DAIRY GRAZING
APPRENTICESHIP

TRAINING GUIDELINES

prepared by

Dairy Grazing Apprenticeship

and approved by the

Office of Apprenticeship,
United States Department of Labor

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Apprentice or Intern Name: _____

Mentor Name: _____

Start Date: _____

Education Coordinator Name: _____

Education Coordinator Contact: _____

Dairy Grazing Apprenticeship
247606 Gad Rd., Medford, WI 55441
715-553-0364 | info@dga-national.org
https://www.dga-national.org

EQUAL OPPORTUNITY PLEDGE

Dairy Grazing Apprenticeship is 501(c)3 non-profit organization. Its training program is a National Apprenticeship registered with the United States Department of Labor-Employment and Training Administration (DOL-ETA).

DGA is an equal opportunity employer. The recruitment, selection, employment, and training of Apprentices during their Apprenticeship, shall be without discrimination because of race, color, religion, national origin, sex, or sexual orientation. The sponsor will take affirmative action to provide equal opportunity in Apprenticeship and will operate the Apprenticeship program as required under Title 29 of the Code of Federal Regulations, part 30.

The development of Dairy Grazing Apprenticeship (DGA) has been supported in part by 2010, 2011, and 2014 grants from the Beginning Farmer and Rancher Development Program (BFRDP) of the National Institute of Food and Agriculture, USDA. To find more resources and programs for beginning farmers and ranchers please visit www.Start2Farm.gov, a project of BFRDP.

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PREFACE

This "Job Book" or Training Guidelines for Dairy Grazing Apprenticeship (DGA) was developed in 2010 by the Wisconsin Bureau of Apprenticeship Standards and the DGA Advisory Committee. It is intended to be used by Apprentices and Mentor Dairy Graziers (employers) as a "blueprint" for training in conjunction with the Apprenticeship Contract.

The care and maintenance of this book is the joint responsibility of the Apprentice and the Mentor. The Training Guidelines were developed specifically for documenting the Apprentice's acquisition of skills. Use according to program policies and procedures.

Apprentices are required to comply with the specific safety and health standards issued by federal, state, and local authorities, especially the Occupational Safety and Health Administration (OSHA) along with employers' rules for the health and safety of employees.

All work shall be performed in a professional and workman like manner. All work shall be performed in accordance with any applicable building codes and professional industry standards.

IMPORTANT INSTRUCTIONS FOR THE TRAINER

The Training Guidelines identify skills required for this occupation and its related training program. They have been written in statements, which describe how well an Apprentice must perform each skill in order to become competent, and complete his/her Apprenticeship.

It is recommended that the Apprentice progress through this document in a manner to ensure that a sufficient number of items are completed during each step in the Apprenticeship progression to enable completion of all or substantially all by the end of the Apprenticeship. However, the tasks identified do not need to be completed in the order presented. However, certain items are mandatory and must be completed by the Apprentice before the end of his/her Apprenticeship program.

The Apprentice must demonstrate an acceptable skill/knowledge level in order to have an item signed off by Mentors. Each item should be discussed and/or performed more than once. Items must be signed and dated by the Mentor and Apprentice in ink.

Each of the identified knowledge has a typical example where the performance may be observed and evaluated. The typical example is just a suggestion. Other activities may be used to evaluate Apprentice performance.

An Apprentice should review the guide with his/her Mentor on a regular basis. This will allow for scheduling of any needed training. If a particular item does not become available during the job training, it may be simulated. The simulation will include detailed discussion on procedures, materials, tools, and safety requirements.

Mentors and Apprentices are required to sign off and date the skills following each successful acquisition.

IMPORTANT INSTRUCTIONS FOR THE APPRENTICE

Record all hours working for the Mentor/employer.

A "Summary of Hours" should be completed, signed, and dated by both the Apprentice and employer when all terms of the contract have been completed.

It is your responsibility to inform Dairy Grazing Apprenticeship regarding any changes in name or address.

You may want to keep a journal of your daily work, noting such things as why a task was not completed, hours worked, job location, weather, and keeping a record of conversations regarding details of the job. On occasion, these detailed notes can be used to solve disputes and in rare instances, they may be used in court cases.

It is recommended that you progress through this document in a manner to ensure that a sufficient number of items are completed during each step in the Apprenticeship progression to enable completion of all or substantially all by the end of the Apprenticeship. However, the tasks identified do not need to be completed in the order presented.

You must demonstrate an acceptable skill/knowledge level in order to have an item signed off by a Mentor Dairy Grazier. Each item should be discussed and/or performed more than once. Items must be signed and dated by the Mentor and Apprentice in ink.

Each of the identified knowledge has a typical example where the performance may be observed and evaluated. The typical example is just a suggestion. Other activities may be used to evaluate you.

1. MANAGE CATTLE APPROPRIATELY
(Includes Heifers/Dry Cows, Calves and Milk Cows)

HOURS: 800

A HANDLE ANIMAL SAFETY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Maintains appropriate flight zone distances.			
2. The animals move calmly in the desired direction.			
3. Remains calm.			
4. Correctly uses head lock and halter.			
5. Properly uses safeguards while isolating an animal, including gates and proper deterrent tools.			

All work items are mandatory unless specifically identified as "Not Mandatory."

B VERIFY HERD HEALTH AND WELLNESS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. While conducting farm operations, such as milking, recognizes symptoms and abnormal behavior that would indicate illness.			
2. Follows proper protocols to determine whether a contacting a veterinarian is necessary.			
3. If contacting a veterinarian is not necessary, determines and administer the necessary on-farm treatment (e.g. common metabolic disorders).			

C EVALUATE ANIMAL PRODUCTIVITY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Comprehends and monitor cattle body condition scoring.			
2. Monitors daily milk production.			
3. Comprehends and monitors breeding records, and records breeding dates.			

D EVALUATE CALF NEEDS AND USE APPROPRIATE RESOURCES TO MEET THE REQUIREMENTS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Feeds calves appropriate type and amount of food.			
2. Follows appropriate protocol for raising calves.			
3. Follows proper protocol for care and raising of calves.			
4. Comprehends potential health risks of calves, and monitors for related symptoms.			
5. Comprehends health needs of a calf, and monitors for proper growth.			
6. Demonstrates proper dehorning techniques.			

E ESTABLISH COW BREEDING CYCLES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Feeds calves appropriate type and amount of food.			
2. Follows appropriate protocol for raising calves.			

F COMPREHEND MILK COW VACCINATION PROGRAM

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Explains resources available and procedures used on the farm.			
2. Summarizes the vaccination protocol.			

G MAINTAIN HOOF HEALTH

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies the hoof condition.			
2. If the hoof condition is acute, able to treat it accordingly by use of antibiotics or other means.			
3. If the hoof condition is chronic, able to trim the hooves or administer another appropriate treatment.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

2. MANAGE MILKING OPERATIONS

HOURS: 800

A HANDLE ANIMAL SAFETY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Conducts and monitors cow hygiene scoring on a routine basis.			

B MILK COWS FOLLOWING PRESCRIBED PROCEDURES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Properly preps cattle using appropriate techniques, which might include the following, according to conditions: pre-dipping; stripping; wiping with individual towels; attaching milking unit; and post-dipping for milking.			
2. Observes and identifies potential abnormalities in udders or milk.			
3. Recognizes when milking is complete.			

C MANAGE MILK QUALITY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies substandard trends in the weekly review.			
2. Takes appropriate action to ensure milk quality.			

D PERFORM MILK TESTING ACCURATELY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Accurately performs DHI, anti-biotic, anti-biotic sensitivity, milk components and bacteria milk testing.			
2. Follows the protocols for milk testing for individual cows.			

E MAINTAIN STOCK RECORDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Maintains health, breeding (lineage), and production records.			
2. Properly interprets and explains the value of each type of record.			

F IDENTIFIES WHICH COWS TO CULL

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies indicators in the report that would justify culling.			
2. Able to recommend cows to be culled to the mentor grazier, when appropriate.			

G DISPOSE OF DEAD STOCK

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Able to describe the merits and potential risks of each method of carcass removal.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

3. ASSESS DAIRY NUTRITIONAL NEEDS AND REQUIREMENTS

HOURS: 400

A SELECT QUALITY FEED BASED ON CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Determines when to supplement the pasture based on season and weather, and the needs, practices and objectives of the individual farm.			
2. Determines the appropriate quality of supplement.			
3. Determines the appropriate quantity of supplement.			

B SELECT FEED APPROPRIATE TO LIVESTOCK NEEDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Summarizes nutrient requirements of each livestock group.			
2. Determines availability of sources for appropriate feed.			
3. Selects quantity and type based on economic factors.			

C DEVELOP A STRATEGY TO OPTIMIZE THE AMOUNT OF FEED THAT COMES FROM PASTURE

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Demonstrates awareness of the individual farm's stocking rate, including the number of livestock, land base, and supplement feed.			
2. Account for seasonal variability of pasture production.			
3. Determines the availability of supplemental feed.			

D STORE SUPPLEMENTAL FEED

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Determines the appropriate method of storing each type of supplemental feed, including just-in-time delivery.			

E DEVELOP A PLAN TO EXTEND THE GRAZING SEASON

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Develops a plan that addresses fertilization, stockpiling, supplementation, and the grazing annual.			
2. Monitors and adjusts the plan throughout the year.			

F MONITOR FEED, GRAIN AND SUPPLEMENTAL NUTRITION

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Matches herd requirements with inventory on an annual basis.			
2. Monitors and adjusts the match throughout the year.			

G MAINTAIN SUPPLEMENT FEED RECORDS AND INFORMATION

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Records the quantity and quality of farm harvested supplemental feeds.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

4. OPTIMIZE PASTURE PRODUCTION

HOURS: 800

A ESTIMATE PASTURE PRODUCTION VOLUME

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Measures the amount of forage in the paddocks.			
2. Develops a grazing wedge based upon a pasture ranking system.			
3. Applies the wedge.			

B SELECT PLANTS, GRASSES AND LEGUMES BASED ON PASTURE CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Evaluates sward species and density.			
2. Selects plants, grasses and legumes for future development.			

C MANAGE BREAK OF GRASS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Allows cattle access for the appropriate length of time.			
2. Sets up fences at appropriate intervals.			
3. Determines if conditions allow grazing.			

D MONITORS PASTURE HEALTH AND PRODUCTIVITY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies threats to pasture health and productivity, including overgrazing, weather, and lack of fertility.			
2. Recommends an appropriate remedy.			

E FERTILIZE PASTURES BASED ON THE SOIL AND NUTRITIONAL NEEDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Takes soil & plant samples and submit them for testing.			
2. Comprehends the results of soil and plant tissue tests.			
3. Evaluates lab recommendations.			
4. Characterizes various fertilizers.			
5. Applies appropriate fertilizer and manure in accordance with proper procedures.			

F IDENTIFIES PLANT SPECIES AND THEIR NEEDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies pasture plants (legumes and grasses).			
2. Explains the relationships, nutrient needs and benefits of various grasses, legumes and forbs.			

G CONTROL WEEDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies various types of weeds and their lifecycles.			
2. Applies the best control method.			

H RENOVATE AND OVERSEED PASTURES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies deficiencies in the pasture.			
2. Presents a renovation plan that includes seeds, most appropriate method, quantity and timing.			
3. Executes the plan.			

I MANAGE SURPLUS PASTURE

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies a pasture's maturity stage.			
2. Mechanically harvest pasture if conditions warrant; i.e. before it is too mature to graze.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

5. MANAGE SOIL AND WATER RESOURCES FOR PRODUCTIVITY AND HEALTH

HOURS: 200

A COORDINATE ANIMAL NEEDS WITH PASTURE GROWTH AND GROWING SEASONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Explains a grazing wedge.			
2. Develops and maintains a grazing wedge on host farm.			

B ASSESSES SOIL NEEDS BASED ON THE TYPE AND CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies soil type and characteristics.			
2. Observes field variations and crop stress.			

C BALANCE SOILS FOR PROPER NUTRIENT CONTENT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Balances 590 Nutrient Plan as it relates to host farm.			

D SELECT THE BEST GRASSES AND LEGUMES BASED ON THE SOIL AND WATER CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies and matches forage species to land types and climate.			

E FERTILIZE PASTURES BASED ON CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Chooses fertilizer blend and amounts based on need host farms needs.			

F HANDLE CHEMICALS SAFELY AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies when and where chemicals need to be applied.			
2. Implements actions by a certified applicator when needed.			

G MAINTAIN SOIL CONDITIONS AND FERTILITY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Performs soil sample areas on the host farm.			
2. Assesses crop nutrient removal rates.			

H PLAN FOR WINTER FEEDING, FALL HARVESTING AND PURCHASING WINTER FEED SUPPLIES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Inventories feed stores and maintains feed inventories.			
2. Inventories livestock numbers and balances with feed inventory.			

I MANAGE WATER QUALITY BASED ON CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies potential pollution areas.			
2. Develops plan to prevent pollution.			

J MANAGE DROUGHT CONDITIONS BASED ON SOIL TYPES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies periods of drought stress.			
2. Develops a plan for drought management.			

K DETERMINE INTEGRATED PEST MANAGEMENT PRACTICES FOR MANAGED DAIRY GRAZING

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies pest problems.			
2. Develops an integrated plan to deal with pests.			
3. Implements the integrated pest management plan.			

L MANAGE MANURE

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Utilizes manure to best advantage.			
2. Avoids pollution problems.			
3. Demonstrates awareness of manure management practices and options.			

M DEMONSTRATES AWARENESS OF BOTH ORGANIC AND CONVENTIONAL AGRONOMIC PRINCIPLES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Explains needs for tillage.			
2. Explains organic soil amendment merits.			

N OPTIONAL: APPLY LAND CONSERVATION TECHNIQUES BASED ON SOIL AND WATER QUALITY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Explains advantages and disadvantages of no-till planting.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

6. EVALUATE GRAZING DAIRY, AND FARM RELATED INFORMATION FOR EFFECTIVE DECISION MAKING

HOURS: 200

A USE HOLISTIC (OR OTHER) GOAL SETTING AND PLANNING PRACTICES.

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Summarizes Apprentice and Mentor's holistic goals.			
2. Creates a farm plan using holistic practices.			

B ACQUIRE INFORMATION FROM FARM RECORDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Understands soil test, DHI, forage test, milk plant tests.			
2. Knows where to access these reports.			
3. Evaluates records to measure past performance.			
4. Predicts future scenarios based on current performance.			

C ADAPT TO CIRCUMSTANCES OR THE ENVIRONMENT BASED ON RELIABLE INFORMATION

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Outlines changes needed to meet goals.			
2. Reads periodicals, articles, etc. to stay informed.			
3. Creates a plan for implementing changes.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

7. MANAGE FARM BUSINESS OPERATIONS PROFITABLY (TOTAL OPTIONAL) HOURS: 300

A MANAGES TIME EFFECTIVELY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Evaluates priorities and deal with urgent ones first.			
2. Utilizes time effectively.			

B ANALYZE INPUT COSTS AND INCOME RELATIONSHIPS (MILK, FUEL, FEED)

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Is aware of market conditions and interrelationships.			
2. Subscribes to various market information sites.			

C BALANCE PROFITABILITY, FAMILY GOALS, AND RURAL COMMUNITY IMPACT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Evaluates progress on holistic goals.			

D DEVELOP CONTINGENCY PLANS FOR WEATHER, PRICES AND UNKNOWNS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Develops a series of what if scenarios.			

E MAINTAIN CATTLE SPECIFIC RECORDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Uses QuickBooks or a similar software program.			
2. Creates enterprise budgets.			
3. Records costs and sales within various enterprises.			

F MAINTAIN ENTERPRISE RECORDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Uses QuickBooks or a similar software program.			
2. Creates enterprise budgets.			
3. Records costs and sales within various enterprises.			

G EVALUATE FINANCIAL PERFORMANCE

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Creates reports from records including profit/loss statements, net worth, and balance sheets.			
2. Evaluates performance against known benchmarks.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

8. OPTIONAL: PLAN FOR ORGANIC FARMING OPERATIONS (TOTAL OPTIONAL) HOURS: 300

A ACQUAINT SELF WITH ORGANIC FARMING PRINCIPLES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Characterizes organic principles.			
2. Outlines differences between organic & conventional.			
3. Identifies likely barriers in the transition to organic.			
4. Summarizes steps needed to become certified organic.			

B INCORPORATE ORGANIC PASTURE MANAGEMENT PRACTICES INTO CURRENT FARM MANAGEMENT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Summarizes organic pasture management principles.			
2. Determines what organic practices can be applied to the current farm.			
3. Creates a budget using organic costs & prices.			
4. Implements organic practices where appropriate.			

C ACQUAINT SELF WITH ORGANIC LIVESTOCK MANAGEMENT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Drafts organic mastitis treatment protocols.			
2. Outlines organic livestock management practices.			

D ACQUAINTS SELF WITH ORGANIC SOIL AND AGRONOMIC PRACTICES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Outline principles of organic soil management.			
2. Summarize organic cropping practices.			

E ADHERES TO ORGANIC CERTIFICATION AND RECORD KEEPING

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Outlines requirements of organic certification.			
2. Keeps appropriate records.			

F COORDINATES ORGANIC SUPPLIERS AND RESOURCE PROVIDERS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Finds sources of organic inputs and products.			
2. Orders inputs and supplies as needed.			

G EVALUATES ORGANIC MILK MARKETS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Contacts potential milk markets.			
2. Evaluates available milk contracts.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

9. OPTIONAL: DESIGN PASTURES AND PADDOCK LAYOUTS (TOTAL OPTIONAL) HOURS: 300

A COMPREHEND EFFICIENT PASTURE LAYOUTS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Understands the logic of paddock layout with regard to natural variation.			
2. Demonstrates efficient lane access to paddocks.			

B PLAN FOR MANAGED GRAZING FENCES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Demonstrates ability to design a fencing system on paper.			
2. Able to estimate the cost of a fencing project.			

C SELECT APPROPRIATE MANAGED GRAZING FENCES BASED ON CONDITIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Able to describe different needs and types of fencing such as perimeter, interior, temporary and lane fences.			
2. Demonstrates knowledge of different fencing materials, tools and charges.			

D INSTALL MANAGED GRAZING FENCES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Demonstrates working knowledgeable of high tensile fence materials and fence repair.			
2. Demonstrates working knowledge of fence charges, installation and safety.			

E CREATE PLAN FOR MOVING LIVESTOCK AND ACCESSING PADDOCKS/PASTURES

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Able to design efficient lane and raceway layout.			
2. Demonstrates awareness of different lane design and construction methods and materials.			

F MOVE MOBILE FENCES BASED ON COW NEEDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Identifies the need to subdivide a paddock.			
2. Able to estimate the size of subdivision based on cattle daily dry matter intake.			

G PLAN AND ASSEMBLE LIVESTOCK WATERING SYSTEMS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Demonstrates knowledge of different systems for watering livestock.			
2. Demonstrates ability to plan, assemble and repair water systems.			

H CREATE PLANS FOR PASTURE IRRIGATION SYSTEMS WHEN APPLICABLE **NOT MANDATORY**

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1.			
2.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

10. OPTIONAL: MAINTAIN GRAZING MACHINERY, FACILITIES AND EQUIPMENT

(TOTAL OPTIONAL) HOURS: 300

A WORKS AROUND FARM EQUIPMENT SAFELY

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Summarizes safety protocols.			
2. Points out potential hazards.			

B CLEANS AND SANITIZES MILKING FACILITIES AND EQUIPMENT ACCORDING TO REGULATIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Outlines milking sanitation protocols.			
2. Troubleshoots problems with milk quality caused by equipment.			

C TROUBLESHOOTS EQUIPMENT MALFUNCTIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Demonstrates familiarity with normal vs. abnormal functioning of equipment.			
2. Speculates on possible causes.			
3. Works with Mentor to try to correct problems.			

D MAINTAINS EQUIPMENT USED IN MANAGED GRAZING DAIRY OPERATIONS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Understands routine maintenance needs.			
2. Applies routine maintenance to equipment.			

E REPAIRS EQUIPMENT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Evaluates extent of repairs needed.			
2. Attempts repairs under supervision of Mentor.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

11. OPTIONAL: EVALUATE TRADITIONAL, ORGANIC, AND GRASS-BASED FOOD AND MILK MARKETS

(TOTAL OPTIONAL) HOURS: 300

A PLANS FOR CREATING VALUE ADDED DAIRY PRODUCT

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Outlines value added approaches.			
2. Summarizes feasibility of attempting value added products.			

B CHARACTERIZES MILK QUALITY THAT RESULTS FROM MANAGED GRAZING AND GRASS FEED COWS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Summarizes differences in grass-fed, organic and conventional milk nutrition.			
2. Outlines potential for adulteration by antibiotics or hormones of various production methods.			

C COMMUNICATES THE BENEFITS OF SUSTAINABLE FARMING

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Presents key points of benefits of managed grazing.			

D EXPLAINS THE VALUE OF GRASS FINISHED MILK PRODUCTS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Lists grass based milk products on the market.			
2. Summarizes price differences.			

E ACQUAINTS SELF WITH END USER NEEDS CONSUMERISM

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Reads articles about consumer preferences.			
2. Talks to people about their preferences.			

F DEMONSTRATES BEING ALERT TO GLOBAL NEEDS AND MARKET TRENDS

Criteria for Evaluation	Mentor Signature	Appr. Initials	Date Completed
1. Follows marketing trends in various media.			
2. Summarizes potential global and local influences on milk prices received by the farm.			

NOTES

Include information regarding Apprentice Progress, special certifications, etc.

RELATED INSTRUCTION OVERVIEW

SEMESTER	COURSE TITLE	CREDITS/ HOURS	CONTACT/ HOURS	CATEGORY	REQUIRED	DELIVERY SYSTEM	SOURCE	INSTRUCTOR TRAINING
All	Orientation	0	2	Pre-requisite	Yes	Online	Managed Grazing Innovation Center	Self-guided
Fall	Dairy Cattle Health and Wellness	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Fall	Soil & Water Resources Management	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Fall	Managed Grazing Systems for Dairy Cattle	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Fall, Spring	Farm Business Management	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Spring, Summer	Dairy Cattle Nutrition and Feeding	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Spring, Summer	Milk Quality	1	36	Core Course	Yes	Online	Managed Grazing Innovation Center	BS or MS
Varies	Holistic Farming And Systems Approach	0	16	Elective*	No	Classroom	Program Sponsored	MS
Monthly	Education Coordinator Farm Visits	0	24	Elective*	Yes	One-on-One	Program Sponsored	DGA-Trained Staff
Varies	Discussion Groups/ Pasture Walks/ Farming Conferences	0	42	Elective*	Yes	Face-to-Face	Various	Various

**Because Apprentices may enter program at any time, classes are taken as available. Summer offering may vary, depending on scheduling and educational needs of Apprentices.*

***Elective coursework may be modified or substituted, contingent upon the specific needs of program participants in a particular geographic region/locale and subject to approval by the state Apprenticeship Committee. Apprentices will be required to complete a total of 300 hours of related instruction prior to completion of their Apprenticeship training.*

PASTURE WALKS AND DISCUSSION GROUPS

DATE	START TIME	# OF HOURS	EVENT	LOCATION	TOPICS

DAIRY GRAZING

APPRENTICESHIP