



Dairy Grazing Apprenticeship

Introduction & Background

Green jobs are in demand. But most are not new occupations. They are traditional occupations, upgraded with skills training in new technologies that promote sustainable farm operations. Therefore, providing “green” training is the focus of the Wisconsin Sector Alliance for the Green Economy (SAGE) project, a federal grant implemented by the Wisconsin Bureau of Apprenticeship Standards.

SAGE included new program design and curriculum development for a Dairy Grazing Apprenticeship trade. The new program will prepare future workers to own and operate dairy farms which practice specialized grazing methods. The program is supported with new curriculum for related instruction which combines coursework at the University of Wisconsin and Northcentral Technical College in Wausau Wisconsin. Industry drives apprenticeship, and creating a new agriculture related apprenticeship in dairy grazing was no exception. Skilled dairy graziers and WTCS instructors determined the training needs and developed the curriculum.

INDUSTRY FOCUS GROUP

The focus group met from December 2010 through June 2011. The meeting outcomes provided the foundation and blueprint for creating the apprenticeship curriculum. Step 1 was to analyze the occupation and to identify emerging trends. Step 2 was to design and develop new curriculum based on that analysis. Step 3 was to rollout the program, train instructors, and obtain the necessary approvals needed to implement a new apprenticeship program.

CURRICULUM DEVELOPMENT

During the summer of 2011, most of the curriculum for related instruction was prioritized, updated, and configured as apprenticeship seminars. Core required courses and electives were developed. Several of the courses link to the Dairy Science AAS degree at NTC. Instruction is also coordinated with the University of Wisconsin’s School for Beginning Dairy Farmers. Beginning in the fall of 2011, apprentices will follow a 2-year, 4-semester program that combines on-the-job learning with 288 hours of related instruction at the University of Wisconsin, and at Northcentral Technical College in Wausau. Program oversight and coordination is provided by Grassworks, Inc.

CURRICULUM ROLLOUT

The program design and curriculum for related instruction were presented to the State Advisory Committee at their meeting in September 2011. The Bureau of Apprenticeship Standards and Grassworks will act on any actions and recommendations from that group as the program is implemented and evaluated in the future.

ADDITIONAL INFORMATION

Project documents, resources and information can be found at <http://sage.wisconsin.gov>.

For more information, please contact:

Joe Tomandl, III

Apprenticeship Program Director

GrassWorks

7234 Gad Rd, Medford WI 54451

cjtom@hughes.net

Vicky Pietz

Dean, Sustainability & Agriculture

Northcentral Technical College

(715) 675-3331

Pietz@ntc.edu

Owen T. Smith

SAGE Outreach Coordinator

Bureau of Apprenticeship Standards

Wisconsin Dept. of Workforce Development

(608) 266-2491

Owen.Smith@dwd.wisconsin.gov

Hal Zenisek

WIDS Learning Design Consultant

Worldwide Instructional Design System

Wisconsin Technical College System Foundation

(800) 677-9437

zenisekh@wids.org

Dairy Grazing Apprenticeship

Program Design Summary

Program Information

Organization	Grassworks & the Wisconsin Bureau of Apprenticeship Standards (BAS)
Program Number	50-091-New
Instructional Level	Apprenticeship
Instructional Area	Agriculture
Program Manager	Karen Morgan, DWD BAS & Joe Tomandl III, Grassworks
Original Developer(s)	Dairy graziers perform many of the duties and tasks identified for traditional dairy owners and managers (DACUM, 2006) but apply specialized managed grazing practices and require unique knowledge, skills, and abilities related to grazing equipment, pasture management, livestock management, agronomy, and rotational grazing systems as identified in the 2010 DACUM which focused on grazing and dairy production specifically.
Last Revision Date	8/30/2011
Revised By	Hal Zenisek, WIDS Consultant
Revision History	1st draft Program Design, Grassworks & Medford SME's, 2/14/2011 2nd revision - 2/28/11 at NTC in Wausau Final Review on April 1, 2011 at NTC in Wausau BAS Apprenticeship Standards - May 2011 Course Development - August 2011

Target Population

- 1) High School graduates interested in alternative methods and approaches to dairy production
- 2) Individuals interested in organic dairy operations
- 3) Individuals interested in sustainable farming
- 4) Registered Wisconsin Apprentices

Description

Dairy graziers are dedicated to the use of managed pastures and sustainable farming practices. They feed cows and manage livestock herds with specialized grazing practices in order to produce high quality milk with less expense and less impact on the environment. Broad occupational duties and specific job tasks require knowledge, skills, and abilities related to pasture and land management, livestock management, soils and pasture productivity, grazing equipment and facilities, animal needs and dairy health, managed grazing systems, milk management, and dairy farm business operations and management. Dairy graziers perform many of the duties and tasks identified for traditional dairy owners and managers, but apply specialized grazing practices without the work processes involved with managing confinement operations. Basic farm business management and decision-making skills, combined with an understanding of the environment and food markets and global market systems, are critical to success as a dairy grazier. Organic dairy farming and organic dairy grazing are specialized focus areas which are included in the broader occupation and both are projected to grow in importance in the future according to the Organic Agriculture in Wisconsin 2009 Status Report (UW-Madison Center for Integrated Agricultural Systems, and the Wisconsin Department of Agriculture, Trade and Consumer Protection, February 2010).

Program Monitoring Criteria

1. Apprenticeship enrollment
2. Course Completion
3. Apprenticeship Completion
4. Grades in related instruction courses

External Requirements

- #1) Work outdoors in all types of weather
- #2) Physical abilities
- #3) Organic food certifications (optional)
- #4) 2 year, 4000 hour apprenticeship
- #5) BAS: 288 hours of related instruction which includes 188 hours of apprenticeship coursework (at the UW- School for Beginning Dairy Farmers, Northcentral Technical College and Northeast Wisconsin Technical College), and 100 hours of electives to be approved by Grassworks and/or employers.

Career/Job Titles

Title	SOC/NAICS Code
1. Dairy Grazier	11-9012 Farmers and Ranchers
2. Dairy Farmer	45-2093 Farmworkers, Farm and Ranch Animals
3. Dairy Owner/Manager	11-9011 Farm, Ranch, and Agricultural Managers
4. Organic Dairy Farmer	45-2099 Agricultural Workers
5. Pasture Production Specialist	45-2092 Farmworkers and Laborers
6. Dairy Grazing Specialist	Emerging green career

Related DACUM Studies

DACUM A

DACUM Title	Rotational Dairy Grazier DACUM (Grassworks)
Date	9/16/2010
Organization	Grassworks, Inc.
Facilitator	Hal Zenisek
Method	DACUM
Notes	DACUM chart validated in November 2010 and discussed with SME's at Focus Group in December 2010.

DACUM B

DACUM Title	2010 DACUM Validation Survey
Date	12/8/2010
Facilitator	Hal Zenisek
Notes	The September DACUM was validated by farmers involved in rotational grazing intended for dairy production.

Entry Requirements

1. Registered Wisconsin Apprentice

Evaluation Summary

The Wisconsin Department of Workforce Development Bureau of Apprenticeship Standards evaluates apprentice programs, employer on-the-job learning, and works in collaboration with the Wisconsin Technical College System Board to evaluate Related Instruction.

Program Exit Learning Outcomes

1. Manage cattle appropriately including heifers/dry cows, calves, and milking cows

Assessment Strategies

1. skill demonstrations on the farm
2. with an experienced farmer or ag professional observing
3. by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
4. by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice handles animals safely
2. apprentice verifies herd health and wellness
3. apprentice evaluates animal productivity
4. apprentice evaluates calf needs and uses appropriate resources to meet their requirements
5. apprentice establishes cow breeding cycles
6. apprentice manages break of grass
7. apprentice demonstrates cow management protocols based on need

2. Manage milking operations

Assessment Strategies

1. skill demonstrations on the farm
2. with an experienced farmer or ag professional observing
3. by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
4. by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice optimizes milk production
2. apprentice feeds milk cows correctly
3. apprentice implements milk cow vaccination program
4. apprentice diagnoses milk cow illnesses
5. apprentice treats milk cow illnesses
6. apprentice maintains hoof health
7. apprentice manages the milk cow environment
8. apprentice develops milking protocols based on conditions
9. apprentice manages milk quality
10. apprentice milks cows following prescribed procedures
11. apprentice accurately performs milk testing
12. apprentice maintains stock records

13. apprentice identifies culled cows
14. apprentice disposes of dead stock
15. apprentice performs all the critical steps in the correct order

3. Assess dairy nutritional needs and requirements

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 with an experienced farmer or ag professional observing
- 3 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 4 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice selects quality feed based on conditions
2. apprentice selects feed appropriate to livestock needs
3. apprentice develops a strategy to optimize the amount of feed that comes from pasture
4. apprentice stores grain and supplemental feed
5. apprentice develops a plan to extend the grazing season
6. apprentice monitors feed, grain and supplemental nutrition
7. apprentice maintains supplement feed records and information

4. Optimize pasture production

Assessment Strategies

1. skill demonstrations on the farm
2. with an experienced farmer or ag professional observing
3. by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
4. by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice estimates pasture production volume
2. apprentice selects plants, grasses, and legumes based on pasture conditions
3. apprentice monitors plant health and productivity
4. apprentice fertilizes pastures based on soil and nutritional needs
5. apprentice applies growing cycles to pasture productivity
6. apprentice identifies plant species, needs, and disorders
7. apprentice controls weeds
8. apprentice renovates and overseeds pastures
9. apprentice manages surplus grass
10. apprentice applies soil fertility and grazing information to decision making
11. apprentice calculates stocking rates
12. apprentice rations pastures productively
13. apprentice maintains accurate pasture records

5. Design pastures and paddock layouts

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 with an experienced farmer or ag professional observing
- 3 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program

- 4 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice designs paddock layouts suitable for rotational grazing
2. apprentice plans for, and lays out, rotational grazing fences
3. apprentice selects appropriate rotational grazing fences based on conditions
4. apprentice installs rotational grazing fences
5. apprentice maintains rotational grazing fences
6. apprentice creates plans for moving livestock and accessing paddocks/pastures
7. apprentice moves mobile fences based on cow needs
8. apprentice plans and assembles livestock watering systems
9. apprentice creates plans for pasture irrigation systems when applicable

6. Manage soil and water resources for productivity and health

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 with an experienced farmer or ag professional observing
- 3 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 4 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice coordinates animal needs with pasture growth and growing seasons
2. apprentice assesses soil needs based on type and conditions
3. apprentice balances soils for proper nutrient content
4. apprentice selects the best grasses and legumes based on soil and water conditions
5. apprentice fertilizes pastures based on conditions
6. apprentice handles chemicals safely and in accordance with manufacturer's instructions
7. apprentice maintains soil conditions and fertility
8. apprentice plans for winter feeding, fall harvesting, and purchasing winter feed supplies
9. apprentice manages water quality based on conditions
10. apprentice manages drought conditions based on soil types
11. apprentice determines integrated pest management in rotational dairy grazing practices
12. apprentice manages manure
13. apprentice applies land conservation techniques based on soil and water quality
14. apprentice shows awareness for both organic and non-organic agronomy

7. Maintain grazing machinery, facilities and equipment

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 with an experienced farmer or ag professional observing
- 3 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 4 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice works around farm equipment safely
2. apprentice uses appropriate personal protective equipment properly
3. apprentice follows safety procedures and manufacturer specifications
4. apprentice cleans and sanitizes milking facilities and equipment according to regulations

5. apprentice maintains equipment used in rotational dairy grazing operations
6. apprentice troubleshoots equipment malfunctions
7. apprentice repairs equipment
8. apprentice assists with developing specialized rotational grazing facilities and equipment based on farm layout or conditions
9. apprentice develops winter feed storage plans and estimates winter feed storage requirements

8. Plan for organic farming operations

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 and by developing a farm business plan for establishing organic dairy grazing operations
- 3 with an experienced farmer or ag professional observing
- 4 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice incorporates organic cropping into rotational grazing systems
2. apprentice acquaints self with organic rotational dairy farming
3. apprentice adheres to organic certification and record keeping
4. apprentice coordinates organic suppliers and resource providers
5. apprentice evaluates organic product markets and market potential
6. apprentice acquaints self with organic agronomy and soils

9. Evaluate traditional, organic, and grass-based food and milk markets

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 and by collecting, organizing and reporting data related to grass finished dairy products
- 3 with an experienced farmer or ag professional observing
- 4 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice plans for creating value added dairy products
2. apprentice characterizes milk quality that results from rotational grazing and grass feed cows
3. apprentice communicates the benefits of sustainable farming
4. apprentice explains the value of grass finished milk products
5. apprentice acquaints self with end-user needs and consumerism
6. apprentice demonstrates being alert to global needs and market trends

10. Evaluate grazing, dairy, and farm related information for effective decision-making

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 and by preparing a (WRITTEN OR VERBAL) response to a case study
- 3 with an experienced farmer or ag professional observing
- 4 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice uses computer technology for dairy grazing related information gathering and analysis
2. apprentice acquires information from farm records
3. apprentice accesses information via the Internet and other sources
4. apprentice analyzes financial information related to dairy grazing operations
5. apprentice makes farm decisions based on management information systems
6. apprentice manages money based on accurate information
7. apprentice adapts to circumstances or the environment based on reliable information

11. Manage farm business operations profitably

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 and by completing a written farm business plan using rotational dairy grazing practices
- 3 with an experienced farmer or ag professional observing
- 4 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice manages time effectively
2. apprentice plans forward
3. apprentice coordinates custom operations
4. apprentice analyzes commodity pricing relationships (milk, fuel, feed)
5. apprentice performs business performance reviews based on accurate information
6. apprentice summarizes strategies recruiting employees
7. apprentice summarizes strategies for retaining employees
8. apprentice maintains good landlord/tenant relations
9. apprentice balances profitability, family goals, and rural community impact (people and the environment)
10. apprentice develops contingency plans for weather, prices, and unknowns
11. apprentice maintain cattle specific records

12. Work with support services

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 and by writing a summary of support services available to dairy grazing farm owners and managers
- 3 with an experienced farmer or ag professional observing
- 4 by completing an apprenticeship job book that records your achievement of the competencies in this program
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice demonstrates awareness of educational, technical, and financial assistance for dairy graziers
2. apprentice demonstrates awareness of support services available from the financial community
3. apprentice demonstrates awareness of support services available from grazing networks, non-profits, and dairy operators
4. apprentice uses support services available from the technical colleges, UW, and other

educational providers

5. apprentice uses support services available from the USDA, Dept. of Natural Resources, Conservation Service and related agencies
6. apprentice uses support services available from UWEX, Ag and CRD agents
7. apprentice uses support services available from Farm Service Agency
8. apprentice communicates information related to support services available from land conservation departments, SWeD's and others
9. apprentice demonstrates awareness of support services available from value-added buyers
10. apprentice communicates information related to support services available to non-English speaking workers and farms

13. Balance quality of life and family

Assessment Strategies

- 1 skill demonstrations on the farm
- 2 with an experienced farmer or ag professional mentoring
- 3 by completing an apprenticeship journal/score card/competency checklist/job book that records your achievement of the competencies in this program
- 4 with the use of references and family/community resources
- 5 by completing a standard operations procedures manual for the farm

Performance Criteria

1. apprentice provides for family safety and security
2. apprentice accepts responsibility for family health and well being
3. apprentice communicates farm and family information effectively
4. apprentice accepts responsibility for communication and social skills
5. apprentice demonstrates effective relationships with neighbors and others in the community
6. apprentice allocates time for recreational opportunities
7. apprentice creates farm family goals and objectives

Core Abilities

1. Wisconsin Technical College System Apprenticeship Core Ability Statements:

Assessment Strategies

- 1 Use the WTCS Apprenticeship Summative Assessment Scoring Guide for each of the 6 core abilities listed below.

2. Work cooperatively with others, one-on-one and in a team environment

Assessment Strategies

- 1 Preliminary Evaluation
- 2 Mid-Program Evaluation
- 3 Final Evaluation

Indicators

1. Contribute to a group with productive ideas and effort
2. Support co-workers and peers to help them accomplish tasks or goals
3. Apply problem-solving strategies to improve relations with others
4. Interact with people of diverse backgrounds in a respectful manner
5. Consider others' opinions and actions in a non-judgmental manner
6. Accept constructive feedback

3. Communicate effectively

Assessment Strategies

- 1 Preliminary Evaluation
- 2 Mid-Program Evaluation
- 3 Final Evaluation

Indicators

1. Select appropriate style, format, and technology to communicate for intended audience and purpose
2. Use language in a respectful, measured and appropriate manner
3. Apply active listening skills (note-taking, summarizing, eye contact, feedback)
4. Ask questions for clarification
5. Comprehend written materials and verbal instructions
6. Write clearly, concisely, accurately, and appropriately
7. Speak clearly, concisely, and appropriately
8. Communicate messages based on facts and differentiate when your messages are your opinion (i.e. your beliefs or personal judgment)

4. Work productively

Assessment Strategies

- 1 Preliminary Evaluation
- 2 Mid-Program Evaluation
- 3 Final Evaluation

Indicators

1. Adhere to industry and workplace safety practices
2. Comply with laws and codes
3. Utilize resources (materials, equipment, tools) to maximize productivity
4. Establish priorities to meet responsibilities
5. Manage time to accomplish desired tasks in time available
6. Carry out directions/instructions
7. Adapt to changes in work load and priorities
8. Apply problem-solving strategies to improve productivity
9. Demonstrate initiative by taking needed and appropriate action without direction or prompting

5. Adapt to change

Assessment Strategies

- 1 Preliminary Evaluation
- 2 Mid-Program Evaluation
- 3 Final Evaluation

Indicators

1. Embrace changing technologies
2. Adjust to change in job duties and responsibilities
3. Cope with changing trends in the workplace and employment
4. Adjust to diversity in the workforce
5. Apply problem-solving strategies to cope with change
6. Show an openness to trying new things and new methods even when there is the possibility that things may not turn out as you would like them to or as they were originally planned.

6. Apply problem-solving strategies

Assessment Strategies

- 1 Preliminary Evaluation
- 2 Mid-Program Evaluation
- 3 Final Evaluation

Indicators

1. Identify problem/criteria
2. Consider options that address problem/criteria
3. Select option that best addresses problem/criteria
4. Evaluate results of decision
5. Make adjustments based on outcome and/or feedback

7. Think critically

Assessment Strategies

1. Preliminary Evaluation
2. Mid-Program Evaluation
3. Final Evaluation

Indicators

1. Separate your thinking from your emotions while carefully considering diverse viewpoints
2. Incorporate accuracy, relevance, depth, logic, and fairness in order to think critically about a topic or subject
3. Determine issues that merit action
4. Support actions with sound reasoning or relevant theory
5. Consider new ideas and processes
6. Analyze causes and effects
7. Apply mathematical reasoning
8. Address legal, safety, and code issues

External Standards

United States Dept. of Agriculture

Various State of Wisconsin Dairy Food Products Statutes

Organic Food Standards

Related Instruction Course Configuration						
Semester	Course #	Course Title	Credits	Contact Hrs	Category	Req?
1 and 2	UWSBDF	Pasture-Based Dairy and Livestock Seminar (Fall & Spring)	3	45	Core Course	Yes
1	50-091-500	Dairy Nutrition Seminar	1	36	Core Course	Yes
2	50-091-502	Dairy Health Seminar	1	36	Core Course	Yes
3	50-091-503	Milk Quality Seminar	1	36	Core Course	Yes
4	10-090-102	Organic Soils, Nutrients, and Composting	1	17	Core Course	Yes
varies	Grassworks	Holistic Farming and Systems Approach	0	18	Core Course	Yes
varies	Grassworks	Pasture Walks	0	0	Elective	As needed
	10-091-104	Introduction to	3	72	Elective	As needed

		Animal/Dairy Science				
1 or 2	Grassworks	Spring Grazing Conference	0	0	Elective	As needed
varies	Grassworks	Farm Discussion Groups	0	0	Elective	As needed
Final Term	WTCS/BAS	Transition to Trainer	0	8	Elective	As needed

Program Course Detail

Course A -- Pasture-Based Dairy and Livestock Seminar (Fall & Spring)

Course Number	UWSBDF
Semester/Year	1 and 2
Credits	3
Contact Hours	45
Total Hours	45
Category	Core Course
Required	Yes
Course Description	The Pasture-Based Dairy and Livestock Seminar will familiarize you with the development and management of pasture-based dairy and livestock farm businesses. The course is held on Thursdays from 11:00-1:15, mid-November through March on the UW-Madison campus. A distance education option allows students to enroll and participate via live webcast and interactive audio feed from closer to home. Topics of the seminar series include the economic, environmental, and agronomic principles of managed grazing; milking center design; dairy, beef, goat and sheep production; organic marketing and herd health; farm selection, design and remodeling; winter feeding and housing strategies; goal-setting and farm enterprise development. During the course, students will develop their own business plan for a current or desired farm operation. The final class consists of the opportunity to present the plan to a panel of successful farmers and agricultural lenders.
Linked Program Outcomes	4. Optimize pasture production 5. Design pastures and paddock layouts 6. Manage soil and water resources for productivity and health 10. Evaluate grazing, dairy, and farm related information for effective decision-making 11. Manage farm business operations profitably

Course B -- Dairy Nutrition Seminar

Course Number	50-091-500
Semester/Year	1
Credits	1
Contact Hours	36
Total Hours	36
Category	Core Course
Required	Yes
Course Description	Students will learn theory behind farming practices. Topics covered in this course include; roles of digestive nutrients, nutritional requirements at various growth stages, relationship between forage

quality and nutrition, ration balancing through calculation of feed, and dry matter intake. Students will learn about various methods of feeding dairy animals, including grazing system principles. Students will also evaluate the use of dairy nutrition feed technologies.

Linked Program Outcomes

3. Assess dairy nutritional needs and requirements

Course C -- Dairy Health Seminar

Course Number 50-091-502

Semester/Year 2

Credits 1

Contact Hours 36

Total Hours 36

Category Core Course

Required Yes

Course Description Students will explore the animal environment and adaptation, animal health and behavior as it relates to production and non-production species. Furthermore, it will provide the student with the skills to apply basic veterinary skills, animal behavior, signs of illness, vaccination programs, herd health records, and troubleshoot basic electrical applications.

Linked Program Outcomes

1. Manage cattle appropriately including heifers/dry cows, calves, and milking cows
3. Assess dairy nutritional needs and requirements

Course D -- Milk Quality Seminar

Course Number 50-091-503

Semester/Year 3

Credits 1

Contact Hours 36

Total Hours 36

Category Core Course

Required Yes

Course Description This course will provide students with a solid background in producing quality milk and utilizing good herd health management practices. Students will be introduced to milking systems and components, milk procedures, sanitation, diseases, udder anatomy, and milk secretion. Students will be exposed to milk quality practices globally.

Linked Program Outcomes

2. Manage milking operations
9. Evaluate traditional, organic, and grass-based food and milk markets
10. Evaluate grazing, dairy, and farm related information for effective decision-making

Linked Core Abilities

3. Communicate effectively

Course E -- Organic Soils, Nutrients, and Composting

Course Number 10-090-102

Semester/Year 4

Credits	1
Contact Hours	17
Total Hours	17
Category	Core Course
Required	Yes
Course Description	Functional soil is the foundation of organic systems, Build robust healthy soil through organic matter, micro-organisms, and nutrient cycling. Explore composting techniques, organic fertilizer sources, soil fertility testing, balancing.
Linked Program Outcomes	5. Design pastures and paddock layouts 6. Manage soil and water resources for productivity and health 7. Maintain grazing machinery, facilities and equipment
Linked Core Abilities	5. Adapt to change 6. Apply problem-solving strategies

Course F -- Holistic Farming and Systems Approach

Course Number	Grassworks
Semester/Year	varies
Credits	0
Contact Hours	18
Total Hours	18
Category	Core Course
Required	Yes

Course G -- Pasture Walks

Course Number	Grassworks
Semester/Year	varies
Credits	0
Contact Hours	0
Total Hours	0
Category	Elective
Required	Based on need
Course Description	Pasture walks with dairy grazing specialists will share best practices and grazing skills to apprentices during their apprenticeship.

Course H -- Introduction to Animal/Dairy Science

Course Number	10-091-104
Credits	3
Contact Hours	72
Total Hours	72
Category	Elective
Required	Based on need
Course Description	Introduction to the basics of livestock management. Management of the Dairy herd with concentration on nutrition, feedstuffs classification, reproduction, genetics, animal behavior, animal health, and sustainable agriculture practices.

Course I -- Spring Grazing Conference

Course Number	Grassworks
Semester/Year	1 or 2
Credits	0
Contact Hours	0
Total Hours	0
Category	Elective
Required	Based on need
Course Description	Annual 2-day spring conference will provide apprentices with an opportunity to network with other dairy graziers and learn current practices and farm trends. Contact Grassworks for information.

Course J -- Farm Discussion Groups

Course Number	Grassworks
Semester/Year	varies
Credits	0
Contact Hours	0
Total Hours	0
Category	Elective
Required	Based on need
Course Description	Small group discussions with other graziers will explore best practices, emerging trends, new approaches to dairy production and grazing operations.

Course K -- Transition to Trainer

Course Number	WTCS & BAS and all Wisconsin technical colleges
Semester/Year	Final Term
Credits	0
Contact Hours	8
Total Hours	8
Category	Elective
Required	Based on need
Course Description	<i>Transition to Trainer</i> is designed for all apprentices who are approaching the end of their related instruction as well as for journey level workers who are or will be training apprentices.