Mission

Have you ever tried to share your dairy story with a consumer, but could not put it into words or did not know where to start? The mission of this workbook is to assist you in connecting with consumers to help them better understand your experiences, passion and love for the dairy industry. We’ll share ideas to help you make a connection with those who have questions about the dairy industry or products and reinforce some important facts to remember.
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Being an “Agvocate”

Talking with consumers who have no knowledge of the dairy industry can be a challenge. It may be “scary” but it’s a wonderful opportunity and usually turns out being fun. As consumers continue to be generations removed from agriculture, it is our job as “agvocates” to explain our practices and why we support agriculture. This section is to help understand and connect with consumers in order to share our agricultural story.

HOW TO CONNECT WITH THE CONSUMER

Be a Strong Listener

Do not ignore what the consumer says, instead listen to their viewpoints. This shows that you truly care about their views, their values, and the topics being discussed. It also helps you craft a response that is on-point with their perspective. Be sure to work with the person you are talking with and not having an “I am right; you are wrong conversation.” In order for them to trust in what you know, remember to listen and remain professional.

Sometimes you might get frustrated with others thoughts and ideas, but take a step back, listen and understand why they are viewing the topic the way they are. By listening you will pick up on inaccurate information they might believe in. A great advocate can relate to both sides of every topic.

Ask Questions

By asking questions, you are displaying an interest in the speaker and topic being presented. It allows you to connect with the consumer in understanding their viewpoints or where they found their information. Their answers to your questions can detect their current understanding of the topic. By asking questions you are being courteous, respectful and will build trust throughout the conversation.
Find Common Ground

Find a connection between you and the consumer so they know you are not that different. For example, we both have family or children to care for. This is the same for our animals, they are a part of the family and we treat them that way. Many consumers have a pet dog or cat. We as farmers care for our cows just as they do their pet, except our animals are larger and work to produce milk.

Tell your Dairy Story

Share personal experiences with your animals. Here are some examples.

• My favorite cow, which I owned since she was a calf became very sick. I decided to sleep in the barn next to her, just to be sure she was okay.

• When I was nine years old, I received my first calf as a fair project. I spent weeks washing her every day, taking her on walks, clipping her hair and feeding her a special diet. We developed a bond together, which many would call a friendship. I talk to my cows about school, chores, sports and they are good listeners.

• We care for our cows by feeding them a nutritious diet, supplying a clean and comfortable place for them to lay down and milk them. In return they support my family and give my children and consumers a nutritious product.

• Show them why you choose a career in farming and why you feed your family nutritious dairy products.

TIPS FOR EDUCATING ABOUT THE DAIRY INDUSTRY

• Stick to what you know. Don’t be afraid to say “I don’t know, but I will find out for you.”

• Speak with one voice as an industry. Talk about your own farm and experiences without talking negatively about others.

• Tell personal stories about a 4-H or project animal you’ve worked with. Don’t feel you have to be perfect. Sometimes the most effective stories are when a calf got sick or injured or just in general something went wrong. Tell people about how and why you worked to correct it.

• Have a go to website that you can reference for more information such as www.dairygood.org. Many check-off funded organizations have excellent web sites with information geared toward the general public. Some even include fun things like recipes or children’s activities.

• Build relationships and follow blogs/Facebook of dairy industry leaders. Don’t be afraid to reach out and ask questions.

Dairy Advocates

• Guernsey Dairy Mama - http://www.guernseydairymama.com/about/
• A Farm Wife - http://www.afarmwife.com/
• Dairy Carrie - http://dairycarrie.com/about/
• Sadie Frericks http://www.dairygoodlife.com/p/about.html
• Michele Payn - http://causematters.com/

DAIRY FACT • The same values of caring for the land and animals still exist, but the look of the family farm and technologies have changed.
BRINGING THE CONSUMER TO THE FARM

Why Host a Farm Tour?
Hosting a farm tour is a great opportunity to showcase modern dairy farming to the public. As today’s consumers continue to become generations removed from the farm, it is our job as producers to continue to educate. It allows them to see the day to day work on the farm, experience animal husbandry, environmental stewardship and learn how their food gets from the cow to the consumer. This allows farmers to answer questions and not only tell their dairy story, but also to show it.

Hosting a Farm Tour

PRIOR TO THE TOUR
- Set a date, time and know the length of the tour.
- When school groups and clubs come for a tour, ask the teacher or leader what topics they’re reviewing or discussing in class. It’s always nice to make some basic correlations of the biology, social behaviors, environmental science, etc. that are utilized on the farm and connecting it to what they are learning about in the classroom.
- Do some pre-tour cleanup. Put on a coat of fresh paint, plant flowers and organize everywhere.
- Plan the route you are going to take before they get there and what you will talk about. It eliminates confusion and helps gauge how much time you have. Practice prior to the tour.
- Put away any potentially dangerous or hazardous items: cleaning chemicals, ATVs, tools. Stay away from electric fences, manure pits and slippery or uneven surfaces during the tour.

DAY OF THE TOUR
- Be inviting to your visitors and greet them when they arrive
- Provide shoe covers or plastic boots
- Have a flyer or brochure for your farm
- Keep safety as a top priority by explaining some tips before heading out on the tour
  - Farms have potential hazards, encourage good behavior
  - Help keep the farm clean as this is the home to all of the animals.
- People love free materials and treats. Give away dairy products at the end of the tour. Whether it’s milk, cheese, chocolate or ice cream it’s nice to give people a good reason to remember you. Many check-off funded promotion boards have giveaways you can order. Visit www.undeniablydairystore.com for giveaways.
**ADDITIONAL TIPS**

- Keep groups small. This allows a more active and engaging experience because the guide can be clearly heard, it is easier to ask questions and it is a way to connect with the group.
- If groups are bigger, use a portable microphone so the group can clearly hear you.
- Know your target audience and talk in a context that they can understand. It will dictate what you talk about to some degree or give you some insight on how to relate back to them.
- Be confident. Consumers want to know that you are proficient in your operation. You don’t have to know everything, but they want to see someone that they can count on.
- Start the tour with showing the baby calves and work your way up to the milking cows. This helps visitors to follow the process and it is good for biosecurity.
- Show you care and share personal stories. Have fun and share your passion for your farm and the dairy industry.
- Show them advancements in technology and how it is used.
- Remember that your dairy may be the first and only dairy that a person ever sees. You don’t have to go into too much detail, but make the time enjoyable and memorable.
- Allow for opportunities throughout the tour to ask questions.
- Incorporate displays and/or activities throughout the tour (see ideas to follow).

**DISPLAY IDEAS**

When hosting a farm tour or teaching the public about the dairy industry did you find it difficult to know how to share your message? Here are some display ideas and activities you can use when sharing your dairy story.

- Have pictures of your family on the farm, especially if your dairy is multiple generations. Explain how your family has made the dairy operation what it is today.
- Work with your local dairy promotion organizations to gather materials and provide giveaways.
- At each stop on your tour utilize everyday supplies, which visitors can touch and help them make a connection. The use of photos will be helpful as well.
  - Calf barn: Have an ear tag, ear tagger, registration paper, milk replacer, colostrometer, calf grain, hay and milk bottle.
  - Pictures: A calf compared to a baby, a yearling heifer compared to a teenager and a cow compared to a working mother and an athlete.
  - Breeding heifers: Semen straw, semen tank, record book of the herd, gloves and pictures of ultrasound machine with a gestation diagram.
  - Lactating cow barn: Display milking systems. Demonstrate how to milk a cow by hand, milk lines, cow’s milk record, breeding charts and a pedigree (family tree).
  - Milkhouse: Milking unit, inflation (explaining this is the only part that touches the cow), bulk tank and pre/post dip.
  - Farm equipment: Milk truck, processing plant, pasteurizer, homogenizer and bottling machine.
  - Feed: Corn, hay, haylage, soybeans, cottonseed, silage, vitamins, minerals, sugar beet pulp and water.
  - Total Mixed Ration (TMR): Have a recipe card and ingredients allowing visitors to mix a ration of their own.
  - Digestive system: Display the four compartments of the cow’s stomach.
  - Health items: Stethoscope, thermometer, balling gun, pill, ankle band, neck collar (activity tracker), clippers and hoof trimming picture.
  - Bedding: Mattress, water beds, straw, sawdust and sand.
  - Technology: Automatic calf feeders, robotic milking systems, etc.
  - Environment: Manure/recycling.
ACTIVITY IDEAS

- Set up a photo area having cut out faces of a farmer milking, driving a tractor, in a cornfield or feeding a calf.
- Give out dairy products such as ice cream, cheese and milk, as well as recipes using dairy products
- Butter sculpting contest
- Set up activity area with coloring pages and activity sheets
- Play games, such as a scavenger hunt, ag Olympics or hold a trivia contest
- Have a petting area
- Display your tractors and allow guests to sit in them (remove keys prior to doing this)
- Make ice cream or butter (see directions on next page)
- Create your own “Did you know cows”

DAIRY FACT • According to the United States Department of Agriculture (USDA), 97 percent of U.S. dairy farms are family owned and operated, sometimes by multiple generations of the family.
HOW TO MAKE BUTTER

Items Needed
• Heavy Whipping Cream
• 8 oz. mason jar
• Salt (optional)
• Saltine Crackers to test your finished product (optional)

Instructions
Step 1: Fill the jar a quarter to half full of the heavy whipping cream and tightly attach lid.
Step 2: Shake the jar.
Step 3: When the liquid sound stops, you have reached whipped cream. You are not quite done, so keep shaking.
Step 4: When you hear liquid again, you have reached the final product, buttermilk and a butter ball.
Step 5: Remove the butterball from the buttermilk. Add salt (optional) and enjoy your delicious treat!

How it Works?
When the cream hits against the side of the jar, the fat globules break apart forming one big clump, called butter.

HOW TO MAKE ICE CREAM

Items Needed
• 1 cup of half & half
• 2 tablespoons sugar
• ½ teaspoon vanilla extract
• Ice
• ½ cup of Kosher salt or rock salt
• 1 pint-size zip lock bag
• 1-gallon zip lock bag

Instructions
Step 1: Combine the half and half, sugar and vanilla extract in the pint-sized bag. Seal the bag tightly, so that none of the liquid will leak out.
Step 2: Fill the gallon-size bag halfway with ice cubes. Sprinkle Kosher salt over the ice cubes.
Step 3: Insert the pint-size bag filled with ingredients into the bag of ice and salt. Seal the gallon-size bag. If the bag begins to leak, don’t hesitate double bagging it to reduce the mess.
Step 4: Shake the bag for 5 to 10 minutes until the ice cream mixture begins to harden. Once satisfied with the consistency, remove the small bag from the bag of ice.
Step 5: Open the small bag and enjoy your ice cream!

How it Works?
The rock salt combined with the ice lowers the freezing point of the ice. This means that the ice cream is able to freeze and become solid at a faster rate.

DAIRY FACT • Dairy farms have modernized and become larger to allow siblings, children and other family members join the operation.
HOW TO PROMOTE DAIRY AT SHOWS & SALES

Does your family exhibit at local, state or national dairy shows? Have you ever had consumers ask you questions about your cows and the products they produce? Here are a few tips of how you can promote the dairy industry at shows.

• Exhibit the highest standards of animal care and welfare and outwardly display working knowledge of the dairy industry.
• Bring signs for your animals with their name, breed, birth date and interesting dairy facts.
• Create a display and sign to promote your farm. This could include pictures of your cows, farm, family and awards/honors received.
• Create an interactive educational display.
• Talk to visitors and answer questions they might have.
• Let them pet a calf.
• Keep animals clean and pampered by having them washed, clipped and groomed.
• Remove any manure in stalls, keep aisles clear and regularly swept.
• Be sure all animals have hay in front of them at all times, especially on warm summer days.
• Be respectful and open-minded to other exhibitors and guests.

DAIRY FACT • There are seven breeds of dairy cows; Ayrshire, Brown Swiss, Guernsey, Holstein, Jersey, Milking Shorthorn and Red & White.
DAIRY MONTH PROMOTION

June is a great opportunity for dairy producers sharing their dairy message, as it is the month in which we celebrate the dairy industry. Some great ways to help promote dairy in your community is by working with your local dairy promotion organization for educational displays and activities.

- Work with local radio stations to have an on-air interview, or help organize dairy trivia questions and give out prizes and dairy products.
- Host farm tours.
- Host a breakfast, neighbor night or recipe party on the farm.
- Utilize local dairy royalty at a community event.
- After sporting events, host a chocolate milk break to refuel athletes.
- Have a movie night with “build your own” sundaes.
- Invite the local newspaper to do a feature story, “A Day in the Life of a Dairy Producer.”
- Provide yogurt, cheese sticks or milk for church.
- Offer day camps to learn how to make butter or ice cream.
- Participate in parades with your family by bringing your cows or handing out cheese.
- Talk to consumers at the grocery store and give out product samples.
- Sell ice cream or other dairy products as a 4-H group or community fundraiser.
- Use social media to share your story and have daily trivia questions/facts.
MILK FROM MOO TO YOU!

1. Cow care is the first step of a dairy farmer’s commitment to providing a high-quality product. Dairy farmers provide clean, dry bedding, regular health checkups, nutritious feed and fresh water whenever the cow wants.
2. Before a cow can produce milk, she must have a calf. Dairy cows are milked two or three times per day by a milking machine. The cow's udder is cleaned and then the milking machine is attached where it gently removes milk from the cow's udder.

3. The temperature of milk when it leaves a cow's udder is 101.5 degrees F (a cow's body temperature). It is then cooled to 45 degrees F in a large bulk tank within minutes. A bulk tank is a large tank used for cooling and storing the milk.

4. Milk is transported in an insulated tanker to the processor. Every tank of milk is tested for antibiotic residues before it leaves the farm and before it is unloaded at the processing plant. Any milk that does not pass the test is discarded at the farmer's expense.

5. At the processing plant, milk is pasteurized and homogenized. Pasteurization is when milk is heated to 160 degrees F or higher for 15 seconds to destroy any bacteria. Homogenization is when milk has been processed to reduce the size of the milkfat globules so the cream stays uniform and does not separate. Nothing is added or removed from the milk during this process.

6. Milk can be sold as is, or used to make a variety of foods including chocolate milk, yogurt, cheese, butter and ice cream.

7. Dairy products are distributed to local grocery stores. It takes less than 48 hours for the milk to get from the farm to the shelves of a grocery store.

DAIRY FACT • Did you know that when milk first comes out of a cow it is warm? It is 101.5 degrees F, the same temperature as a cow.
COW CARE
Every animal on a dairy farm is cared for as if they were a member of the family. A dairy producer is on duty 24 hours a day, 7 days a week, with little or no vacations. They are committed to their animal’s health and well-being.

Birth to Three Months of Age
Typically, calves are housed in individual pens or hutches. Every calf is fed colostrum immediately following birth. Colostrum is the first milk from a cow, which is rich in antibodies and helps the calf build its immune system. In the first months of the calf’s life, it is vaccinated, dehorned, fed grain, hay, water and milk. Dehorning is the process of removing the hornbuds in order to prevent the future growth of horns. This is an important process because as calves grow so do their horns. This becomes a problem for the safety of the animals and the people working with them. Calves also receive a name and an ear tag. This is so the farmer can identify each calf on an individual basis and keep accurate records, like a doctor keeps records on a patient. Females are referred to as heifers and males are called bulls.

Two to Three Months of Age
Once a calf has reached two to three months of age, they are weaned. Weaning is the process of transitioning the calf from drinking milk to water and introducing grain and hay in their diet. The calves continue to grow, and they are often housed in a group setting in order to encourage social behavior.

Twelve to Twenty-one Months of Age
When a heifer is around one year of age, she is bred using a process called artificial insemination (A.I.). Semen is collected and frozen from a variety of bulls, so it is available for producers to use without having a physical bull present. Once a heifer is confirmed pregnant, they are fed a nutritious diet in preparation for a successful pregnancy.
Twenty-one to Twenty-four Months of Age

Just like a human, after nine months of a heifer being pregnant, she will have her calf. After a heifer has her first calf, she is then referred to as a cow and will proceed to join the milking herd.

Twenty-four Months of Age and Older

Cows continue to produce milk for approximately 305 days. This time period is referred to as the cow's lactation. Similar to an athlete, cows burn a lot of calories producing milk. This gives them their fit and feminine body structure. Cows are bred for their next calf around three to four months into their lactation. They then have a 60-day vacation before they have their next calf, called a dry period. The cow stops producing milk during this period of time. They are fed a nutritious diet and kept comfortable while her unborn calf continues to grow as her body prepares for her next lactation.

Cow Comfort

Cows are often housed in temperature controlled barns with stalls for them to lie down in and have unlimited access to feed and water. They have a variety of bedding options that can be used on top of their mattresses or water beds. This includes straw, sawdust, paper or sand bedding. It is almost like the cows get to live on the beach. The temperature controls, fans and water sprinklers allow producers to maintain a comfortable climate for the cows, keeping them cool in the summer and warm in the winter.

Team of Experts

Dairy farmers work very closely with a team of experts to keep their animals healthy.

Nutritionists help dairy producers develop a balanced diet for their cows. Every day a cow eats forages, grains, protein supplements, byproducts, vitamins, and minerals. Some farms mix all these ingredients together into a Total Mixed Ration (TMR). The TMR is similar to a casserole and is fed to the cows every day and is usually their sole source of feed. When all the ingredients are mixed together, a cow is less able to select individual ingredients to eat and more likely to get a well-balanced ration in every bite. Ingredients in the cow's feed are typically hay (grass or alfalfa), sugar beet pulp, cottonseed, corn silage, grains (corn, wheat, or barley), protein sources (soybeans and canola), vitamins, minerals and plenty of water.

Cows have regular checkups from a veterinarian who comes to the farm to ensure they are healthy. They are also called for health emergencies. A veterinarian is a person who practices medical and surgical treatment of animals, similar to a doctor. Sick animals are treated to minimize pain and suffering.

Cows sometimes get pampered by the farmer and his team of experts by having their hair clipped, receiving a bath and getting hooves trimmed from the hoof trimmer.

DAIRY FACT • The most popular breed of dairy cattle in the U.S. is Holstein.
QUALITY ASSURANCE

Dairy products are the most highly regulated food product in the world. Strict government standards and industry protocols ensure that pasteurized milk and milk products are wholesome, safe and nutritious.

Responsible use of Antibiotics

Sometimes it is necessary for farmers to treat cows with antibiotics when they are ill. Just as humans need certain medications when they are sick, cows are the same. It is the farmers’ responsibility to maintain comfort for their animals, especially when they are sick.

Milk from a cow being treated with antibiotics is separated to ensure it does not go into the milk supply. The U.S. Food and Drug Administration, U.S. Department of Agriculture and regulatory agencies in all 50 U.S. states are responsible for regulating milk quality and ensuring that it remains antibiotic free. Milk is first tested when it is picked up from the dairy farm. The truck driver must take a sample of milk from the bulk tank before it is pumped into the truck. When the truck arrives at the milk-processing plant, a milk sample is taken from the truck and again is tested for antibiotics. If the load tests positive, the milk is discarded and prohibited from entering the processing plant and food supply. All of the individual farm samples that the driver collects are tested to identify which farm’s milk contained the antibiotics. In such cases, producers suffer large financial penalties, as they are responsible for paying for the entire tanker of milk.

Biosecurity

Farmers work diligently to implement a wide range of measures to secure facilities and the milk supply. Measures that take place are referred to as biosecurity procedures. They are intended to protect humans or animals against disease or harmful biological agents. This is managed by posting signs stating your safety protocols, such as guests wearing plastic boots. All buildings involved in the operation must be kept clean and sanitized regularly.

Farmers Assuring Responsible Management (FARM) Program

Farmers Assuring Responsible Management (FARM) is a program open to all dairy farmers, cooperatives and processors across the U.S. that sets the highest standards when it comes to animal care and producing high quality products.

It offers a training manual developed with the help of veterinarians and other experts to establish guidelines for the proper care of dairy cows based on the latest research. These training manuals include videos that cover topics of animal health, birth to end of life, facilities and housing, equipment and milking procedures, nutrition, transportation and animal handling.

If animal abuse is suspected, through credible evidence of willful mistreatment of animals, the FARM Program will contact the program participant and the cooperative or proprietary processor with whom they are affiliated to discuss the allegation. Additionally, the FARM Program may conduct a third-party, on-site audit or on-farm investigation of alleged animal care issues. An investigative audit includes animal observations, employee interviews and reviewing of any video footage. For additional information and resources on FARM visit www.nationaldairyfarm.com.

DAIRY FACT • America’s dairy industry is an important contributor to our nation’s overall economy. Dairy farmers purchase machinery, trucks, fuel and more from local companies. This creates jobs and produces revenues for local communities.
Dairy Products

When you go to the grocery store and look at the dairy case, you may have noticed that there are more options than just white or chocolate milk. Do you know what you are really buying? The descriptions below will hopefully help you know what exactly each product is, so you can help educate yourself and others on the many options available to getting three servings every day of dairy.

**Milk**

**WHOLE MILK:** Whole milk is usually homogenized, fortified with vitamin D, and must contain a minimum of 3.25 percent milkfat.

**LOWFAT MILK:** Lowfat milk has between 0.5 and 2 percent milkfat, and is fortified with vitamin A. The addition of vitamin D is optional, so check the label. The fat removed from lowfat and skim milk are used in products made from cream.

**SKIM MILK:** Also known as nonfat milk, must have less than 0.5 percent milkfat and must be fortified with vitamin A. The addition of vitamin D is optional.

**FLAVORED MILK:** Flavored milks are made by adding fruit, fruit juice or other natural or artificial food flavorings such as strawberry, chocolate syrup or cocoa.

**ULTRA-FILTERED MILK:** Ultra-filtered milk is filtered, meaning water is filtered out, in order to increase the natural calcium and protein and decrease the lactose.
**Buttermilk:** All commercially sold buttermilk is cultured, meaning that a safe lactic acid-producing bacterial culture is added to freshly pasteurized whole milk or more commonly, skim or nonfat milk to produce the buttermilk.

**Dry Whole Milk:** Dry whole milk, also known as powdered milk, is pasteurized whole milk with the water removed.

**Evaporated Milk:** Evaporated milk is prepared by heating homogenized whole milk under a vacuum to remove half its water, sealing it in cans and thermally processing it. Thermal processing is a specific temperature and time needed to eliminate microorganisms from the food product. When evaporated milk is mixed with an equal amount of water, its nutritive value is about the same as whole milk. Evaporated skim milk is also available. There is no added sugar to this product.

**Sweetened Condensed Milk:** This concentrated canned milk is prepared by removing about half the water from whole milk. Often used in candy and dessert recipes, sweetened condensed milk has at least 40 percent added sugar.

**Raw Milk:** This is a milk that has not been pasteurized.

**Cream**

**Half-And-Half:** Half-and-half is made by homogenizing a mixture of milk and cream. It must contain at least 10.5 percent milkfat, but not more than 18 percent.

**Light Cream:** Light cream, also called coffee cream or table cream, must have at least 18 percent milkfat, but less than 30 percent milkfat.

**Light Whipping Cream:** Light whipping cream must have at least 30 percent milkfat, but less than 36 percent milkfat.

**Heavy Cream:** Heavy cream must have at least 36 percent milkfat.

**Sour Cream:** Sour cream is made by adding a special bacterial culture to light cream. The bacteria produce lactic acid, which sours the cream.

**Butter**

**Butter:** Butter is made by churning pasteurized cream. Churning is the process of turning cream into butter. Federal law requires that it contain at least 80 percent milkfat. Salt and coloring may be added. Butter labeled as “sweet cream butter” means the cream used for the butter has been pasteurized.

**Cheese**

**Natural Cheese:** There are hundreds of varieties of natural cheese. Cheese is generally made from whole milk, although skim milk, cream and goat’s milk are also used. Cheese making consists of separating most of the milk solids from the milk by coagulating with safe bacterial cultures, rennet or a microbial enzyme. The curd is then separated from the whey by heating, stirring and pressing.

**Aged:** Cheese that is cured for over six months which gives it a sharp flavor and a firm texture.

**Cream Cheese:** Cream cheese is a result of adding a starter culture to milk.

**Cottage Cheese:** Cottage cheese is a soft, uncured cheese prepared by mixing dry curd cottage cheese with a creaming mixture.
Yogurt

YOGURT: Milk is cultured with special bacteria to make custard-like yogurt.

GREEK YOGURT: Yogurt that is strained to remove the whey from the product. This gives it a thicker consistency.

KEFIR: Kefir is a tart yogurt drink that is made from unique culture grains. These grains contain bacteria/yeast mixture clumped together with casein (milk proteins) and complex sugars. The grains then ferment the milk. Once the product is complete, the grains are strained from the product and it is packaged.

Ice Cream

ICE CREAM: Ice cream is made from cream, milk, sweeteners, flavorings, stabilizers and emulsifiers. To be shipped in interstate commerce, it must contain at least 10 percent milkfat.

FROZEN CUSTARD: Frozen custard, also called French ice cream or New York ice cream, has egg yolks added.

Storage

Storage times and guidelines for maintaining the quality of milk and cream in the refrigerator at home after purchase.

- Fresh milk – 5 days
- Buttermilk – 10-30 days
- Condensed or Evaporated milk – 4-5 days after opening
- Half and Half, Light Cream & Heavy Cream – 10 days
- Sour cream – 2-4 weeks
- Yogurt – 7 to 10 days after opening, unopened 6 weeks
- Butter – 1 to 2 weeks after opening, frozen 6 to 9 months
- Cottage Cheese – 10-30 days after opening
- Hard or Wax Coated Cheese (Cheddar, Gouda & Swiss) – unopened 3 to 6 months, 3 to 4 weeks after opening

Tips for purchasing and storing dairy products

- Make the dairy aisle one of the last stops in your shopping trip so the items you choose do not become warm in your cart.
- Check “sell by” dates. The “sell by” date is the last date a product should be offered for sale. There is a reasonable length of time after the “sell by” date to use this product at home.
- Check the “best if used by” if included. This is the last day the manufacturer expects the product to be good to eat or drink.
- Store milk and other dairy products in the refrigerator below 40°F. Never store milk in the refrigerator door; the temperature of the door rises each time the door is opened. The interior shelf of the refrigerator has a more consistent temperature.
NUTRITION

Dairy products contain nine essential nutrients:

- **Calcium**: helps build and maintain strong bones and teeth. It also plays an important role in nerve function, muscle contraction and blood clotting.

- **Potassium**: regulates the body’s fluid balance, helps maintain normal blood pressure and is needed for muscle activity and contraction.

- **Phosphorus**: strengthens bones and generates energy in the body’s cells.

- **Protein**: builds and repairs muscle tissue and serves as a source of energy during high-powered endurance exercises.

- **Vitamin A**: helps maintain normal vision and skin, helps regulate cell growth and maintains the integrity of the immune system.

- **Vitamin D**: helps promote the absorption of calcium and enhances bone mineralization.

- **Vitamin B12**: helps build red blood cells that carry oxygen from the lungs to working muscles.

- **Riboflavin**: (vitamin B2) helps convert food into energy – a process critical for exercising muscles.

- **Niacin**: important for the normal function of many enzymes in the body and is involved in the metabolism of sugars and fatty acids.
Receiving three servings each day of dairy products is important to maintain a healthy diet according to the federal Dietary Guidelines for Americans (DGA). MyPlate is a program used by the United States Department of Agriculture (USDA) as a reminder for consumers to maintain a healthy diet. It focuses on five food groups, dairy being one of them. By eating healthier, the risk of obesity, developing heart disease, diabetes and cancer can be reduced.

Including dairy in the diet helps build strong bones and teeth, which is especially important for children and adolescents. Dairy products also help reduce the risk of osteoporosis, cardiovascular disease, type 2 diabetes and lower blood pressure.

<table>
<thead>
<tr>
<th>SERVING SIZES</th>
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<tbody>
<tr>
<td>Milk – 1 cup</td>
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<tr>
<td>Natural Cheese (Cheddar, Mozzarella, Swiss) – 1 ½ oz.</td>
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<tr>
<td>Processed Cheese – 2 oz.</td>
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<tr>
<td>Cottage Cheese – 2 cup</td>
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<tr>
<td>Yogurt – 1 cup</td>
</tr>
<tr>
<td>Fresh Cheese – 1 cup</td>
</tr>
<tr>
<td>Ricotta Cheese – 1/2 cup</td>
</tr>
<tr>
<td>Ice Cream – 1 ½ cups</td>
</tr>
<tr>
<td>Frozen Yogurt – 1 cup</td>
</tr>
</tbody>
</table>

**Milk vs. Imitation Beverages**

While at the grocery store, it is important to know that you are making an educated decision of purchasing a wholesome and nutritious product that will satisfy you. Below is a nutritious comparison between cow’s milk and milk alternatives.

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Low-fat Milk</th>
<th>Soy Beverage*</th>
<th>Rice Beverage*</th>
<th>Almond Beverage*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>102</td>
<td>101</td>
<td>106</td>
<td>60</td>
</tr>
<tr>
<td>Protein (in grams)</td>
<td>8</td>
<td>7</td>
<td>.5</td>
<td>1</td>
</tr>
<tr>
<td>Sodium (in milligrams)</td>
<td>107</td>
<td>113</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>Potassium (in milligrams)</td>
<td>366</td>
<td>295</td>
<td>120</td>
<td>165</td>
</tr>
<tr>
<td>Vitamin A (% of daily requirement)</td>
<td>10</td>
<td>9.7</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Calcium (% of daily requirement)</td>
<td>30</td>
<td>26</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>Vitamin D (% of daily requirement)</td>
<td>32</td>
<td>29</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>Phosphorus (% of daily requirement)</td>
<td>23</td>
<td>16</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Magnesium (% of daily requirement)</td>
<td>7</td>
<td>10.6</td>
<td>Not Specified</td>
<td>4</td>
</tr>
</tbody>
</table>

* Nutrient values averaged among commonly available non-dairy products. (realseal.com)

The shaded boxes indicate where the imitators fall short. It turns out nearly 70 percent of the time the imitators can’t match milk in nutritional content.
## LABELING

### Milk vs. Imitation Beverages

#### 2% REDUCED FAT COW’S MILK

**INGREDIENTS:**
- Reduced Fat Milk
- Vitamin A Palmitate
- Vitamin D3

#### ALMOND WATER

**INGREDIENTS:**
- Filtered Water
- Almonds
- Calcium Carbonate
- Sea Salt
- Potassium Citrate
- Sunflower Lecithin
- Gellan Gum
- Vitamin A Palmitate
- Vitamin D2
- D-Alpha-Tocopherol

### Butter vs. Margarine

#### SWEET CREAM BUTTER

**INGREDIENTS:**
- Cream
- Natural Flavoring

#### MARGARINE

**INGREDIENTS:**
- Soybean Oil
- Palm and Palm Kernel Oils
- Water
- Salt
- Whey
- Vegetable Monoglyceride
- Soy Lecithin
- Potassium Sorbate
- Artificial Flavor
- Citric Acid
- Vitamin A Palmitate
- Vitamin D3
- Beta Carotene

### Nutrition Facts

#### MILK

- **Serving Size:** 1 Tbsp. (14g)
- **Calories:** 100
  - **Total Fat:** 12g (15%)
  - **Saturated Fat:** 7g (35%)
  - **Cholesterol:** 30mg (10%)
  - **Sodium:** 80mg (4%)
  - **Total Carbohydrate:** 0g (0%)
  - **Protein:** 0g

#### MARGARINE

- **Serving Size:** 2 tsp (14g)
- **Calories:** 100
  - **Total Fat:** 11g (14%)
  - **Saturated Fat:** 5g (25%)
  - **Cholesterol:** 0mg (0%)
  - **Sodium:** 80mg (4%)
  - **Total Carbohydrate:** 0g (0%)
  - **Protein:** 0g

---

**Note:**
- The % Daily Value (%) tells you how much a nutrient in a serving of food contributes to a daily diet. A diet of 2,000 calories a day is used for general nutrition advice.
- *The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.*

**Ingredients:**
- Milk, water, natural flavoring, contains milk.
**Hormones in Milk**

When it comes to hormones, all cow’s milk, both conventional and organic, naturally contains minuscule amounts of hormones, including estrogen and progesterone. Because hormones like estrogen are fat-soluble, the level of hormones is higher in whole milk than in skim milk. Milk is one of the safest, nutrient-rich choices for you and your whole family. There is lots of confusion and misinformation about milk, such as where it comes from and what’s added (or not added) to it. You may have even heard some confusion about hormones in milk. The fact is, there are never any hormones added to milk, but if you’re concerned about growth hormones in milk, there are many milk choices, both conventional and organic from cows that are not treated with any growth hormones. Just check the label for indications, such as “rBGH-free” or “rBST-free milk” or “from cows not supplemented with rBST.” In fact, the large majority of milk sold in stores is rBST free.
How are Dairy Products Labeled?

Aside from the different types of products you might buy while in the grocery store, there are also a variety of labels that you should be aware of. Listed below are a few of the most common labels found on dairy products today and their meaning.

CERTIFIED LABELS

• Organic: The USDA Organic seal verifies that producers met animal health and welfare standards, did not use antibiotics or growth hormones, used 100 percent organic feed and provided animals with access to outdoors. The Organic label itself does not mean that there are no drugs, pesticides residues or other synthetic substances found in this product. Unless a product is labeled 100 percent organic, it could have small amounts of non-organic ingredients.

NON-CERTIFIED LABELS

• Grass-Fed: This means that animals are fed a grain free diet. This does not mean cattle only consumed grass, but also milk (when young), hay, leafy plants, mineral supplements and grain crops in their vegetative state. This term does not mean animals are always outdoors and free roaming. According to the USDA definition, “cattle must have continuous access to pasture during the growing season.”

• GMO Free: Genetically modified organisms (GMOs) are living organisms whose genetic material has been artificially manipulated in a laboratory through genetic engineering. This creates combinations of plant, animal, bacteria and virus genes that do not occur in nature or through traditional crossbreeding methods. The verification seal indicates that the product bearing the seal has gone through a verification process using an action threshold of 0.9 percent. This means that if a product contains more than 0.9 percent it must be labeled GMO. Although “GMO free” is not legally or scientifically defensible due to testing methodology limitations, the risk of seeds, crops, ingredients and products being contaminated is too high to reliably claim “GMO free.”

• From Cows not Treated with rbST: Recombinant Bovine Somatotropin (rbST) is used to increase milk yield and production efficiency. For products with this label, producers agree to not administer these hormones to their dairy cows. This label does not mean that the milk does not have hormones. Bovine somatotropin (bST) is only one of many hormones that cattle naturally produce, including estrogen. According to the USDA there are no measurable compositional differences between milk from cows that receive rbST and cows that do not. This label is overseen by the USDA, where producers must submit documentation of farming practices.

• No Antibiotics/Antibiotic Free: All milk is tested for antibiotics and other drug residues before being processed. Any milk, whether this label is attached or not, that tests positive for antibiotics is discarded, never making it into the food chain.

• Natural: FDA has yet to define natural, but does not object to the use on products that do not contain added color, artificial flavors or synthetic substances. This does not mean that milk has not been processed. Most dairy products are pasteurized and homogenized. The label does not imply anything about the way an animal was raised or how it was fed.
Resources

References

- http://www.realseal.com/ (NMPF)
- http://www.wadairy.com/blog/milks-9-essential-nutrients
- https://dairygood.org/content/2013/9-essential-nutrients-from-calcium-to-protein
- http://www.nongmoproject.org/learn-more/what-is-gmo/

Dairy Advocates

- Guernsey Dairy Mama
  http://www.guernseydairymama.com/about/
- A Farm Wife
  http://www.afarmwife.com/
- Dairy Carrie
  http://dairycarrie.com/about/
- Sadie Frericks
  http://www.dairygoodlife.com/p/about.html
- Michele Payn
  http://causematters.com/
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WADairy.com
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