectives:

- 1) Provide information on the best practices to improve sustainability in grazing systems
- 2) Develop and compare sustainability indicators of grazing systems to other dairy management systems in Wisconsin
- 3) Develop education/outreach programs to inform grazers and other interested parties in the results of our studies

Contact: Doug Reinemann (608) 262-0223 [djreinem@facstaff.wisc.edu](mailto:djreinem@facstaff.wisc.edu)

## Evaluating Effectiveness and Economics of Farmer-Selected Management Methods for Reducing Losses in Pasture Forage Quality, Quantity and Utilization from Canada Thistle (11303)

### 2011 HIGHLIGHTS

- Held a meeting in Fall 2011 to gather information on Canada thistle suppression strategies that have been used and/or researched, to summarize the costs and benefits both economically and in terms of forage production and utilization from these suppression methods and to agree upon three recommendations for suppression that will be evaluated in 2012.
- Three treatments that will be implemented along with a control are herbicide application, mob stocking for one year, and mob stocking for two years.
- Research plots have been identified and prepared for sampling, which will begin in Spring 2012.

### Grant Project Objectives:

- 1) To evaluate the effectiveness of farmer selected management methods for reducing losses in forage from Canada thistle

Contact: Mark Renz (608) 263-7427 [mrenz@wisc.edu](mailto:mrenz@wisc.edu)

## Technical Assistance Projects in Progress 2010

<b>Grant #</b>	<b>Organization</b>	<b>Area Covered</b>	<b>New Plans</b>	<b>New Acres</b>	<b>Revised Plans</b>	<b>Revised Acres</b>
<b>10101</b>	Columbia Co. LWCD	Columbia Co.	5	75	6	304
<b>10105</b>	Pri-Ru-Ta RC&D	Ashland, Bayfield, Douglas Co.	4	150	2	184
<b>10106</b>	Pri-Ru-Ta RC&D	Barron, Burnett, Polk, Rusk, Sawyer, Washburn Co.	14	1127	11	603
<b>10107</b>	Pri-Ru-Ta RC&D	Clark, Price, Rusk, Taylor Co.	22	1,634	9	978
<b>10113</b>	Town and Country RC&D	Dane, Dodge, Racine, Rock, Walworth, Waukesha Co.	11	268		
<b>11101</b>	Glacierland RC&D	Fond du Lac Co.	1	84		
<b>11111</b>	River Country RC&D	Barron, Dunn, Pierce, St. Croix Co.	5	35		
<b>Totals</b>			<b>62</b>	<b>3,373</b>	<b>28</b>	<b>2,069</b>

# 2011 GLCI Steering Committee

Mary C. Anderson, Chair  
Dairy farmer, Whitehall

Randy Cutler, Vice Chair  
Sheep producer, Auburndale

Paul Onan, Past Chair  
Dairy farmer, Amherst Junction

Representing GrassWorks, Inc.  
Wayne Craig, Dairy farmer, New Holstein  
Dave Johnson, Sheep producer, Arcadia  
Kevin Mahalko, Dairy farmer, Gilman

Representing Wisconsin Farmers Union  
And Representing Wisconsin on the National GLCI Steering Committee  
Gerald Jaeger, Custom dairy heifer raiser, Lomira

Representing Wisconsin Cattlemens Association  
Dick Hauser, Beef producer, Richland Center

Representing Wisconsin Farm Bureau  
Cheri Klussendorf, Dairy farmer, Medford

Representing the Wisconsin Land and Water Conservation Association  
James Alber, Dairy farmer, Tomahawk

Representing the Assoc. of Resource Conservation & Development Councils  
Don Bina, Coon Valley  
Lanice Szomi, Medford

Representing the Wisconsin Sheep Breeders Association  
Randy Cutler, Sheep producer, Auburndale

## Advisors:

Brian Pillsbury, Grazing Lands Specialist, USDA-NRCS, Executive Secretary  
Paul Daigle, Conservation Specialist, Marathon Co. Cons. Planning & Zoning  
Rhonda R. Gildersleeve, Ph.D., UW Extension Grazing Research Specialist  
Laura Paine, Grazing and Organic Specialist, Wisconsin DATCP  
Richard Cates, Director, WI School for Beginning Dairy and Livestock Farmers, UW Madison





**Photo Credits:** Paul Daigle (front cover, page 7, page 30, back cover); Geoff Brink (back cover); Serge Koenig (front cover, page 30); Richard Cates (page 7, page 30)