

Talk Farmer:
Resources for Educating Youth about the Dairy Industry

By
Rebecca Murkley

A Master's Paper
Submitted in Partial Fulfillment of
the Requirements for the Degree of
Master of Science in Agricultural Education

Adviser's Name

Date

University of Wisconsin-River Falls

2013

Abstract

Talk Farmer is a collection of print and multimedia resources to be used to educate youth ages five to fifteen about the dairy industry. The tools developed are available online at www.site.google.com/talkfarmerwi and include the following resources: a print guide and video discussing how to work with youth; a print guide and video about how to give a farm tour; a pair of interactive maps containing dairy data; agriculture lesson plans; and a list of additional agricultural education resources. *Talk Farmer's* objectives are to:

- 1- Teach dairy producers how to engage in conversations with youth so that they can clearly and concisely educate others about their farms' and the dairy industries' goals and practices;
- 2- Teach those not active in the dairy industry (both those active in a different agriculture field and those without an agriculture background) how to clearly and concisely educate others about industries' goals and practices.

Talk Farmer's resources aim to make people confident and comfortable educating others about dairy. After using the tools, users will apply their new knowledge to various educational situations such as when giving farm tours, school presentations, public demonstrations, etc. Those that have previewed the project's resources complemented the tool's flexibility to meet the needs of various learning groups. In addition, they commented on the website and educational tools ease of use. *Talk Farmer's* resources will be marketed to the public beginning October 2013. After the tools have been used for six months, conclusions can be made about the resources' effectiveness.

Acknowledgements

This project would not have been possible without assistance from the following individuals:

- Sarah Englebert, Brown County Dairy Promotions, who shared her knowledge and expertise about the dairy industry to help develop this project.
- Timothy Buttles, my University of Wisconsin-River Falls graduate school adviser, who lent his professional support and knowledge during my graduate school experience.
- Shane Williams who supported me in this endeavor, volunteering his time and farm to help film the videos included in this project.

Table of Contents:

Introduction.....	1
Background Information.....	4
Methods.....	6
Results.....	10
Conclusion	11
References.....	14
Appendix A – Talking With Kids Guide	15
Appendix B – Giving A Farm Tour Guide	22
Appendix C – Lesson Plans	36
Appendix D – Website Screenshots.....	68

Talk Farmer:

Resources for Educating Youth about the Dairy Industry

Wisconsin agriculture contributed \$59.2 billion to the state's economy in 2011. Of that total, the dairy industry contributed \$26.5 billion, which makes it “the largest segment of Wisconsin agriculture” (Wisconsin Milk Marketing Board, 2012, p. 8). Wisconsin cows produce 13.3% of the United States’ milk supply, and Wisconsin is the number one cheese producing state – a title it has held since 1910. In 2011, Wisconsin accounted for 24.9% of the United States total cheese production (Wisconsin Milk Marketing Board).

These statistics point to the profound impact dairy has on Wisconsin's economy, communities and culture. It is important for both producers and the public to share Wisconsin’s farm story; *Talk Farmer* aims to help them do just this. This project is a collection of resources that producers and those not active in the dairy industry can use to educate children about Wisconsin dairy.

However, it can be challenging to teach youth about agriculture when one does not regularly work with children or does not possess an agriculture background. In addition, the dairy industry is not static, which can make it perplexing to accurately answer questions about the field. Farmers often start using new technology and methods, and the techniques used can differ a great deal between farms. This can cause people to be hesitant when engaging in conversation with others about the dairy industry because they are unsure if they are speaking accurately.

In addition, knowing how to converse with a specific age group using age-appropriate language and learner tasks contributes to the challenge of educating others about the dairy industry. Speaking from personal experience, I have witnessed the importance of teaching youth

about agriculture. I taught second grade in a Wisconsin public school for three years. During that time, I routinely conversed with students about their food and its' origins. When asked, "Where does your food come from," more than once I received the response, "My food comes from the grocery store." Next, I would probe a little more, asking the child where the grocery store got the food. The response to this was often, "Off the truck from another store." My students did not confidently know where their food came from. This motivated me to teach them about the industry that has such a large impact on their daily lives – agriculture.

I designed and implemented a variety of activities to introduce them to agriculture's many facets, including growing pumpkin plants, starting an agriculture club, and visiting a dairy farm. Even though they drove past farms, many of my students had not been to a farm nor seen a cow. In October 2011, I scheduled a dairy farm tour for my class. Their excitement for the event was evident from the smiles on their faces.

After getting off the bus, some of the smiles turned into looks of disgust. Their noses had discovered a "terrible smell," which led to the students' first question: "What is that smell?" The farm owner was standing near, so I expected him to answer the question, but he looked immediately back at me. His eyes pleaded for me to give the answer because he was unsure how to respond. The farmer knew what the smell was, but he was not confident in how to state it in a way the student would understand.

Therefore, I answer the question honestly: "Well, cows do not have bathrooms. So, that smell is their manure or waste, like poop and stuff. Farmers spread that on their fields to help their plants grow. If you don't think about the smell, you won't notice it." Much to the farmer's relief, the students found that answer perfectly acceptable. However, that relief did not last long. The students kept asking questions, and the farmer was uncertain how to answer using age-

appropriate language. The farmer *did* know many details about his farm and the dairy industry, but he found it challenging to accurately tell what he wanted to say to the students.

This farmer is not alone. Many people, whether they are active in the industry or not, find it difficult to accurately describe the current agriculture industry. However, it is important to still educate others about farming as it is directly related to our food supply. Eating itself is an agricultural act. Questions will arise about the industry, which is why people must be educated in how to answer these questions so that they can accurately depict their farm's and the industry's practices. The answers to these questions also have to be constructed and delivered using language that is understandable to the listener (i.e. using words youth are familiar with, defining terms accurately, speaking concisely, etc.). Currently, there are several resources from the Wisconsin Milk Marketing Board and other organizations available for dairy farmers to learn more about telling their dairy story, but many of these resources are either intended for an older audience or they do not give specific examples on how to engage younger learners while teaching them about dairy. This project, titled *Talk Farmer: Resources for Educating Youth about the Dairy Industry*, aims to fill that gap.

Talk Farmer focuses on the dairy industry, which from this point forward will be referred to as dairy. The tools included in this project are intended to help educate youth ages five to fifteen about current dairy practices. The tools are printable documents, online interactives, and short videos. It was important to have short videos as one of the project's goals is to not simply give others ideas on how to educate youth about dairy, but *show* them as well. For example, this project contains both a printable guide and a four minute video about how to effectively give a farm tour.

Another project goal is to provide educational dairy resources to people with a variety of backgrounds and dairy experiences. This includes people active in dairy, those active in the agricultural industry but not dairy, and people without an agriculture background. The overarching goal of this project is to help people clearly, concisely, and accurately convey dairy's best practices to youth so that children and adolescents learn about the dairy industry.

Background Information

The Center for Food Integrity (C.F.I.) was established in 2007 to help “build consumer trust and confidence in today's food system” (Center for Food Integrity, 2012, p. 3). After conducting a study in partnership with Iowa State University, C.F.I. (2012) discovered “confidence is three to five times more important than competence in building consumer trust” (p. 3). Just like other businesses, agriculture is an industry composed of consumers and producers. According to C.F.I.'s study, the consumers want to know that the producer is confident in their product, and that this confidence outranks competence producing a product. This applies directly to agriculture. Consumers want to know that farmers are confident in the methods and tools they use to produce people's food. Therefore, tools must be provided to the farmer so that they can confidently educate consumers about technology and methods being used on their farms or in dairy so that the consumer continues to support the producer. *Talk Farmer* does just this.

C.F.I. (2012) goes on to describe how consumers trust farmers. This is in large part because the consumers believe that farmers share the same values that they possess (p. 4). However, consumers “aren't sure today's agriculture still qualifies as farming” (p. 4) due to technological advances in farming, changes in farm size and structure, and generational and geographical distances between farmers and consumers. Like many industries, agriculture has

changed a great deal over the years. When describing a dairy farm, many people often still envision cows mingling in a red barn that is surrounded by green pastures. This is not an accurate portrayal of every farm today. New technologies including freestall barns, automated milkers, rotary milking parlors, large machinery, etc. are foreign ideas to some consumers. Not being well informed about current dairy practices can lead to fear and uncertainty among consumers, leading to a break in understanding between producers and consumers.

Both dairy producers and consumers want to minimize this gap. Producers aim to teach the consumers where their food comes from so that they continue to support the industry. The United States Department of Agriculture (U.S.D.A.) (2012) conducted a study in 2011 that found “over 85% of customers polled by the National Grocers Association said that they chose a grocery store based in part on whether it stocked food from regional producers” (p. 5). Buying local means more opportunity for consumers to know where their food comes from. Dairy is a \$26.5 billion dollar industry in Wisconsin (Wisconsin Milk Marketing Board, 2012). To keep it going strong and to increase consumers' support, education about the industry must occur.

In order to educate consumers, producers first need resources to learn how to accurately and appropriately (using correct language and teaching strategies) tell the public about dairy. Dairy Checkoff Works and the Wisconsin Milk Marketing Board are two organizations that provide producers with educational resources. Dairy Checkoff Works has a variety of materials that inform farmers how to connect with their community and consumers. The group has a variety of programs such as *myStory*. Programs such as this hope to build trust and make an impact with storytelling (Dairy Checkoff Works, 2012, para. 3). Similarly, Wisconsin Milk Marketing Board's program called *Speak Up for Dairy* gives producers materials to help them tell key dairy messages and dairy nutrition facts. Recently, Wisconsin Milk Marketing Board

also developed a farm tour booklet that addresses why one ought to give a farm tour and how to prepare for it (Wisconsin Milk Marketing Board, 2012). For some, however, these resources are not enough. Both of these organizations' tools help producers begin to talk about their business' practices, but they simply *tell* them how to educate others about agriculture – not *show* them. In addition, with the exception of Wisconsin Milk Marketing Board's farm tour booklet, many of these resources' target the adult consumer.

Through personal experiences taking students on farm tours and conversing with local dairy producers, there is a need for more resources directly *showing* producers how to educate consumers ages five to fifteen. Those that want to teach youth about agriculture struggle to find appropriate resources that enables them to do so. *Talk Farmer* addresses these very issues. It helps those telling the dairy story become more confident in talking about current dairy methods and technologies. The U.S.D.A. (2012) reported that over 2,000 schools in the United States have “developed farm to school initiatives to source from local farmers, ranchers, and food business” (p. 5). Educators see the need to teach youth where their food comes from and the value of buying local to support local economies. Those active in agriculture want to do the same so that the consumer (youth in this situation) is confident in dairy's product and continues to support it. Through education, dairy can remain the cornerstone industry in Wisconsin's economy and communities.

Methods

Talk Farmer was completed in partnership with Sarah Englebert of the Brown County Dairy Promotions organization. Prior to developing any materials, Englebert and I conversed about the current dairy and agricultural education needs. I also conducted research to discover what tools were already available either online or from various education and dairy

organizations. After our preliminary search, Englebert and I discovered there were lessons and resources available for trained educators to teach youth at the high school level about agriculture. We also found materials producers could use when giving farm tours. All of these tools were print in nature. We then reflected on what producers and those wanting to teach about dairy hoped to have so that they too could teach about the industry. We concluded that with guidance from Englebert, I would develop the following tools:

- a print guide and video teaching those that do not regularly work with youth how to converse with children,
- a print guide and video about how to prepare and give a farm tour,
- an interactive map that contains dairy data and can be used as a learning tool during presentations,
- a collection of general agriculture lesson plans aligned to the Wisconsin Model Academic Standards that are also split into two age categories – Kindergarten to second grade and third to sixth grade,
- a list of additional agricultural education tools.

These resources would complement the materials Englebert is developing for her project, Young Dairy Leaders. This organization's goal is to teach producers how to educate adults about dairy.

My first task for *Talk Farmer* was writing the lesson plans. Englebert and I concluded that I would write three lesson plans focusing on the topics of sustainability; changes in farm technology; and farm by-products. To increase flexibility with the lessons, the tools are written so that they can be used in various educational settings including schools, libraries, and farms. They were also written at two different levels to meet different learners' educational needs and abilities. The first level is for youth ages kindergarten to second grade; the second level is for

youth ages third to sixth grade. At the time of this publication, the State of Wisconsin was in the process of implementing new academic standards, but these standards were not yet published. Therefore, the lesson plans were aligned to the Wisconsin Model Academic Standards that were written in 1998. These were the standards the Wisconsin Department of Public Instruction directed educators to use. After the lesson plans were written, they were uploaded to *Talk Farmer* website.

Next I consulted a variety of online resources and created a list of different credible educational tools that focused on sustainability, dairy, and farm tours – topics addressed in *Talk Farmer*. This list was then put on the project’s website so that users can consult them for further research and educational project ideas.

After the lesson plans were complete, I began creating a guide that producers could use to develop skills they could use when talking with children, such as using appropriate language and engaging activities. To begin, I first contacted several dairy producers and recorded what questions and topics they struggled to address when talking with youth. I also noted their personal reasons on why they were hesitant to work with children. Some of their responses included: they were unsure of how to converse with youth in a manner that they would understand and they did not know what vocabulary to use during their discussions. Dairy topics and questions were also tabulated using a digital Google survey that sixteen people responded to.

The farmers and survey respondents’ questions and comments were then combined to create the “Talking with Kids” document. I used my previous experience teaching second grade and knowledge of the dairy industry to answer the questions posed by the survey respondents and producers. Englebert once again reviewed and approved this resource.

After the “Talking with Kids” guide was complete, I wrote a script for a five to ten minute video that modeled for producers how to meaningfully and purposefully converse with students. I then contacted Shane Williams, a local dairy producer, and received his permission to film the videos on his dairy farm. Williams also volunteered to be featured in the film. I then went to his farm and took footage for the “Talking with Kids” video. Afterwards, I used iMovie to create a ten minute film. While I edited the video, I regularly showed the video to Englebert and dairy producers so that I could get their feedback about what to keep in and remove from the video. Finally, I uploaded the “Talking with Kids” printable guide and video to the *Talk Farmer* website so it can be shared with the public in fall 2013.

Next, Englebert and I reflected on our personal experiences assisting with farm tours and the suggestions we received from experienced farmers about how to give a successful farm tour. I then developed a printable guide producers can use in preparation for and while giving a farm tour. Included in the tool is a timeline with detailed descriptions on what to do to prepare for a farm tour, as well as samples of the following: farm tour checklist, tour informational letter, and station talking point signs. After the guide was complete, I wrote a video script for a three to five minute video I filmed once again with Williams’ assistance, and I created the “Giving a Farm Tour” video using iMovie. Afterwards, Englebert and dairy producers reviewed the video, and I uploaded the farm tour printable guide and video to the *Talk Farmer* website.

On the *Talk Farmer* website, two interactive maps were also created and made available for educators to use when giving agriculture presentations. I used the data published in the 2010 Wisconsin Agricultural Statistics from the United States Department of Agriculture National Agricultural Statistics Service, the most recent data available at this time. I tabulated the data regarding the number of dairy cattle, dairy herds, and pounds of milk produced per county in

Wisconsin. Next, I electronically inputted the data into Esri software, an online mapping tool. I then added a United States (U.S.) population density layer created from the 2012 U.S. Census Department. Two online maps were then developed along with guiding questions an instructor (producer, teacher, librarian, etc.) can use to help facilitate discussion while using the maps. One map allows the user to see all the data on a single map, adding and removing layers so that the viewer can compare the data. The other map is designed to contain three side-by-side maps so that the viewer can analyze the data at once, but have each data set on separate maps. As is with all other materials, these maps are available on the *Talk Farmer* website.

Finally, Englebert and I developed a marketing strategy to promote the *Talk Farmer* resources. These materials were designed to complement the materials Englebert is creating to educate producers about becoming dairy advocates in her project called Youth Dairy Leaders. This project will debut in October 2013, at which time print fliers will be mailed to Brown County dairy farmers to make them aware of the tools. I will then create a *Facebook* page promoting the materials as well. In the future, we will also send mailings to Brown County and area schools and agriculture groups, informing them of the tools. Englebert and I plan to lead several workshops through Brown County Dairy Promotions for producers and educators to teach them how to use the *Talk Farmer* and Youth Dairy Leaders' resources.

Results

The resources developed for *Talk Farmer* and that are available on the project's website are as follows:

- a printable guide and a 10 minute video both titled "Talking with Kids," which help educators (producers and non-producers) answer children's questions about agriculture using age-appropriate vocabulary and engaging presentation methods (Appendix A),

- a printable guide and four minute video titled “Giving a Farm Tour” that instructs producers how to set-up and give a farm tour (Appendix B),
- two interactive maps featuring Wisconsin dairy data, each with accompanying guiding questions instructors can use while using the tools,
- three lesson plan sets that contain two leveled lessons (kindergarten to second grade and third to sixth grade), which are aligned to the Wisconsin Model Academic Standards (Appendix C),
- a collection of various online resources one can use for further research and lesson plan ideas.

These tools are available online at www.sites.google.com/site/talkfarmerwi. In October 2013, Englebert and I will mail a postcard to the Brown County dairy producers encouraging them to use the resources. In addition, a future workshop is planned at the Brown County extension office for producers to learn how to use the materials. The dates have yet to be determined.

Conclusions

Both Englebert and I are satisfied with the resources developed for *Talk Farmer*. They are a well-rounded set of tools that both dairy producers and those not active in dairy can use to educate others about the profound impact dairy has on local communities, culture, and economies. We anticipate the videos and lesson plans to be the most well received out of all the tools developed. The videos are unique resources as they show the producer how to talk with youth about agriculture and how to give a farm tour – a new tool that we know from our research producers wanted but did not have. We also believe the lesson plans will be readily used as they provide guidance to both educators and non-educators about agricultural education. The lesson

plans are aligned to the Wisconsin Model Academic standards, a key point that many teachers were seeking as they are required to report which lesson standards they are meeting while teaching lessons.

While completing this project, I learned that producers and non-producers are interested in teaching about agriculture, but struggle to find the resources to do so. Time is also a factor as producers sometimes do not want to give farm tours simply because their days are already filled with a plethora of tasks. To prepare and give a farm tour would only add to their chore list. Many producers are also hesitant to invite others on their farm because they do not know how accepting others will be of their practices, and they are not sure how to respond to questions the visitors will have. This is especially true when educating youth. Farmers expressed an interest in wanting to educate children about their operations, but they were not sure what vocabulary to use or how to give a meaningful presentation so that the youth stay engaged. After using the *Talk Farmer* materials, I hope to interview producers to discover the impact of the resources.

Similar to producers, those wanting to teach about agriculture (teachers, librarians, etc.) struggled to find resources to use so that they too could give a meaningful presentation to children. Some of these people were trained professionals and they knew how to engage youth, but they struggled to find time to develop agriculture lessons as well as know which agriculture topics to teach. Farming practices vary a great deal, which makes it challenging for some to decode which method they ought to teach about. *Talk Farmer's* lesson plans and interactive maps are a beginning point that will help educators start teaching agricultural education.

Now that this project is complete, I have discovered that there are many agricultural education resources available, but that some people are not aware of their existence. Therefore, I want to inform others about the *Talk Farmer* and other education resources I found, helping

encourage others to teach about agriculture. I will begin doing this in the fall 2013 when I host conference workshops for producers and non-producers about how to use the *Talk Farmer* materials. I also will continue to write lesson plans and create new videos and other resources for *Talk Farmer* to keep the momentum for agricultural education going. Reflecting on the existing tools, I would still like to improve the videos' sound quality and technical details. Several editing issues arose because the video camera did not function as anticipated. Therefore, a new camera and possibly microphones and video editing software will need to be acquired before any new videos are created.

Agriculture is not only important in Wisconsin, it is important to our world. It is the act of making food, and people need food to survive. Learning where one's food comes from is crucial. Only then will people support and be able to understand agriculture's profound impact on our communities, cultures, and economies.

References

Center for Food Integrity (2012). *2012 Consumer trust in the food system*. Retrieved from:

<http://www.foodintegrity.org/research>

Dairy Checkoff Works. (2012). *Resources*. Retrieved from

<http://www.dairycheckoff.com/ProducerResources/Pages/ProducerResources.aspx>

United States Department of Agriculture (2012). *Know your farmer know your food: Compass*.

USDA: Author.

United States Department of Agriculture National Agricultural Statistics Service, Wisconsin

Department of Agriculture, Trade and Consumer Protection. (2010). *2010 Wisconsin*

agricultural statistics. Retrieved from website: http://www.nass.usda.gov/Statistics_by_State/

Wisconsin/Publications/Annual_Statistical_Bulletin/AnnBull_2010_final_web.pdf.

Wisconsin Milk Marketing Board (2012). *Wisconsin dairy data*. Retrieved from

<http://media.eatwisconsincheese.com/assets/images/pdf/WisconsinDairyData.pdf>

Talk Farmer

Kids are unpredictable. Therefore, is very challenging for one to guess what they are going to say or do during a farm tour or agriculture presentation. To help you better prepare for those unpredictable questions, here are a few tips and sample questions with answers you can use.

Talking Tips:

- 1 - Use short, concise sentences.
- 2 – Know your audience – use words that they know and correct vocabulary
- 3 - Most importantly - **BE NATURAL!**

Have fun talking with the kids and they'll have a BLAST listening to you!
Farmers work with 1500 pound cows every day; no need to be nervous talking to a 60 pound kid! ☺

Questions with Answers:

1. Does it hurt the cow when you milk her?

It doesn't hurt the cow. Actually, if you don't milk her, her udder starts to get sore because it is so full of milk and is very heavy. When you put a milker on a cow's udder, it is like a little kid sucking on their thumb. The milker feels like a vacuum on the cow's teat and 'sucks' the milk out of the cow. It feels like a massage to a cow's udder, which feels good to her.

2. What is that big thing between their legs?

That is her udder, and it is where a cow makes and stores her milk. Only girl or female cows have them. Boys do not because females are the only ones that make milk.

3. What happens to cows when they die?

Remember - cattle are part of the farmer's business. Different types of cattle have different jobs. Beef cattle are raised so they can give us meat to eat. Dairy cattle are raised so they can give us milk to drink and meat to eat. After cattle are old enough or a cow is done making milk, they go to a place called a butcher. The butcher kills the cow, but we don't bury her. We use her body for meat to keep us healthy. It seems sad, but without cows, we wouldn't have hamburger, steak, and so on.

4. What do cows eat?

Cows eat a lot because their job is to make milk. An adult cow that is making milk eats between 75 and 100 pounds of feed per day. They eat mostly hay (dry grasses and alfalfa), corn, and soybeans.

5. How many kinds of cows are there?

There are many different type of cows, but remember - cows are only the girls that have had a baby or calf. Girls that haven't had a calf are called heifers, and boys are called bulls or steers. Steers are like neutered dogs, so they have had a surgery or procedure done so they can't have babies. A better word to use is "cattle" instead of cows. There are also two main types of cattle - dairy cattle and beef cattle. Dairy cattle make milk and are used for meat. There are almost 200 breeds of dairy cattle and almost 300 breeds of beef cattle.

6. How do cows produce milk?

Cow's bodies turn the nutrients or healthy stuff in their food into milk. They eat the food, and like you, the food is digested or broken down in their stomach. The food then goes into the small intestine which is like a big tube. Inside this tube, the

nutrients get taken into the cow's body, and it travels to the udder in a blood vessel. Once the nutrients are in the udder, they get changed into milk.

7. How come cows don't stay with their moms?

People drink cow's milk. Young cattle, or calves, do not stay with their mom's because when a calf sucks on the cow, we don't get as much milk from the cow and there is a chance that the calf might give the mother an infection, which could go into the milk that you drink. So the farmer takes the calf away from its mother to keep you safe and so they get enough milk for people to drink.

8. How do you know which cows you've milked already and which ones haven't been milked?

You can tell which cows have been milked and which ones haven't by the size of the cow's udder. As a cow gets milked, her udder gets smaller and smaller because you are taking the milk out. It is like letting the air out of a balloon.

9. Do the cows ever get a day off? How much milk does a cow give?

A farmer could milk a cow every day all year long, but they like to give the cow a break. Cows are milked nine to ten months out of the year. That means there are two or three months that the cow isn't being milked. When she isn't being milked, she is called a dry cow.

10. Why do they look like their chewing gum all the time?

Cows aren't actually chewing gum; they are chewing their cud. People have one stomach with one compartment. Cows have one stomach, but their stomach has four compartments. When cows eat, they chew the food a little bit and swallow it pretty much whole. Their body cannot get the nutrients from the food when it is whole, though, so they regurgitate or send the food to their mouth and chew it again. When they swallow their food a second time, the food goes to a new stomach compartment. The food travels through each of the four stomach compartments so that it gets completely broken down so the cow can use the food's nutrients.

11. Why do some cows have earrings? (numbered tags)

Those aren't actual earrings. They are called ear tags. Each tag has a number on it, and the farmer uses the numbers to help them know which cow is which.

12. What is that smell?

What you probably smell is manure. Yes, I know it is kind of "smelly," but do cows use bathrooms? No. They go to the bathroom on the floor, which is why the farmer needs to clean their homes or barns often. Even though the manure smells, it is very useful. Farmer's put it on their fields to help the plants, or crops, grow. Some people even change manure into fuel that makes cars work.

13. The cow has dirt on her. Does that get into my milk?

No. The dirt does not get into your milk. Farmers are very careful about cleaning their cows' udders before they milk them so that they do not get dirt or germs into the milk. A process called pasteurization also takes some of the bacteria out of the milk. Pasteurization is when milk is heated up really fast and then cooled. This process kills a lot of germs that are in milk.

14. Which cows make chocolate milk?

It does not matter what color the cow's hair is, they all make the same color milk, which is white. Chocolate and strawberry milk are made when people add flavoring and colors to milk.

15. How is cheese made?

It takes about ten pounds of milk to make one pound of cheese. Cheese makers first pasteurize, or heat up, the milk to kill any germs that might be in it. Next, an enzyme called rennet is added, which makes the milk thick like pudding. The milk then is separated into a liquid part and a solid part. The liquid part is called whey, and it isn't used in cheese. The solid part is called milk solids. Cheese makers add salt and other ingredients to the milk solids and then press them in a machine for three to 12 hours, making cheese! Some cheeses are cured, which means the cheese stays in a special

room with a certain temperature until it is ready to eat. Some cheeses are cured for one year. Some cheeses are cured for 10 years!

16. Which cows make ice cream?

Any cow's milk can be used to make ice cream. Ice cream is made by mixing milk, sugar, and other ingredients together, then heating it up, or pasteurizing it, to get rid of the germs. Next, ingredients are frozen, being sure to be mixed at the same time so that air bubbles get trapped in the ice cream, making it smooth to eat!

17. Which breed of cow gives the best tasting milk?

All milk tastes the same no matter which cow it is from. Not all of the milk is the same though. Some milk has more fat in it. When you buy milk from the store, the "percent" of the milk tells how much fat is in it. Like 2% of 2% milk is fat. So 2% milk has more fat in it than 1% milk. Some cattle breeds have more milk fat than other cows. For example, Jersey cattle's milk has more fat in it than Holstein cattle's milk.

18. Is chocolate or white milk better for me?

It is up to you to decide which milk is better for you. Both chocolate and white milk have just about the same nutrients in them like calcium and vitamins. Chocolate milk usually has more sugar and flavorings in it when compared to white milk.

19. Is it okay to drink unprocessed milk?

Unprocessed milk means it has not been pasteurized or heated up so the germs get taken out. Another name for unprocessed milk is raw milk. The US government recommends people don't drink raw milk because there still might be germs in it that could make you sick. It is up to you if you want to drink it or not.

20. How much dairy should I eat?

Kids ages four to eight should get about 2.5 servings of dairy per day. Kids ages nine to thirteen should eat about 3 serving. You can eat or drink a variety of dairy things to get the right amount of servings including an 8 oz. glass of milk, 8 oz. of yogurt, $\frac{1}{2}$ cup of pudding, or $\frac{1}{3}$ cup of shredded cheese.

21. Where does the store get the milk?

Farmers first milk their cows and put the milk in a big tank called a bulk tank. The milk is then tested to make sure it is safe for people to drink. A truck comes and hauls the milk to a factory, where the milk is heated up (pasteurized) and homogenized. Homogenized means to break up the milk solids so that the milk stays liquid. Then the factory workers put the milk into containers and send it to the store.

22. What do you do with all the milk?

Milk can be made into a lot of different things. Some milk is kept as a liquid and drank, and some of it is turned into other dairy products like butter, cheese, yogurt, and ice cream!

23. Where does the milk at my school come from?

You should look on the milk carton at your school. The city's name of where the milk was put into the carton is probably on there. Some of the places around this farm where the milk is sent are _____ and _____. (*Insert processing plants name into the blanks.*)

24. Why do we have farms?

The most important job of most farms is to make food for animals and people to eat. Without farms, there wouldn't be as much food in grocery stores, and people would have to grow or collect all of their own food.

25. Who works on a farm?

Farms can have a few or many workers. There are usually one or more farm owners that work on the farm, and the farm can have no employees because just the farmer's family works on the farm or it can have almost 50 or more workers. Each farm is different. Some farms have a herd manager who takes care of the cows; some don't. Some farms have their own veterinarian; some don't. In Wisconsin, most farms only have the farmer and his family working there and maybe one or two people that help milk the cows.

26. What types of farms are there?

There are many types of farms. Farms that have cows that make the milk we drink are called dairy farms. Farms that have cattle that are raised for their meat are called beef farms. Other types of farms include chicken farms, (or pig) farms, and crop farms. Crop farms are ones that do not have any animals and only raise crops like corn, soybeans, etc.

27. Why do I see ads on TV about California dairy cows being happier than Wisconsin cows?

Like Wisconsin, California is another big dairy state. California actually has more dairy cattle than Wisconsin. Cows aren't actually happier in Wisconsin or California. They are happy wherever they are comfortable and well taken care of. We see ads on TV about California cattle because the farms in California are trying to get people to buy dairy products made from their milk. This is called marketing.

28. How many cows are most common for a farm to have?

Each farm is different. Some farms have a lot of cows; some have only a few. The largest farm in Wisconsin is called Rosendale Dairy, and it has over 8,000 cows. Most Wisconsin farms have about 111 cows. (*According to the Wisconsin Milk Marketing Board*)

Talk Farmer

Farm Tour Guide

Why give a farm tour?

Between taking care of crops, animals, and family, farmers already have a lot on their plate. So, why add more to that plate by giving farm tours?

Because farms are the perfect place to teach others where the food on their dinner plate comes from.

Farmers are producers. The public is their consumer. Producers need to inform their consumers so that they can

1. Keep their consumers' business and support
2. Educate the consumer about the products they are being provided
3. Clarify any misconception the consumer may have about agriculture or farming.

Most importantly, farm tours help farmers tell *their farm story*. No two farms are identical; therefore, it is important to share with others what makes your farm unique and why it is special to you!

Show your farm pride – give a farm tour to share your farm story!

Included in this guide are tips about:

- Tour Check-List
- Planning and Preparation
- Giving the Farm Tour
- Reflection after the tour

Remember to also consult the “How to Talk to Kids” guide and the farm tour video for more helpful information!

Farm Tour Check-list

So you are going to give a farm tour. What do you need to get ready? Use the following as a check-list to help ensure you are ready to share your farm's story when your guests arrive!

Please consult the Farm Tour Guide for further details about each item listed.

One Month Before...

- Learn How Many People are Coming to Tour
- Exchange Contact Information with the Organizations Leader
- Get Volunteers to Help on the Day of the Tour

Two Weeks Before...

- ✓ Confirm Final Details
- ✓ Give an Information Sheet

Week of the Tour...

- ✓ Plan the Tour Schedule
- ✓ Choose Tour Stations
- ✓ Clean-up the Farm
- ✓ Get Garbage & Recycling Bins
- ✓ Get Cleaning Stations
- ✓ Find Restroom Facilities for your Guests
- ✓ Set-up Station Signs
- ✓ Final Confirmation with organization's leader
- ✓ Practice your Farm Tour

Day of the Tour

- ✓ Volunteer Check
- ✓ Final Walk-through
- ✓ Guest's Arrival and Welcome
- ✓ Give the Tour

After the Tour

- ✓ Thank Yous
- ✓ Relax!

Planning and Preparation

A month before the tour...

1. Learn How Many People are Coming

This may seem like a no-brainer, but it is important to first learn how many people will be going on the tour. This includes children, adults, chaperones, teachers, etc. You also want to know when they will be arriving and departing so you can plan your farm tour schedule accordingly.

2. Exchange Contact Information

Rather than trying to coordinate with multiple people, find one person that is the primary contact for the visiting group. Get their e-mail, address, and phone number including a cell phone number so that you can easily contact them before, during, and after the farm tour! Make sure you give them your contact information as well!

3. Get Volunteers

Giving a farm tour isn't a one person activity. Seek out volunteers that are willing to help you guide your visitors. Don't forget to ask your friends, family, and fellow farmers! Not everyone has to know every detail about your farm. You will need people to help walk groups from station to station, lead the conversation at each station, assist with any food given, etc. There are plenty of jobs for everyone! It is better to have too many volunteers than not enough.

Two weeks before the tour...

1. Confirm Final Details

Contact the organization that will be visiting the farm and confirm the final number of people that will be going on the tour, as well as arrival/departure times and contact information. Also, ask the group leader to divide the visitors into small groups of no more than 10 people (this includes adults). Smaller groups allows for more conversation and a more personal farm tour! It is also a good idea to ask the group leader what *their* schedule is for the day so you know if you need to provide space for lunch or any other activities that the group is planning on doing. If you are going to give a special treat or snack such as cheese or ice cream, be sure to tell the group's leader this information as well.

2. Give an Information Sheet

Your farm's visitors are bound to be curious about the exciting place they are about to visit. Give your group's leader a copy of an information sheet with details about your farm. Some things you can include:

- 1 – Introduction about yourself
- 2 – Facts about your farm
- 3 – Basic rules for the farm tour
- 4 – Information about what to wear on the farm tour
- 5 – Description of what the visitors will see

See the next page for a basic farm tour information sheet.



Brookside Farm Tour

Hello!

I am so excited for you to join me on Tuesday, October 15, 2013 for a farm tour! I have lived my entire life at Brookside Farm, which has been in my family for six generations. I cannot wait to show you some of the amazing sights on the farm!

Brookside Farm is located about five miles north of Manitowoc, Wisconsin. We farm about 400 acres and milk 92 cows twice a day. Our milk is processed at Everhart Dairy, where some of it is put into milk cartons and sold to area schools. The rest of our milk is processed into cheese.

While here, you will get the opportunity to -

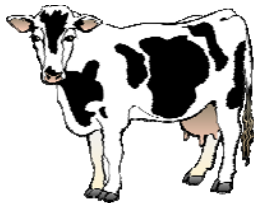
1. Tour the inside of the free stall barn, the place the cows relax during most of the day
2. Check out the calf pens, and I'm sure there will be a few for you to pet!
3. Visit the corn and soybean fields so you can see where we grow our cattle's feed.

Please remember to wear comfortable walking shoes that are closed toed. No open-toed or high heel shoes please! We want to make sure your feet are safe and comfortable! Also remember we will be outside! If it is cold out, make sure to wear warm coats, hats and mittens.

Safety is always first at Brookside Farms. Please remember to always walk while on the farm tour, use quiet talking voices so we don't scare the animals, and throw away any garbage you may have. We appreciate your help in keeping our farm a safe and beautiful place!

We look forward to seeing you in two weeks!

Sincerely,



Miss Becky

Week of Farm Tour

1. Plan Tour Schedule

Look at the total amount of time your guests will be on your farm and decide how many stations you want to have during the tour. It is recommended you have between three to six stations. As a rule of thumb, the younger the visitors, the fewer the stations because it is more challenging for children to stay focused for long periods of time.

Visitors should be at each station for approximately 15 to 20 minutes, including travel time. If your visitors are younger, remember that it takes little legs a bit longer to travel from station to station. It may take you only two minutes to walk to the next station, but it will probably take them five minutes. Sample station schedules are as follows:

Visitor's Age	Total Tour Time	Number of Stations	Time at Each Station
5 to 11 years old	60 minutes	3	20 minutes: 15 minute discussion 5 minutes transition time to next station
12 years and older	110 minutes	5	20 minutes <ul style="list-style-type: none">• 18 minute discussion• 2 minute transition

2. Choose Tour Stations

Once you know how many stations you are going to have, decide what your stations are going to be. Remember you want to give an overview of your entire farm to help tell your farm's story. Examples of places you could take your visitors:

- Farm Field
- Barn or Free Stall
- Milking Parlor
- Milk House
- Calf Barn
- Machine Shed: they can check out the tractors and the farm equipment
- Animal Petting Area: a place you set-up special for the tour that has livestock the visitors can pet
- Vocabulary Station: teach them vocabulary they may hear on the farm
- Treats: give your guests a farm treat such as ice cream or cheese
- Photo Gallery: show pictures of how your farm has changed over the years

3. Clean-up

You want your guests to be safe on your farm. Now that you know where your guests will be touring, visit each of the stations and travel the route that you want your visitors to take, clearing the areas of any dangerous equipment, debris, chemicals, etc. Be sure that the area is neat and tidy as well! You want to make a good impression and show-off your farm!

4. Garbage and Recycling

If your visitors will be eating at your farm or if you will be giving them a treat, make sure that you have garbage or recycling bins set-up for them to dispose their waste in!

5. Washing Stations

We want to model clean and safe farm practices. Therefore, set-up either a wash station with soap and water or have several bottles of sanitizer available so that visitors can clean their hands before and after the tour. Inform your guests that we clean our hands before touching any animals because we don't want to get our germs on the animals, and we wash our hands after touching the animals so we don't take any of the farm's germs with us off the farm.

6. Bathrooms

Someone inevitably will need to use the restroom at some point during their farm visit. Plan ahead. Decide if they are going to use the bathroom in your house or barn, or if you will need to get a portable toilet for your guests to use to for the day.

7. Station Signs

Time at each station will go quick, and it can be challenging to remember everything you want to talk about. At the end of this document, you will find sample signs containing talking points you can use. Post the signs at each of your stations to help keep your conversations flowing smoothly. Don't be afraid to make your own signs too with personal information about your farm! Remember: you are telling *your* dairy story!

8. Final Confirmation

Be sure to contact the visiting organization's leader so that you can share final details. You can share information about the stations you have planned, where the group can park when they arrive, etc. The group's leader can tell you any changes to the arrival/departure times and the number of number of visitors that will be at the farm.

Also remember to make contact with your volunteers to ensure they are still available to help. At this time, you can share what their job will be during the farm tour.

9. Practice, Practice, Practice!

Do not one, not two, but **THREE** walk-through practices of your tour, rehearsing what questions your visitors may ask and making sure the routes you have chosen are the safest and most efficient for the farm visitors. Also make sure you practice at least once with your volunteers the day of so that they are prepared for the farm tour as well!

Day of the tour...

1. Volunteer Check

Make sure your volunteers know what their job is and answer any questions they may have.

2. Final Walk-Through

Pretend you are a guest, and walk from station to station. Make sure the route is free of any dangers and the stations look neat and tidy.

3. Guests' Arrival

Greet the visitors as soon as they get to the farm. If they arrive on a bus, it is often easiest to go right on the bus while all the visitors are seated and welcome them. Explain the farm tour rules, introduce the volunteers, and ask for the group leader to divide the visitors into the predetermined groups. Next, tell the groups about the stations that they will see and the general station location, remembering to tell the groups that a volunteer will be with their group at all times. Also tell them the day's schedule and that the group members to stay with their group so that the day's events can stay on time.

4. Tour Time!

Send the groups off one by one to their first station and have fun! You have worked hard to plan the tour, and now it is your time to have fun sharing your farm's story!

After the farm tour...

1. Thank Yous

Contact the group's leader and thank them for visiting your farm. Encourage them to come again, and ask for any feedback about what you could improve for your next farm tour.

Also thank your volunteers. It is a kind gesture to give them a thank you note and possibly a meal, showing your gratitude for all their hard work.

2. Relax

You did it! You completed your farm tour! Now is time to relax and think about what you want to do for your next farm tour!

- This is a freestall barn.
- [*Number of cows*] cows live in here.
- It is called “Freestall” because cows are free to come into and leave the barn as they want.
- Dry, clean and comfortable for the cows.
- The cows lay on [*Type of bedding*].
- Food and water are always available for the cows.
- The cows eat [*type of food*], which comes from [*where the food came from*].
- Cows eat about 35 to 40 pounds of feed per day and drink between 30 and 50 gallons of water per day.

Questions or comments?

Talking Points for Farm Field

- This is a [*crop name*] field.
- We also grow [*other crop names*].
- We use our crops for [*what happens to the crops after they are harvested*].
- We usually plant in [*month*] and harvest the crop in [*month*].
- You also eat and use some of the crops we grow. Did you know:
 - Corn byproducts are found in car tires, batteries, bubble gum, and fuel
 - Soybean byproducts are found in vegetable oil, some lip balm and candles, and crayons
 - Oat byproducts are found in Aveeno brand lotions and oatmeal
- *Questions or comments?*

Talking Points for Milking Parlor

- This is a the milking parlor
- Cows are milked in here [*number of times*] per day.
- It takes [*number of minutes*] to milk a cow.
- The milker works by....[*describe how it works*].
- Once the milk leaves the cow, it is cleaned and stored in a bulk tank.
- A milk truck comes [*number of times*] per day to pick up the milk and takes it to [*name of company*] where it is turned into milk, cheese, yogurt, and other dairy products.
- *Ask your guests:* What are some other dairy products you know of?
- *Questions or comments?*

- These are calves.
- The calves in here are between [*age of calves*].
- We feed them [*describe their feed*].
- After the calves leave this barn, they go [*tell where they go*].
- None of the animals in here are cows. Cow is actually a word many people use incorrectly.
 - Cows are girls that have had calves.
 - Girls that haven't had a calf are called heifers.
 - Boys are called bulls.
 - If the boys aren't going to be used for breeding to make calves, they have a surgery like neutering. These boys are then called steers.
- *Questions or comments?*

- This shed is filled with equipment we use on our farm. It is important to not go up to the farm equipment because it has a lot of sharp edges and can be dangerous.
- Some of the tools we have in here are [*point to different equipment and describe what it is used for*].
- Farm equipment can be very expensive. Sometimes tractors cost between \$10,000 and \$100,000. Other things like the [*tell about other equipment costs*].
- When driving on the road, it is important to watch out for farm equipment that is driving down the road. It cannot go as fast as most vehicles. It is okay to pass the farm equipment on the road, but only when it is safe to do so.
- *Questions or comments?*

Appendix C

Topic: General Agriculture

Subject: Non-Food Agriculture By-Products

Grade: K-2

Time: 30 minutes

Objectives

Students will be able to identify by-products made from plants and animals found on Wisconsin Farms. They will also be able to classify which are and are not food byproducts.

Standards

Wisconsin Model Academic Standards: Agriculture

D.4.1 Understand that food and fiber originate from plants and animals (see SC F4.1, F.4.2; SS A.4.5, A.4.7, D.4.3, D.4.6)

- identify food and fiber products grown and/or produced locally and statewide
- identify the five basic food groups and give examples for each group from their diet

E.4.1 Identify various plants and animals and the ways humans benefit from them (see SC F.4.1, F.4.2, F.4.3, F.4.4)

Materials

Paper and pencil (for each pair of students)

Box filled with:

plastic tape (Scotch tape)
plastic bag
chewing gum
crayons
candle
cotton sock
perfume
paint
paint brush
leather belt
fruit juice
toothpaste
shampoo
(small) feather pillow

***If some of these resources are not available, that is okay. The goal is to simply have an assortment of the items listed above.*

Procedure

Activity 1 - (10 minutes)

First activate the students' prior knowledge. Ask them what lives on a farm. Answers may include cows, horses, hogs, chickens, etc. If they do not mention crops, remind them that corn, soybeans, oats, and other crops also live on farms as plants are living things too because they need air, water, and shelter.

Next, have the students form partner pairs, and work together to create a list of living things on a farm and then write "something that people get" from that living thing. (The definition and use of the term "by-product" will come later in the lesson) For example, milk comes from cows.

Have the students share their lists of living things and products with the class.

Introduce the term "by-product" to the class. Define it as "anything that is made from something else." Inform the students that the things that they share with the class are all by-products from farms.

Activity 2 - (15 minutes)

Using the prepared box filled with various materials (see *Materials* section for further details), tell the students you brought "farm in a box" to them. Ask them what they think "farm in a box" means. Some of their responses may include: Everything in the box is from the farm. Farm things are in the box.

Tell the students that everything you have in the box is a by-product of living things found on Wisconsin farms. Next, hold up each item one at a time. As you do, ask students to guess what animal or plant was used to make that item. The correct responses are as follows:

- plastic tape (Scotch tape) - Corn
- plastic bag - Corn
- chewing gum - corn
- crayons - soybeans
- candle - soybeans, cows, hogs
- cotton sock - soybeans
- perfume - cows
- paint - cows and hogs
- paint brush - cows and hogs

leather belt - cows
fruit juice - hogs
toothpaste - cows
shampoo - hogs
(small) feather pillow - duck

Ask the students what they notice about all the things in the box. They should notice that all of the things are non-food items. Tell the students that not everything we get from farms is food. Things such as gelatin from hogs are used to make fruit juices, and fats from cows are used to make toothpaste, candles, and perfumes.

Closing (5 minutes)

Have the students make a collaborative list on the front board or a piece of paper of the food and non-food byproducts from Wisconsin Farms. To do this, draw two columns. At the top of one column, write the word “Food” and at the top of the other write “Not Food.” Write the students responses in the appropriate column. This will serve as a non-formal assessment of the students understanding of byproducts that come from Wisconsin farms.

Topic: General Agriculture
Subject: Non-Food Agriculture By-Products
Grade: 3-6
Time: 30 minutes

Objective:

Students will be able to identify by-products made from plants and animals found on Wisconsin Farms. They will also be able to classify which are and are not food byproducts.

Standards

Wisconsin Model Academic Standards: Agriculture

D.4.1 Understand that food and fiber originate from plants and animals (see SC F4.1, F.4.2; SS A.4.5, A.4.7, D.4.3, D.4.6)

- identify food and fiber products grown and/or produced locally and statewide
- identify the five basic food groups and give examples for each group from their diet

E.4.1 Identify various plants and animals and the ways humans benefit from them (see SC F.4.1, F.4.2, F.4.3, F.4.4)

Materials

Paper and pencil (for each pair of students)

5 sticky notes (for each pair of students)

Box filled with:

plastic tape (Scotch tape)
plastic bag
chewing gum
crayons
candle
cotton sock
perfume
paint
paint brush
leather belt
fruit juice
toothpaste
shampoo
(small) feather pillow

***If some of these resources are not available, that is okay. The goal is to simply have an assortment of the items listed above.*

Procedure

Activity 1 - (5 minutes)

First activate the students' prior knowledge. Ask them what lives on a farm. Answers may include cows, horses, hogs, chickens, etc. If they do not mention crops, remind them that corn, soybeans, oats, and other crops also live on farms as plants are living things too because they need air, water, and shelter.

Next, have the students form partner pairs, and work together to create a list of living things on a farm and then write "something that people get" from that living thing. (The definition and use of the term "by-product" will come later in the lesson) For example, milk comes from cows.

Have the students share their lists of living things and products with the class.

Introduce the term "by-product" to the class. Define it as "anything that is made from something else." Inform the students that the things that they share with the class are all by-products from farms.

Activity 2 – (10 minutes)

Using the prepared box filled with various materials (see *Materials* section for further details), tell the students that everything you have in the box is a by-product of living things found on Wisconsin farms. Next, hold up each item one at a time. As you do, ask students to guess what animal or plant was used to make that item. The correct responses are as follows:

- plastic tape (Scotch tape) - Corn
- plastic bag - Corn
- chewing gum - corn
- crayons - soybeans
- candle - soybeans, cows, hogs
- cotton sock - soybeans
- perfume - cows
- paint - cows and hogs
- paint brush - cows and hogs
- leather belt - cows
- fruit juice - hogs
- toothpaste - cows
- shampoo - hogs
- (small) feather pillow - duck

Ask the students what they notice about all the things in the box. They should notice that all of the things are non-food items. Tell the students that not everything we get from farms is food. Things such as gelatin from hogs are used to make fruit juices, and fats from cows are used to make toothpaste, candles, and perfumes.

Activity 3 – (10 minutes)

Working with a partner, give each pair of students five sticky notes. Tell them to travel around the room and label all the items that they can find that might be a byproduct of Wisconsin farms. On the piece of paper, the students should identify what they are labeling (hair on paint brush, plastic on chair, etc.) and what living thing was used to make it (corn, cow, etc.). Give the students 5 minutes to complete this task.

Next, have the students stand in the center of the room and look around at the sticky notes labeling the classroom. Have pairs volunteer to explain to the class what they labeled and why.

Closing (5 minutes)

Have the students make a collaborative list on the front board or a piece of paper of the food and non-food byproducts from Wisconsin Farms. To do this, draw two columns. At the top of one column, write the word “Food” and at the top of the other write “Not Food.” Write the students responses in the appropriate column. This will serve as a non-formal assessment of the students understanding of byproducts that come from Wisconsin farms.

Topic: General Agriculture
Subject: Changes in Agriculture Technology
Grade: K-2
Time: 30 minutes

Objective:

Given a set of photographs, students will be able to identify the changes in technology that have occurred on farms from approximately 1900 to 2013. Students will also be introduced to vocabulary such as *no till planting*, *plow*, *milker*, *stanchion barns*, *milking parlor*, and *freestall barn*.

Standards

Wisconsin Model Academic Standards: Agriculture

B.4.1 Demonstrate an awareness of the different types of technology available to them and how technology affects society

- Identify examples of technology found at home, at school, in a community, in an agribusiness, or on a farm

Materials

One set of photos (found in Appendix A)
(*These photos can either be printed off or displayed using a projector.*)

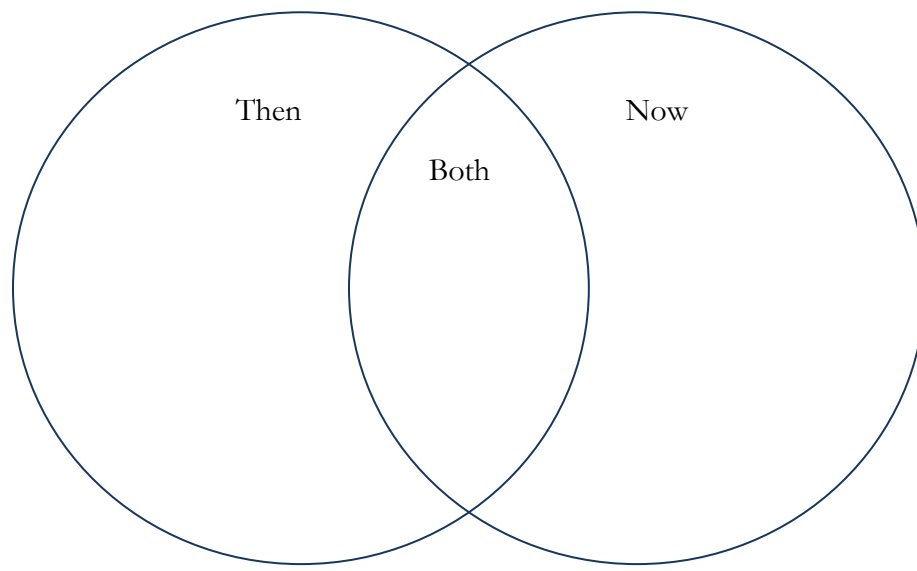
Procedure

Activity 1 - (10 minutes)

First activate the students' prior knowledge. Tell the children that they need to pretend they are on a farm. Do not tell them what kind of farm or what the time period is. Students can close their eyes and visualize the farm if they wish. Give the students 30 to 60 seconds to visualize the farm in their mind.

If students' eyes were closed, have them open their eyes and ask for volunteers to share what they saw on the farm. Write the students responses on the board or on a large sheet of paper.

Next, draw a Venn diagram on the board (or large sheet of paper). Tell the students they are going to work together to organize the farm items into two categories: *Then* and *Now*. The items that are present in both time periods will be written where the two circles intersect. The diagram should look as follows:



Discuss with the students how some things found on farms like the animals and workers stay the same, but the technology, like the type of seeds and equipment, has changed over the past 100 years.

Activity 2 - (15 minutes)

Display the picture of the man plowing the field using a plow and a horse. Ask the students, *“What do you see?” “What is going on in this picture?” “When do you think this picture was taken?”* etc. Possible responses include: *I see a horse. There is a man plowing the field. I think the picture was taken 500 years ago.*

Next, display the picture of the tractor planting via no till. Again, ask the students, *“What do you see?” “What is going on in this picture?” “When do you think this picture was taken?”* etc.

Tell the students the following information:

The first picture was taken in the early 1900s, a little over 100 years ago. The man was using a horse to pull a plow to break-up the soil so that he could plant a crop into it. You may have noticed he was walking behind the horse and plow, not riding in a tractor like a lot of farmers today. Tractors were not invented until 1892, and they were very expensive. So, most farmers still used a horse to pull their plow.

The second picture was taken in 2012. It is showing a farmer planting his field using two machines: a tractor and a planter. Notice how the land looks a lot different between the two pictures. In this picture, the land is not broken-up. That is because farmers have figured out how to plant using no-till, which means they do not have to plow the field first. This helps the soil by not causing erosion or wash-outs (when the soil goes away from the spot it originally was in). It also saves the farmer money because they do not have to spend money on fuel for their tractor to pull the plow.

Repeat this exercise for the remaining two pairs of pictures using the procedures listed. Note the following differences between the images:

Milking Technology:

Woman milking image:

- This picture was taken in 1949.
- People use to milk cows by hand, which was hard work.
- Farmers could only milk one cow at a time.
- Milk was put into buckets and put into milk cans.
- Cows could be milked anywhere. They were usually tied-up first so that they wouldn't run away while they were being milked. Often times, farmers milked cows in stanchion barns. (*Note: A definition of “**stanchion**” will most likely need to be given. An online dictionary is found at: <http://www.dairyfarmingtoday.org/Learn-More/DairyDictionary/Pages/DairyDictionary.aspx>)

Rotary Milk Parlor Image:

- This image was taken in 2009.
- Milkers are machines used to milk the cows.
- These cows are in a rotary milk parlor. A parlor is a special room in a barn where the cows get milked. A rotary parlor is a parlor that has carousal in it, which is like a merry-go-round that cows get to ride when they are being milked.
- The milk travels from the cow to the **bulk tank** in hoses.

Farm Buildings and Tools:

Red barn image:

- This picture was taken in 1905.
- Farms often had red barns and the animals went into the barn to either eat or stay cool. The rest of the time they usually went outside into pastures to graze on food.
- Farmers stored the animals feed either in silos or in the **hay mow**.

Modern Farm Image:

- This image was taken in 2009.
- Farms are not just red barns with a **silo** outside it any more.
- Cows sometimes live in a **freestall barn** because the farmer can control the temperature so that the cows don't get too hot or cold.
- Animal feed can still be stored in silos or the hay mow, but farmers also use **bunker silos** or **bags**.
- Some farms are a lot bigger than they use to be. The average farm size in 1900 was 148 acres (http://www.agclassroom.org/gan/timeline/farmers_land.htm). Today, the average farm size is 195 acres (http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications)

/Miscellaneous/fmnouswi.pdf). Many farmers often rent land so they can grow more feed for their animals.

- Many farms have two or more tractors and other equipment like planters and automatic barn cleaners and animal feeders that help make their jobs a little easier.

Closing (5 minutes)

Have the students revisit the Venn diagram they created at the beginning of the lesson. Ask them to add new words to the chart, describing if it is a tool that farmers use now or used then. This will serve as an informal assessment of the students understanding of how farm technology has changed over time.













Topic: General Agriculture
Subject: Changes in Agriculture Technology
Grade: 3-6
Time: 30 minutes

Objectives:

Given a set of photographs, students will be able to identify the changes in technology that have occurred on farms from approximately 1900 to 2013. Students will also be introduced to vocabulary such as *no till planting*, *plow*, *milker*, *stanchion barns*, *milking parlor*, and *freestall barn*.

Standards

Wisconsin Model Academic Standards: Agriculture

B.4.1 Demonstrate an awareness of the different types of technology available to them and how technology affects society

- Identify examples of technology found at home, at school, in a community, in an agribusiness, or on a farm

Materials

Piece of paper and a writing tool for each pair of students

One set of photos (found in Appendix A-1)

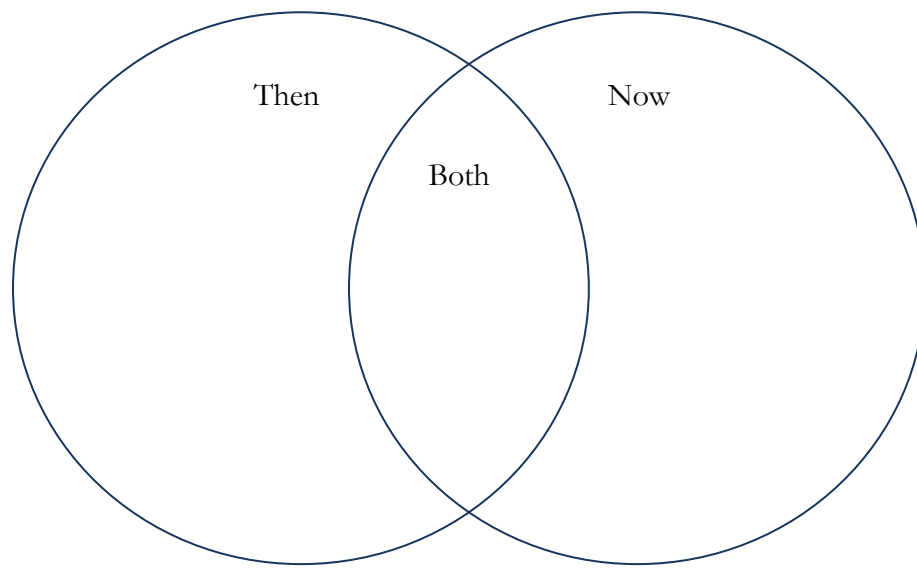
(These photos can either be printed off or displayed using a projector.)

Procedure

Activity 1 - (10 minutes)

First activate the students' prior knowledge. Have the students turn and talk to a partner about what they might see on a farm. Do not tell them what kind of farm or what the time period is. Give the students one to two minutes to talk with their partner.

Next, ask for volunteers to share what they saw on the farm. Write the students responses on the board or on a large sheet of paper in a Venn diagram, categorizing their responses as *Then* and *Now*. The items that are present in both time periods will be written where the two circles intersect. The diagram should look as follows:



Discuss with the students how some things found on farms like the animals and workers stay the same, but the technology, like the type of seeds and equipment, has changed over the past 100 years.

Activity 2 - (15 minutes)

Display the picture of the man plowing the field using a plow and a horse. Ask the students, *“What do you see?” “What is going on in this picture?” “When do you think this picture was taken?”* etc. Possible responses include: *I see a horse. There is a man plowing the field. I think the picture was taken 500 years ago.*

Next, display the picture of the tractor planting via no till. Again, ask the students, *“What do you see?” “What is going on in this picture?” “When do you think this picture was taken?”* etc.

Tell the students the following information:

The first picture was taken in the early 1900s, a little over 100 years ago. The man was using a horse to pull a plow to break-up the soil so that he could plant a crop into it. You may have noticed he was walking behind the horse and plow, not riding in a tractor like a lot of farmers today. Tractors were not invented until 1892, and they were very expensive. So, most farmers still used a horse to pull their plow.

The second picture was taken in 2012. It is showing a farmer planting his field using two machines: a tractor and a planter. Notice how the land looks a lot different between the two pictures. In this picture, the land is not broken-up. That is because farmers have figured out how to plant using no-till, which means they do not have to plow the field first. This helps the soil by not causing erosion or wash-outs (when the soil goes away from the spot it originally was in). It also saves the farmer money because they do not have to spend money on fuel for their tractor to pull the plow.

Have the students divide into groups of two or three students. Tell them that you are going to display two more pairs of images for them to analyze. They are to write on a piece of paper what they see using as many “farm” words as they know. Show the students both related images, leaving them displayed for two to three minutes.

After all images have been displayed, show the first pair of images once again. Ask the students to share aloud what differences they noticed. Be sure they describe the following, and if they do not, share the information with them:

Milking Technology:

Woman milking image:

- This picture was taken in 1949.
- People use to milk cows by hand, which was hard work.
- Farmers could only milk one cow at a time.
- Milk was put into buckets and put into milk cans.
- Cows could be milked anywhere. They were usually tied-up first so that they wouldn't run away while they were being milked. Often times, farmers milked cows in stanchion barns. (*Note: A definition of “**stanchion**” will most likely need to be given. An online dictionary is found at: <http://www.dairyfarmingtoday.org/Learn-More/DairyDictionary/Pages/DairyDictionary.aspx>)

Rotary Milk Parlor Image:

- This image was taken in 2009.
- Milkers are machines used to milk the cows.
- These cows are in a rotary **milk parlor**. A parlor is a special room in a barn where the cows get milked. A rotary parlor is a parlor that has carousal in it, which is like a merry-go-round that cows get to ride when they are being milked.
- The milk travels from the cow to the bulk tank in hoses.

Farm Buildings and Tools:

Red barn image:

- This picture was taken in 1905.
- Farms often had red barns and the animals went into the barn to either eat or stay cool. The rest of the time they usually went outside into pastures to graze on food.
- Farmers stored the animals feed either in silos or in the **hay mow**.

Modern Farm Image:

- This image was taken in 2009.
- Farms are not just red barns with a silo outside it any more.
- Cows sometimes live in a freestall barn because the farmer can control the temperature so that the cows don't get too hot or cold.

- Animal feed can still be stored in silos or the hay mow, but farmers also use **bunker silos** or **bags**.
- Some farms are a lot bigger than they use to be. The average farm size in 1900 was 148 acres (http://www.agclassroom.org/gan/timeline/farmers_land.htm). Today, the average farm size is 195 acres (http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Miscellaneous/fmnouswi.pdf). Many farmers often rent land so they can grow more feed for their animals.
- Many farms have two or more tractors and other equipment like planters and automatic barn cleaners and animal feeders that help make their jobs a little easier.

Closing (5 minutes)

Have the students revisit the Venn diagram they created at the beginning of the lesson. Ask them to add new words to the chart, describing if it is a tool that farmers use now or used then. This will serve as an informal assessment of the students understanding of how farm technology has changed over time.













Topic: General Agriculture
Subject: Crops and Sustainability
Grade: K-2
Time: 30 minutes

Objective:

Students will be able to identify various crops grown on Wisconsin Farms, including alfalfa, corn, oats, wheat, and soybeans. They will also be able to define sustainability and its main concepts (economy, society, and environment).

Standards

Wisconsin Model Academic Standards: Agriculture

E.4.2 Identify the different ways land is used

- Recognize how land use affects plants, domestic animals, and wildlife
- Identify the different uses of land in one's community

Materials

Five buckets (2 to 5 gallon in size) each filled with a different crop (alfalfa, corn, oats, wheat, and soybeans).

***To obtain samples of crops, you can visit your local farmer, farm cooperative, feed mill, or agriculture feed supply store and ask for them to donate the feed.*

Procedure

Activity 1 - (5 minutes)

First activate the students' prior knowledge. Ask them what grows on a farm. Give the students 15 to 20 seconds to think of a response, and then ask for volunteers to share their answers with the class. Write the students responses on the front board or a large piece of paper.

Next, introduce the students to the word "crop." Tell them that a crop is plants grown for food.

Using the list of crops on the front board, ask the students to describe who they think might use each crop and why. Responses may include: *"I think cows use corn for food."* *"I think people use wheat to make bread."*

Tell the students that farmers grow crops that are food for both people and animals. For example, cows eat oats and so do people (oatmeal).

Activity 2 – (10 minutes)

Select one bucket containing a crop. Ask the students to identify the crop in the bucket. Let the students come up to the bucket to feel the crop. After several students have made guesses trying to identify the crop, tell them what it is. Ask the students to tell you what they think the crop is used for. Repeat for all five buckets.

Be sure to inform students of the following crop uses:

Alfalfa: animal feed (hay, haylage), people food (alfalfa sprouts)

Corn: animal feed (shelled corn, high moisture corn, corn silage), people food (*people eat sweet, not field, corn, corn tortillas, gum)

Oats: animal feed (eat the seed, bale the stem), people food (oatmeal)

Soybeans: animal feed (eat the seed), people food (vegetable oil, eat the seed)

Wheat: animal feed (eat the leaves and stem), people food (use the seeds for bread, cereal, etc.)

Activity 3 – (10 minutes)

Tell the students: *“The number of people in the world is growing. So farmers are trying to figure out new ways to grow more food to feed the people, but they want to use the same amount or less land. People also only have so many resources like water and minerals that we can use to grow crops. People do not want these resources to run-out, so farmers practice sustainability.”*

Ask the students what they think sustainability is. Let three or four students share their ideas. Next, tell the students that *sustainability is taking care of the land and resources we have so that future generations and we can use them.*

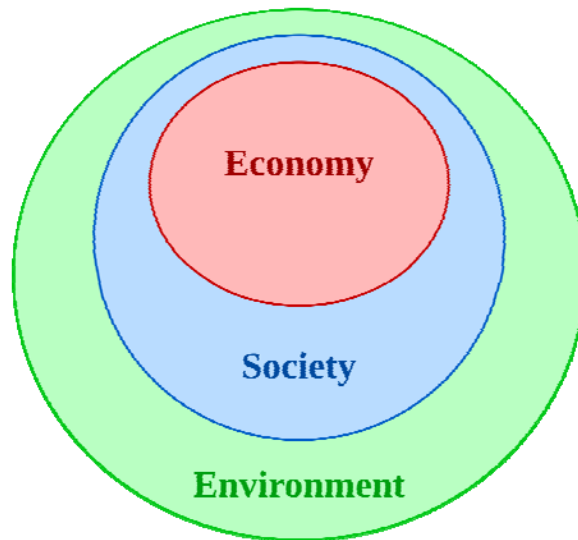
Tell the students that there are three things involved with sustainability. Inform them of the following:

The first thing part of sustainability is taking care of the environment. *(Draw a circle on the board and label it (towards the outside) “environment”).* We need to take care of the environment, like the water, trees, and animals, so that they can stay healthy and be around for many years.

Society is also important for sustainability. Society is the people that live together, like a city or a town. *(Draw a circle on the board inside the environment circle, and label it (towards the outside) “society.” Ask the students to inform you of people that are in society. Responses may include teachers, farmers, police officers, grandparents, kids, etc.)*

The last important part of sustainability is economy. Economy is when we make things and sell it. We need money to buy the things we need to stay healthy. So having a way to make money now and in the future is important in sustainability *(Draw a circle on the board inside the society circle, and label it (towards the outside) “economy.”)*

The following image should now be on the board:



Inform the students that all three of these things are needed so that we can keep making food for both animals and people now and in the future.

Closing (5 minutes)

Show the students the buckets of crops. Ask them to identify the crop and two of its uses. Also, ask the students to share with a partner what “sustainability” means, and then have volunteers share tell their definition to the class. Finally, ask the students to identify three parts of sustainability. This will serve as an informal assessment of the student’s ability to identify crops and their uses, as well as define sustainability.

Topic: General Agriculture
Subject: Crops and Sustainability
Grade: 3-6
Time: 30 minutes

Objective:

Students will be able to identify various crops grown on Wisconsin Farms, including alfalfa, corn, oats, wheat, and soybeans. They will also be able to define sustainability and its main concepts (economy, society, and environment).

Standards

Wisconsin Model Academic Standards: Agriculture

E.4.2 Identify the different ways land is used

- Recognize how land use affects plants, domestic animals, and wildlife
- Identify the different uses of land in one's community

Materials

Five buckets (2 to 5 gallon in size) each filled with a different crop (alfalfa, corn, oats, wheat, and soybeans).

***To obtain samples of crops, you can visit your local farmer, farm cooperative, feed mill, or agriculture feed supply store and ask for them to donate the feed.*

Procedure

Activity 1 - (5 minutes)

First activate the students' prior knowledge. Ask them what grows on a farm and what the crops are used for. Give the students 15 to 20 seconds to think of a response, and then ask for volunteers to share their answers with the class. Write the students responses on the front board or a large piece of paper.

Activity 2 – (10 minutes)

Select one bucket containing a crop. Ask the students to identify the crop in the bucket. Let the students come up to the bucket to feel the crop. After several students have made guesses trying to identify the crop, tell them what it is. Ask the students to tell you what they think the crop is used for. Repeat for all five buckets.

Be sure to inform students of the following crop uses:

Alfalfa: animal feed (hay, haylage), people food (alfalfa sprouts)

Corn: animal feed (shelled corn, high moisture corn, corn silage), people food (*people eat sweet, not field, corn, corn tortillas, gum)

Oats: animal feed (eat the seed, bale the stem), people food (oatmeal)

Soybeans: animal feed (eat the seed), people food (vegetable oil, eat the seed)

Wheat: animal feed (eat the leaves and stem), people food (use the seeds for bread, cereal, etc.)

Activity 3 – (15 minutes)

Tell the students: *“The number of people in the world is growing. So farmers are trying to figure out new ways to grow more food to feed the people, but they want to use the same amount or less land. People also only have so many resources like water and minerals that we can use to grow crops. People do not want these resources to run-out, so farmers practice sustainability.”*

Ask the students what they think sustainability is. Let three or four students share their ideas. Next, tell the students that *sustainability is taking care of the land and resources we have so that future generations and we can use them.*

Tell the students that there are three things involved with sustainability. Inform them of the following:

The first thing part of sustainability is taking care of the environment. *(Draw a circle on the board and label it (towards the outside) “environment”).* We need to take care of the environment, like the water, trees, and animals, so that they can stay healthy and be around for many years.

Ask the students to share ideas of how we can take care of the environment. Responses may include, “Reduce pollution.” “Do not waste water.” “Do not put harmful chemicals on the land that are not needed.”

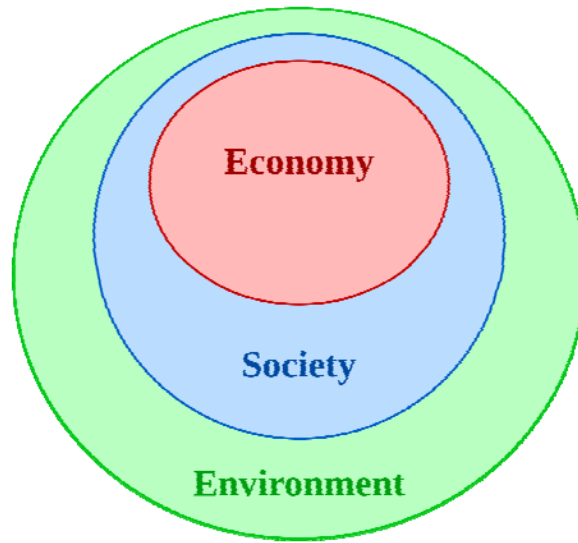
Society is also important for sustainability. Society is the people that live together, like a city or a town. *(Draw a circle on the board inside the environment circle, and label it (towards the outside) “society.”)*

Ask the students why they think society is important for sustainability. Inform them that people are part of a global society, meaning part of the world’s community. We have a responsibility to help prevent poverty and hunger, as well make sure all people are treated fairly and that there is peace.

The last important part of sustainability is economy. Economy is when we make things and sell it. We need money to buy the things we need to stay healthy. So having a way to make money now and in the future is important in sustainability *(Draw a circle on the board inside the society circle, and label it (towards the outside) “economy.”)*

Ask the students for an example of how a farm contributes to the local economy. A possible response may include: Dairy farms produce milk, and they send it to local processing plants where it is made into food safe for people to eat. The plant then sells it to local stores, which people buy. This process continues and enables the farmer to have money and the people to have food.”

The following image should now be on the board:



Inform the students that all three of these things are needed so that we can keep making food for both animals and people now and in the future.

Closing (5 minutes)

Show the students the buckets of crops. Ask them to identify the crop and two of its uses. Also, ask the students to share with a partner what “sustainability” means, and then have volunteers share tell their definition to the class. Finally, ask the students to identify three parts of sustainability. This will serve as an informal assessment of the student’s ability to identify crops and their uses, as well as define sustainability.

Talk Farmer

Home

Talking With Kids

Giving a Farm Tour

Interactive Dairy Maps

Lesson Plans

Additional Resources

Acknowledgements

What is *Talk Farmer*?

Talk Farmer is a set of resources developed to help educate youth ages five to thirteen about agriculture. These tools can be used by both agriculture experts and those just being introduced to the topic! This includes farmers, teachers, librarians, etc.

What resources are available in this project?

The materials included in *Talk Farmer* include:

- A [guide](#) and [video](#) about how to answer children's questions about agriculture
- A [guide](#) and [video](#) about setting-up and implementing an engaging dairy farm tour
- An [interactive map](#) about Wisconsin dairy that can be used during presentations
- A set of [lesson plans](#) that can be used to teach about the dairy industry
- A list of additional [resources](#) for further lesson ideas



Talk Farmer

 Search this site

Home
Talking With Kids
Giving a Farm Tour
Interactive Dairy Maps
Lesson Plans
Additional Resources
Acknowledgements

Talking With Kids

[Printable Guide](#) | [Video](#)

It is challenging to predict what kid will say or do. It is even more challenging to guess what they will ask during a farm tour or agriculture presentation. Talking with kids does not have to be a scary or nerve wracking experience, though as long as you remember a few things:

- 1 - Use short, concise sentences
- 2 - Know your audience - use words that they know and correct vocabulary
- 3 - Most importantly - BE NATURAL!

Have fun talking with kids, and they'll have fun listening and learning from you!

To help you better prepare for questions kids might ask, check out the **Talking with Kids** guide found [here](#).

Below is also a **video** with a few helpful hints to use while talking with kids..

Talking With Kids



**If the video appears blurry, click the gear (lower right corner) and choose a higher quality setting.



Talking_With_Kids_Final.pdf (334k)

Becky Murkley, Jul 30, 2013, 10:59 AM

v.1



Add files

Talk Farmer

Home

Talking With Kids

Giving a Farm Tour

Interactive Dairy Maps

Lesson Plans

Additional Resources

Acknowledgements

Giving a Farm Tour

[Printable Guide](#) | [Video](#)

Giving a farm tour does not need to be a nerve-wracking experience! It is a blast for both the farmer and the kids and it is a great way for you to share your farm's unique story! Follow the tips below to see how to make a memorable experience that will last a life-time!


Farm Tour Guide

Not sure where to start? Want to make sure you have all your bases covered? Use this [guide](#) to help you organize your farm tour. Included in this resource are:

- [Descriptions](#) of things to do while planning, during, and after your farm tour
- [Checklist](#) to help you prepare for your farm tour
- [Sample Information Letter](#) you can give your guests before they arrive at your farm so they know what to expect during the tour
- [Station Signs](#) that include talking points for you to follow while talking with your farm visitors

Giving a Farm Tour

Talk Farmer - Giving a Farm Tour



0:00 / 4:04

**If the video appears blurry, click the gear (lower right corner) and choose a higher quality setting.

Farm_Tour_Checklist.pdf (78k)	Becky Murkley, Jul 30, 2013, 10:48 AM	v.1	↓	×
Farm_Tour_Guide_Final.pdf (526k)	Becky Murkley, Jul 30, 2013, 10:49 AM	v.1	↓	×
Farm_Tour_Letter.pdf (224k)	Becky Murkley, Jul 30, 2013, 10:49 AM	v.1	↓	×
Talking_Point_Signs.pdf (75k)	Becky Murkley, Jul 30, 2013, 10:49 AM	v.1	↓	×

Add files

Talk Farmer

Search this site

Home
Talking With Kids
Giving a Farm Tour
Interactive Dairy Maps
Lesson Plans
Additional Resources
Acknowledgements

Interactive Dairy Maps

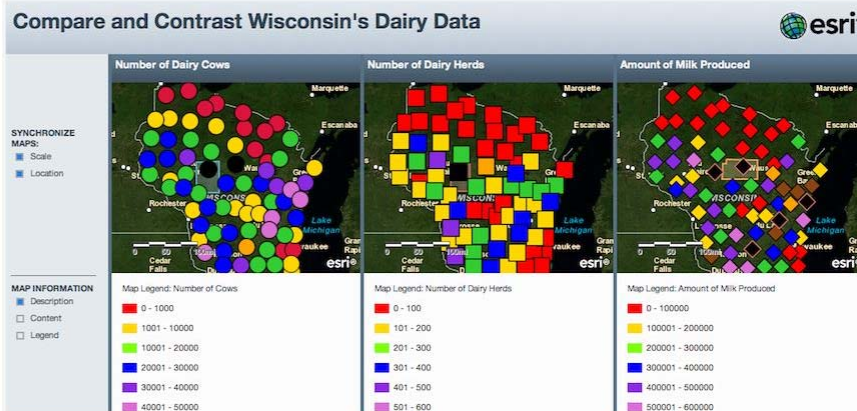
Did **you** know:

- On average, there are 111 cows on Wisconsin dairy farms.
- There are 11,490 dairy herds in Wisconsin.
- Over 98.5% of Wisconsin farms are family owned.*

These are just a few of many statistics in Wisconsin's dairy story.

Maps are also a great tool to help tell a story. Click on the maps below discover more about Wisconsin's dairy story! Below each map you will find a set of questions you can use while exploring the map as well as a set of instructions on how to use the map.

Compare and Contrast Data



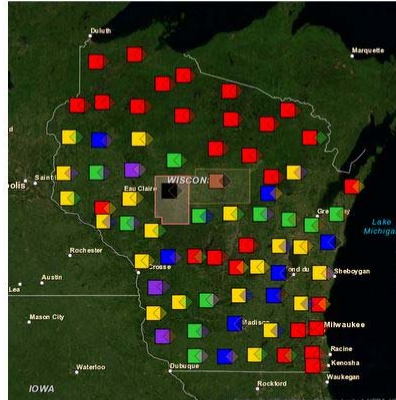
How to use this map:

- Click the above image, and you will be taken to a full-size map.
- These maps change at the same time, meaning when you zoom in on one map, the other two maps zoom in at the same time, etc.
- Please note: To zoom into the same location (i.e. county or region), unselect the "scale" button, go to your desired location one of the maps, and reselect the "scale" button. The three maps will then go to the same location with the same scale.
- Explore these maps by changing the view of the state. See what you learn!

Guiding Questions:

1. Use the "Number of Dairy Cows" map and zoom to the county that has the most cows. What do you notice about the number of herds and amount of milk produced in that county?
2. Choose a county. Compare the data of that county. What do you notice?
3. Zoom to Milwaukee County. Compare the data. Milwaukee is the largest city in Wisconsin. Use this information to draw 3 conclusions about the dairy data.
4. Zoom to the northern half of Wisconsin. What do you notice? Why do you think this is?

Wisconsin Dairy Data



How to use this map:

- Click the above image, and you will be taken to a full-size map.
- On top of the map is a box labelled **Layers**.
 - There are four layers on this map - number of cows, number of herds, amount of milk produced, and USA population density.
 - Click on one or more layer to see the data appear on the map.
 - Compare and contrast the data, seeing what conclusions you can draw from the map.
- Click the **About** button at the top of the map to view the map legend.
- Also explore changing the **Base Map** and using the **Measure** feature by clicking the buttons above the map.
- If you ever need to get to the home screen, click the **bookmark** button and select "WisconsinHome."

Guiding Questions:

- What part of Wisconsin has the most cows? Most herds? Largest amount of Milk Produced?
- Turn on the "Number of Dairy Cows" and "USA Population Density" layers. What do you see? Are there more or less cows where there are a lot of people? Why do you think it is like this?
- Turn on the "Number of Dairy Cows" and "Number of Dairy Herds" layers. What do you notice? If a county has a lot of cows but a small number of herds, what does this mean?
- Turn on the "Number of Dairy Cows" and "Amount of Milk Produced" layers. What do you notice? Do you notice any trends between the number of cows and amount of milk produced?

Source:

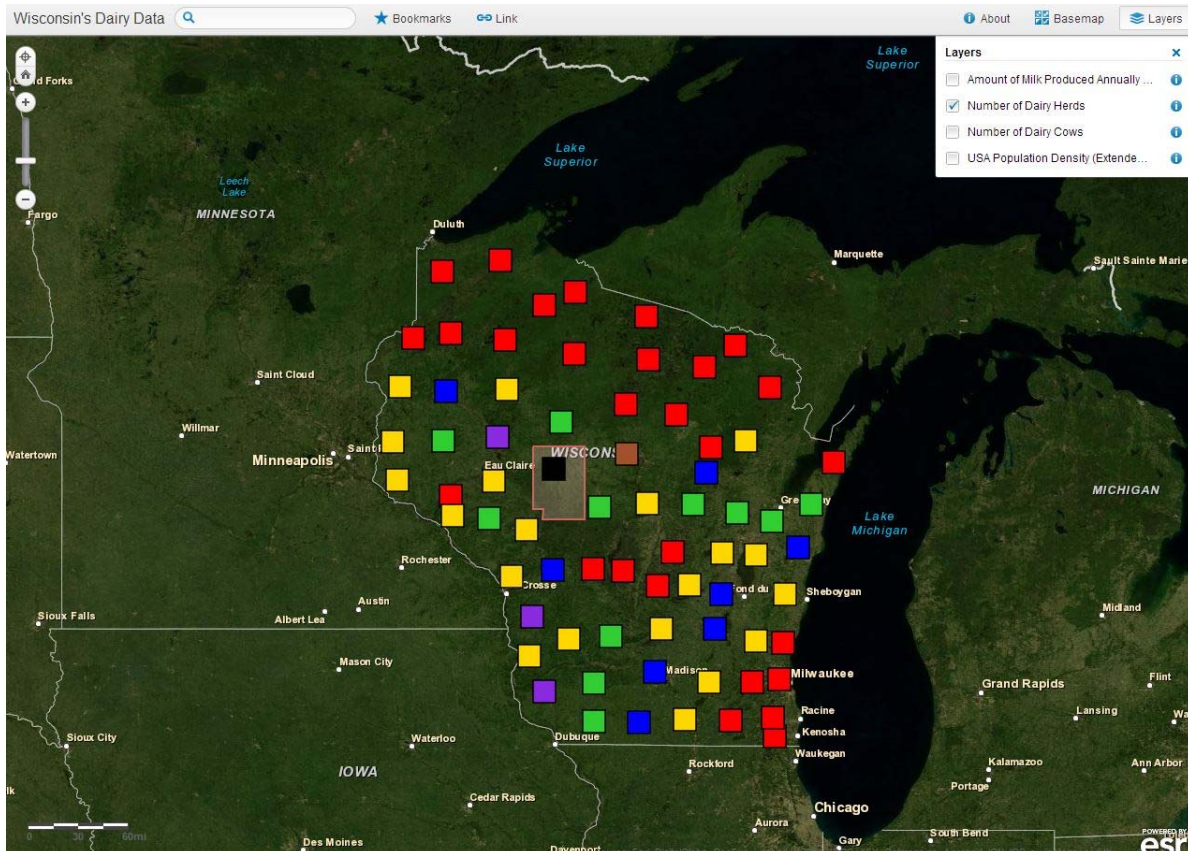
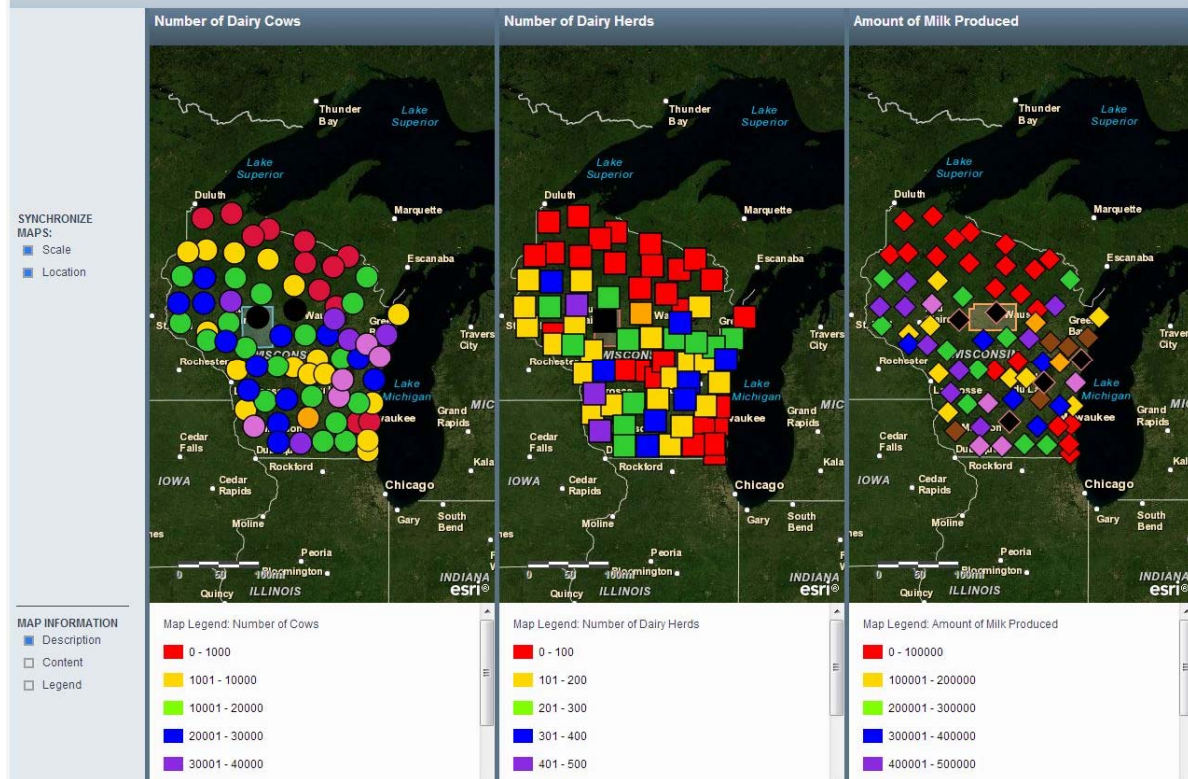
*Statistics above were retrieved from:

Wisconsin Milk Marketing Board. (n.d.). Retrieved from <http://media.eatwisconsincheese.com/assets/images/pdf/WisconsinDairyData.pdf>.



Add files

Compare and Contrast Wisconsin's Dairy Data



Talk Farmer

Home
Talking With Kids
Giving a Farm Tour
Interactive Dairy Maps
Lesson Plans
Additional Resources
Acknowledgements

Lesson Plans

Below is a collection of lesson plans that can be used in the classroom, on the farm, at the library...anywhere agricultural education is being taught!

Each lesson is 30 minutes long and aligned to the Wisconsin Model Academic Standards. The lessons are also divided into two grade level bands: Kindergarten-2nd grade and 3rd - 6th grade.

Topic	Description	Grade Levels
Wisconsin Farm Byproducts	Students will identify food and nonfood byproducts made from Wisconsin Farms.	K-2 3-6
Changes in Agriculture Technology	Using a set of photographs, students will identify technology advancements on farms from the 1900s to the 2000s.	K-2 3-6
Crops and Sustainability	Learners will identify various field crops, as well as define sustainability	K-2 3-6



Talk Farmer

Home

Talking With Kids

Giving a Farm Tour

Interactive Dairy Maps

Lesson Plans

Additional Resources

Acknowledgements

Additional Resources

Dairy

- Travel right to the farm on this [virtual farm tour](#)!
- An [online activity](#) that teaches players how to milk a cow, as well as how milk travels from the farm to the store
- Learn about dairy using this [slide show](#) which features images and information about current dairy practices
- Stuck on how to define a dairy word? Use this free [online dictionary](#) to get a kid-friendly definition!
- Pick a topic and get the facts using this collection of [dairy fact sheets](#)

Farm Tours

- A [booklet](#) that can help you prepare for your farm tour
- Another [resource](#) that gives a brief overview on how to give a farm tour

General Agriculture

- Free online [interactives for kids and lesson plans](#) on a wide array of farm topics
- Lesson plans and projects from [Wisconsin Ag in the Classroom](#)

Sustainability

- An easy to read [infographic](#) (page 2) that shows various dairy byproducts and a cow's contribution to a sustainable farm system
- Discover the power in manure in this [video and article](#) about a manure digester
- A collection of sustainability [lesson plans](#) that are geared towards high school students, but can be adapted for other levels

Add files

75

