



2019 MSU Extension Dairy Programs

Michigan State University (MSU) Extension Dairy Team:
Educators and Specialists with a commitment to enhance the competitive advantage of Michigan dairy producers and Michigan's dairy industry

The MSU Extension Dairy Team fulfills this mission in a variety of ways.

- Educational programs are held throughout the state focusing on issues identified by the industry
- Research and demonstrations are conducted directly with dairy producers
- Farm visits reinforce and help to apply research-based information and concepts to your unique farm operation
- Educational resources and event information are shared through our website <https://www.canr.msu.edu/dairy/>, news releases and emails

Call us if you need help with problem-solving, evaluating alternatives, planning for the future, or learning another perspective on your operation. Please don't hesitate to call!

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You can find any MSU Extension employee at:
<http://www.canr.msu.edu/outreach/experts/>

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Dear Dairy Farm Family,

As the situation of low milk price continues to drag on, we on the Michigan State University Dairy Team want to express how much we hurt for you. We hear almost daily from farmers about the difficulty and stress this has placed on families. Besides offering a listening ear, we want you to know how else MSU Extension can be of help to you.

MSU Extension is available to assist with planning, analyzing situations and alternatives, financial counseling and providing an outside perspective. Sometimes, it is beneficial to have someone else take a look at your operation to spot overlooked opportunities. Alternatives can be discussed and financial projections can be developed.

If we can help, we invite you to contact any member of the MSU Extension Dairy Team or Farm Management Team. We will provide you every bit of support and encouragement that we can.

Remember, your business is not you. While personal identity is often tied up with business, please don't allow the health of your business to determine your physical, mental and emotional health.

You are more than your business and your health is important to your family and to your business. Please take care of yourself and don't be afraid to ask for help. We would be glad to sit down with you.

MSU Extension Dairy Team

Two online resources that may be helpful are:

- Managing Farm Stress website (http://www.canr.msu.edu/managing_farm_stress/)
- Online course to help manage stress from farming (http://www.canr.msu.edu/managing_farm_stress/online_course_how_to_handle_stress_on_the_farm)

HAPPY COWS LIVE IN MICHIGAN

Overview: This program is designed for dairy farm owners and managers to learn about the latest research and strategies to improve efficiency with animal welfare in mind. Topics include: importance of continual improvement in efficiency, heat stress and its implications, stocking density and the impact on feet and legs, strategies to maintain a stable rumen, and calf and heifer management for improved well-being and profit.

Presenters: MSU Extension Dairy Educators

Dates and Locations:

January 24	West Olive (Ottawa County MSU Extension)
January 29	Mt. Pleasant (Isabella County MSU Extension) Live Broadcast to Menominee County MSUE and Upper Peninsula Research Extension Center
January 30	St. Johns (Agro-Culture Liquid Fertilizer)
January 31	Hillsdale (Hillsdale County MSU Extension)
February 12	Cadillac (Wexford County MSU Extension)
February 13	West Branch (Ogemaw County MSU Extension)
February 14	Gaylord (Jay's Sporting Goods)
February 19	Bad Axe (Franklin Inn)

Details: Contact Huron County MSU Extension Office at 989-269-9949 or mbuza@msu.edu

DAIRY NUTRITIONIST DISCUSSION FORUMS

Overview: An open forum for dairy nutritionists practicing in Michigan to ask questions to researchers and their peers about new trends and studies in the dairy nutrition field.

Presenters: Mike Allen, Adam Lock, Martin Mangual and Herb Bucholtz

Dates and Locations: December; Ithaca, Comstock Park, Marshall, Lake City, Sandusky

Registration: Contact Martin Mangual at 616-994-4581 or carrasq1@msu.edu

FEEDER SCHOOL

Overview: A hands-on training program for dairy farm employees to learn basic knowledge and techniques in areas such as: sampling technique, dry matter testing, safety procedures, more effective communication, and improved TMR quality.

Presenters: Martin Mangual, Stan Moore, Phil Kaatz, Jackie Boerman

Dates and Locations: TBD Dates, KBS (Barry County), Saginaw County, Clinton County

Registration: Contact Martin Mangual at 616-994-4581 or carrasq1@msu.edu

MSU EXTENSION DAIRY EDUCATORS:

Paola Bacigalupo	Coldwater	517-279-6419	paolabs@msu.edu
Marianne Buza	Bad Axe	989-269-9949	mbuza@msu.edu
Faith Cullens	St Johns	989-224-5249	cullensf@msu.edu
Phil Durst	West Branch	989-387-5346	durstp@msu.edu
Kathy Lee	Lake City	231-839-5850	leeka@msu.edu
Martin Mangual	West Olive	616-994-4581	carrasq1@msu.edu
Stan Moore	Bellaire	231-533-8818	moorest@msu.edu
Frank Wardynski	Ontonagon	906-884-4386	wardynsk@msu.edu

MSU EDUCATORS SERVING DAIRY PRODUCERS:

Roger Betz	Farm Management	517-230-0110	betz@msu.edu
Corey Clark	Farm Management	517- 420-2042	clarkcr@msu.edu
Florencia Colella	Farm Management	231-224-6439	colellaf@msu.edu
Melissa Elischer	4-H Dairy	517-432-4306	elischer@msu.edu
Sarah Fronczak	Enviro Management	517-439-9307	froncza3@msu.edu
Phil Kaatz	Forages	810-338-5242	kaatz@msu.edu
Jon LaPorte	Farm Management	269-445-4438	laportej@msu.edu
Dan Ochs	Farm Management	607-280-1575	ochsdani@msu.edu
Erica Rogers	Enviro Management	989-875-5233	roger392@msu.edu

MSU EXTENSION DAIRY SPECIALISTS:

Mike Allen	Nutrition	517-432-1386	allenm@msu.edu
Kim Cassida	Forages	304-575-6099	cassida@msu.edu
Ron Erskine	Animal Health	517-353-4637	erskine@cvm.msu.edu
Ted Ferris	Management & Genetics	517-355-8442	ferris@msu.edu
Adam Lock	Nutrition	517-353-8714	allock@msu.edu
Richard Pursley	Reproduction	517-281-7289	pursleyr@msu.edu
Gary Smith	Food Processing	517-255-4081	smithg38@msu.edu
Chris Wolf	Economics	517-353-3974	wolfch@msu.edu

EXTENSION DAIRY ADVISORY TEAM:

The MSU Extension Dairy Advisory Team is a group of progressive dairy producers and professionals selected to provide input on needs in the industry and feedback on MSU Extension activities. It is also a great opportunity to network with and learn from peers and MSU personnel. Members serve two-year terms and meet regularly by phone and in person twice per year.

2018 MEMBERS:

Larry Adams	Emily Middleton
Kim Baker	Rob Nobel
Dan Byrne	Mike Rasmussen
Darren Coffey	Daren Rubingh
Leslie Daenzer	Mitch Schafer
Dale Dick	Ken Sparks
Josh First	Tom Vander Wall
Jeff Horning	Beth Vandrie
Scott Lamb	Paul Werth
Peter Loonen	Paul Windemuller
Jamie Meyer	

SPONSORS FOR LAST YEAR'S MSU EXTENSION DAIRY TEAM PROGRAMS (2017-2018)

Green and White (\$1,000)

United Dairy Industry of Michigan
Michigan Milk Producers Association
Zoetis
Dairy Farmers of America
GreenStone Farm Credit Services

Gold (\$500)

NorthStar Cooperative

PCDART SMALL GROUP TRAINING SESSIONS

Overview: Small group training sessions will focus on utilizing PCDART (herd management software) to efficiently manage data entry and create farm specific day-to-day management lists. Users also will learn about useful reports for monitoring herd performance. Participants will customize the training agenda based on their specific needs and interests.

Presenters: Kathy Lee, MSU Extension Dairy Educator, and NorthStar DHI staff

Dates and Locations: Throughout the year; multiple locations throughout Michigan as requested.

For More Information: Contact Kathy Lee at 231-839-5850 or leeka@msu.edu to schedule a training session in your area.

CALF CARE

Overview: Dairy farm employees, managers and owners will learn the basics of calf care, along with new management practices and research to grow calves to their full potential.

Dates and Locations: To be determined.

Contact: Faith Cullens at 989-224-5249 or cullensf@msu.edu to request a program in your area

ON-FARM ANIMAL HANDLING AND STOCKMANSHIP TRAINING

Overview: These on-farm training sessions will cover general stockmanship and animal handling, and down cow care. They are designed to help meet training requirements of the National Dairy FARM 3.0 program.

Dates and Locations: Sessions will be offered across the state at various times of the year. These can be organized on request.

Details: Contact Marianne Buza at 989-269-9949 ext. 612 or mbuza@msu.edu

GREAT LAKES REGIONAL DAIRY CONFERENCE: DEVELOPING YOUR EMPLOYEES INTO MORE PRODUCTIVE PARTNERS

Overview: Now more than ever, farms need to transform the productivity of their operation using an inside source: their employees. How can you engage your employees to become more productive partners? In this session we will discuss multiple tools to include your employees in goal setting, in developing employee training programs, and in self-directed learning. The goal is to start farms on a path to achieve success in employee development.

Presenters: Phil Durst, Martin Mangual, and Stan Moore - MSU Extension Dairy Educators

Date and Location: February 7, 2019 (9:00 – 10:30 a.m.), Bavarian Inn and Conference Center, Frankenmuth, MI

Registration: <http://glrdc.msu.edu>

2019 TRI-STATE DAIRY NUTRITION CONFERENCE

Overview: Presentations by undergraduate and graduate students; a feed sampling workshop; and a pre-conference program hosted by Elanco with the theme of “Calves and Heifers - Investing in the Future”. Conference presentations begin on Tuesday afternoon and go through midday on Wednesday with over 70 exhibitors expected for the trade show. On Tuesday evening, Micronutrients will be sponsoring a veterinary dinner and Micron Bio-Systems will host a dinner for nutrition consultants.

Dates and Location: April 22-24, 2019 at the Grand Wayne Center in Ft. Wayne, IN

Registration: Program and registration information will be available at: <http://tristatedairy.org>

MSU TELFARM FARM FINANCIAL RECORDKEEPING SYSTEM

Overview: The Telfarm system of farm financial record keeping is a fee-for-service program available through a partnership between the MSU Extension Farm Information Resources Management (FIRM) Team, campus faculty and staff, and the MSU Dept. of Agricultural, Food, and Resource Economics. It is an educational and service program designed to assist farmers with their farm financial records and decision making.

The program provides:

- PCMars agricultural accounting software; review of farm accounting
- Annual farm tax estimate for year-end tax management strategies
- Development of tax depreciation schedule
- Annual farm financial analysis (year-end balance sheet and accrual adjusted income statement)

More information: Telfarm webpage at <http://telfarm.canr.msu.edu/>, or Telfarm Office at 517-355-4700

Enrollment: Forms can be found at: <http://www.canr.msu.edu/telfarm/enrollment/>

THUMB DAIRY GROUP

Overview: Thumb Dairy Group is for dairy farmers that are interested in growing their knowledge base and learning from their peers. This group will help dairy farmers learn more about various aspects of dairy herd management as well as business management.

Dates and Locations: 5-7 times a year all year round located on some farms and other locations in the thumb area.

More Details: Contact Marianne Buza at 989-269-9949 ext. 612 or mbuza@msu.edu

Breakfast on the Farm (BOTF) Consumer Surveys

Exit and on-line surveys from BOTF are being used to determine changes in impressions, knowledge, product consumption, and trust in modern food production systems and farmers by participants. The effort is partially funded by the state BOTF advisory council and is led by Ted Ferris, Department of Animal Science. BOTF events and surveys have expanded beyond Michigan into Ohio, Vermont, Pennsylvania, and Maryland.

Budgets, Cost of Production, Market Outlooks, and Leasing Rates

The MSU FIRM Team continually updates various economic reports for use by Michigan producers. Reports can be found at the FIRM Team webpage: http://www.canr.msu.edu/farm_management/

Michigan State University - Michigan EnviroImpact Tool

Part of the Regional Runoff Risk Decision Support Tools Network. A recently developed resource to help livestock producers across the state of Michigan plan manure applications. The MSU EnviroImpact Tool map shows daily runoff risks across Michigan using National Weather Service information about precipitation, temperature, soil moisture and landscape characteristics. For more information, please contact Erica Rogers.

<https://enviroimpact.iwr.msu.edu/>

Integrated Program to Control Bovine Leukemia Virus (BLV) in U.S. Dairy Herds

A grant proposal has been submitted to USDA by a team from MSU and AntelBio, a division of Northstar Cooperative, for a BLV project in which dairy cows that are positive for BLV would be blood sampled to identify those with the highest numbers of lymphocytes. These cows are termed “supershedders” and are likely responsible for most of the transmission of BLV within a herd. When these animals can be identified and removed from the herd, in conjunction with basic biosecurity practices within the farm, the herd prevalence can be reduced at a much faster rate. A preliminary study with three herds over three years found this to be the case. The test for lymphocytes is being developed by AntelBio and is not yet commercially available. If and when the project is funded, cooperators will be sought to be participants. For more information, contact Paul Bartlett at bartle16@msu.edu.

USDA-NIFA Agriculture and Food Research Initiative Grant: *Impact of Oxidative Stress on Vaccine Responsiveness in Neonatal Dairy Calves* - Project Director, Angel Abuelo, Large Animal Clinical Sciences, College of Veterinary Medicine.

This USDA-NIFA funded project aims to explore how supplementation with anti-oxidative micronutrients can optimize the immune response to vaccines in newborn dairy calves. A better understanding of how immunity can be enhanced through nutritional interventions may lead to improved disease prevention strategies, a reduction of the antimicrobial usage, and optimized production efficiency in the US dairy industry. This four-year project will start with laboratory work to inform subsequent trials on dairy farms.

USDA-NIFA Veterinary Services Grant Program: *Improving Food -Animal Veterinary Service Shortage Situations in Rural Bovine Practice through Recruitment and Continuing Education of Early -Career Veterinarians* - Project Director, Angel Abuelo, Large Animal Clinical Sciences, College of Veterinary Medicine. Collaborators that have MSU Extension appointments include Ron Erskine.

This USDA project is a collaborative effort between MSU and Cornell University. The goal of this 4-year project is to increase the number of DVM graduates that choose and maintain a rural career in bovine medicine. This will be accomplished by (1) promoting and increasing the exposure to rural career opportunities among DVM students of Michigan State and Cornell Universities; and (2) creating, developing, and evaluating an online bovine medicine continue education program that supports recent DVM graduates working in veterinary shortage areas and the animals under their care.

Bovine Tuberculosis Risk Reduction

All cattle herds in the Enhanced Wildlife Biosecurity area of Northeast Michigan will have to have an assessment of the risks to their cattle from deer infected with bTB. MSU Extension Educator Phil Durst is a member of the assessment team that walks the farms with the owner to jointly identify risks to their herd. Risks such as attractants to deer, feed and feeding management, water management and deer control are commonly reviewed. Maintaining access to markets for healthy cattle is a priority. For more information, contact Phil Durst at 989-387-5346 or durstp@msu.edu.

MICHIGAN 4-H DAIRY CONFERENCE

Overview: The Michigan 4-H Dairy Conference is designed for 11 to 19 year old youth (by Jan. 1, 2019) enrolled in the 4-H Dairy Program. Our program provides 4-H'ers with the opportunity to learn about Michigan agriculture; to increase their knowledge of the dairy industry in Michigan; to develop their self-esteem, self-awareness, and leadership skills; and to help them become more knowledgeable about issues affecting agriculture now and in the future.

Presenters: The weekend will include many hands-on activities led by MSU Extension staff and MSU faculty and students.

Dates and Locations: March 15-17, 2019 Kettunen Center in Tustin

Registration: Contact Melissa Elischer at 517-432-4306 or elischer@msu.edu

YOUNG PROGRESSIVE DAIRY GROUP

Overview: Young Michigan dairy farmers and dairy farm employees meet at farms of their peers to learn about various aspects of dairy herd and business management including new technology and management strategies to improve their operations.

Dates and Locations: 3 meetings per year held on farms in west central Michigan counties.

More Details: Contact Martin Mangual at 616-994-4581 or email carrasq1@msu.edu

MICHIGAN 4-H YOUTH DAIRY DAYS

Overview: The mission of the Michigan 4-H Youth Dairy Days is to encourage and promote youth involvement in dairy activities, to showcase the Michigan dairy industry and to provide continuing education to the dairy industry in Michigan and nearby states. Dairy Days events are designed for young people who are interested in dairy cattle and the dairy industry and include a skill-a-thon, judging, and quiz bowl contests, as well as youth showmanship and breed shows.

Presenters: The week will include interactions and learning opportunities with MSU faculty, MSU Extension staff, and industry professionals.

Dates and Locations: July 15-19, 2019. MSU Pavilion for Agriculture and Livestock Education in East Lansing, MI

Registration: Contact Melissa Elischer at 517-432-4306 or elischer@msu.edu

PUERTO RICO DAIRY WORKER TRAINING PROJECT

Overview: This project is designed to work with farm owners/managers to obtain access to a legal, reliable labor force from Puerto Rico, improve their employee management skills, develop a cultural understanding and acceptance of Puerto Rican workers in local communities, and reduce employee turnover rates on farms.

Project Personnel: Stan Moore, Phil Durst, Martin Mangual (MSU Extension), and Jaime Curbelo (University of Puerto Rico – Mayaguez).

Dates and Locations: Employee training is conducted on a regular basis in Puerto Rico. Employer training is conducted on farms that have enrolled in the project.

Registration: Farms interested in the program may contact Stan Moore at 231-533-8818 or moorest@msu.edu, or Phil Durst at 989-387-5346 or durstp@msu.edu for more information. The project has an enrollment fee and a one-time fee per job position filled on the participating farm.

DAIRY FARM EMPLOYEE MANAGEMENT UPDATE

Overview: Employee management is an important aspect of your farm business. Your farm's success depends on hiring the right employees, equipping them to carry out their job responsibilities and striving to maintain good communication with them. This program will provide information about enhancing communication with employee handbooks, providing effective feedback, determining appropriate discipline when needed, using good hiring practices, developing job descriptions, and completing I-9 forms.

Presenters: Stan Moore and Kathy Lee, MSU Extension

Dates and Locations: To be determined.

Contact: Stan Moore at 231-533-8818 or moorest@msu.edu to request a program in your area

THUMB DAIRY ODYSSEY

Overview: Thumb Dairy Odyssey will be interactive dairy science learning experiences for youth. These participants will learn about various aspects of the dairy industry including animal nutrition, veterinary science, reproduction, farm technology, showmanship and judging.

Dates and Locations: 2 events per summer.

More Details: Contact Marianne Buza at 989-269-9949 ext. 612 or mbuza@msu.edu.

RESEARCH AND PROJECTS:

MSU Extension Dairy Team's involvement in research programs and projects.

USDA National Institute of Food and Agriculture Grant: An Integrated Extension and Education Program to Reduce Mastitis and Antimicrobial Use- Project Director, Ron Erskine, Large Animal Clinical Sciences, College of Veterinary Medicine. Other Co-Investigators that have MSU Extension appointments include Phil Durst, Stan Moore, and Chris Wolf.

This USDA-NIFA funded project aims to reduce mastitis and antibiotic use on dairy farms. This five-year project requires numerous visits to each of 60 Michigan dairy farms to audit antibiotic use, conduct surveys to better understand communication and training barriers for employee and farm productivity, and to evaluate potential opportunities to improve milk quality. Approximately 20,000 cows are involved in the study.

Large Herd Dairy Management 3rd edition eBook

The American Dairy Science Association sells those books and has just recently made it available by section. The sections are:

- Building Sustainability and Capacity
- Large Herd Systems
- Facilities and Environment
- Milk Markets and Marketing
- Genetic Selection Programs and Breeding Strategies
- Calves and Replacements
- Reproduction and Reproductive Management
- Nutrition and Nutritional Management
- Lactation and Milking Systems
- Mastitis and Milk Quality
- Animal and Herd Welfare
- Herd Health
- Business, Economic Analysis, and Decision-Making
- Effectively Managing Farm Employees
- Precision Management Technologies

To preview the book and to purchase sections, go to www.adsa.org.

Stan Moore and Phil Durst co-edited the Large Dairy Herd Management (LDHM) 3rd edition e-book section on Effective Management of Farm Employees.

MICHIGAN SAFETY CONFERENCE/AGRICULTURAL SAFETY & RESCUE DIVISION

Overview: The Michigan Safety Conference is a two-day world class health and safety training event, held every spring. Training is targeted at workplace health and safety issues. There is a separate tract of classes for Agriculture Safety and Rescue.

Agriculture Topics: To Be Determined

Date and Location: April 16-17; DeVos Place, Grand Rapids, MI

Registration and more information: michsafetyconference.org



SHINING A LIGHT ON AGRICULTURAL SOLAR ENERGY DEVELOPMENT

Overview: Farmers who participate in this program will leave with valuable, practical knowledge they can use to determine if a solar lease agreement is a sound financial decision for themselves and their community. Michigan Farm Bureau and the Michigan Energy Office are sponsors of this program.

Presenters: A multidisciplinary team of MSU Extension educators and specialists with expertise in agriculture, tax issues, land use, zoning, and public policy.

Dates and Locations:

March 14 Ogemaw County

March 19 Clinton County

March 21 Ottawa County (Fillmore Govt. Complex, 12220 Fillmore St., West Olive)

Registration: Registration information will be released right after the first of the year. Contact Charles Gould at 616-994-4547 or gouldm@msu.edu for more information.

POWERING MICHIGAN AGRICULTURE WEBINARS

Overview: This webinar series will provide a forum where farmers, as content experts, discuss the impact of energy reduction and savings through the various energy efficiency and renewable energy practices they've implemented on their farms, talk about lessons learned, and then answer questions. The Michigan Energy Office is a sponsor of this webinar series.

Dates and Locations:

- February 7 Dunklee Family Farm (small scale organic vegetable grower)
Description: This farm has been off the grid for 33 years. Topics will include energy storage, battery charging system, solar and wind co-generation, and lessons learned.
- February 21 GDW Turkey Farms (commercial poultry operation)
Description: Topics that will be discussed include the energy audit process, working with Consumers Energy to get rebates, applying for USDA Rural Development REAP funds, and the impact of the energy efficiency practices on animal welfare, bird mortality and weight gain, and improved working conditions for employees.

Registration: Contact Charles Gould at 616-994-4547 or gouldm@msu.edu for more information.

Please visit the MSU Extension Dairy Team website at <https://www.canr.msu.edu/dairy/> for more information on educational programs, articles, fact sheets and resources for Michigan's Dairy Industry.

MICHIGAN MANURE HAULER CERTIFICATION PROGRAM

Overview: Anyone who hauls manure is strongly encouraged to attend the rollout of the Michigan Manure Haulers Certification Program during the Michigan Agri-Business Association Winter Conference. An explanation of the certification program followed by educational sessions that meet certification program requirements will be provided to all attendees.

Presenters: MSU Extension educators and specialists

Date and Location: January 16, 2019; Lansing Center, 333 E. Michigan Ave, Lansing, MI

Registration: Registration will be handled through the Michigan Agri-Business Association (<https://miagbiz.org/>). Contact Charles Gould at 616-994-4547 or gouldm@msu.edu for more information about the certification program.

ARTISAN CHEESE MAKING WORKSHOP

Overview: The workshop will provide basic background for the manufacture of artisanal cheeses, hands-on cheese making, and provide a forum for the discussion of specific cheeses of interest to the attendees.

Presenters: Gary Smith, MSU Dairy Food Extension Specialist; Bill Robb, MSU Extension Emeritus; and Joshua Hall, MSU Dairy Plant Cheese Maker.

Dates and Location: Date TBD; MSU Dairy Food Complex in Anthony Hall

Registration: Contact Gary Smith at (517)355-4081 or smithg38@msu.edu.

AG FOR TOMORROW CONFERENCE

Overview: Participants can choose to attend four 1-hour classes throughout the day, including topics on crop and livestock production, agricultural business management and marketing.

Presenters: MSU Extension Educators and Specialist, Industry and Organization Representatives

Date and Location: March 12, 2019; Escanaba (Bay College)

Registration: Online at <http://www.events.anr.msu.edu>, or contact Alger County MSU Extension Office at 906-387-2530 or msue.alger@county.msu.edu. Registration required.

2019 GREAT LAKES FORAGE & GRAZING CONFERENCE

Overview: Join the Michigan Forage Council and MSUE for our annual conference celebrating hay, haylage, and pasture production in Michigan. Keynote speaker is Dr. Ray Smith from the University of Kentucky.

Date and Location: Tuesday March 5, 2019. Agro-Culture Liquid Fertilizer, 3055 W. M-21, St. Johns

Registration: Contact Phil Kaatz at 810-667-0341 or kaatz@msu.edu

BREAKFAST ON THE FARM

Overview: These consumer education events provide an on-farm opportunity to learn about modern agriculture. Visitors will learn firsthand how farmers care for animals, protect the environment and produce safe and nutritious food.

Dates and Locations: June – October at several locations across the state; to be determined in early 2019

Registration: More information is available at <http://www.breakfastonthefarm.com/> or you may contact Ashley Kuschel at 586-469-7616 or kuschela@msu.edu or Mary Dunckel at 989-354-9875 or dunckelm@msu.edu.

2018 WINTER AG REVIEWS

Overview: MSU Extension Field Crops Educators from the Thumb Region will present a summary of the 2018 research and demonstration trials. Presentations will include information on corn, soybean, wheat, malting barley, cover crops, forages, farm management, and farm stress.

Presenters: Bob Battel, Phil Kaatz, Martin Nagelkirk, and Kris Swartzendruber

Dates and Locations:

- | | |
|-------------|---|
| December 7 | Corunna (Community Room, Shiawassee County Fairgrounds). Call 810-667-0341 to pre-register |
| December 12 | Thumb Ag Day, Ubly (Ubly Heights Country Club). No pre-registration required. |
| December 13 | Frankenmuth (Saginaw Valley Research and Education Center). Call 989-672-3870 to pre-register |
| December 14 | Sandusky (Westpark Inn) Call 810-648-2515 to pre-register |
| December 17 | Attica (Lapeer County Education Technology Center) Call 810-667-0341 to pre-register. |

Registration: Pre-registration with a registration cost of \$20/person is requested for all locations except for the Thumb Ag Day. Those wishing to pre-register can go online to register early or by credit card at <https://events.anr.msu.edu/WinterAgReview2018/> or by calling one of the numbers listed.

DEHORNING USING HOT IRON WITH PAIN MITIGATION TRAINING

Overview: These hands-on trainings will cover the use of a hot iron dehorner and the proper administration techniques of medication for pain management in calves. There are no fees associated with this training.

Dates and Locations: As requested.

Contact: Paola Bacigalupo at 970-888-1356 or paolabs@msu.edu to request a training on your farm.