

# Spartan Dairy

## Newsletter

Winter 2022 Vol.2 No.1



### **Tubergen Family Named 2022 MSU Dairy Farmer of the Year**

*L to R Amber Alexander, Kurt Tubergen, Doris and Denis Tubergen, and Todd Tubergen*

Courtesy of DFA

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for new MSU dairy  
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## **How would you like to receive this newsletter?**

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 **Dairy at MSU**  
 **@DairyMsu**  
 **Dairy at MSU**

# Dairy Farmer of the Year

## Tubergen Family

The Michigan State University Department of Animal Science recognizes Tubergen Dairy Farm in Ionia as its 2022 Dairy Farmer of the Year.

**Denis and Doris Tubergen founded their dairy farm in 1982 with just 20 cows and 80 acres. After several expansions, the family now milks 1,400 cows and farms more than 2,000 acres. They currently have a rolling herd average of 31,037 pounds, with 1,134 pounds of fat and 954 pounds of protein. In 2020, they averaged over 97 pounds of milk per cow per day. The farm raises corn, alfalfa, and wheat for dairy purposes.**

In its 40 years of operation, the farm has frequently served the community as a model of agricultural success and supporter of community events. “The Tubergens have opened up their farm to the community many times over the years, including farm tours for the general public as well as industry specific tours that allow the farm to showcase its use of technology and teach others in the industry about their farm,” said Tubergen Dairy Farm’s anonymous nominator. “In addition, the farm donates to the local ‘Purple Committee’ for cancer survivors. They also contribute to the local scholastic book fair so that underprivileged families can purchase books and they are active in fundraising activities for the Ionia County FFA.”



The farm is a family operation with management duties shared between Denis, Doris and their children, Kurt and Todd Tubergen and Amber Alexander. Todd handles production, herd health and reproduction of the dairy herd and maintains the farm’s milking systems. He also uses his Spanish speaking background to train employees and communicate scheduling. Amber manages financials and heads the pre-weaned calf care program. Kurt manages the farm’s nutrient management program, including the Michigan Agriculture Environmental Assurance Program and the CAFO certifications. He heads the cropping enterprise and oversees the farm’s sand separation facility. The farm has 25 employees.

Tubergen Dairy Farm was recognized as a Dairy Farmers of America Member of Distinction in 2015 and a National Dairy Quality Award – Platinum winner in 2013. Todd currently serves at the Young Cooperators representative for the DFA Mideast Area Council. In 2017, Tubergen Dairy Farm was showcased in the Alta Genetics Advantage Showcase Tour, and in 2015, it hosted Michigan Farm Bureau’s Family Fun on the Farm.

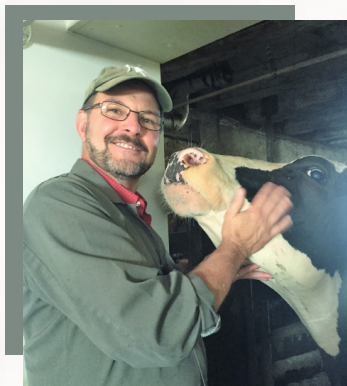
Tubergen Dairy Farm takes great pride in providing the highest quality and most up-to-date animal care methods and technologies and provides extensive employee training to ensure the welfare of its herd.

“The management style at Tubergen Dairy can best be described as ‘paying attention to detail.’ Their commitment to the highest animal care starts with employee training. Every farm employee uses the Dairy Care 365 portal to learn about low stress animal handling. Since management roles are split between the family farm owners, each manager has the time to do hands on training with employees including training in pre-weaned calf protocols and milking procedures,” the nominator said. “By using some of the most up to date management tools and technologies, they are helping to lead the Michigan dairy industry into the future.”

[View full article here](#)

# Dairy Spotlight

## Phil Durst and Melissa McKendree



**Phil Durst:**  
**Sr. Extension Educator**  
**Dairy & Beef Cattle**  
**Health and Production**

I am passionate about dairy farming, the dairy business and about cattle. I love working with farmers whom I consider my greatest teachers, but that is not to take away from the privilege of working with a great team of researchers and educators here at Michigan State University. I am doing what I love doing.

But, I didn't grow up in dairy or around dairy. It was during my master's degree work at Penn State that I fell in love with dairy, to the point that I gave up my graduate assistance (income), and switched advisors to a more applied field of agriculture. That is not a sacrifice that I regret.

Currently I focus primarily on two areas: cattle health and labor management. In the field of cattle health, I was brought in on research on Bovine Leukemia Virus a number of years ago and continue to study this disease and management to reduce its impact on herd health. Bovine tuberculosis is an issue in which I have worked with farmers and the state and federal governments to try to prevent cattle from becoming infected.

Years ago, I recognized that if employees are not a part of the solution, then the farm will not achieve the success it seeks. That began a project related to understanding the perspectives of dairy farm employees and helping train farm managers in being more effective in working with people. These efforts have produced opportunities for articles in national and international dairy publications and invitations to speak at conferences or workshops in Israel, China, Ukraine and Armenia. I love to teach and challenge farmers. There is always opportunity to improve and to make a good farm greater! While speaking at an international conference is exciting, working with farmers locally over years is really the thrill of my work.

As an Extension Educator, I have been involved in our state and national professional improvement association, the National Association of County Agricultural Agents (NACAA). In July 2022, I will have the honor of being installed as the President of NACAA, having served a year as vice president and currently as president-elect. It is a platform to encourage others in their Extension career and share things that I have learned in over 35 years in Extension work.



**Melissa McKendree**  
**Assistant Professor**

Hello! I am an Assistant Professor in the Agricultural, Food and Resource Economics Department at MSU and an extension specialist with MSU Extension. I started at MSU in August 2017 and have appointments in all three parts of the land-grant mission – research, extension, and teaching. Broadly, I would describe my areas of specialization as farm management and livestock economics.

I am Florida native who grew up working for my family's landscape business and sod farm. I came to love animals through riding horses in 4-H and showing market steers through FFA. My involvement in my family's business and agricultural youth organizations spurred my love for agricultural business and economics. I received my BS in Food and Resource Economics from the University of Florida (Go Gators! You will see me in orange and blue most football Saturdays). I also attended Purdue University for my MS and Kansas State University for my PhD in Agricultural Economics.

Since starting at MSU, much of my work has focused in the beef and dairy industries. Past projects include work on changes in the market competitiveness of the Holstein beef industry and helping create decisions tool for producers such as enterprise budgets. Two exciting dairy specific projects I have underway are understanding the economic impacts of Bovine Leukemia Virus on Michigan dairies and producer perceptions of cattle traceability to help capture value for Michigan's current traceability system. Both projects are funded by the Michigan Alliance for Animal Agriculture. I am also passionate about helping beginning farmer managers. I am currently leading the creation of an online farm business management class for beginning farm managers that will be offered in both English and Spanish.

Each Fall I teach Introduction to Farm Management (AFRE130; formally ABM130) to 100+ undergraduates. I am excited to be a MSU and have the opportunity to work with such great people throughout the state of Michigan. Feel free to email me at [mckend14@msu.edu](mailto:mckend14@msu.edu) or follow me on Twitter @ItsMelMac.

# News & Updates

All things dairy at MSU

## Coach Mel Tucker Visits MSU Dairy

MSU dairy staff had the opportunity to give head football coach Mel Tucker a tour this summer. Herdsman Jim Good walked Tucker through the facilities, giving him details of what a day on the dairy looks like. Coach Tucker is no stranger to agriculture, as he has a degree in Ag Economics from the University of Wisconsin. Congrats to Coach Tucker and the team on an 11-win season!



**DAIRY CATTLE  
TEACHING & RESEARCH**  
4075  
Michigan State University



Heifer calves Tucker and Coach born July 21st, 2021

Coach Mel Tucker pets newborn heifer calf



**Dairy Calf Health**

**MICHIGAN  
DAIRY  
HEALTH  
SYMPOSIUM**

**Thursday, March 10, 2022**  
**1200 Molecular Plant Sciences building**  
**1066 Bogue St, East Lansing, MI 48824**

Registration and more information: <https://events.anr.msu.edu/MDHS/>



### SPEAKERS

Dr. Angel Abuelo

Dr. Sabine Mann

Dr. Michael Vandehaar

Dr. Whitney Knauer

Dr. Fiona Maunsell

Dr. Amelia Woolums

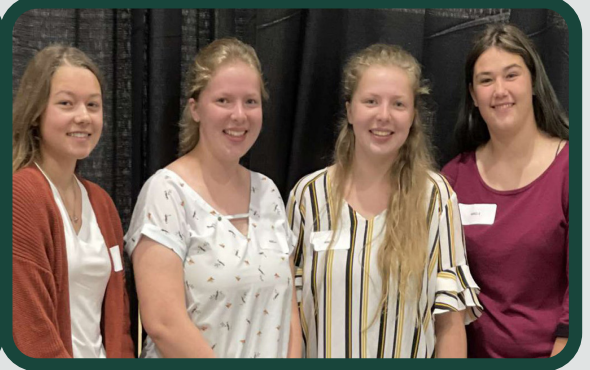
Dr. Roger Maes & Dr. Rinosh Mani

Dr. Annette O'Connor

# National Dairy Contests Fall 2021

## Michigan youth bring home team and individual ribbons from the 2021 National Junior Dairy Management Contest

L to R: Olivia Black, Landon Thelen, Adalee Thelen, Cristin Theisen, Emily Wilson, Abbie Wilson, and Lydia Deters



## Michigan 4-H Dairy Quiz Bowl team brings home 3rd place in national contest

L to R: Adalee Thelen, Joshua Tripp, Cristin Theisen, Katelynn Webber, Cathy Fry, Rodney Pennock, and Luann Learner



## MSU students and 4-H youth return to national dairy cattle judging contest at World Dairy Expo

L to R: Coach Sarah Black, Coach Allison Schafer, Drew Neyer, Kristen Burkhardt, Miriah Dershem, Cristin Theisen, Adalee Thelen, and Coach Dr. Joe Domecq.  
Front, from left: Rachael Bosse, Abby VanDyk, Katie Wilson, and Katelynn Webster



## MSU students close dairy cattle judging season at NAILE

L to R: Abby VanDyk, Drew Neyer, Rachael Bosse, Kelsey Pasch and Kristen Burkhardt

# MSU Dairy Challenge

The MSU internal dairy challenge is an academic focused competition within the Dairy Concentration Program that gives students the opportunity to analyze a dairy's performance and provide feedback to the producer. The competition is divided into 3 divisions based on experience, and is a part of the courses within the Dairy Concentration curriculum. This year approximately 40 students within the Dairy Concentration worked in teams to compile their assessment of the Seiler Dairy Farm and give a 20 minute presentation. This analysis was presented to a panel of judges, coaches, peers, and the Seiler family. The students had the chance to present their analysis of the Seiler Dairy Farm while practicing presentation skills, public speaking, and teamwork.

“MSU Dairy Challenge gives us an amazing opportunity to take all that we have learned in the classroom and put it to use in real life situations in the dairy industry. It also gives non animal science majors like myself, the opportunity to interact with industry professionals and with other students that have a passion for dairy!” - Derek Vanderhoff

“The Dairy Challenge gives me the opportunity to make connections with those in the industry to help farmers solve “real-world” problems”  
- Mikayla Bowen



Mikayla Bowen, Katie Wilson,  
& Jessie Nash



Judges: Marin Western, Allison Pung,  
Brian Troyer, & Nate Elzinga

“Dairy Challenge is an event that I always look forward to because it allows me to use critical thinking and helps me think of possible changes or solutions to help my own family dairy. It helped me find my place in the dairy industry.”  
- Jessie Nash



Dan Macina, Derek Vanderhoff,  
& Chase Rievert

We would like to extend a sincere thank you to the Seiler family for allowing students to utilize their dairy as a learning opportunity.

# INFRASTRUCTURE INVESTMENT: MICHIGAN STATE UNIVERSITY DAIRY RESEARCH, TEACHING AND OUTREACH FACILITIES

**Outdated infrastructure poses serious setbacks for key economic engine of Michigan**

**M**ichigan State University's Dairy Cattle Teaching & Research Center does not meet the current needs of the industry, the animals or the students, staff and faculty. Our ability to deliver on MSU's teaching, research and outreach missions to the Michigan dairy industry, ranked **6th in the U.S. with 11.6 billion pounds of milk produced in 2020**, is severely hampered by the age of the facilities. In addition, a recent electrical fire has shown that the 60-year-old facility is a fire hazard for staff, animals and state property.

Combined expertise at the College of Agriculture and Natural Resources, College of Veterinary Medicine, MSU AgBioResearch and MSU Extension has made MSU a world leader in dairy production expertise. However, that excellence is in jeopardy because of aging facilities in dire need of modernization.

## A NEW FACILITY AND INCREASED HERD SIZE (THERE ARE NOT ENOUGH COWS TO CONDUCT CURRENTLY FUNDED PROJECTS) WILL:

- ✓ Identify feasible strategies to promote economic and environmental sustainability.
- ✓ Ensure the highest level of animal care and production with robust data-driven science.
- ✓ Enhance much-needed studies on nutrition, genetics and animal well-being.
- ✓ Create a pipeline of labor by introducing MSU students to modern, relevant dairy operations.
- ✓ Train dairy professionals for the College of Veterinary Medicine curriculum accreditation.


**MICHIGAN DESERVES A NEW FACILITY, DESIGNED FROM THE GROUND UP, TO BE FOCUSED ON MODERN SUSTAINABLE PRACTICES AND A SAFE AND EFFECTIVE VENUE FOR EDUCATING TOMORROW'S DAIRY INDUSTRY LEADERS.**



### MICHIGAN DAIRY FACTS

**rank**  
**#1**

in farm receipts<sup>1</sup>  
among state  
agricultural  
commodities



Accounts  
for nearly  
5% of the  
state's GDP.

supports  
**111,000+ jobs**

**\$24**  
**billion**

Generated annually

**IN THE LAST 20 YEARS, MICHIGAN'S DAIRY INDUSTRY HAS EXPERIENCED REMARKABLE GROWTH:**


**42%**

increase in  
number of  
cows

**109%**

increase in  
milk output

Improved milk processing with a new cheese plant, among the largest in the nation, in St. Johns.



<sup>1</sup> Revenue from sale of agriculture commodities and commodity insurance payments

### MSU OFFERS DISTINCT ADVANTAGES:

- ✓ Land-grant mission provides critical teaching, research and outreach efforts in unison.
- ✓ World-renown faculty in dairy production, health, and environmental stewardship.
- ✓ Varying climate conditions, water availability and amenable soils throughout the state.



## Building a State-of-the-Art Dairy Facility at MSU: Expand Existing Dairy Cattle Teaching & Research Center

Renovation of the existing facilities and new construction at the site, located on South Campus, are preferred by dairy faculty and University leaders due to the **physical proximity to the main campus** for research and teaching use, as well as serving as a visitor and outreach center. This also allows for the ongoing use of some **existing** infrastructure, including a high-capacity anaerobic digester -- an essential part of sustainable manure management on South Campus. The current location maximizes this investment.

A new construction and renovation will allow the current dairy herd to remain in place during construction, supporting critical teaching and research needs in the process.

A combination of new construction and renovation enables expansion of the herd from 200 to 700 cows allowing for already funded research and coursework offerings to continue, and includes the additions of:

- A modern and efficient feed center (replacing the one destroyed by the recent fire)
- New animal housing facilities
- A milking parlor for 700 cows
- Office/lab complexes
- Manure nutrient recovery facilities

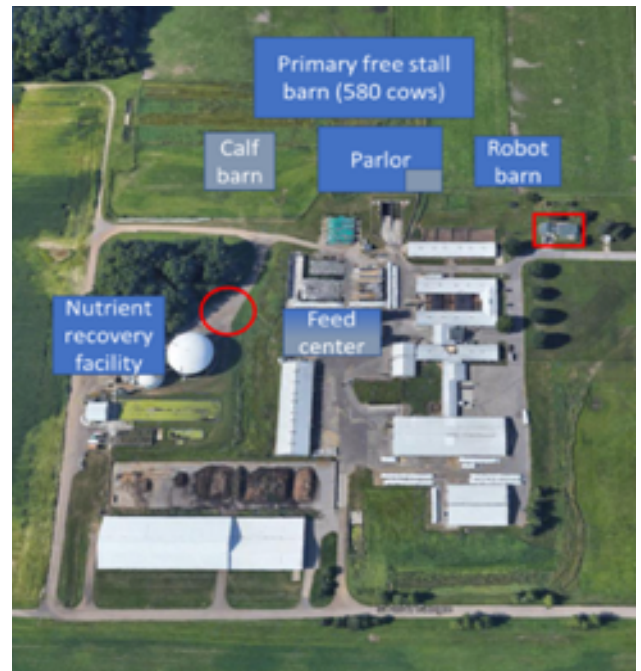
Expanded feed production capacity and nutrient management costs are necessary for this increased herd size to be feasible.

Enhance the type of research, teaching and outreach capacity on South Campus with the addition of:

- A calf management and research barn
- Partial automation of the feed center
- A larger classroom for on-farm instruction of our students and visitors to the facility
- Short-term on-site housing for research team utilization during intensive experiments

Reinvestment in the **Kellogg Biological Station dairy facility** is also proposed to allow continuation of heifer development work conducted there and facilitate complementary work on grazing dairy operations, including environmental impact comparisons between this niche production model and the new state-of-the-art MSU South Campus operation.

- A second anaerobic digester to generate additional renewable natural gas
- Cow-level methane measurement devices at both dairy sites
- Updates to the manager's residence on the South Campus site



Satellite view of the current MSU DCTRC with construction and renovation components.

### WE MUST ACT NOW

**MSU MUST MAINTAIN ITS STRENGTH IN CUTTING-EDGE SCIENCE AND ADDRESS IMMEDIATE NEEDS OF THE DAIRY INDUSTRY IN PIVOTAL AREAS SUCH AS GENETICS, ANIMAL HEALTH, NUTRITION AND ENVIRONMENTAL SUSTAINABILITY.**

Modern facilities and infrastructure will help to increase farming efficiency and profitability. Renovation and new construction of the MSU Dairy Teaching & Research Center infrastructure will support one of Michigan's most important and dynamic industries, and one that impacts nearly every one of the state's 83 counties.

**\$45.8 million is requested from the State of Michigan for completion of this project.** This investment will position MSU to expand and update its critical research, outreach and teaching capacities and with new infrastructure necessary to address key challenges limiting industry growth and environmental sustainability.



**MICHIGAN STATE**  
UNIVERSITY

## 2019 POINT COST ESTIMATES FOR NEW DAIRY FACILITIES (RENOVATION AND NEW CONSTRUCTION)

<b>Infrastructure to address scale, safety, and industry standards</b> Conventional free-stall barn, robotic milking barn, parallel parlor, feed center, and demolition.	<b>\$8,700,000</b>
<b>Operational sustainability planning</b> Expanded feed production capacity, nutrient management operations, and heifer development to grow herd.	<b>\$9,500,000</b>
<b>Environmental sustainability infrastructure</b> Manure nutrient recovery system and data collection infrastructure.	<b>\$6,100,000</b>
<b>Research capacity</b> Automated cow feeding system for freestall research, small research pens, labs, offices, sensors.	<b>\$4,800,000</b>
Contingency (15% of facility cost, excluding operational costs)	<b>\$2,900,000</b>
Milking robots and heifer facilities at KBS, calf barn, classroom, and visitor center at South Campus.	<b>\$5,700,000</b>
Second anaerobic digester, methane measurement system, updated manager housing.	<b>\$8,100,000</b>
<b>Grand Total</b>	<b>\$45,800,000</b>

*Updated February 28, 2022*

# 2022 DAIRY PROGRAMS



**MICHIGAN STATE**  

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**UNIVERSITY**

**Extension**

## 2022 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!

**You can find any MSU Extension employee at:**  
<https://www.canr.msu.edu/dairy/experts>

# Follow us!



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Dairy at MSU

# PROGRAMS

## **VIRTUAL COFFEE BREAK WITH THE MSU DAIRY TEAM PODCAST**

**Overview:** Listen to podcast episodes covering a wide variety of dairy-related topics from your phone or smart speaker. New episodes will be released in Spring and Fall. The podcast is available on Spotify, the Apple podcast app, and the most popular platforms.

**More information:** contact Martin Mangual at 616-994-4581 or email [carrasq1@msu.edu](mailto:carrasq1@msu.edu).

## **FACEFARMLIVE! PROGRAM**

**Overview:** The goal of this program is to provide information on farm issues or important procedure changes to improve dairy operations. The information will often be shared live through social media groups. Videos will also be posted in two dairy groups including “Young Progressive Dairy Group of West Central Michigan” and the “Thumb Dairy Group”.

**Details:** For information about how to access and register with the group contact Martin Mangual at 616-994-4581 or email [carrasq1@msu.edu](mailto:carrasq1@msu.edu).

## **PARLOR PERFORMANCE EVALUATIONS**

**Overview:** Evaluations combine the use of VaDia Technology and other metrics to analyze milking protocols and parlor efficiency, and provide recommendations to reduce milking issues like bimodal milking, among others. Data can also be used to tailor milker-training programs for the participating farms.

**Dates and Locations:** Individually scheduled for farms across the state

**Details:** Contact our nearest Dairy Educator (locations and contact information at the end of the booklet).

## **YOUNG PROGRESSIVE DAIRY GROUP – WEST MICHIGAN**

**Overview:** These local meetings are targeted to young dairy producers and are designed to provide education to increase knowledge and capacity of producers to continually develop their dairy management skills. Each meeting will focus on one topic or farm issue and will often include a guided farm visit and producer discussion.

**Dates and Locations:** Year-round, multiple location in West Michigan

**Details:** For information about dates and to receive communications on this program contact Martin Mangual at 616-994-4581 or email [carrasq1@msu.edu](mailto:carrasq1@msu.edu).

## **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:** In-person 5-7 times throughout the located on some farms and other locations in the Thumb area.

**Details:** Contact Marianne Buza Murawski at 440-785-2919 or [mbuza@msu.edu](mailto:mbuza@msu.edu)

## **THUMB DAIRY ODYSSEY**

**Overview:** Thumb Dairy Odyssey provides 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:** Two in-person events per summer.

**Details:** Contact Marianne Buza Murawski at 440-785-2919 or [mbuza@msu.edu](mailto:mbuza@msu.edu).

## **MICHIGAN DAIRY AMBASSADOR**

Any Michigan high school and college students interested in dairy and/or pursuing a career in the dairy industry can apply to the Michigan Dairy Ambassador Scholarship and Leadership Program. The program offers dairy communication and leadership training to participants as well as opportunities to promote dairy in their community and throughout the state.

**Contact person:** Megghan Honke Seidel (honkemeg@msu.edu; 989-666-3773)

**Location:** Virtual and in-person around the state throughout the year

**Date:** Applications due in March 2022

**Registration:** <https://www.glrdc.org/ambassadors/>

## **BEEF QUALITY ASSURANCE**

**Overview:** Every beef and dairy producer is obligated to utilize judgement and management which leads to a safe and positive eating experience for beef consumers. Beef Quality Assurance (BQA) is a voluntary program, promoted through the Beef Checkoff since 1982, to educate about accepted management skills and scientific knowledge to prevent beef product defects. The program's goal is to ensure that all cattle are healthy, and wholesome; managed to meet USDA, FDA, and EPA standards; produced with environmentally-sound production practices; and handled within acceptable animal welfare guidelines. Some major regional packer/processors are now requiring BQA certification of their fed cattle suppliers. Join the nearly 4,000 Michigan producers who are BQA certified.

**More information on BQA training and certification options:** <https://www.canr.msu.edu/courses/beef-quality-assurance>

## **FARM STRESS**

**Overview:** From unexpected weather to equipment breakdowns, many things can take a toll on the dedicated people who drive our agriculture industry. Through the MDARD/FRSAN Legacy of the Land grants, MSU Extension can help you and your farm navigate stress and challenges to make sound decisions. Offerings include: Farm financial analysis and cash flow projections, teletherapy, business management strategies, and farm stress resources.

**For more information, visit:** [extension.msu.edu/legacygrants](https://extension.msu.edu/legacygrants)

## **2022 CROP AND PEST MANAGEMENT UPDATE MEETINGS**

**Overview:** Learn about the latest recommendations for managing weeds, diseases, insects and nematodes from MSU Extension educators and specialists. Pre-registration is required, and registration includes lunch and a Weed Control Guide for Field Crops. RUP and CCA credits will be available at each meeting.

### **Dates and Locations:**

Jan. 12: Gratiot Isabella RESD, Ithaca, MI

Jan. 24: Dowagiac Conservation Club, Dowagiac, MI

Feb. 1: SVREC, Frankenmuth, MI

Feb. 3: Kirtland University Center, Gaylord, MI

Feb. 8: Family Center at Immaculate Conception Parish, Milan, MI

Feb. 10: Beagio's, Kingston, MI

**Contact :** Phil Kaatz, [kaatz@msu.edu](mailto:kaatz@msu.edu)

**Registration:** <https://events.anr.msu.edu/2022CropandPestManagementUpdates/>



## BEGINNING FARMER DEMaND WEBINAR SERIES

**Overview:** Are you planning to be the next generation farm operator? Whether you represent the transition of generations, that of employee to owner, or a new entrant to the business, a fresh look at management will be necessary. The Beginning Farmers Developing and Educating Managers and New Decision Makers (DEMaND) series was created to help beginning farmers learn about financial and business management strategies as they develop into the next managers and decision-makers on the farm. Created by Michigan State University Extension, this series offers articles, workshops and additional resources to help navigate managing a farm. The program is free to anyone who registers.

**Dates and Locations:** Wednesdays at 7 p.m. From Jan. 12 to Feb. 9, 2022

**Registration:** [events.anr.msu.edu/demandbeginningfarmers/](https://events.anr.msu.edu/demandbeginningfarmers/)

**For more information:** Jon LaPorte [laportej@msu.edu](mailto:laportej@msu.edu), 269-414-6418

## 2022 FARM BILL PROGRAM AND CROP INSURANCE DECISION- WHAT FITS YOUR FARM?

**Overview:** Experts from Michigan State University Extension, will provide you with the best information to help you evaluate your risk and make decisions regarding PLC, ARC sign up with the FSA and new crop insurance options.

**Dates and Locations:** Online via Zoom  
January 20, 2022 - 11 a.m. - 12:30 p.m. or  
February 17, 2022 - 6:30 - 8 p.m.

**Registration:** <https://events.anr.msu.edu/farbill2022/>



## WINTER PROGRAM: MANAGING YOUR COWS' GENES FOR GREATER PROFITS

**Overview:** This program is designed for dairy farm owners, managers and farm consultants and will be focused on genetic improvement. Topics include: What is the Feed Saved trait, building a breeding program for genetic progress and profit, heifer improvements in the MSU Herd, feeding efficiency, and cow longevity.

### Dates and Locations:

Feb. 15 - Martin Township (Martin Twp Community Building)

Feb. 17 - West Branch (Forward's Conference Center)

Feb. 22 - Bad Axe (Franklin Inn)

Feb. 23 - Cadillac (Carl T. Johnson Hunting & Fishing Center)

Feb. 24 - St. Johns (AgroLiquids)

**More information:** contact Martin Mangual at 616-994-4581 or email [carrasq1@msu.edu](mailto:carrasq1@msu.edu).

## 2022 MICHIGAN DAIRY HEALTH SYMPOSIUM - Dairy Calf Health

**Overview:** The 3rd Michigan Dairy Health Symposium will focus on dairy calf health management. Guest speakers will present new information regarding early life nutrition strategies, calf health and welfare, and calf disease diagnosis and treatment.

**Date and location:** Thursday, March 10, 8:30 a.m. - 5 p.m. MSU Campus (Molecular Plant Sciences, Room 1200)

**Details:** For more information and registration, contact Dr Angel Abuelo at [abuelo@msu.edu](mailto:abuelo@msu.edu) or 517-884-7818. General registration is \$100.

## Animal Science Career Quest

**Overview:** Join this workshop held on MSU's campus to learn more about being a Spartan, careers in animal science, and tour animal science facilities. Open to youth ages 12-19 as of January 1, 2022.

**Contact person:** Melissa Elischer ([elischer@msu.edu](mailto:elischer@msu.edu)/517-432-4306)

**Location:** East Lansing

**Date:** March 18-20, 2022

**Registration:** Melissa Elischer ([elischer@msu.edu](mailto:elischer@msu.edu)/517-432-4306); registration through ANR Events forthcoming

#### **4-H/MMPA TOUR**

**Overview:** Learn about co-ops and what happens to milk after it leaves the farm and makes its way to the grocery store shelf as one of countless delicious, nutritious products! Open to youth 15-19 as of January 1, 2022.

**Contact person:** Melissa Elischer (elischer@msu.edu/517-432-4306)

**Location:** Novi, MI

**Date:** June 2022

**Registration:** Melissa Elischer (elischer@msu.edu/517-432-4306)

#### **4-H EXPLORATION DAYS**

**Overview:** This MSU precollege program welcomes youth ages 12-19 to explore their future, try new things and experience college life! During this three-day event, youth will gain confidence and independence through hands-on learning and make friends for a lifetime.

**Contact person:** Michelle Neff, 4h.expodays@msu.edu

**Location:** East Lansing

**Date:** June 22-24, 2022

**Registration:** [https://www.canr.msu.edu/4\\_h\\_exploration\\_days/](https://www.canr.msu.edu/4_h_exploration_days/)

#### **MICHIGAN 4-H YOUTH DAIRY DAYS**

**Overview:** A week for youth around Michigan to showcase their dairy knowledge and skills, earn awards and scholarships, and vie for a place on national teams representing Michigan in dairy cattle judging, management skills, and quiz bowl.

**Contact person:** Melissa Elischer (elischer@msu.edu/517-432-4306)

**Location:** Pavilion at MSU; East Lansing

**Date:** July 18-22

**Registration:** Melissa Elischer (elischer@msu.edu/517-432-4306)

#### **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 with specific dates and locations to be determined in early 2022.

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





# Employee On-Farm Trainings

## ON-FARM STOCKMANSHIP

**Overview:** These on-farm training sessions will cover general stockmanship and animal handling. This training meet the requirements of the National Dairy FARM program.

**Language:** English and Spanish.

**Dates and Locations:** upon request.

**Contact:** Marianne Buza Murawski at 440-785-2919 or mbuza@msu.edu

## DOWN COW MANAGEMENT TRAINING

**Overview:** Farm staff will learn about the care of down cows and why these cases should be considered an emergency.

**Language:** English and Spanish.

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

**Contact:** Marianne Buza Murawski at 440-785-2919 or mbuza@msu.edu

## CALF CARE

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

**Language:** English and Spanish.

**Dates and Locations:** upon request.

**Contact:** Paola Bacigalupo at 970-888-1356 or paolabs@msu.edu

## 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.

**Language:** English and Spanish.

**Dates and Locations:** upon request.

**Contact:** Paola Bacigalupo at 970-888-1356 or paolabs@msu.edu

## MATERNITY TRAINING

**Overview:** This training will cover critical points around calving, including the care of the cow and newborn, colostrum management, and calving difficulties.

**Language:** English and Spanish.

**Dates and Locations:** upon request.

**Contact:** Paola Bacigalupo at 970-888-1356 or paolabs@msu.edu.

## FEEDER CONSULT AND TRAINING

**Overview:** These on-farm training sessions will cover basic cow nutrition and ingredient management, on-farm sampling and dry matter testing, basic feeder safety and overview & evaluation of feeding protocols. Program can be focused on managers or employees determined by case.

**Language:** English and Spanish.

**Dates and Locations:** upon request.

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

## HANDS-ON EUTHANASIA TRAINING

**Overview:** Using portable models and a captive bolt stunner, this on-farm training teaches placement and protocols for proper euthanasia.

**Language:** English and Spanish.

**Dates and Locations:** upon request.

**Contact:** Marianne Buza Murawski at 440-785-2919 or mbuza@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.

### **2021 - 2022 MEMBERS:**

Sam Chapin	Katelyn Packard
Keegan DeZeeuw	Brian Preston
Samanta Fensterseifer	Allison Pung
Ethan Haywood	Merv Seiler
Kyle Jandernoa	Bryce Slavik
Jack Jeppesen	Garrett Slavik
Katy Kesler	Becky Smith
Bill Martin	Jami Van Loon
Eric Martin	Robert (Bob) Vlietstra
Renee McCauley	James Weber

### **MSU Extension Dairy Educators:**


Paola Bacigalupo	Mason	517-279-6419	paolabs@msu.edu
Marianne Buza Murawski	Bad Axe	989-269-9949	mbuza@msu.edu
Phil Durst	West Branch	989-387-5346	durstp@msu.edu
Victor Malacco	Coldwater	765-701-5872	rochamal@msu.edu
Martin Mangual	West Olive	616-994-4581	carrasq1@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	rischcor@msu.edu
Florencia Colella	Farm Management	231-224-6439	colellaf@msu.edu
Melissa Elischer	4-H Dairy Management	517-432-4306	elischer@msu.edu
M. Charles Gould	Bioenergy	616-834-2812	gouldm@msu.edu
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Stan Moore	Farm Management	231-533-8818	moorest@msu.edu

### **MSU Extension Dairy Specialists:**

Angel Abuelo	Animal Health	517-884-7818	abuelo@msu.edu
Barry Bradford	Nutrition	517-432-5400	bjbrad@msu.edu
Kim Cassida	Forages	304-575-6099	cassida@msu.edu
Adam Lock	Nutrition and Management	517-353-8714	allock@msu.edu
Pamela Ruegg	Udder Health & Antibiotics	517-355-8384	plruegg@msu.edu
Richard Pursley	Reproduction	517-281-7289	pursleyr@msu.edu



# Animal Science Career Quest

March 18-20, 2022

MSU Campus

East Lansing, MI

Join Michigan 4-H and the MSU Department of Animal Science for a new program this spring – Animal Science Career Quest. Animal Science Career Quest will be March 18-20, 2022, on MSU’s main campus in East Lansing. Youth will learn about all the opportunities an animal science education can bring them, not just as an undergraduate student, but long-term post-graduate, career options, and beyond.

- **Friday evening**, participants will take part in an interactive campus scavenger hunt using GooseChase.
- **Saturday** will be filled with hands-on sessions to learn more about everything animal science has to offer and many career skill-building activities. Hear what species faculty, staff, and students study and the numerous disciplines to explore in animal science.
- **Sunday** will be a chance to experience research-in-action, on farm and in laboratories.

Animal Science Career Quest is open to youth ages 12-19 (as of January 1, 2022). The complete schedule, registration link, and fees will be available in February. For questions, please contact Melissa Elischer at [elischer@msu.edu](mailto:elischer@msu.edu).

# Management Tips

## MSU Dairy Extension Team



Phil Durst

Stanley Moore

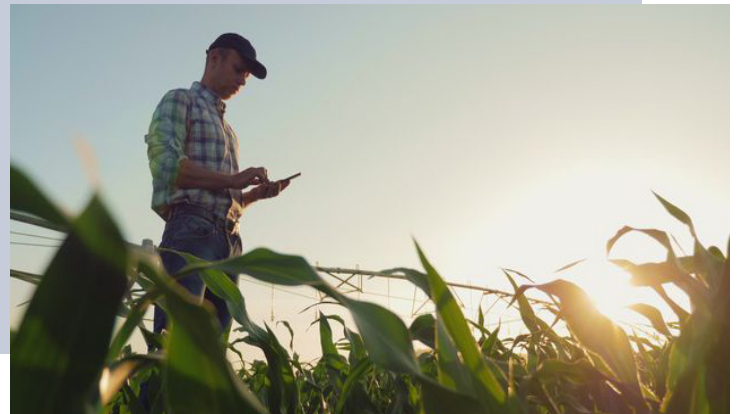
### Improving labor efficiency on farms

Farms vary widely in measures of labor efficiency. In my previous article, “Dairy farm labor efficiency” from Michigan State University Extension, data from 20 dairy farms over a wide range of sizes showed there is opportunity at any size to improve efficiency. Highly functioning teams are not limited based on size of farm, and when they function, efficiency is greater. Achieving efficiency starts with the owners.

Based on work we have been doing with employee management on farms, we believe the key to improving labor efficiency begins with recognizing workers as colleagues and working together toward goals. How can you lead the effort in improving labor efficiency? Here are a few points to consider and to evaluate on your farm.

**Treat employees as colleagues.** It is a mindset - a frame of reference that impacts how you interact with employees. Consider your workers as partners with you in the success of the farm. Teach employees not just how to do a job, but how to evaluate it as they go, and consider what will happen in various situations. Teach them how to make management decisions, thinking through alternatives and consequences. Engage employees in problem discovery and identification of waste. Brainstorm together on solutions, and recognize their ideas, good or not, as gifts to the business. Truly consider their ideas and if they cannot be implemented, use their ideas as teaching opportunities.  
*By Phil Durst and Stanley Moore*

[View full article here](#)



### The steps for good quality corn silage begins now

As field work begins in Michigan many dairy farmers in the state shift into feed producing gear. Often, many resources and silage discussions occur in late summer or early fall; however, the path to great quality corn silage should begin long before harvest. It begins in the spring with good planning. What are the important questions you need to discuss with your agronomist and dairy nutritionist? What are the areas that need to take focus at this stage of the season?

#### Where are your inventories?

Inventories should always be in the mind of producers. This becomes especially true when planning a new crop. Understanding your inventories and how last season’s crop yielded and fed out are key as you project this season’s yield or needed acreage. Michigan State University Extension recommends establishing a forage budget for your farm and keeping it updated throughout the year. On this type of budget, you will track your inventories and the amounts you have allocated to feeding groups based on ration, estimated intake and group size. This can then be used as one of the center pieces of information as we project how much crop we need to feed the herd in the upcoming season. Maintaining updated inventories can also help to provide another valuable piece of information. We can also use it to determine the percent of shrink that occurs on the farm. This also needs to be considered as we plan the year’s planting strategy.

*By Martin Mangual*

[View full article here](#)



# Management Tips

MSU Dairy Extension Team



Martin Mangual

## Can precision livestock farming help optimize farm labor?

Precision livestock farming technologies, which employ sensors to help manage farm operations, are at an early stage of adoption in livestock production. Recent advances in cost, quality of equipment, machine learning/cloud-based systems, and the fact that skilled farm labor is becoming harder to find, are all factors that have generated additional interest from livestock producers.

One feature most precision livestock farming capabilities share is the ability to operate continually without regular human intervention. This allows farm staff to monitor individual animals and focus on activities such as administering treatments or assisting in maternity instead of routine tasks like pen watching. Reviewed in this article are various precision livestock farming technologies and their perceived impact on livestock health and farm labor for dairy and swine farms.

Feeding animals optimally to achieve their genetic potential, along with labor, are the costliest daily inputs on farms. Automatic calf feeding systems exemplify an established precision livestock farming technology. Automatic calf feeding systems seamlessly allow producers to maximize animal performance and fine-tune individualized feeding plans for calves as they develop and grow. Many auto-feeders are equipped with scales that allow the operator to track a calf's growth. This technology also allows a proactive approach to disease identification and prevention.

*By Martin Mangual, Madonna Benjamin, and David Thompson*



[View full article here](#)

## Field Crops Virtual Breakfast - Getting the most of fall manure applications

Manure, especially solid manure, can enhance soil health and deliver multiple nutrients. But the way in which manure is applied and managed can greatly impact the value you get from manure.

Manure value can be lost through:

- Compaction from manure applications when it's too wet
- Loss of nutrients from manure due to volatilization, leaching, and surface runoff
- Concerns about odor and water quality from neighbors

In this presentation, Dr. Wilke discusses strategies to get the most out of manure, considering some specific scenarios and the strategies used to optimize manure application. The impacts of cover crops, neighbors, and primary crop plans on manure strategies are covered.

*By: Brook Wilke*



[View full video here](#)

# Research Drill Down

Aycia M. Burch, Ursula Abou-Rjeileh, G. Andres Contreras, and Adam L. Lock

## Harnessing Fatty Acids for Transition Cow Management

Energy and nutrient demands of the dairy cow are heightened during the fresh period and remain high throughout lactation, depending on milk production needs. Feeding fat supplements can help meet this energy demand, and recent research has shown that specific fatty acids (FA) can help better meet these needs. A fatty acid of particular interest is oleic acid (OA), which may help to slow loss of body fat after calving and can also increase milk production, without affecting dry matter intake. Additionally, oleic acid may increase yield of milk and milk components in high producing, post-peak cows.

### Fat in Dairy Rations

In most Federal Milk Market Orders, fat and protein yield are the major contributors to the price that dairy producers receive for milk. Between the two, milk fat is easier to manipulate - both positively and negatively - through nutrition. During the transition period, dietary strategies must harmonize yield of milk components with maintenance of healthy body condition. Additionally, energy demands of the dairy cow are different depending on her stage of lactation and level of milk production. Supplemental fat is often added to dairy cow rations to increase the energy

density of the diet and to improve the yield of milk and milk components.

Supplemental fat can come in many forms, such as oilseeds, tallow, oils, and fatty acid supplements (prills and calcium salts). It is important to note that not all high-fat feeds are the same, as the fatty acid (FA) profile of the ingredients differ. We should not think of these feeds as just “fat” but should rather focus on the specific FA supplied by an ingredient.

Recently, research has progressed from feeding traditional animal and plant fats to feeding individual FA and blends of FA, as these FA have been found to affect metabolic and production parameters in dairy cattle differently. The most abundant FA found in commercial fat supplements are palmitic (PA), stearic (SA), and oleic (OA) acids, which are also the main three FA found in milk fat. Our research team has recently focused on these three FA and have examined different FA combinations to better understand specific ratios that can be tailored to stage of lactation and production level.

### The Transition Cow

The transition period is a critical time, due to the cow experiencing sudden changes in nutrient demands and metabolic and immune functions. At the onset of milk production, the cow releases stored FA from body reserves to satisfy her energy demands. These FA are used as an energy source for calving, colostrum synthesis, and milk production. The FA are mobilized from adipose tissue, which is a specialized connective tissue that functions as the primary storage depot in mammals.

During periods of positive energy balance, the adipose tissue stores energy in the form of fat in a process known as lipogenesis. But during periods of negative energy balance (NEB), such as the fresh period in dairy cows, the adipose tissue breaks down fat for energy in a mechanism called lipolysis. As a result of NEB during the transition period, the rate of lipolysis exceeds that of lipogenesis. In normal circumstances, as lactation progresses, the rate of lipolysis slows and lipogenesis begins to restock the fat stores in the adipose tissue. This is regulated by changes in concentrations of hormones such as insulin.

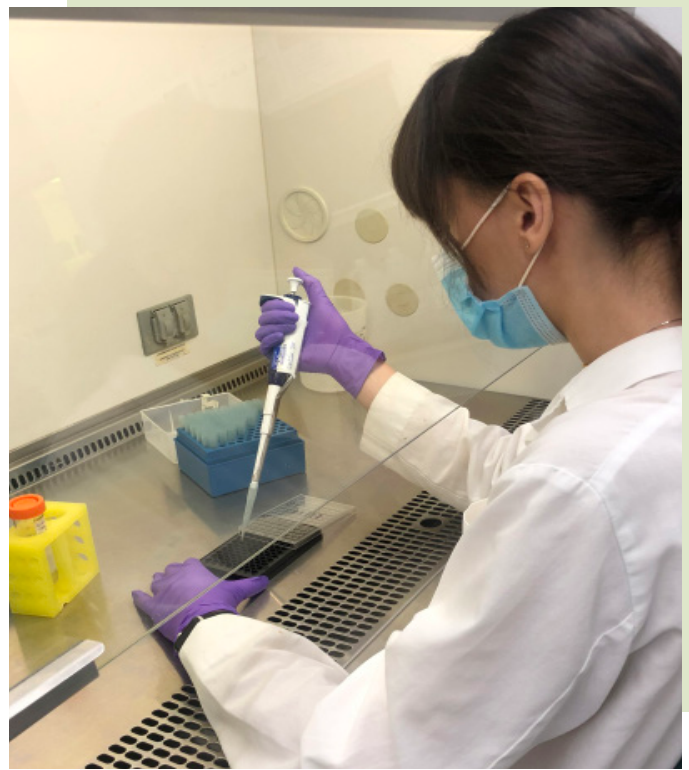


Aycia Burch milk sampling

Under normal circumstances, adipose tissue in fresh cows becomes resistant to insulin's effects, which allows for the redirection of energy from the tissue to the mammary gland, supporting milk production. When this insulin resistance is moderate, it can ensure a healthy and productive lactation. However, in some situations, prolonged and excessive insulin resistance in adipose tissue can cause extreme lipolysis, which further intensifies NEB of the cow. Consequently, when NEB lasts for long periods of time, it puts the cow at a higher risk of developing diseases, reproductive problems, and performing poorly during her lactation.

### Feeding Fatty Acids to Fresh Cows

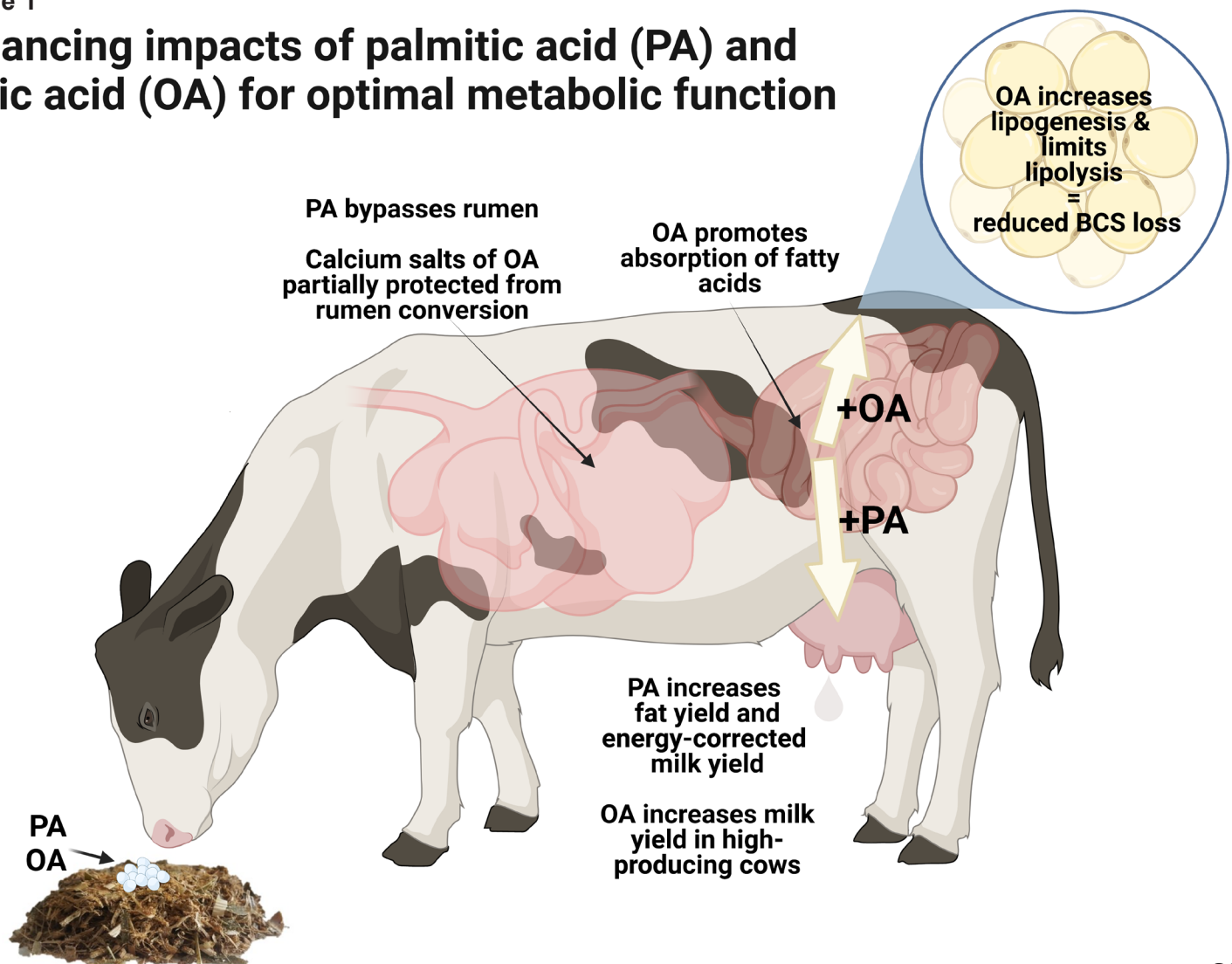
Previously, dairy nutritionists generally advised against feeding fresh cows supplemental FA because of the FA from lipolysis already circulating in blood at that time, and the anticipated depression in feed intake, which could offset any advantage of increasing the energy density of the diet with fat. The past research with negative effects included FA at ~3-5% of dietary dry matter and used varying fat ingredients with differing FA profiles. Considering recent findings on effects



Ursula Abou-Rjeileh treating cells

Figure 1

## Balancing impacts of palmitic acid (PA) and oleic acid (OA) for optimal metabolic function



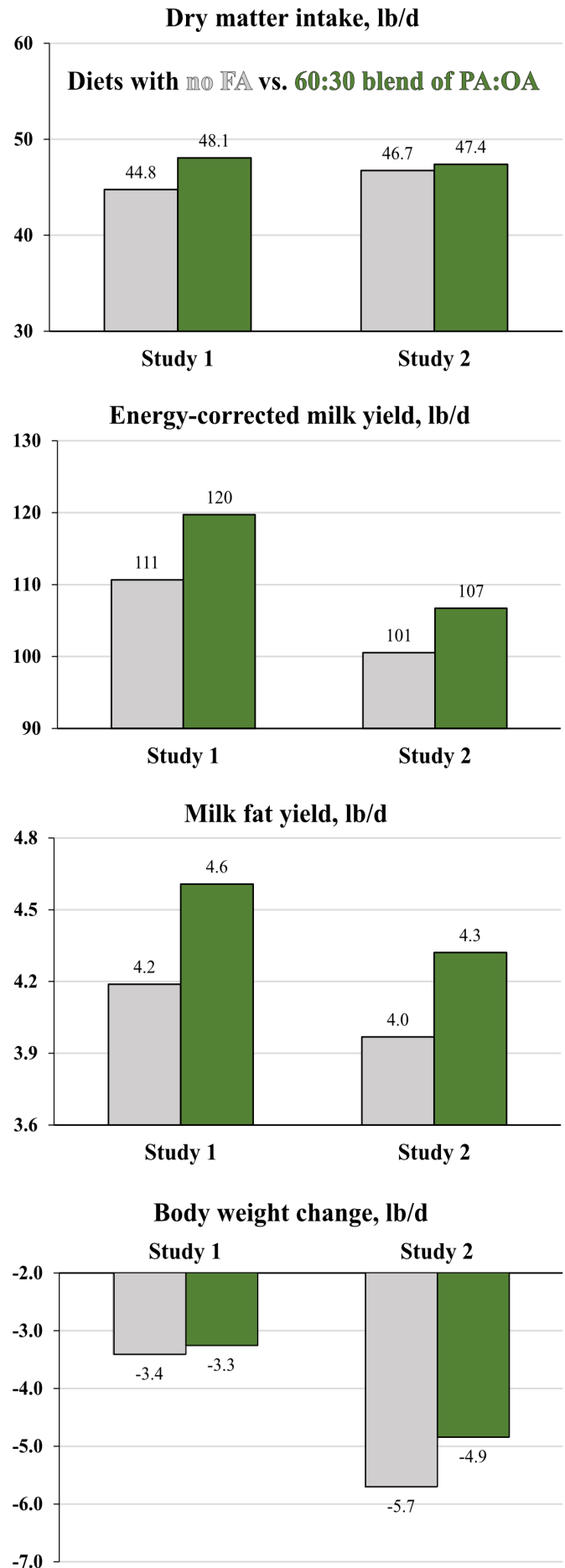
**FIGURE 2: Transition cow responses to dietary fatty acid blends.**

Studies 1 and 2 both evaluated responses of fresh multiparous Holstein cows to control treatment (no FA supplementation; grey) or a 60:30 FA blend of PA+OA (green) included at 1.5% of diet dry matter. Diets were fed for the first 3 weeks of lactation, with 14 cows per treatment monitored in Study 1 and 26 per treatment in Study 2. There was no statistical difference between treatments for dry matter intake and body weight change in either study. The FA blend increased energy-corrected milk and fat yield compared to control in both studies.

of individual FA on mid-lactation cows, we began to question whether targeted FA supplementation to early lactation cows could be successful.

This led to a transition study where an 80% PA supplement was fed to fresh cows at 1.5% of the diet (DM basis) from 1-24 days in milk. Compared with a diet without FA supplementation, PA did not affect feed intake but increased energy-corrected milk by 10.4 lb/day. On the other hand, PA also decreased body weight and increased measures of lipolysis in the fresh period. These observations indicated that feeding PA promotes energy partitioning toward the mammary gland while increasing fat release from adipose tissue. Results from two other experiments in post-peak cows feeding blends of PA and OA provided more insight into impacts of specific FA on energy partitioning. These post-peak cows showed increased body weight gain when fed the FA blends, suggesting a shift in nutrient partitioning toward adipose tissue with supplemental OA. These findings pointed to a potential use of PA and OA blends, designed to balance milk yield and maintenance of body weight, in fresh cows.

The follow up study for feeding OA to fresh cows, Study 1, was then conducted with three supplemental blends with varying ratios of PA and OA (80:10, 70:20, and 60:30) fed at 1.5% of diet DM for the first 3 weeks of lactation. When compared with a diet without supplemental fat, all three FA blends increased yields of milk and energy-corrected milk, and did not affect feed intake. When OA was increased in the supplement (from 10 to 30%), there was a reduction in body weight loss and plasma non-esterified fatty acids (NEFA) as well as an increase in plasma insulin. Plasma NEFA is a marker of lipolysis from the adipose tissue; although NEFA serves as an energy source in early lactation,



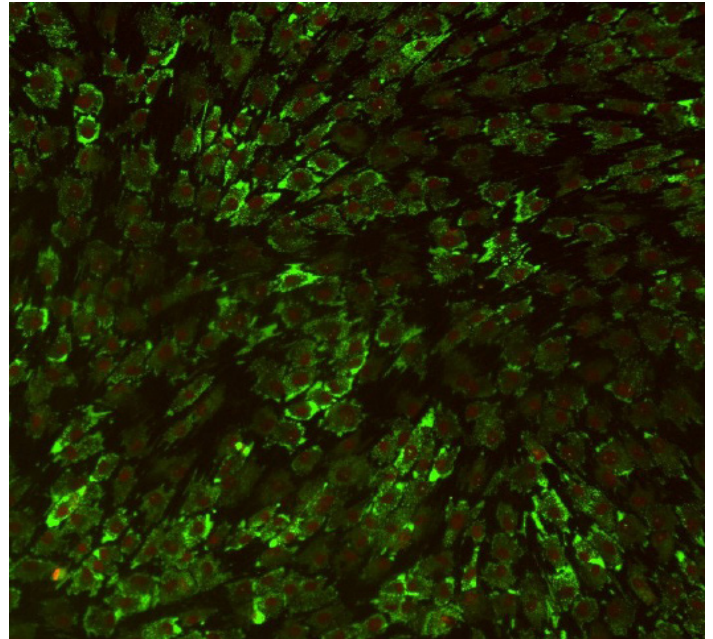
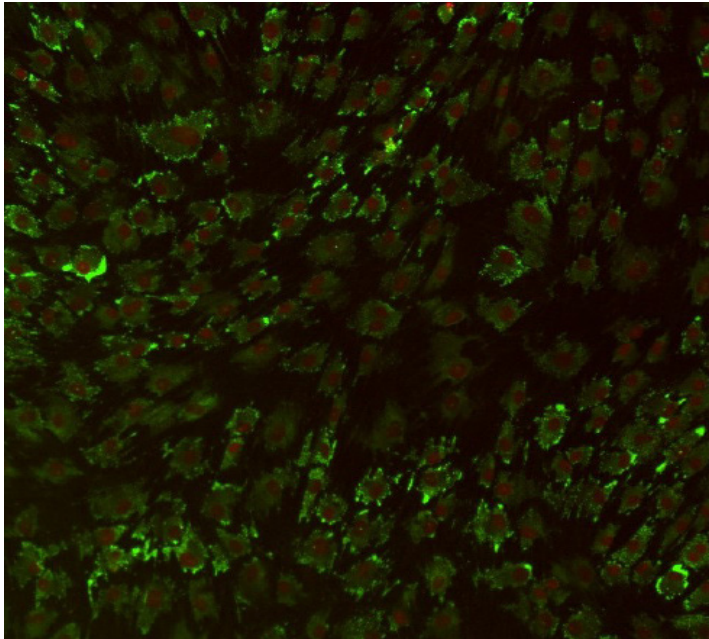


high concentrations of plasma NEFA are associated with poor lactation performance. Hence, OA served to limit fat breakdown and enhance lipogenesis within the adipose tissue.

Given how well the fresh cows responded to the 60:30 (PA:OA) blend, we focused on that particular ratio in the next fresh cow study, Study 2. Similar to the previous results, we found that feed intake was not affected and yields of milk fat and energy-corrected milk were increased by the blend compared with a diet without fat supplementation, but we did not see a body weight difference between treatments.

### How Does OA Control Energy Balance in the Cow?

Compiling all this data together, we can see that feeding the correct blend of FA is crucial, as the 60:30 blend of PA+OA allows for improvements in production while minimizing body weight loss. This 60:30 ratio shows that there is a good balance between these two key FA, but what still was left unanswered was the exact mechanisms by which OA regulates energy balance. To better understand the mechanisms of OA, another fresh cow study, Study 3, was conducted utilizing cannulated cows so that we could infuse OA directly into the abomasum of the cow and thus bypass the rumen. These infusions were done for the



#### FIGURE 3:

Adipose (fat cells) derived from subcutaneous adipose tissue from dairy cows in Study 3. Left: Cells in regular maintenance media; Right: Cells supplemented with 85 parts per million (300  $\mu$ M) OA. Lipids are stained with Bodipy (green dye).

### Oleic Acid Increases Digestibility of Fatty Acids

We have routinely seen that OA increases FA digestibility in post-peak cows, and an increase in FA digestibility means that more FA are available to the cow for use for metabolic processes, such as milk synthesis in the mammary gland. In Study 1, we observed that increasing the level of OA in the supplemental FA blends increased total tract FA digestibility in fresh cows, similar to what we have observed previously in post-peak cows. The improvement in digestibility likely contributes to the production increases with cows supplemented with OA. It is unclear how OA increases digestibility, but we are confident that an adequate amount of OA in the diet is needed for optimal FA digestibility.

first 15 days of lactation. Cows infused with OA had a lower rate of lipolysis in early lactation, reflected in decreased plasma NEFA and ketone levels.

We also collected adipose tissue samples from these cows, once before calving and twice post-calving. These tissues showed that OA limits lipolysis by promoting lipogenesis. After stimulating the tissue in the lab, we saw that adipose tissue collected from cows infused with OA has a reduced lipolytic response and an improved insulin sensitivity. These results could explain the reduction in body weight loss we observe when supplementing cows with OA.

Understanding the pathway that OA activates within the adipose tissue will help us develop more refined nutritional strategies to better harness OA's lipogenic capabilities. We have recently identified two genes via which OA exerts its benefits - peroxisome proliferator activated receptor alpha (PPAR $\alpha$ ) and perilipin 5 (PLIN5). PPAR $\alpha$  appears to be a counterbalance to control the harmful effects of chronic lipolysis. Similarly, PLIN5 limits lipolysis by promoting the formation of new lipids. The direct effect of OA on adipose tissue capacity to store fat was also demonstrated in isolated adipose cells, showing greater lipogenic capacity in response to OA (Figure 3).



### Conclusion

Feeding fat supplements that are 60% PA and 30% OA can positively impact the transition cow by regulating the balance between increasing milk production parameters and sustaining body weight in this critical period. This information is important for dairy producers and nutritionists when feeding fat supplements to fresh cows to help meet energy demands and increase yields of milk and milk components. We are still working to fully understand the mechanisms linking supplemental OA to improved milk production, increased FA digestibility, and altered energy partitioning.

## Meet the Authors



**Alycia M. Burch**  
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**G. Andres Contreras**  
Associate Professor  
Department of Large Animal  
Clinical Sciences



**Adam L. Lock**  
Professor  
Department of Animal  
Science



# Michigan Dairy Recognition

Shining a light on industry leaders



## Randy and Jake Bontrager

Both Randy and Jake are long-time employees at the MSU Dairy Teaching and Research Center. Randy started at MSU in 1992 and his son, Jake, joined the team in 2010. For most of those years, Randy and Jake were on the feeding crew - meaning they each hand-pitched around 4 tons of rations to individual cows daily.

Cumulatively, this father-son duo has manually delivered over 38,000 tons of feed, equivalent to a 10-ft high drive-over silage pile 75 ft wide and 390 ft long! This Herculean effort supported hundreds of studies over the last three decades. Stop by the MSU dairy to share your appreciation, and bring some Bengay!



## Luke and Ethan Haywood Speak at World Dairy Expo Forage Bowl

The Haywoods, of Sand Creek Dairy in Hastings, were invited speakers at the September 2021 World Forage Analysis Superbowl, part of the World Dairy Expo in Madison.

Sand Creek was featured as an example of a farm with an outstanding forage program, and Luke and Ethan described their approaches to forage genetics, agronomic management, dealing with pests and diseases, and harvest.

You can see the Haywoods' presentation at <https://youtu.be/hOh27eI12lo>



## College of Veterinary Medicine Awardees

The MSU College of Veterinary Medicine's Department of Large Animal Clinical Sciences has awarded Dr. Kayla Clark with an Early-career Food Animal Veterinarian Award and Dr. Rachelle Bennecke with the Birth of a Purebred Award.

Dr. Clark is a partner at Sterner Veterinary Clinic in Ionia, and serves as the job shadowing and externship coordinator for the practice's food animal clinic for high school, undergraduate, and veterinary students. Dr. Bennecke is the owner of Stoney Hills Veterinary Service, LLC (aka Team Management Concepts), a dairy-focused practice where she began working just two days after graduating in 2003. In 2016, Bennecke took over the company, which works predominantly with large dairies throughout the state of Michigan and hosts dairy-focused externships for veterinary medical students.

Kayla Clark

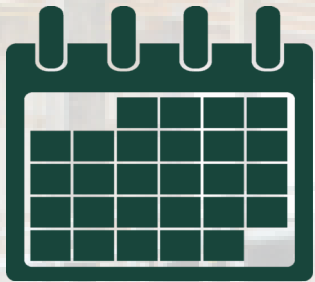
Rachelle Bennecke

For more details, see <https://tinyurl.com/4b9xjccp>

**MICHIGAN STATE**  
**UNIVERSITY**

**Extension**

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East Lansing, MI 48824



## Mark your calendar

Use the QR code  
below for more  
information on the  
upcoming winter  
meetings:



- **[MSU Dairy Extension Winter Meetings:](#)**
  - Feb. 15 - Martin Township  
(Martin Twp Community Building)
  - Feb. 17 - West Branch  
(Forward's Conference Center)
  - Feb. 22 - Bad Axe (Franklin Inn)
  - Feb. 23 - Cadillac  
(Carl T. Johnson Hunting & Fishing Center)
  - Feb. 24 - St. Johns (Agroliquids)
- **[Michigan Dairy Health Symposium](#)**
  - March 10
- **Animal Science Career Quest**
  - March 18-20