



# FARMING responsibly

People in Canada as well as other countries around the world are becoming more aware of the importance of food safety. They want to know that food products are grown and produced in safe, sustainable and socially responsible ways.

Shifts in consumer trends and preferences means that there is more interest in organic, local foods and demand that these foods be grown or made in sustainable ways. All agriculture includes **sustainable agricultural practices** – farming techniques that protect the environment and the health of communities and animals. **Sustainable food processing** uses packaging with less waste or reusable materials.

All farmers follow practices that make sure the food products they grow or make are safe. They use technology that ranges from robots to social media.

The government is also involved in ensuring food safety for consumers.

- ◆ The government approves and monitors the use of farm chemicals and medications.
- ◆ Laws protect the welfare of animals and the environment.
- ◆ Laws protect the safety of farmers.
- ◆ All food products in Canada are tested for pesticide residues, which are any trace of pesticide left on food. All food products must meet guidelines for maximum residues.





## Antibiotics



**Antibiotics** are medicine used to control infections. These products are used very carefully by dairy farmers. If a dairy cow gets sick, antibiotics may be needed to help her get better. Dairy farmers must follow strict guidelines for giving antibiotics. Farmers work with veterinarians to get the antibiotics. Cows are identified and/or marked for treatment. That treatment is recorded and the cow's milk is discarded until the antibiotics have cleared her system – until they are no longer in her body. This ensures that antibiotics do not get into the human milk supply.

As an additional safety measure, milk processing plants test each truck load of milk for traces of antibiotics before accepting it. Milk is discarded if the test shows any presence of antibiotics.

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Why do you think people are becoming more concerned with food safety?

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What other trends do you think could influence the growing interest in food safety?

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## How do dairy farmers apply responsible practices?

Dairy farmers provide proper feed as well as safe and clean housing to make sure that their cows are healthy and productive. On most farms, cows are milked twice a day.



### Caring for Animals

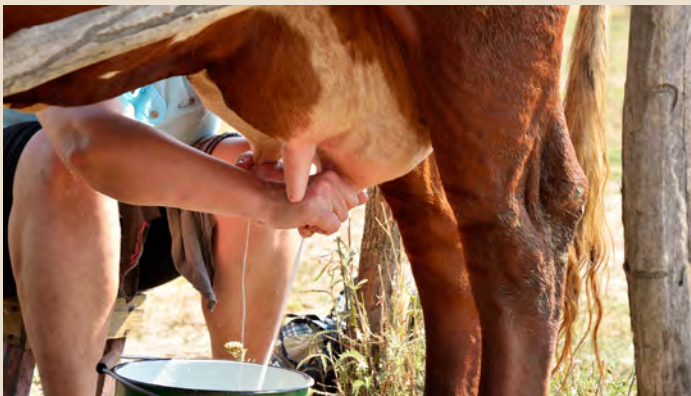


Healthy animals are needed to produce good quality milk. In Canada, the government also has a role to play in the dairy production cycle. Canada has laws that protect farm animals. These laws and **regulations**, or rules, help make sure that animals are treated **humanely**, with understanding, respect and caring. Everyone who handles **livestock**, animals used for food, as well as the food products that we get from livestock, must follow these regulations.

Most provinces are members of **Farm Animal Care Associations**, which are made of people from different industries who work together for the responsible care of animals.



### Milking a Cow



Years ago, dairy farmers milked their cows by hand. This took a long time and was not as **sanitary**, or clean and healthy, as milking by machine.

Milking is also done with stanchions or in tie stalls. A **stanchion** is a bar that helps hold the cow in place while it is being milked. A **tie stall** is a stall where cows are tied in place to be milked. Although some farmers still use stanchions or tie stalls, all of them use some form of milking machine to milk the cow.

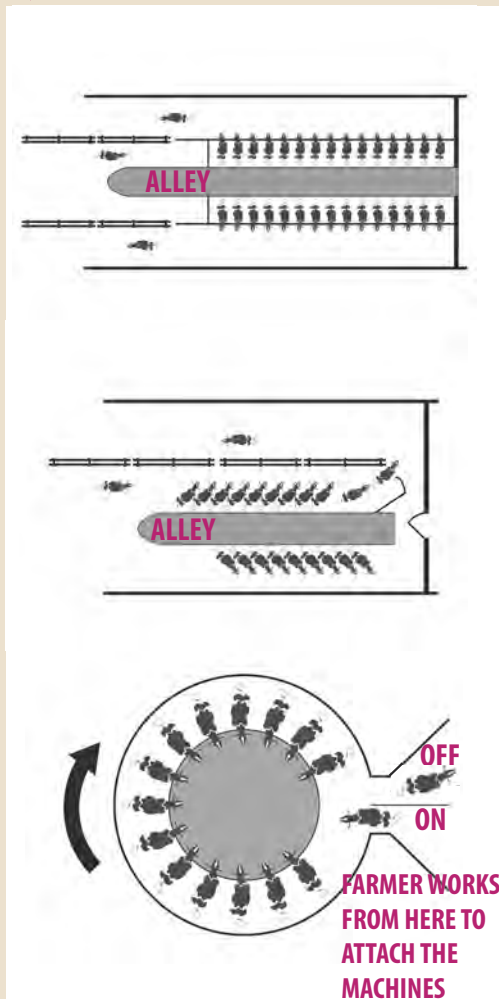
Many dairy farmers use a type of **milking parlour**, which is a section of the barn with the milking machines. All milking parlours use the same type of milking machine as well as a computer to manage the milking.

When a cow enters the parlour, the computer identifies the cow so it can keep track of how much milk she produces. The farmer visually checks the udder and gets the cow ready to milk. Before the cow can be milked, her **teats**, or nipples, are cleaned so the milking machine can be attached.

Milking one cow takes about five to eight minutes, but more than one cow can be milked at a time. Milking machines have automatic sensors that work much like the suckling of a baby calf. The sensors allow the machine to fall off when the milk flow has stopped.



## Milking Parlours



In a **parallel milking parlour**, cows are lined up in straight rows. The farmer moves from one cow to the next in the alley to attach the milking machine and milk the cow.

In a **herringbone milking parlour**, cows are lined up at an angle. This makes it easier for the milking machine to be attached and the cows to be milked.

A **carousel**, or **rotary milking parlour** moves the cows around so that the farmer can stay in one place to attach the milking machine. This milking parlour is similar to a merry-go-round!

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The newest method of milking is called the **voluntary milking system**. It uses computers and robots so a cow can choose when she wants to be milked.

Before milking, the cow passes through an automatic gate that reads her identity. If the cow is ready to be milked and a set amount of time has passed since its last milking, the machine will start. A robot uses laser beam technology to clean, attach the machine and milk the cow. The farmer does not have to be with the cow while she is being milked.

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Watch a video that shows voluntary milking from Alberta Milk at [www.youtube.com/watch?v=ia4mcpJmtPU](http://www.youtube.com/watch?v=ia4mcpJmtPU). How does this milking method consider the animals' needs?



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Watch the Farm Food 360 videos on tie stalls and free stalls at [www.farmfood360.ca](http://www.farmfood360.ca). Click on the Dairy Farm tile and select each video. How do these milking methods compare to milking parlours and voluntary milking systems?



Stainless steel pipes send milk directly to a large temperature-controlled bulk tank in the milk house of the dairy farm. The milk arrives in the bulk tank as **raw**, or unprocessed, milk. **Unprocessed milk** has had nothing done or added to it. The milk can be quickly cooled in the bulk tank to just below 4°C, or it can be cooled in the pipes it travels through. These pipes are surrounded by cold water that cools the milk before it reaches the tank.

This raw milk is then picked up and transported by a milk hauler every day or every second day to the **dairy processing plant**, which is where milk is pasteurized and made into various products like milk, cream or yogurt.



## Hauling Milk



A **milk hauler** collects the milk in an insulated tanker truck, but also checks and tests it. Milk haulers must have a **license**, which gives them official permission from the government, to check the milk and make sure it is safe.

The milk hauler must make sure the milk is delivered quickly to the processing plant. A milk hauler often picks up milk from several farms and takes a full load to the processing plant.

Processing plants must be **registered** with the government or have a provincial license. This registration or license says that the processing plant meets the strict safety and health requirements necessary to make food products.

A processing plant inspector inspects the plants to ensure they are clean and safe. They also make sure that proper processes are used to make healthy and safe dairy products. Milk is kept cold and stored in insulated **silos**, large containers used for storage, until it is processed, packaged and transported for sale.