

# MSU Dairy Farm's Open House Features Research and Fun

By Beth Stuever  
MSU CANR

Becky Larson climbs to the top of a large blue cylinder serviced by a maze of pipes and valves so she can unleash the large lid that conceals another complicated system of pipes and valves.

"It all looks a little intimidating at first," she explains. "But it's really just basic plumbing."

Larson, a graduate student in the Michigan State University Department of Biosystems and Agricultural Engineering, honed her plumbing skills to help researchers come up with effective strategies for recycling milking parlor washwater, a challenge that has plagued dairy farmers for years.

The MSU Dairy Teaching and Research Center, the site of Larson's

project, is home to 150 dairy cows and uses 250 to 500 gallons of water in the milking parlor each day.

"That's a lot less than most dairies, but still a notable amount. Traditionally, that water has been stored in manure lagoons or land applied," Larson explains. "Current disposal methods are costly and pose environmental risks. We're trying to come up with an economical way for farmers to reuse washwater and reduce the potential for negative environmental impacts associated with spills and runoff. There is also the additional benefit of reducing water use in the daily milking cycle."

Larson's project and a host of others will be featured during an open house from 1 to 4 p.m. on October 13 at the MSU Dairy Teaching and Research Farm.

"Throwing open the doors and inviting farmers in enables them to see firsthand some of the interesting projects going on here on the farms," says Ben Darling, assistant director of the MSU Office of Land Management.

High on Darling's list of accomplishments is the comprehensive nutrient management plan (CNMP) that he helped develop for the MSU South Campus Farms. He will be on hand during the open house to show people how he and his group accomplished this monumental task.

"Completing the CNMP was a challenge because, unlike other farms, we have nine livestock species farms in one," Darling explains. "It was also a worthwhile learning experience and we want to share the process with farmers."

In addition to the farm tour, visitors will get their first glimpse of the new MSU Animal Air Quality Research Facility, a state-of-the-art lab that will be home to numerous projects designed to determine the effects of animal agriculture on air quality.

Wendy Powers, MSU's director of environment stewardship in animal agriculture, heads up the facility.

"Livestock manure odor can cause tension between farmers and their non-farm neighbors," Powers



Becky Larson will explain her milking parlor washwater research study during the MSU farms open house Oct. 13. "My friends are inside doing research in their nice air-conditioned labs and here I am crawling around a bunch of pipes in 90-degree heat," she says. "I don't complain, though. This is an interesting and important study."

## Bring the Family and Make a Day of It

The MSU farms' open house is being held Oct. 13 in conjunction with MSU Homecoming festivities. Organizers are encouraging farmers to bring their families and enjoy a full day of Spartan fun.

### 1-4 p.m. Open house

*MSU dairy farm and Animal Air Quality Research Facility*

### 5-7 p.m. CANR tailgate

*Demonstration Hall Practice Field*

### 7 p.m. Indiana Hoosiers vs. MSU Spartans football game

*Spartan Stadium*

No reservations are required for the open house. For information about the CANR tailgate party, contact Kathryn Reed at [kreed@msu.edu](mailto:kreed@msu.edu) or (517) 355-0284.

says. "This lab will help us measure air emissions and determine how we can modify animal diets to reduce those emissions and manure nutrients. We're eager to show producers the types of valuable information we'll be generating."

Powers encourages farm families to make a day of it by also attending the College of Agriculture and Natural Resources tailgate party and the MSU Homecoming football game against the University of Indiana Hoosiers.

"It's a great opportunity to see what's going on at the farms and the new lab," she says. "And it's a double bonus for those who can combine it with other Homecoming activities."



**Wendy Powers stands in the doorway in one of the soon-to-be-completed chambers at the Animal Air Quality Research Facility. Open house participants will get a chance to see how the chambers help measure emissions for various animal species during the Oct. 13 event.**

### **Where to go:**

**MSU Dairy Cattle Teaching and Research Center and Animal Air Quality Research Facility**

(South of the MSU campus along the west side of College Rd. between Forest and Jolly roads.)

### **What you'll see:**

- The new state-of-the-art Animal Air Quality Research Facility.
- How MSU created a first-rate Comprehensive Nutrient Management Plan (CNMP) for the South Campus Farms.
- MSU research projects specific to environmental quality and the dairy industry, including storm water runoff management using intensive management practices and treatment and an innovative method of biological and physical treatment strategies for milking parlor washwater.

## **Michigan State University Dairy Farm is the "Gold" Standard**

The Michigan State University (MSU) Dairy Teaching and Research Center (DTRC), an MMPA member farm, has been recognized for its excellent milk quality as a gold winner in the annual National Dairy Quality Awards competition.

The MSU DTRC was one of 120 farms judged in the competition. The five platinum, 11 gold and 17 silver operations were evaluated for measures of quality, systems of monitoring udder health, milking routine, protocols for detection and treatment of clinical and subclinical cases of mastitis, and strategies for overall herd health and welfare. Ten other winners in the platinum, gold and silver categories were also Michigan dairies, many of which are MMPA members. Those members have been featured in MMPA advertisements.

Philip Sears, professor of large animal clinical sciences in the MSU College of Veterinary Medicine, submitted the nomination.

"It was a good time to let others know what a good job they do and give our dairy the recognition it deserves," Philip says. "Over the past several months, the farm's somatic cell count has been down below 50,000. Now that's really, really high quality milk."

According to the NMC (formerly the National Mastitis Council) Web site, the cell count for normal milk is nearly always less than 200,000 cells.

"The MSU dairy should have been nominated years ago, but I guess people forget about the university because they assume we're doing it right" Philip says.

Bob Kreft, manager of the MSU DTRC, attributes the success to team and technique.

"The credit really belongs to my crew, an excellent group of employees who care about milk quality," Bob says. "I am really proud that we received the award because the herd is here first and foremost for teaching and research."

The MSU Dairy Teaching and Research Center is located south of campus along the west side of College Road between Forest and Jolly Roads. The herd is made up of 150 Holstein milking cows and 150 replacement heifers raised on the farm.

Since receiving the award, Bob says the farm's

**Continued on page 22**

## Bug of the Month

Continued from  
page 20

ceftiofur, in curing these cases of mastitis. This class of antibiotic is more resistant to breakdown by beta-lactamase enzymes that Gram-negative bacteria produce than penicillin and other classes of beta-lactams. As a result, more antibiotic is active to inhibit the bacterial wall synthesis by interfering with enzymes essential for peptidoglycan synthesis, which results in lysis of the bacteria cell. Lysis of the bacteria cell results in the death of the bacteria.

To recap, E. coli is a Gram-negative bacterium that is commonly found in the cows' environment. It is most effectively controlled by maintaining a clean, dry environment, especially in the maternity area. Good teat sanitation is also helpful. Coliform vaccines are available and may reduce the number and severity of infections when used appropriately. Historically, most E. coli mastitis cases were peracute and required systemic support to hopefully save the cow's life. Today, non life-threatening cases are becoming more common. Some of these cases may be cured through the use of third-generation cephalosporins such as ceftiofur.

## MSU Dairy Farm – Gold Standard

Continued from page 13

Since receiving the award, Bob says the farm's milk quality has only improved.

"We looked pretty good during the time the award covered, but we've made even more progress since then," he says. "Our somatic cell count has been under 50,000 for 11 months."

According to Bob, the farm benefits from being the site of cutting-edge research taking place in the Department of Animal Science and the College of Veterinary Medicine. At any point in the year, multiple research projects can be simultaneously measuring feed quality, cow comfort, metabolism and reproduction for any number of animals in the herd.

"On our farm, we have contact with so many knowledgeable researchers," he says. "We have the opportunity to participate in research from the very beginning stages. We may learn a good idea early on that other producers may adopt in the future, or we may end up back at the drawing board."

Other than the benefits of being a university farm, hard work and attention to detail are the tricks of the trade, just the same as at Michigan's other 2,471 dairy farms, Bob notes.

*The MSU Dairy Farm is open to the public for self-guided tours every day from 8 a.m. to 5 p.m. Maps and signs are in place to guide visitors through the farm and answer basic questions. The cows are milked at 4 a.m. and 2 p.m. daily.*



## 2007 OYDC Reunion

The Annual OYDC reunion was held this summer at the home of 2001 OYDCs Tim and Debbie Kubacki of Sebewaing, Mich. Each year, the past OYDCs gather together for a picnic and the chance to visit with friends. MMPA president Ken Nobis and General Manager John Dilland gave the attendees an update of MMPA activities and industry issues.

Couples pictured from l-r are: Alan and Mary Nichol, Bruce and Jennifer Lewis, Jeff and Lynda Horning, Dennis and Sara Johnson, Tony Jandernoa, Earl and Diane Horning, Eric Frahm and Teresa Crook, John and Barb Dilland, Elwood and Michelle Kirkpatrick, Ken and Liz Nobis, hosts Tim and Debbie Kubacki (both seated), Dave and Kathy Lott, Jim and Doreen Slavik, Harold Gremel, Doug and Louisa Westendorp, Harold Cnossen, Marvin and Vivian Lott, Larry and Gloria Crandall, and Susan Troyer.