

Healthy Farming, Healthy You

Dear Educator,

Michigan dairy farmers share much in common with the families who depend on them for fresh, wholesome dairy products. That's what your students will discover with this free educational program from the United Dairy Industry of Michigan, created in cooperation with the curriculum specialists at Young Minds Inspired (YMI).

These standards-based lessons support the social studies, science, and health curriculum for grades 2-4, introducing students to the wide range of skills required on a dairy farm, showing them how dairy farmers help protect the environment, and reminding them (and their parents) that 2.5 to 3 cups of milk or another dairy food are essential for a balanced diet every day.

Students will also get to visit real dairy farms through fun videos and a whiteboard activity quiz.

We hope that you will share this program with other teachers in your school. Although the materials are copyrighted, you may make as many copies as needed for educational purposes.

Please use the enclosed reply card or comment online at www.ymiclassroom.com/feedback-udim to provide feedback. We look forward to hearing from you.

Sincerely,

Sharon Toth

Sharon Toth
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YMI
For questions, contact us toll-free at 1-800-859-8005 or by email at feedback@ymiclassroom.com.

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Target Audience

Elementary school students in grades 2-4 and their parents.

Program Objectives

- Help students learn about the career skills that apply to dairy farming.
- Raise awareness of sustainable practices adopted by dairy farmers.
- Explore how dairy farmers are using new technologies.
- Reinforce the **MyPlate** guidelines for milk and dairy foods as part of a balanced diet every day.
- Learn how dairy farmers work with experts such as veterinarians and nutritionists to care for their cows.



Program Components

- This one-page teacher's guide.
- Three reproducible activity sheets.
- A colorful classroom wall poster.
- **Meet the Milk Makers!**, a digital whiteboard activity, available at www.ymiclassroom.com/udim.
- A reply card for your comments, or comment online at www.ymiclassroom.com/feedback-udim.

How to Use This Program

Photocopy the teacher's guide and activity sheets before displaying the poster. Schedule the activities for your class. After each lesson, have students take their sheets home to complete and review with a parent. To review alignment with Common Core and national standards, visit www.ymiclassroom.com/udim.

How to Use the Wall Poster

Use the timeline to discuss how American dairy farming has changed over the years. Compare the dairy farm profiles to discuss how large and small dairy farms rely on modern technology and family tradition.

How to Use the Whiteboard Activity

Meet the Milk Makers! (available at www.ymiclassroom.com/udim) is an

interactive video-based quiz that takes students on a virtual field trip to a variety of dairy farms. Share the activity with students on your digital whiteboard, or have students explore the activity on a home computer or Flash-friendly mobile device.

Activity 1 Dairy Farmers Do It All

Part 1. Have students match the tasks on the to-do list with the job titles. Use the talking points below to discuss how dairy farmers use skills from many professions to keep their cows healthy, their farms productive, and to protect the environment. Then have students write or tell which of the farmer's tasks they'd want to help with, and why. (Have students visit www.milkmeansmore.org/day-life-farmer/ to learn more about dairy farm life.)

1. Nutritionist: Most dairy farmers feed cows a high-nutrition blend of grains, hay, and all the vitamins and nutrients the cows need to stay healthy and produce high-quality milk.
2. Tech Expert: Dairy farmers rely on high-tech equipment, like robotic milking machines that can milk each cow automatically whenever it's ready.
3. Environmentalist: Dairy farmers use sustainable practices like composting cow manure and recycling cleaning water.
4. Veterinarian: Dairy farmers monitor their cows' health for signs of illness, proper nutrition, and injury to ensure they stay healthy.
5. Mechanic: Dairy farmers need the skills to keep all kinds of farm machinery working properly.
6. Carpenter: Dairy farmers need the skills to build almost any structure that will help keep their farm productive.
7. Computer Specialist: Dairy farmers use computer systems to manage all aspects of the farm, from energy use to milk production and the health of the herd.

Part 2. Use the points below to discuss the challenges weather poses for dairy farming.

- Excessive heat stresses dairy cows, reducing their milk production. Heat waves might require installing fans to cool cows in the barns.

- Drought can increase feed costs and strain the water supply needed to keep cows hydrated.

Part 3. Have students work with a parent to find a news story about some event that could have an impact on dairy farmers in your region. Display them after discussing the stories in class.

Activity 2 Farming for the Future

Part 1. Discuss the concept of environmental *sustainability*, then have students match each sustainable dairy farming practice with its counterpart in the home and come up with additional examples. (For background on methane digesters, see youtube.com/watch?v=J0utt6H6ZyE.) **Answers:** 1-D; 2-E; 3-A; 4-B; 5-C.

Part 2. Download the *Green Classroom Checklist* at www.greenschools.net/downloads/Green%20Classroom%20Checklist.doc. Have students discuss the checklist and then work in small groups to implement some of its recommendations.

Part 3. Have students work with a parent to create a Green Family checklist for their home. Ask students to bring their checklists to class, so they can exchange ideas for making sustainability an everyday family concern. Then have students visit www.milkmeansmore.org/category/sustainability/ and work in groups to create raps, videos, or posters about how dairy farmers practice sustainability. Invite students to share their creations with parents.

Activity 3 Dairy Power!

Have students take this activity sheet home, and plan a day for them to bring in their lunch for their **MyPlate** show-and-tell. Use their reports about the veggies they and their parents chose for the Scramble recipe to graph the most popular choices.

Resources

- www.ymiclassroom.com/udim
- www.choosemyplate.gov
- To learn more about dairy farming in Michigan, visit www.milkmeansmore.org.

Agriculture in the Classroom

- Michigan Farm Bureau: www.michfb.com/mi/

Dairy Farmers Do It All

Reproducible Master

Part 1

Being a dairy farmer requires many skills. Read Farmer Steve's to-do list for today. Then match each of his tasks to the corresponding job title.



Farmer Steve's To-Do List

1. Mix feed for the cows.
2. Clean and sanitize the milking machines.
3. Update manure management plan.
4. Examine all animals.
5. Repair tractor.
6. Design and build an equipment shed.
7. Input the day's milk production in the farm management system.

Job Titles



Which task on the to-do list would you most like to help Farmer Steve complete? Why?

Part 2

With so much to do each day, dairy farmers have to plan ahead. And they have to be ready to change their plans when something unexpected happens. Read the headlines at right. Then share your ideas about how these events could affect the daily routine on a dairy farm.



Part 3

Ask a parent to help you find a news story online or in a newspaper about an event that could affect dairy farmers in your region. Bring the story to school to share with your class.



Fun Facts!

- ➔ Cows drink 40-50 gallons of water a day! How much water do you drink each day?
- ➔ Farmers use a huge mixer to create the right blend of feed for their cows. Do you ever mix your food?
- ➔ Dairy farmers use GPS (global positioning systems) to plant their crops in the fields. Have you ever used a GPS to find your way?



Part 1

Dairy farmers care for the communities where they live. They work to protect natural resources like water, soil, and air by practicing environmental **sustainability**. That means finding ways to restore natural resources and recycle waste, so the Earth's ecosystems remain healthy far into the future.

Read about some of the ways dairy farmers practice environmental sustainability. Then match each of these sustainable farming practices with a similar practice at home by writing the correct letter in the space.

Sustainability on the dairy farm:

1. Use recycled water for things like washing barn floors and irrigating fields.
2. Compost cow manure to keep the community's air and water clean.
3. Use recycled materials, like paper, to make bedding for cows.
4. Use new technologies, like methane digesters, to help save energy.
5. Grow grains and other crops to feed cows a well-balanced diet.



Sustainability at home:

- A. Collect plastic, glass, paper, and metal for recycling into new products.
- B. Turn off lights, computers, televisions, and other electrical appliances when not in use.
- C. Grow a vegetable garden at home, or eat food grown in your area.
- D. Take short showers instead of baths and turn off the faucet when brushing your teeth.
- E. Compost fruit and vegetable waste from meal preparation and leftovers.

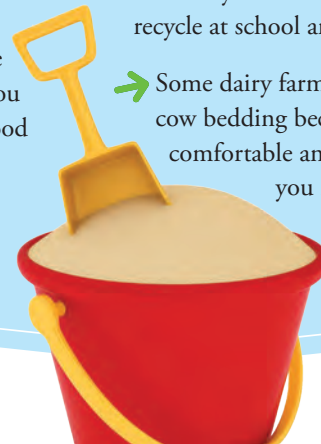


Part 2

Like dairy farmers, you can practice sustainability every day, even at school. Visit the **Green Schools Initiative** website at <http://greenschools.net> for ideas. Download the *Green Classroom Checklist* at www.greenschools.net/downloads/Green%20Classroom%20Checklist.doc and talk about how you can use the Three R's — reduce, reuse, and recycle — to help protect the environment.

Fun Facts!

- Many dairy farmers grow the food for their cows right on the farm. Do you grow any food at home?
- Dairy farmers can recycle the methane gas in cow manure to create electricity. What things can you recycle at school and at home?
- Some dairy farmers use sand for cow bedding because it is comfortable and clean. Can you remember the last time you laid on the sand?



Part 3

How does your family practice sustainability? Take this sheet home to share with a parent, and use the "at home" list above to create your own Green Family checklist. Show your family how dairy farmers in your region are working to protect the environment by visiting www.milkmeansmore.org/category/sustainability/.



Dairy Power!

Reproducible Master

For Kids

Help Plan Your School Lunch!

With a parent, plan a great-tasting school lunch that includes the five **MyPlate** food groups. Remember that combination foods can count for more than one food group. (For example, a slice of pizza combines dairy, grains, and vegetables.)



My School Lunch Menu

Dairy: _____
 Fruits: _____
 Grains: _____
 Vegetables: _____
 Protein: _____

Fun Facts!

- Dairy cows get healthy fiber because their extra stomach compartments help them digest things our bodies can't, like cotton seeds and hay! How healthy is your diet?
- Cows rest 12-14 hours each day. How many hours do you rest each day?




For Parents

Pack School Lunches with Dairy Power!

The school lunch program provides school children with great nutritionally balanced meals, but if you make your child's lunch, here are a few tips. Make it a power-packed day by including dairy products like low-fat cheese, yogurt, cottage cheese, and milk! Dairy products provide growing bodies with calcium*, an essential nutrient for strong bones that is especially important at this time in your child's development, when bone-mass production is at its peak. Remember that USDA **MyPlate** guidelines recommend 2.5 to 3 cups of milk or another dairy food every day for children 4-8 years old. Visit <https://www.choosemyplate.gov/dairy> for more information.



School Lunch Time-Savers

-  Pack lunch-sized portions of dinner leftovers, like macaroni and cheese, into small re-usable containers that can be quickly placed in lunchboxes the next morning.
-  Slice and dice different varieties of cheese and fresh vegetables like celery, cucumber, and broccoli over the weekend, then store them in the fridge for quick access.
-  Mix yogurt or cottage cheese into fresh fruits stored in small, reusable containers.

Fresh, Local, Nutritious Milk

Did you know that your child's school lunch program offers milk sourced from local dairy farmers? To find out more about the ways farmers are involved in your community, visit the United Dairy Industry of Michigan's website at www.milkmeansmore.org.

Dairy Power — Any Time, Any Day

Try this easy recipe with your child!

Choose two of your favorite vegetables from the list below and write them into this delicious dairy-powered recipe. Then have a parent choose a third vegetable to create your own family recipe to try at home.



Veggie and Cheese Scramble

Ingredients:

2 eggs
 1 tbsp. butter
 ¼ cup grated cheese (cheddar, mozzarella, pepper jack, etc.)
 Salt and pepper to taste
 Kid vegetable choice #1: _____
 Kid vegetable choice #2: _____
 Parent vegetable choice: _____

Directions:

1. Wash and cut veggies into small pieces. Set aside.
2. Crack eggs into a bowl and discard eggshells.
3. Beat eggs with a fork until smooth.
4. Stir in grated cheese and chopped vegetables.
5. Season with salt and pepper.
6. Place butter in frying pan and turn heat to medium high.
7. When butter has melted, pour egg mixture into frying pan, stirring constantly until cooked.
8. Serve with a glass of fresh milk and enjoy!

Veggie List

Bell Peppers	Cauliflower	Spinach
Broccoli	Kale	Swiss Chard
Carrots	Onion	Tomatoes

* Children with dairy allergies must use other food sources for calcium and Vitamin D, such as dark green leafy vegetables or calcium-fortified foods. Children who are lactose intolerant can have lactose-free dairy products.





On the MOO-ve!

Meet some real Michigan family farmers who keep dairy farming on the moo-ve with new technologies!

SwissLane Dairy Farms



The Oesch family has been committed to caring for their cows, community, and environment for over 100 years. On their modern Michigan dairy farm, several generations work together to care for their 2,000 milking cows.



The commitment to producing quality milk is the same today as when the farm started, but the farm has grown to welcome home additional family members and to embrace technology. Technology like neck transponders collect information about each cow, including how many steps she takes and how much she eats.



For more than a century, the Weiss family has cared for their land and animals. Today, two generations of the Weiss family work together to care for their 60 cows, continuing a tradition that began in 1853. While the look of the farm has changed over the years, their commitment to providing high-quality milk has never wavered.



Today's Technology

The family recently welcomed robotic milkers to their farm. This allows the cows to be milked when they want, and allows the family to continue focusing on caring for their animals every day. The robotic milkers keep track of how much milk each cow gives every day, and provides records the family can access when needed.



Dairy farming has been on the moo-ve since the first cows arrived with the early colonists at Jamestown. Check out this timeline to learn more about the growth and advances in dairy farming in America!

1600

1611

Cows come to America with the Jamestown colonists.



1700



1776

As the United States declares its independence, cows graze on the small family farms that dot the countryside.

1800

1856

Louis Pasteur begins scientific experiments leading to the pasteurization process.



1850

Almost every American household has its own cow to supply the family with milk.

1862

President Abraham Lincoln establishes the U.S. Department of Agriculture.



1884
First glass milk bottles used.

Late 1800s

Farmers begin breeding cows specifically for milk production – dairy cows.

1914

First milk tanker trucks used to transport milk.



1900

Pasteurization used in all dairy farming.



1879

First automatic milking machine invented.

Thomas Edison invents the incandescent light bulb.

1890s

Milk homogenizer invented.



1945

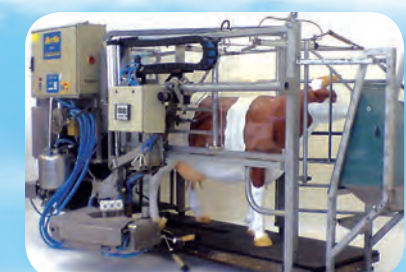
The first year that the use of tractors exceeds the use of horses on farms.

1972

First successful use of a methane digester in American farming, on a hog farm in Iowa.

1997

Robotic milking machines invented.



2000



1994

Farmers begin using satellite technology to track and plan farming practices.

1946

National School Lunch Act signed, designating milk as part of the school lunch menu.



2016

Of the more than 43,000 working dairy farms in the U.S., 97% are family-owned, and all help provide you with fresh, wholesome dairy products all year long!



MI-made milk is local and in stores within 48 hours. Look for the state code 26.

