

University of Wisconsin - Madison
College of Agricultural & Life Sciences
CALS Outreach Services/Short Courses
620 Babcock Drive
Madison, WI 53706

Nonprofit Organization
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**IMPORTANT REGISTRATION
MATERIALS ENCLOSED!**

University of Wisconsin-Madison provides equal opportunities for admission and employment.

2003-2004 Professional Development Courses

University of Wisconsin-Madison Milking Research and Instruction Lab Team Quality Milk

Professional Development Courses For:

- Veterinarians
- Milking Equipment Installers
- Milk Quality Advisors
- Progressive Dairy Producers
- Farm Advisors

Fall Courses

November 3-4, 2003

Milking Machine Analysis

November 5, 2003

Variable Frequency Drives for Dairy Farms

November 6, 2003

Milking Parlor Management

Spring Courses

January 12-14, 2004

Advanced Milking Machine Analysis

January 15, 2004

Variable Frequency Drives for Dairy Farms

Sponsored by

University of Wisconsin-Madison
College of Agricultural & Life Sciences
Milking Research and Instructional Lab
Department of Biosystems Engineering
Department of Dairy Science

About the Courses

These courses are designed for veterinarians and other professionals advising dairy producers on milking machines, milking management and milk quality. Some of the courses would also be of value to managers of the milking operations on progressive dairy farms. All courses assume a basic level of knowledge and some field experience. The Intermediate level courses emphasize methods of testing and data collection. The advanced level courses emphasize interpretation of data and creative problem solving and will include a review of current topics and recent research on the subject matter. The courses are designed so that you can come for 1 or 2 days to fill in some gaps, or attend the entire one-week series. The advanced courses build upon the knowledge base acquired in the intermediate level courses. Please read the course descriptions carefully to determine your level of experience and to which courses meet your needs.

2003 Fall Courses

Milking Machine Analysis - November 3-4, 2003 \$300

This course will give the milking machine tester the tools necessary to collect the appropriate data to determine the adequacy of the milking machine for milking and cleaning functions. This course is designed for participants who have a general knowledge of milking machine function. Participants will learn how to perform the latest milking machine test procedures and interpret their results. Milking systems analysis will focus on evaluation of the milking and cleaning performance of modern milking machines using the latest developments performance testing. Participants will gain knowledge of the latest installation, performance, and testing standards and design guidelines for milking systems. Instructors will include faculty from the UW milking lab, Vet School and staff from milking machine companies.

Course Topics:

- Standards and Guidelines for Vacuum Level and Stability During Milking
- Milking Machine Design Guidelines
- Instrument Calibration Making Good Measurements
- Instrument Specifications-Choosing Test Equipment
- Airflow, Milk Flow and Vacuum Drop During Milking
- Detecting Pulsator Faults
- ASAE and NMC Test Procedures to Assess Airflow and Vacuum Levels in Milking Machines - Hands-On Testing
- Milking Time Tests of Vacuum Stability in Milkline, Receiver, and Claw
- Using A Flow Simulator for Milking Machine Assessment
- Testing and Adjusting Variable Speed Drive Vacuum Pumps
- Flow Dynamics in Cleaning Systems
- System Design Guidelines for Cleaning
- Measurements for Assessing Cleaning Flow
- Estimating Water Requirements for Cleaning
- Interpretation of Data, Prioritizing Recommendations

Registration Form

Name _____

Company _____

Address _____ Circle: Home Business

City _____ State _____ Zip _____

Telephone _____ E-mail _____

2003 Fall Courses:

November 3-4, 2003

- Milking Machine Analysis \$300

November 5, 2003

- Variable Frequency Drives for Dairy Farms \$150

November 6, 2003

- Milking Parlor Management \$150

2004 Spring Courses:

January 12-14, 2004

- Advanced Milking Machine Analysis \$450

January 15, 2004

- Variable Frequency Drives for Dairy Farms \$150

- Special discount: \$50 discount per additional course

Make checks payable to UW-Madison.

Please charge to the following account:

Visa Mastercard Exp. date _____

Credit Card Number _____

Name on Credit Card _____ Signature _____

Send Registration Form and Payment to:

CALS Outreach Services
620 Babcock Drive
Madison, WI 53706
FAX: (608) 262-5088

General Information

Mail check/money order (**payable to UW-Madison**) with Registration Form. If you do not submit payment in advance, specify payment arrangements on Registration Form. We do **not accept** phone registrations, mail or fax to:

CALS Outreach Services
620 Babcock Drive
Madison, WI 53706
FAX: (608) 262-5088

Location of Courses: J. F. Fredrick Center, UW-Madison, 1950 Willow Drive, Madison, WI 53706

Confirmation will include course schedule, location, lodging information, receipt, and map

Registration Fee includes instructional materials, meals and breaks.

Cancellation Policy: If you are unable to attend, please notify CALS Outreach Services office immediately at (608) 263-1672. To receive a full refund, you must cancel two weeks before the first day of the course. After that date, a cancellation fee will be charged. If you fail to cancel, no refund will be granted. Substitutions may be made at any time and at no charge.

For additional registration information: contact CALS Outreach Services at (608) 263-1672 or FAX to (608) 262-5088.

For additional program information: contact Doug Reinemann at (608) 262-0223 or email Doug at djreinem@wisc.edu.

Veterans Benefits: Wisconsin veterans may be eligible for fee reimbursement. To determine eligibility, contact your local County Veterans Service Office prior to enrollment.

Please advise us at time of registration of any disabilities that require special accommodations. Requests will be kept confidential.

Lead Instructors

Douglas J. Reinemann, Ph.D., Professor of Biological Systems Engineering and Director of the University of Wisconsin Milking Research and Instruction Lab

Pamela L. Ruegg, DVM, MPVM, Associate Professor of Dairy Science and Leader of University of Wisconsin's Team Quality Milk

Other Instructors

Ken Nordlund, DVM, Clinical Professor of Food Animal Production Medicine, University of Wisconsin-Madison School of Veterinary Medicine

Nigel Cook, BSc BVSc Cert. CHP DBR MRCVS, Clinical Assistant Professor in Food Animal Production Medicine, University of Wisconsin-Madison School of Veterinary Medicine

David Reid, DVM, Director of Research, Bou-Matic LLC

Ken Bolton, UW Extension Dairy and Livestock Agent

Scott Sanford, MEng., Sr. Outreach Specialist, Biological Systems Engineering

Variable Frequency Drives for Dairy Farms

November 5, 2003 \$150

This course will give participants a basic understanding of milking system applications of variable frequency drives (VFD) including installation techniques and troubleshooting. This course is designed for participants who have a general knowledge of milking systems and milking machine performance testing. Instructors will include faculty from the UW milking lab and leading industry professionals.

Course Topics:

- Variable Frequency Drive (VFD) Operation and Theory
- Applications on dairy farms
 - Variable Speed Vacuum Pumps
 - Variable Speed Milk Pumps
 - Variable Speed Fans
- Proper Installation and Commissioning Techniques
- RF/EMI Noise Issues and Protection
- Troubleshooting/Tuning Variable Frequency Drives
- Potential Energy Savings

Milking Parlor Management

November 6, 2003 \$150

This course will give milking parlor managers and their advisors the tools to assess milking parlor performance, develop standard operating procedures and employee training programs and set up a continuous monitoring program for milking parlor operations. This course is designed for participants who have experience managing a milking parlor or as an advisor to milking parlor managers. Participants will learn how to use various assessment tools and interpret their results. Instructors will include faculty from the UW milking lab, the UW department of dairy science, the UW Vet School and leading industry professionals.

Course Topics:

- Cow Physiology, Milk Ejection and Behavior
- Milking Routines
- Training People and Cows
- Assessing Milking Routines
- Key Performance Indicators for Monitoring Automated Milking Parlors
- Using Parlor Management Software
- Milking Parlor Observation Lab
- Putting it All Together, A Parlor Managers Perspective

2004 Spring Courses

Advanced Milking Machine Analysis

January 12-14, 2004 \$450

This course moves beyond basic tests of vacuum stability in the receiver and milking line and concentrates on the action of the milking unit and factors having direct influence on the milking process. This course is designed for participants who have detailed knowledge of milking machine function and the test procedures covered in the Milking Machine Analysis course described above. Participants will learn how to use various methods to assess the milking process, diagnose problems and make recommendations for solving these problems. Instructors will include faculty from the UW milking lab, UW Vet School and staff from milking machine companies and other leading industry professionals.

Course Topics:

- Action of the Milking Unit
- Review of Cow Physiology, Stimulation and Letdown Research
- Evaluating Claws
- Liner Properties and Assessing Liners
- Assessing Milking Performance, Key Performance Indicators, Interpretation
- Human and Cow Influences on Milking Performance
- Assessing Cow Behaviors During Milking
- Milking Machines and Mastitis
- Assessing Teat Condition
- Effect of Milking Machines on Teat Condition
- Prioritizing Machine Influences on Milking Performance
- Assessing Milk Flow Curves, Average Flow, Peak Flow
- Detacher Settings
- Using a Flow Simulator to Assess Milking Machine Settings
- Electronic Data Collection on Milking Performance from Milking Parlors

Variable Frequency Drives for Dairy Farms

January 15, 2004 \$150

This course will give participants a basic understanding of milking system applications of variable frequency drives (VFD) including installation techniques and troubleshooting. This course is designed for participants who have a general knowledge of milking systems and milking machine performance testing. Instructors will include faculty from the UW milking lab and leading industry professionals.

Course Topics:

- Variable Frequency Drive (VFD) Operation and Theory
- Applications on dairy farms
 - Variable Speed Vacuum Pumps
 - Variable Speed Milk Pumps
 - Variable Speed Fans
- Proper Installation and Commissioning Techniques
- RF/EMI Noise Issues and Protection
- Troubleshooting/Tuning Variable Frequency Drives
- Potential Energy Savings