

How Resources Move from Farm to Community

Dairy farms play an important role in communities. They affect ways of life in both urban and rural communities. Dairy farms depend on natural resources such as the land, soil, air, and water to produce milk. The milk is then used to make products that people eat.

The Dairy Production Cycle

Dairy production involves a cycle of natural resources and human activities:

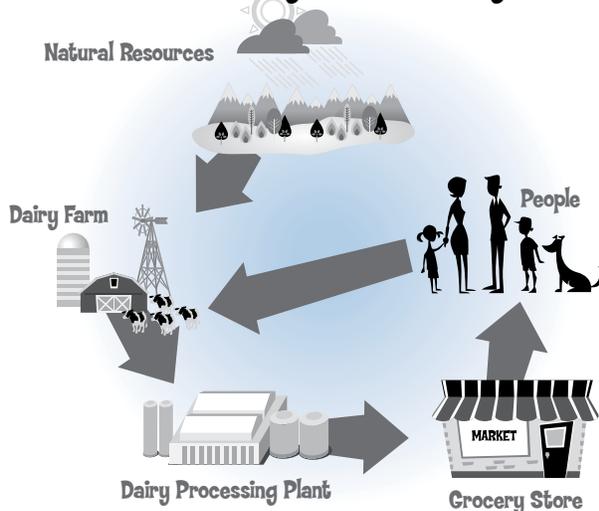
- Dairy farmers depend on natural resources to feed their cows and produce raw milk.
- The milk is stored in a refrigerated tank and then transported in an insulated tanker to a **dairy processing plant**, which is where milk is made into various products like different types of milk, cream, or yogurt.
- The processing plant uses the milk to make many different products – such as bottled milk, buttermilk, ice cream, yogurt, cheese, butter, and sour cream. On some Alberta farms, they also do their own processing. Some dairies specialize in making their own cheese or yogurt.

- Whether products are made at the processing plant or on the dairy farm, they are transported to stores across Alberta and Canada.
- People in communities buy these dairy products. This creates a **demand**, the desire that people have to buy a product, for the milk that cows make. Dairy farmers continue to raise and milk their cows to meet this demand.

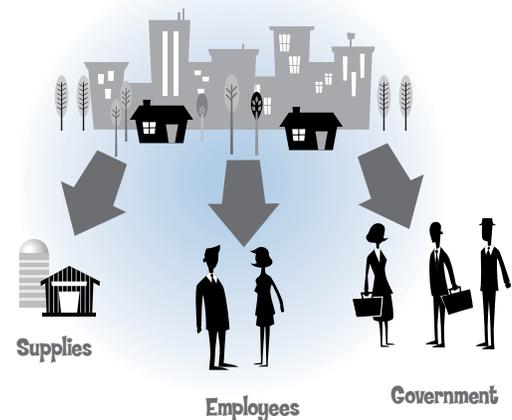
Some other factors affect the cycle of dairy production:

- Dairy farms hire employees and buy supplies from nearby communities.
- The dairy industry is connected to other industries. Dairy farms and processing plants need energy to run their equipment and transport their products.
- The dairy industry is connected to the government. All dairies must have **licenses**, which give them official permission from the government to operate. Dairies follow rules and laws to make sure milk is safe and healthy.

The Dairy Production Cycle



Resources that Communities Provide



An Alberta Dairy Story

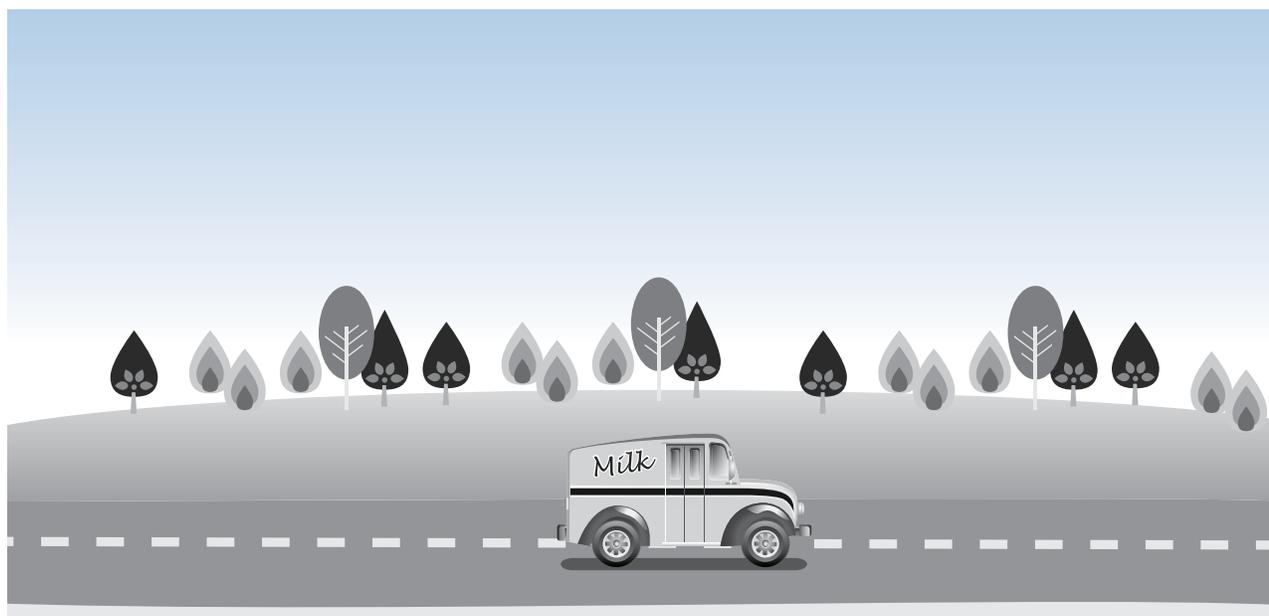
We started Bles-Wold Dairy in 1994, on a fine location near Lacombe, in Central Alberta's Parkland. The black soil is very fertile and excellent for growing feed crops for the cows.

In August 1994, we started building a new dairy building and by February 1995, we were ready to milk cows. In 1996, we started to produce yogurt as a hobby and it soon turned into a business. At that point, we changed the barn into a licensed processing dairy.

Currently, 270 cows are producing 2.7 million kilograms of milk per year. The majority of the animals are purebred Holsteins. The herd is milked three times per day.

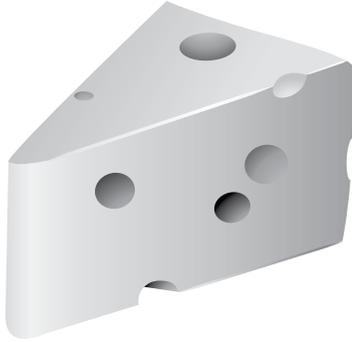
During the summer, our cows are kept outside on a daily basis. They are fed a mixture of hay, barley, **silage** (crops that are harvested while they are still green, packed into a silo, and covered with plastic to remove the oxygen from the crop plant), **haylage** (grass that is grown and cut the same as hay but left to dry for less time), rolled barley, ground corn, and sunflower seed. Most of the ingredients are grown on the farm.

Adapted with permission from the Bles-Wold Dairy Products website at www.bles-wold.com/thedairy.htm.



Sylvan Star Cheese

Sylvan Star Dairies makes Gouda, Edam, and Gruyere cheese at their cheese farm, using the milk of their own cows. Find out more about how cheese is made at www.sylvanstarcheesefarm.ca.



Going Organic

There were nine **certified** organic dairy producers in Alberta in 2010. A producer is certified when he or she meets **requirements**, which are sets of rules. When a product is certified organic, it means that it has been grown or made according to strict rules. It takes three years of testing land and soil to be certified as organic. Cows are fed and looked after organically for at least one year before they can be certified organic. Organic food production is based on farming practices that protect the environment and do not use any chemicals. Organic milk has the same nutrients as regular milk.

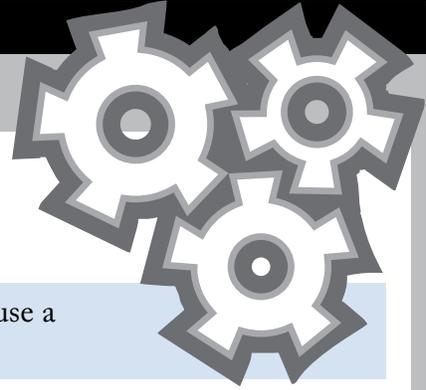


Did You Know?

Did you know that the Red Deer city flag has a coat of arms with dairy cows and milk cans?

- The groundwork of mountains showing the setting sun represents sunny Alberta.
- The dairy cows in the foreground represent dairy farming.
- Above the cow are six milk cans to show the shipping of dairy products.

Exploring a Cycle



What natural resources and human activities are involved in the dairy production cycle? Identify these natural resources and human activities in the two columns of the **T-Chart** below.

Once you identify the elements of the dairy production cycle, use a **Cycle Diagram** to place them in order.

Natural Resources	Human Activities



Play the *On the Job Interactive App* in the **On the Job** inquiry page or the **Game Corner** on the *Moo2You* website at www.moo2you.ca.

Use the job descriptions to help you identify some examples of human activities and natural resources involved in the dairy industry. Add these to your **T-Chart**.

How do you think these occupations and jobs would be affected by each “What If...” question? Add your ideas to the **Cause and Effect Chart**.

The elements in a cycle are related to each other. Each element is affected by the other elements. A dairy production cycle is no exception. What do you think would happen if:

- Energy costs increased a lot?
- The number of dairy farms decreased?
- The local grocery store closed?
- Truck drivers all went on vacation?
- The only local veterinarian took a job in another province?
- The water supply was polluted?

Use a **Cause and Effect Chart** to explore each “What If...” question.