Teacher Fast Facts & Vocabulary Support

PROJECT Agriculture
Project-Based Learning and Teaching Series

More Than Just Farming

What are the agriculture jobs of the future?

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Background Fast Facts

The **Fast Facts** that follow can provide you with some additional background related to jobs in agriculture. These **Fast Facts** may support class or small group discussions you facilitate with students.

Statistics Canada predicts that from 2011 to 2020, there will be a shortage of workers to fill the available opportunities in most agriculture sectors. Here are the three key sectors outlined with the reflective shortages:

- **Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture:** This sector is expected to have 90,000 roles available from 2011 to 2020 however, only 56,000 professionals to fill them. This includes professions such as Farmers, Farm Managers, Contractors, Supervisors, Nursery/Greenhouse Operators , Aquaculture Operations and Managers.

- **Technical Occupations In Life Sciences:** Roles in this sector include Biological Technologists, Agriculture and Fish Products Inspectors, Forestry Technologists, Conservation and Fishery Officers, Landscape and Horticulture Technicians etc. This sector is also expected to face a shortage of workers as there will approximately be 18,000 jobs available but only 15,000 professionals to fill them from 2011 to 2020.

- **Life Science Professionals:** This is the one sector that will have a good balance between job leavers and job seekers from 2011 to 2020. There are expected to be 10,500 job leavers and 10,900 job seekers for roles in this sector. Careers in the "Life Science Professional" sector include Biologists, Scientists, Forestry Professionals, Agricultural Representatives, Agriculture Consultants and Agriculture Specialists.

Innovation in Agriculture: The Key to Feeding a Growing Population, is a Report of the **Standing Senate Committee on Agriculture and Forestry** and accessible at **https://sencanada.ca/content/sen/committee/412/agfo/rep/rep06jun14-e.pdf**.

Demographic Changes in Canadian Agriculture from Statistics Canada provides information on agricultural workers and can be found at **www.statcan.gc.ca/pub/96-325-x/2014001/article/11905-eng.htm**.

- Each of the three sectors above have a higher median in regards to the average age of employees. This means that there will be more professionals exiting the workplace for retirement. The industry is also expecting to experience expansion, development, and new investments for research.
- Over 10,000 Albertans, including dairy farmers and their families, rely on milk for their livelihoods. These also include veterinarians, nutritionists, researchers, professors, consultants, government employees, equipment salesmen, milk truck drivers, as well as many processing and retail employees.
- The dairy industry plays a key role in Alberta. There were 519 dairy farms in Alberta in April 2017.
- In 2014-2015, Alberta's 540 dairy producers shipped 689,862,228 litres of milk, representing 8.57 per cent of Canadian milk production.
- Milk production generated $588 million in farm cash receipts in 2016. These cash receipts represent the gross income that dairy farmers receive from their production, but do not include their expenses.
- Alberta's dairy producers also have significant impact on the rural economy through the production of other livestock and crops on their operations.

Vocabulary Support

The **Vocabulary** list provides a starting point for vocabulary that students will find in the student resources or potentially in class discussions. Definitions are embedded in sentences or provided in brackets beside the term.

Some of this vocabulary may be challenging for students. Vocabulary can be explored in advance to support learning of concepts and development of deeper understandings of content. Alternatively, some students may find vocabulary more relevant when explored in context. Add terms that students identify and define through their research to a vocabulary list.

Agriculture refers to the practices involved in growing crops and feeding and raising livestock for food and other products.

The **agri-food industry** refers to the production of food through the human activity of agriculture.

An **agronomist** is a scientist who works on ways to protect the soil and grow better crops.

Composting refers to the addition of organic matter to the soil.

A **consumer** is a person who buys goods and services for their own use.

Crop rotation refers to the practice of rotating the types of crops grown on a field.

Erosion means that the topsoil needed to grow healthy crops is reduced.

Food production means the process of taking raw ingredients, such as grains or milk, and changing them into food items like bread or yogurt.

Greenhouse gases are gaseous substances that can trap and hold heat in the atmosphere.

Innovation can be simply described as changing or creating an idea, process or item that improves ways of life.

Inventions, which are new and unique processes or items, have influenced some of these changes.

A **license** gives milk haulers official permission from the government to check milk and make sure it is safe.

Market farms grow fruit, vegetable and grain crops that they usually sell directly to people.

Manure refers to animal excrement that is used for fertilizer.

Methane is the main component of natural gas, and nitrous oxide. If methane leaks into the air, it absorbs the sun's heat.

A **milk hauler** collects the milk in an insulated tanker truck, but also checks and tests it.

A **milking parlour** is a part of the barn where farmers keep the milking machines.

Multi-generation partnerships refer to the practice of younger people working with older farmers.

A **nutritionist** is an expert on food and nutrition.

Organic food production is based on farming practices that protect the environment and do not use any chemicals.

A **pesticide** is a substance used for destroying insects or other organisms harmful to cultivated plants or to animals.

A **primary industry** uses natural resources and materials to make products. Primary industries include forestry, agriculture and fishing.

Robotic milking machines are machines controlled by computers that keep track of when each cow is milked.

Stewardship is the careful and responsible management of something that should be cared for.

Supply management means that milk producers control the amount and prices of milk to keep the milk supply local in Canada.

Sustainable agriculture uses farming techniques that protect the environment and the health of communities and animals

Sustainable food processing uses packaging with less waste or reusable materials.

An animal doctor is called a **veterinarian**.