

Wisconsin Technical College System Program Design

50-091-1 DAIRY GRAZIER APPRENTICESHIP

Program Information

Program 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 grazer. 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).

Target Population

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

Career/Job Titles

- Dairy Grazer
- Dairy Farmer
- Dairy Owner/Manager
- Organic Dairy Farmer
- Pasture Production Specialist
- Dairy Grazing Specialist
- Organic food certifications (optional)

External Requirements

- Work outdoors in all types of weather
- Physical abilities
- 2 year, 4000 hour apprenticeship
- 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 seminars and electives to be approved by Grassworks and/or employers.

Entry Requirements

Registered Wisconsin Apprentice

Program Outcomes

- 1 Manage cattle appropriately including heifers/dry cows, calves, and milking cows
- 2 Manage milking operations
- 3 Assess dairy nutritional needs and requirements
- 4 Optimize pasture production
- 5 Design pastures and paddock layouts
- 6 Manage soil and water resources for productivity and health
- 7 Maintain grazing machinery, facilities and equipment
- 8 Plan for organic farming operations
- 9 Evaluate traditional, organic, and grass-based food and milk markets
- 10 Evaluate grazing, dairy, and farm related information for effective decision-making
- 11 Manage farm business operations profitably
- 12 Work with support services
- 13 Balance quality of life and family

Program Configurations

50-091-1 Dairy Grazing Apprenticeship Related Instruction

Description

Related Instruction for the Dairy Grazing Apprenticeship program includes coursework in the WTCS as well as at the UW-Wisconsin School for Beginning Dairy Farmers, seminars by Grassworks staff, and related conferences, seminars and workshops. Coursework for terms 1-3 are shown below as well as optional elective courses and local options.

Credits & Hours

Total Credits= 7.00

Total Hours= 288 (includes Transition-to-Trainer course)

7.00

Terms 1-3

Course #	Course Title	Credits & Hours	Course Description
50-091-500	Dairy Nutrition	1.00 36 hours	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.

50-091-502	Dairy Health	1.00 36 hours	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, heard health records, and troubleshoot basic electrical applications.
50-091-503	Milk Quality	1.00 36 hours	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.
UWSBDF	Pasture-Based Dairy and Livestock Seminar	3.00 45 hours	Contact the University of Wisconsin School for Beginning Dairy Farmers for current course description and seminar information.
47-455-455	Transition to Trainer: Your Role as a Journey Worker	0.00 8 hours	<p>Apprenticeship training is a collaborative partnership: employer and employee associations, government, and educational institutions each play a part. In reality, most learning takes place through the daily interaction between an apprentice and his/her co-workers. Surveys have shown that the apprentices are least satisfied with the on-the-job portion of their training--particularly the ability of journey level workers and supervisors to pass on their knowledge of the trade.</p> <p>You have already learned to use the tools of your chosen trade. In this workshop you will be introduced to a new set of basic tools--the tools of a jobsite trainer. You will explore the skills that are necessary to be an effective trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. During the workshop you will build a Training Toolkit to take back to your work on the job.</p>
10-090-102	Organic Soils, Nutrients, Composting	1.00 17 hours	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.
Grassworks Seminar	Holistic Farming and Systems Approach	0.00	Contact Grassworks or your farm sponsor about current information and schedules.

Elective Courses and Optional Training Opportunities as Local Options

Course #	Course Title	Credits & Hours	Course Description
10-091-104	Introduction to Animal/Dairy Science	3.00 72 hours	Introduction to the basics of livestock management. It includes management, nutrition and breeding practices in a Dairy operation through classroom and practical experience. Management of the Dairy herd with concentration on breed identification, reproduction, genetics, selection, calving management and record keeping systems. Furthermore students will explore potential careers related to the dairy industry.
Grassworks Sponsored	Pasture Walks	0.00	Contact Grassworks or your farm sponsor about current information and schedules.
State	Spring Grazing Conference	0.00	Contact Grassworks or your farm sponsor about current information and schedules.
Regional	Farm Discussion Groups	0.00	Contact Grassworks or your farm sponsor about current information and schedules.

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50-091-500 Dairy Nutrition

Course Outcome Summary

Course Information

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.

Total Credits 1.00

Program Outcomes

- 1 Manage cattle appropriately including heifers/dry cows, calves, and milking cows
- 2 Assess dairy nutritional needs and requirements
- 3 Evaluate grazing, dairy, and farm related information for effective decision-making

Course Competencies

- 1 Explain the roles of the major digestive nutrients
- 2 Determine nutritional requirements of dairy animals at different growth stages
- 3 Examine the relationship between forage quality, animal health, and productivity
- 4 Calculate feed mathematics in dry matter, feed mixes, and nutritional supplementation
- 5 Select quality feedstuffs appropriate for a dairy ration
- 6 Explain the factors affecting dry matter intake
- 7 Apply ration principles to a grazing system

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50-091-502 Dairy Health

Course Outcome Summary

Course Information

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.

Total Credits 1.00

Program Outcomes

- 1 Manage cattle appropriately including heifers/dry cows, calves, and milking cows
- 2 Evaluate grazing, dairy, and farm related information for effective decision-making

Course Competencies

- 1 Identify strategies to maintain a healthy herd
- 2 Explore calf health issues
- 3 Explore bull health issues
- 4 Analyze dairy herd disease prevention strategies
- 5 Characterize systemic diseases in dairy cattle
- 6 Identify generalized diseases and parasitology in dairy cattle

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50-091-503 Milk Quality

Course Outcome Summary

Course Information

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.

Total Credits 1.00

Program Outcomes

- 1 Manage milking operations
- 2 Evaluate grazing, dairy, and farm related information for effective decision-making

Course Competencies

- 1 Explore best management practices in milking techniques
- 2 Explore the importance of good hygiene
- 3 Analyze the specific components of high quality milk
- 4 Summarize best management practices during lactation, late lactation, drying off, dry period, and calving
- 5 Examine the properties of oxytocin and the role it plays in milk production
- 6 Characterize diseases affecting milk quality
- 7 Analyze mastitis in dairy cattle
- 8 Discuss the impact of environmental exposures on milk quality
- 9 Conceptualize udder anatomy and milk secretion

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47-455-455 Transition to Trainer: Your Role as a Journey Worker

Course Outcome Summary

Course Information

Description Apprenticeship training is a collaborative partnership: employer and employee associations, government, and educational institutions each play a part. In reality, most learning takes place through the daily interaction between an apprentice and his/her co-workers. Surveys have shown that the apprentices are least satisfied with the on-the-job portion of their training--particularly the ability of journey level workers and supervisors to pass on their knowledge of the trade.

You have already learned to use the tools of your chosen trade. In this workshop you will be introduced to a new set of basic tools--the tools of a jobsite trainer. You will explore the skills that are necessary to be an effective trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. During the workshop you will build a Training Toolkit to take back to your work on the job.

Course Competencies

- 1 Value your role as a journey worker trainer
- 2 Serve as a mentor and job coach
- 3 Foster a positive work environment by acting as an ally/advocate
- 4 Provide hands-on skills training
- 5 Provide feedback on apprentice performance