

## Grade 6: A Journey Through the Food System



Developed by AHS, Nutrition Services in consultation with the Body Image Research Lab at the University of Calgary's Werklund School of Education – April 2025



### Approximate time for completion:

Lecture portion with discussions will take approximately 45 minutes, in addition to multiple activities.

### Speaker Notes:

- There are many reasons why we eat the foods we do. The selection of foods that are available. We get food from farmer's markets, food banks, farm stands, and grocery stores. We may also get food directly from the land through gardening, farming, picking wild plants (foraging), hunting, and/or fishing. Today's topic focuses on our food system and which foods are available at the stores you shop. What is available impacts what foods you eat.
- We will be looking at how food travels through the food system to help explain why we are able to have a variety of foods, even in the winter, or times when there is a shortage of a certain food.
- For a PowerPoint version of this presentation, please contact: [publichealth.nutrition@ahs.ca](mailto:publichealth.nutrition@ahs.ca)

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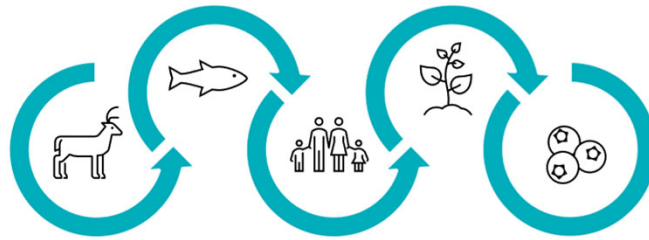
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**Speaker Notes:**

- To start the journey through the food system, we will start with the original, Indigenous traditional food practices and then move into the food system used today.
- We will be looking at:
  - What a food system is.
  - Key components of a food system.
  - What factors throughout the food system can impact the foods available to us.

## Indigenous Traditional Food Practices



### Speaker Notes:

- Indigenous peoples are the original caretakers of Canada. Their food practices are deeply connected to the land, culture, tradition, language, ceremony, stewardship, and reciprocity (giving back to the land).
- Indigenous peoples have a deep understanding of growing and harvesting food, such as hunting, fishing, trapping and gathering wild plants, and these practices are all rooted in respect and care for the land. This involves taking only what is needed from the land and paying respect back to nature during harvest and hunting.
- Before modern food system technologies, techniques like smoking and drying meats, fruits, and vegetables helped store food for the winter months when supplies were limited. Food was shared within the community rather than sold in stores or delivered by trucks.
- The unique food practices of Indigenous peoples are specific to the landscape (forest, prairie, etc.) and will vary across Alberta.
- Colonization has limited Indigenous people's ability to access the land and pass along the traditional ways of knowing around food practices. Strengthened Indigenous food systems can support improved health for communities and the land. It would also allow a greater understanding, respect, and appreciation for our food.
- Let's look at two examples of traditional food practices that help to support the health of both people and the land.

### References:

- Government of Canada, Mohan B. Kumar, Chris Furgal, Peter Hutchinson, Wade Roseborough, Stephanie Kootoo-Chiarello. Harvesting activities among First Nations people living off reserve, Métis and Inuit: Time trends, barriers and associated factors [Internet] 2019 Apr [cited 2025 Apr 1]. Available from: <https://www150.statcan.gc.ca/n1/pub/89-653-x/89-653-x2019001-eng.htm>
- Communities Choosewell. Module 9: Indigenous food systems [Internet]. No date [cited 2024 Sept 18]. Available from: <https://rise.articulate.com/share/GpGNAJoFqUcEvAC1ps1ZJkisYGs1tpO2#/>

## Indigenous Food Harvesting



The Honorable Harvest

<https://www.youtube.com/watch?v=cEm7gblax0o&t=17s>

### Speaker Notes:

- **Food harvesting has been part of Indigenous peoples' ways of living and culture for many generations.** Their wisdom and experience with the land can help us understand, respect and appreciate our food.

### Watch Video - Indigenous Food Harvesting Values:

<https://www.youtube.com/watch?v=cEm7gblax0o&t=17s>

### Please note:

- Indigenous peoples are heterogeneous in culture and environment and may not all practice the same food harvesting traditions.
- Some of the words and concepts in the video are at a higher level than grade 6, but the overall principals are clear. You may choose not to show the video and instead simply discuss key concepts.
- Often, we may eat our food without thinking about where it came from. The Honorable Harvest is a practice for showing respect to our food, and the food system it came from.

### Discussion Questions (potential answers listed below)

**What are some ways, described in the video, that indigenous people show respect to the land?**

- Not picking the first plant you see, checking that there are other plants around to ensure sustainability (i.e. continues growth).
- Using all parts of a plant or animal to prevent waste.
- Sharing food with others.
- Caring for plants to help them grow, by watering, weeding, and fertilizing.

### References:

- Kumar MB, Furgal C, Hutchinson P, Roseborough W, Kootoo-Chiarelo S. Harvesting activities among First Nations people living off reserve, Métis and Inuit: Time trends, barriers and associated factors [Internet]. 2019 Apr [cited 2025 Apr 1]. Available from: <https://www150.statcan.gc.ca/n1/pub/89-653-x/89-653-x2019001-eng.htm>

## Indigenous Smoke House



<https://www.youtube.com/watch?v=nPYc-hYUYPQ&t=39s>

### Speaker Notes:

- Through generations, Indigenous peoples have passed down knowledge about traditional food processing practices such as smoking, drying, curing, and canning. These preservation methods allow the food to last longer without rotting. The following video gives an example of the steps involved in smoking moose meat.

**Watch Video - Indigenous Food Processing:** <https://www.youtube.com/watch?v=nPYc-hYUYPQ&t=39s>

### Discussion Questions (potential answers listed below)

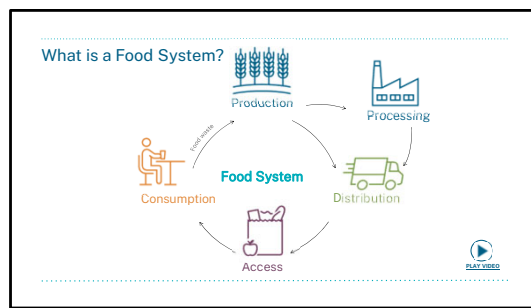
In this video, Irving Wolf Tail is smoking moose meat. Moose are found in forested areas in Alberta near lakes, ponds, or swamps. Moose meat is typically boiled, smoked, or dried. Similar to food harvesting discussed in the last video, Irving Wolf Tail describes the steps he takes to show respect to the animal he gets from the land.

### How does he show respect to the animal he hunts and smokes?

- He thanks the animal for its life
- Uses all parts of the animal, including the heart.

### Reference:

- National Indigenous Diabetes Association. Gifts from our relations: Indigenous original foods guide. [Internet]. 2020 [cited 2025 Apr 1]. Available from: [RL+NIDA\\_TRADITIONAL\\_FOODS\\_GUIDE-2019-English.pdf \(squarespace.com\)](https://www.squarespace.com/RL+NIDA_TRADITIONAL_FOODS_GUIDE-2019-English.pdf)



### Speaker Notes:

- While many people still enjoy traditional food practices like gardening, hunting, and fishing, most people get the majority of their food from grocery stores. Our food system has changed over time.
- The next part of the lesson will focus on the modern Food System.

### Food Systems - Introduction

- Where has our food been before we eat it? It has likely gone through a series of activities with different people to get from the land to our table. All together, these steps or activities form a food system.
- **Food Systems:** are the steps or activities involved in getting food from the farm to the table. All the steps or components of a food system are connected and affect each other.

**Watch Video – Food Systems:** <https://www.youtube.com/watch?v=6Y499vq7tDg>

**Food systems generally have these steps** (they will be discussed more on following slides):

- **Production:** When farmers, gardeners, and food producers plant, grow, raise, and harvest the food.
- **Processing:** Changing food ingredients into a different form. This includes canning, freezing, drying, cooking/ baking, grinding grain, and smoking meat.
- **Distribution:** Transporting of both unprocessed and processed food to the grocery stores, markets, and restaurants where people buy the food.
- **Access:** The ability to purchase food, based on cost, choices available, quality of foods available.
- **Consumption:** Eating the foods a person chooses for health and enjoyment. Consumption is impacted by many external influences.

**There is not just one food system.** Food systems can be at a local level, national level and global level. For example:

- Some of the foods we eat may be from a **local food system**, meaning the foods have been grown or produced close to where we live. For example, we may drink milk from Alberta cows, or eat meat from animals in Alberta, such as bison, or venison (deer).
- At a **national level, the Canadian food system** describes the foods we may eat that are grown or produced in different parts of Canada. For example, apples are often grown in British Columbia, Ontario or Quebec and wild rice is mainly grown in Manitoba and Ontario.
- We are also part of a **global level food system** including the foods we eat that are from other countries. For example, bananas may be from Central or South America.

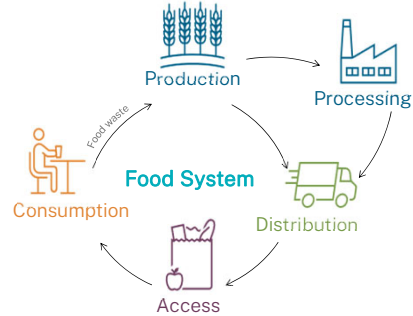
### Background information for teachers

The specific definition of a food system varies. It is typically described as the production, distribution, and consumption of food. For the purpose of this lesson, some of the steps have been broken down, with more of an emphasis on the access to food to align better with the grade 6 curriculum.

### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- Agriculture and Agri-Food Canada (AAFC). Canadian food system [Internet]. 2024 Jun [cited 2025 Apr 1]. Available from: [www.agriculture.canada.ca/en/sector/canadian-food-system](http://www.agriculture.canada.ca/en/sector/canadian-food-system)
- Statistics Canada. Crop production: Visualization tool. [Internet]. 2025 Feb [cited 2025 Apr 1]. Available from: <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020025-eng.htm>
- The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>

# Food System Definitions Worksheet



Grade 6

Name: .....

### Food System Definitions

Match each step in the food system to its definition below.

..... Changing food ingredients into a different form. This includes canning, freezing, drying, cooking, baking, grinding grain, and smoking meat.

..... Eating the foods a person chooses for health and enjoyment. This is impacted by many external influences.

..... The steps involved in getting food from the farm to the table. This includes production, processing, distribution, access, and consumption.

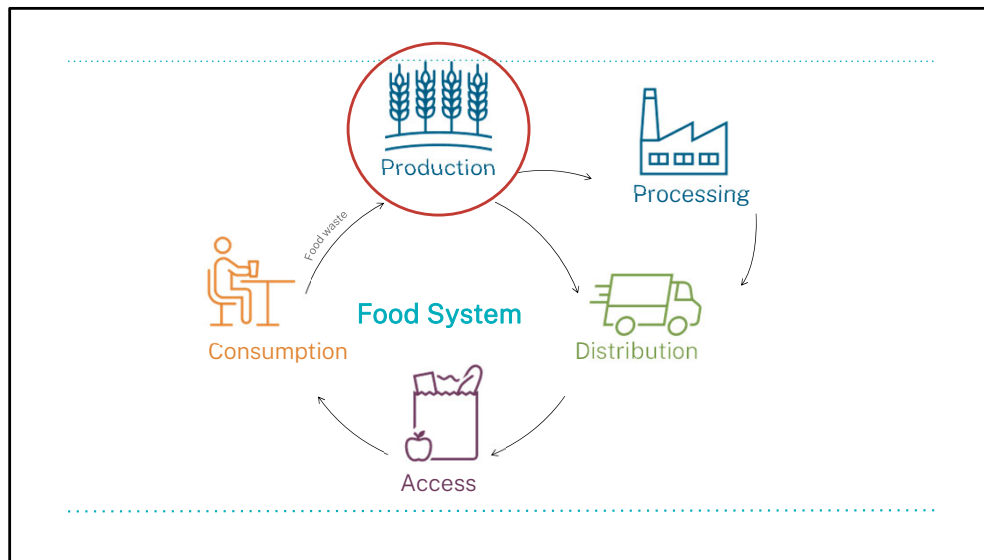
..... The ability to purchase food, based on cost, choices available, quality of food, or equipment available.

..... When farmers, gardeners, and food producers' plant, grow, raise, and harvest food.

..... Transporting both unprocessed and processed foods where people buy food (e.g. grocery stores, markets and restaurants).

## Speaker Notes:

- Have students complete the **Food System Definitions Worksheet** independently (refer to the Guide for Educators for details).
- Use the Answer Key to review answers as a class.



**Speaker Notes:**

- We are going to start by looking at **food production**.





### Speaker Notes:

**Production:** When farmers, gardeners, and food producers plant, grow, raise, and harvest food. A lot of people, hard work and time goes into the production of our food.

### Many different factors can impact food production

- **Weather:** If the growing season is too cold, too hot, too wet, or too dry, it can impact if crops will grow and how much food we get from them. The crop may start growing well, but not survive a flood, cold snap or drought.
- **Growing seasons:** some places have longer growing seasons (warmer weather for a longer time period) and are able to grow more food. The winters in Canada tend to be longer, making a shorter overall growing season compared to a warm country like Mexico.
- **Soil:** The better the soil, the better the quality and amount of a crop. This is because plants need certain nutrients to grow, and they get these nutrients from the soil. Some places or countries naturally have better soil than others and it will cost less and take less effort to produce a crop. Farmers can help their soil by adding nutrients and rotating the crops they grow in a field each year to ensure there are lots of different nutrients.
- **Feeding animals:** The cost to feed animals can influence the quality and amount of animal products, such as meat or dairy foods.

### Local vs Global Foods

- In Alberta, our growing season takes place in the summer. In the winter, some types of plants will be grown indoors in greenhouses.
- Many different foods are produced across Canada: apples, blueberries, corn, potatoes, wheat, beef, etc.
- Grocery stores offer a variety of foods all through the year because anything that cannot be grown or produced in Canada is brought in from other countries.

### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- Agriculture and Agri-Food Canada (AAFC). Canadian food system [Internet] 2024 Jun [cited 2025 Apr 1]. Available from: [www.agriculture.canada.ca/en/sector/canadian-food-system](http://www.agriculture.canada.ca/en/sector/canadian-food-system)
- Statistics Canada. Crop production: Visualization tool [Internet]. 2025 Nov [cited 2025 Apr 1]. Available from: <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020025-eng.htm>



## Speaker Notes:

### Discussion Questions (potential answers listed below)

#### What factors impact food production on a farm?

- Wind, rain, humidity, frost, dew, snow, warm front, cold front, heat wave, precipitation, drought, humidex, frost free days, climate change

#### What role do food producers play in the food system?

- Grow, raise, and harvest the food

#### How is our access to food affected by growing conditions?

- Poor weather could impact crop yields, food availability, and price.
- Limited farmland will reduce the amount of food that can be grown and purchased locally.
- More home or community gardens can increase access to local produce, even in the city.
- The time of year (i.e. growing season) will impact what types of fresh vegetables and fruits are available at a farmer's market or grocery store, and how much they cost.
- Growing seasons in other parts of the world impact what foods can be exported to Canada.
- Planting crops that match the climate can increase the likelihood of a strong harvest, and in turn, food availability.
- Rotating the crops that are grown in one field can help maintain soil nutrition, and increase the likelihood of a strong harvest, and in turn, food availability.
- Growing foods in greenhouses can allow food to grow and be available for a longer duration of the year, and can also help reduce the space, soil, and water necessary for growing.

#### What foods grow in Alberta?

- Wheat, canola, oats, barley, cattle, beans, lentils

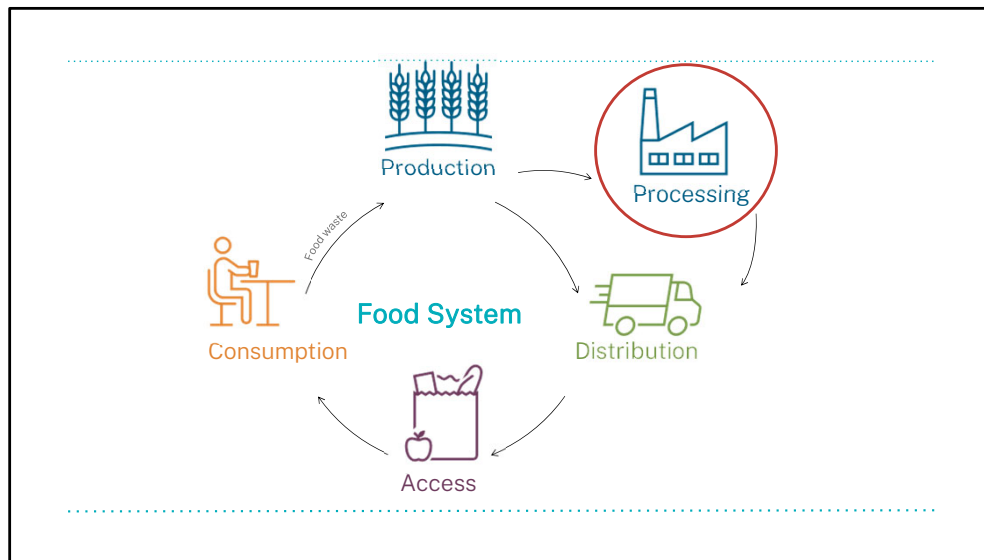
#### What foods grow in other parts of Canada?

- Peaches, cherries, nectarines, grapes

## References:

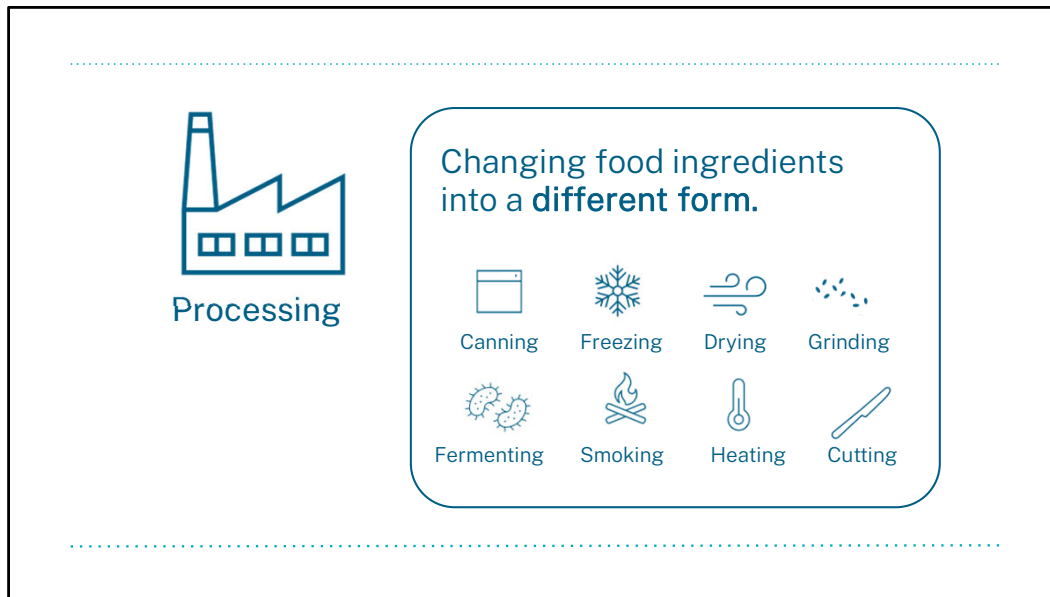
- Government of Alberta. Crop statistics [Internet]. 2019 Nov [cited 2024 Sept 18]. Available from: <https://www.alberta.ca/crop-statistics>
- Government of Canada. Overview of Canada's agriculture and agri-food sector [Internet]. 2024 Jun 27 [cited 2025 Apr 1]. Available from: <https://agriculture.canada.ca/en/sector/overview>
- Government of Canada. Statistical overview of the Canadian fruit industry, 2023 [Internet]. 2024 Jul 22 [cited 2025 Apr 1]. Available from: <https://agriculture.canada.ca/en/sector/horticulture/reports/statistical-overview-canadian-fruit-industry-2023>

**Image sources:** Microsoft 365 Stock Images



**Speaker Notes:**

- We are now going to look at the next component of a food system, which is **food processing**.



### Speaker Notes:

**Processing** – changing food ingredients into a different form. This includes canning, freezing, drying, grinding, fermenting, and smoking.

- Processing is often used to make foods last longer.
- Our short growing season means many locally grown foods are only available for a short time. To store fresh foods so they can safely be used longer, they must be processed (frozen, dried, canned).
- Examples:
  - Turning apples into applesauce or dried apple rings.
  - Freezing fresh raspberries so they can be enjoyed in the winter.
  - Grinding wheat into flour.

### References:

- The City of Calgary. Definition of a sustainable food system. No date. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems . The food systems dashboard. 2025. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>



### Speaker Notes:

#### Discussion Questions (potential answers listed below)

#### How does food processing affect our ability to access foods?

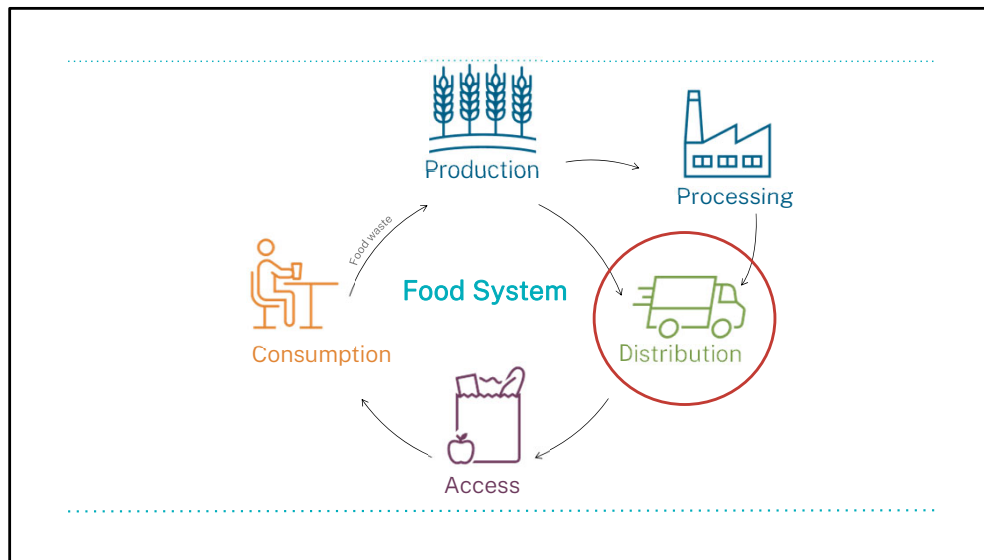
- Freezing and canning makes foods last longer and allows us to access foods past the growing season.
- Processing allows us to eat foods that we may not have the tools or time to prepare at home (ground flour, fermented yogurt, etc.)
- Processing can make nutritious foods quicker to prepare. For example, canned beans - you do not have to cook them first.
- Sometimes large amounts of processing can remove important nutrients from foods, such as vitamins, minerals, and fiber. However, many basic processing techniques allow us to enjoy foods that are equal in nutrition to when they are freshly harvest. For example, frozen and canned vegetables and fruits are just as nutritious as fresh.

#### References:

Harvard T.H. Chan School of Public Health. Processed Foods and Health. August 2023. Available from: <https://nutritionsource.hsph.harvard.edu/processed-foods/>

#### Image sources:

Microsoft 365 Stock Images



**Speaker Notes:**

We are now going to look at the next component of a food system, which is Distribution.



### Speaker Notes:

**Distribution – transporting both unprocessed and processed foods to where people buy food (e.g. grocery stores, markets and restaurants)**

- **Local Food System:** Distribution of food on a local level can be less complex and typically has a shorter time period for the food to travel, especially for areas close to food producers. Farmers and food producers can eat the food they produce or sell it directly (e.g. farmers markets, direct farm sale, or local grocery stores). This is often seasonal.
- In more remote areas of Alberta and Canada, food distribution can be challenging and result in limited types and quantity of foods.
- **Global Food System:** Global distribution of food is complex and involves a lot of people and time. We are able to get foods from countries with warmer weather, so we can have a variety of foods, even in the winter months.

### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems. The food systems dashboard. 2025. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>



### **Discussion Questions** (potential answers listed below)

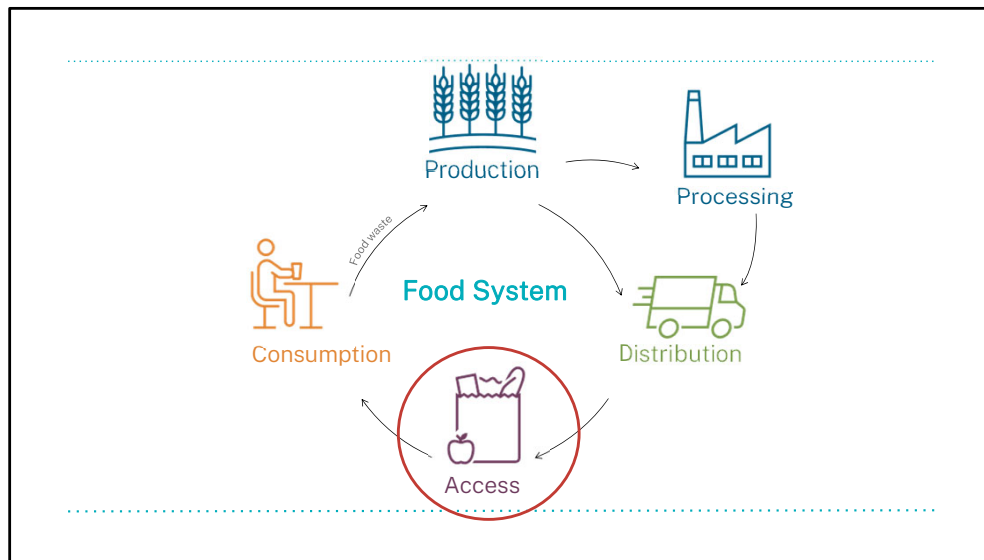
#### **How does food distribution affect our ability to get our foods?**

- For many people it allows us to buy food from farmers when we live far away from farms.
- For many people, it allows us to get new foods grown across the world.
- If there is a problem in the food distribution journey (train derailed, poor driving conditions) our ability to get food may be limited and/or delayed
- For remote communities in Alberta, there can be many environmental barriers that prevent foods from being transported during certain times of the year (e.g. ice roads). When food can be shipped, it must travel a long distance, increasing the cost of distribution and food. Certain fresh foods may not maintain optimal nutrition and quality if they travel long distances.

#### **References:**

- The Global Alliance for Improved Nutrition (GAIN). About food systems. The food systems dashboard. 2025. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>





**Speaker Notes:**

We are now going to look at the next component of a food system, which is Access.



### Speaker Notes:

**Access – the ability to purchase or gather food, based on cost, choices available, quality of food available, or equipment available.**

There are many ways for us to get our food:

- **Grocery Store/Online Delivery:** meat, dairy, fresh produce, frozen or canned food, or precooked foods. Online access to ordering food is a newer way we get our food and has made food more available to some.
  - Specialty grocery stores can provide foods from other parts of the world that may not commonly available in Canada.
- **Convenience Store:** commonly only sell packaged or processed foods and some pre-cooked foods (hotdogs or pizza)
- **Farmer's Market:** fresh vegetables and fruit (seasonal), meat, baking, home preserved goods
- **Meal Kit:** cut and measured ingredients. For example: vegetables, meat, grains, dairy
- **Restaurant / Delivery App:** cooked meals, new cuisines/cultural foods one may not know how to prepare at home
- **Land or water (direct access to food):** plant-based foods, hunting, trapping, or fishing.
- **School meal programs:** provide equal access for all to nutritious foods.
- **Food banks:** provide access to essential food for those who can't afford it.

**Where we buy or gather food is based on many different things:**

- The types of food we are looking for (local produce, pre-cooked meals, cultural foods, snack, etc.)
- How close a store is to our house.
- Where we are going to be when we eat the food (on a road trip, at home, at school, etc.)
- The cost of food at the place we are shopping.

### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>
- Alberta Health Services. Newcomer education toolkit, grocery shopping lesson plans, Foundation L and CLB 1. 2020. Available from: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-nnt-lp-gcy-shop-clb-fndation.pdf>



## Speaker Notes:

### Discussion Questions (potential answers listed below)

#### What things could affect a person's ability to get food at a store?

- **Climate/weather:** poor weather may decrease how much food is grown (production) leading to less availability at the store and higher costs for what is available.
- **Location:** Some grocery stores provide more food options than others. Cities are often more connected and able to offer more food options than smaller or remote towns.
- **Transportation:** A person must be able to get to a store to purchase food. People get to stores by walking, biking, taking public transit, or by car.
- **Online grocery/restaurant delivery:** bring groceries to people who are not able to travel to the grocery store. However, it is limited to people with a device, internet and ability to navigate food ordering websites.
- **Cost:** The steps in the food system impact the cost at the store (production, processing, length of food chain)
- **Season:** foods are more available (often at lower cost) at the time of year they are harvested. In winter, foods need to be shipped from other parts of the world or processed to extend shelf life.

#### Food access is not the same for everyone.

- Remote or rural areas of Alberta may not have as many grocery or restaurant options and potentially no online options. Even in large cities, some areas may not have a grocery store. For the people in these areas, it may be easier to access foods from fast-food restaurants or corner stores.
- Traditional and cultural foods may be easier to find at some grocery stores compared to others.
- A person with allergies, intolerances or who eats foods for religious and other reasons (vegetarian) may not always be able to get the types of food they would like. For example, there may be no vegetarian options on a restaurant menu or no peanut-free snack options available at a cafeteria. Food labels can help people to identify the foods that fits their dietary needs (Kosher, Halal, gluten free, peanut-free).

#### Food access impacts balanced food choices.

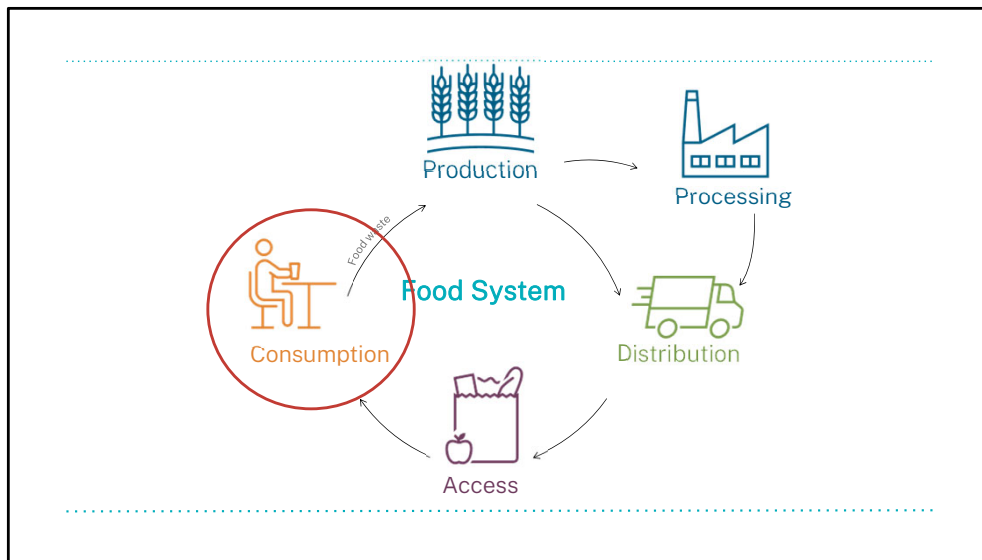
- Reminder: Canada's food guide shows how we can plan balanced meals and snacks, by aiming to fill  $\frac{1}{2}$  of our plate with vegetables and fruit,  $\frac{1}{4}$  with protein foods, and  $\frac{1}{4}$  with whole grain foods. These foods are available in different amounts depending on where (and how) your family accesses food. When we consider the foods that are typically available in a large chain grocery store, a family has better access to a variety of vegetables, fruit, protein foods, and whole grain foods than at a convenience store.

#### Food access can affect well-being.

- Canada's food guide teaches us that healthy eating is more than the foods you eat. If we can't access balanced food choices, that can impact our physical health – affecting how we grow, learn, play, and feel. It can also impact our mental well-being. Eating well includes enjoying meals with others, eating the food we like, and celebrating with family foods and traditions.

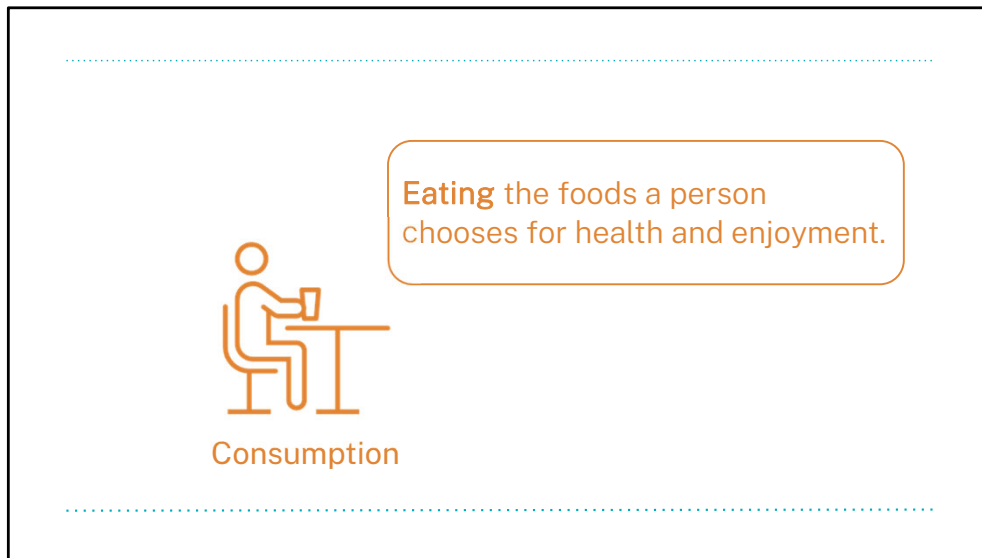
## References:

- Slater et al., Food deserts in Winnipeg, Canada: a novel method for measuring a complex and contested construct. Health Promotion and Chronic Disease Prevention in Canada. October 2017 37(10). DOI: <https://doi.org/10.24095/hpcdp.37.10.05>
  - The City of Calgary. Definition of a sustainable food system [Internet]. No date. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
  - The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>
- Image sources:  
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**Speaker Notes:**

We are now going to look at the next component of a food system: consumption.

**Speaker Notes:**

**Consumption** – Eating the foods a person chooses for health and enjoyment. Consumption is impacted by many things outside of ourselves.

**References:**

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>



### Speaker Notes:

#### Discussion Questions (potential answers listed below)

Teacher may choose to write student answers on the board or flipchart paper.

#### What impacts our food choices?

- Food preferences
- Allergy/intolerance
- Culture
- Friends
- Family
- Availability
- Religion
- Food Marketing (e.g. traditional advertisements, social media, influencers, food industry).
- Mood
- Cost
- Time
- Food skills
- Social setting
- Occasion/Holiday

The things that impact the food we eat can change over time.

- After taking a cooking class, we will have new skills that allow us to prepare and eat new types of foods.
- As we grow our tastebuds also grow and change. You might like a food now that you didn't like when you were younger.
- If we move to a different city or country, we might choose different foods to eat based on what is available at the store or restaurants there.

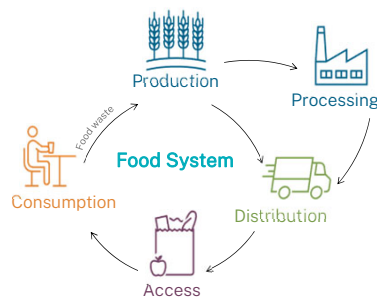
#### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
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- Government of Canada. Canada's food guide: Cultures, food traditions and healthy eating [Internet]. 2020 Oct 14 [cited 2025 Apr 1]. Available from: <https://food-guide.canada.ca/en/healthy-eating-recommendations/enjoy-your-food/cultures-food-traditions-and-healthy-eating/>
- Government of Canada. Canada's food guide, Be mindful of your eating habits [Internet]. 2020 Oct 14 [cited 2025 Apr 1]. Available from: <https://food-guide.canada.ca/en/healthy-eating-recommendations/be-mindful-of-your-eating-habits/>

#### Image sources:

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## What influences the food available to us?



- Weather (good or bad)
- Length of growing season
- Food processing (food lasts longer)
- Transportation
- Location - access to grocery stores

### Speaker Notes:

In summary, each part of our food system affects our ability to access foods.

- **Production:** If a food is not in season, we may not be able to access it to eat. If growing conditions are poor one year, there may not be as much of a specific food product available for us to eat.
- **Processing:** Food processing helps to extend a food's shelf life, allowing us to access it during the winter, when it is not in season.
- **Distribution:** The transportation of foods across Canada and around the world allows us to access foods that cannot be grown here. Various factors, like weather, could impact transportation of foods.
- **Access:** Where we purchase food will determine how many and what types of foods we can access. A grocery store will provide more variety than a convenience store. Where we shop may be influenced by what is closest to our house, the cost of food, or the type of food we are looking for.
- **Consumption:** Many different factors will influence the types of food we choose to access. The foods we choose are influenced by our family, friends, preference, allergies, religion, and many other factors.

### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>

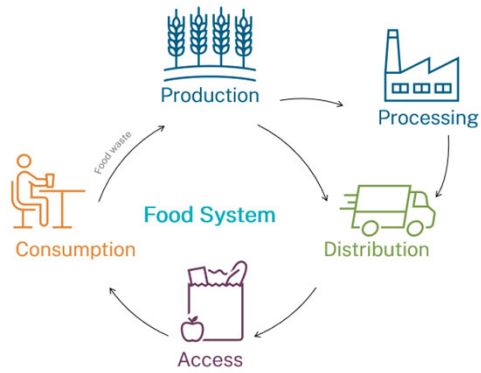


Questions?



# Quiz Game

## Nutrition and the Food System



**Audience:** Students in grade 6

**Length:** 5 – 10 minutes

### Speaker Notes

- Refer to the instructions in the Guide for Educators

**Purpose:** The quiz is designed to connect the Food Systems discussed to students' real-life interaction with the foods produced here and how the different stages can affect their access/choices and the resulting nutritional impact on them as well as tying it to the food guide.

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It was a hot, dry summer with several large hailstorms passing over Southern Alberta. Later, it was difficult to find barley and split peas in store. What was the primary step in the food system that was impacted by the weather?

- a) Processing
- b) Consumption
- c) Production
- d) Distribution



**Speaker notes:**

- Go over the question.
- Answer is on the next slide.

**Image source:**

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It was a hot, dry summer with several large hailstorms passing over Southern Alberta. Later, it was difficult to find barley and split peas in store. What was the primary step in the food system that was impacted by the weather?

- a) Processing
- b) Consumption
- c) Production
- d) Distribution



Correct answer: c) Production

.....

**Speaker notes:**

**Answer:** c) Production

All steps in the food system were affected, but the primary step that was impacted by the weather was the production of the barley and peas. Hailstorms and drought can cause widespread damage to crops, which impacts what is available for processing and distribution, and thus what is available for purchase.

**References:**

The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>

**Image source:**

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Of these Albertan communities, where would buying food be the most expensive?

- a) Lethbridge
- b) Fort Chipewyan
- c) Edmonton
- d) Red Deer



**Speaker notes:**

- Go over the question.
- Answer is on the next slide.

Of these Albertan communities, where would buying food be the most expensive?

- a) Lethbridge
- b) Fort Chipewyan
- c) Edmonton
- d) Red Deer

Correct answer: b) Fort Chipewyan



**Speaker Notes:**

**Answer:** b) Fort Chipewyan

**Question:** Fort Chipewyan is community in northern Alberta that can only be accessed by plane or boat in the summer and by a winter road in the winter. What are some of the reasons why the cost of food would likely be higher here? Do you think the grocery store would have the same variety of foods as one in Edmonton?

**Answer:** Getting food to remote communities can be hard and expensive. Long distances and fewer ways to transport food — like trucks or ice roads — increase costs, especially for fresh items like fruits and vegetables. Bad weather or road problems can delay food delivery. Because of this, there may be less food, higher prices, and some fresh foods might not stay in good shape by the time they arrive.

**References:**

The Global Alliance for Improved Nutrition (GAIN). About food systems [Internet]. The food systems dashboard. 2025 [cited 2025 Apr 1]. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>

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Where would you likely find the most choices from Canada's food guide?

- a) Corner store
- b) Rodeo grounds
- c) Grocery store
- d) Fast-food restaurant



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**Speaker notes:**

- Go over the question.
- Answer is on the next slide.

.....

Where would you likely find the most choices from Canada's food guide?

- a) Corner store
- b) Rodeo grounds
- c) Grocery store
- d) Fast-food restaurant



Correct answer is: c) Grocery store

.....

**Speaker Notes:**

**Answer:** c) Grocery Store

You can likely find a variety of different foods at each of these locations, including examples of vegetables/fruits, protein foods, and grain foods. However, of these options, a grocery store would most likely have the greatest amounts of vegetables and fruit available, along with a numerous protein foods, including plant-based proteins like beans, peas, and lentils, and whole grain foods.

**References:**

Slater et al., Food deserts in Winnipeg, Canada: a novel method for measuring a complex and contested construct. Health Promotion and Chronic Disease Prevention in Canada. October 2017 37(10). DOI: <https://doi.org/10.24095/hpcdp.37.10.05>

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When we process the foods that have been grown and harvested we...

- a) Change a food so it doesn't last
- b) Change a food so it lasts longer
- c) Increase the variety of foods we can eat all year long
- d) B and C



**Speaker notes:**

- Go over the question.
- Answer is on the next slide.

**Image source:**

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When we process the foods that have been grown and harvested we...

- a) Change a food so it doesn't last
- b) Change a food so it lasts longer
- c) Increase the variety of foods we can eat all year long
- d) B and C



Correct answer is: d) B and C

.....

**Speaker Notes:**

**Answer:** d) B and C

Processing is often used to make food last longer. Our short growing season means many locally grown foods are only available for a short time. To store fresh foods so they can safely be used longer, they must be processed (frozen, dried, canned). Having access to more types of frozen or canned vegetables and fruits means we can enjoy them all year long, adding variety to our meals and snacks.

**References:**

- The City of Calgary. Definition of a sustainable food system. No date. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
- The Global Alliance for Improved Nutrition (GAIN). About food systems . The food systems dashboard. 2025. Available from: <https://www.foodsystemsdashboard.org/information/about-food-systems>

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The foods we eat can change over time.  
This may be due to ....

- a) Access/availability
  - b) Time of the year
  - c) Cost
  - d) Personal choice or health needs
  - e) All of the above
- .....



**Speaker notes:**

- Go over the question.
- Answer is on the next slide.

**Image source:**

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.....  
The foods we eat can change over time. This may be due to ....

- a) Access/availability
- b) Time of the year
- c) Cost
- d) Personal choice or health needs
- e) All of the above



Correct answer is: e) All of the above  
.....

### Speaker Notes:

**Answer:** e) All of the above

The things that impact the food we eat can change over time. Some factors that can change what we eat include:

- **Access/ availability:** Your food access includes not only what is physically available to you, but what meets your needs for health, development and enjoyment
- **Time of year or seasonality:** when foods are in season locally or in other parts of the world, they are in abundance and being harvested. These foods often can be lower in cost compared to other times of the year.
- **Cost:** the cost of food can change based on several things including: climate disasters/events/changes (e.g., hard frost, fire, flooding, etc.) that ruin crops and the harvest of foods, cost of fuel, distance to transport food to where it will be sold.
- **Personal preferences, health needs:** As we grow our tastebuds also grow and change. You might like a food now that you didn't like when you were younger. Sometimes we have specific foods we include or avoid as treatment for health conditions e.g. food allergy or that have cultural or traditional values to us.

Overall, what impacts our food choices?

<ul style="list-style-type: none"><li>• Food preferences</li><li>• Allergy/intolerance</li><li>• Culture</li><li>• Friends</li><li>• Family</li><li>• Availability</li><li>• Religion</li></ul>	<ul style="list-style-type: none"><li>• Mood</li><li>• Cost</li><li>• Time</li><li>• Food skills</li><li>• Social setting</li><li>• Occasion/Holiday</li></ul>	<ul style="list-style-type: none"><li>• Food Marketing (e.g. traditional advertisements, social media, influencers, food industry).</li></ul>
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### References:

- The City of Calgary. Definition of a sustainable food system [Internet]. No date [cited 2025 Apr 1]. Available from: [www.calgary.ca/major-projects/sustainable-food-system.html](http://www.calgary.ca/major-projects/sustainable-food-system.html)
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