

## Ministry of Education

Secondary Engagement Programme

September 2020

Week # 1

Lesson # 2

Grade :10

Subject : Agricultural Science

Topic : The role of Agriculture in the Local and Regional Economy

Sub Topic: Careers in Agriculture.

Career Profiles were created as a resource to increase learning and understanding around the great variety of opportunities in agriculture. Agriculture is a big business. The industry has been around for thousands of years. There are so many career possibilities, that it's easier to segment career choices by field, rather than specific jobs.

➤ **Agronomist**

- A seed production agronomist manages, evaluates, develops, and implements seed production phases.
- Your goal will be to produce and create quality seeds to assist growers in realizing maximize yields.
- This position requires either a bachelor's or master's degree in agronomy or a related agricultural field.

➤ **Agricultural economist**

- An agricultural economist provides forecasts of economic setting but with special interest on agriculture.
- This job takes a closer look at the current agricultural standing of any area and uses that information against the economic situation.
- Based on the data they gather; they offer sound advice and strategies for businesses and individuals related to agriculture.

➤ **Agriculture Science Teacher**

- Agriculture science teachers educate students about agriculture, food and natural resources.
- Through these subjects, agriculture science teachers educate students on a wide variety of skills, including science, math, communications, leadership, management and technology.

➤ **Agricultural Journalist**

- An **Agricultural Journalist** covers all the events, articles of interest and stories which are relevant to farmers and others in their area.
- They gather news by observing, interviewing and researching relevant topics/events.

➤ **Apiary Worker/Beekeeper**

- A beekeeper is concerned with all aspects of bee colonies.
- You'll oversee and maintain a healthy bee colony and address any diseases swiftly. You'll be responsible for the production of honey including pollination.
- You provide bees with ample food reserves, build hives, collect/package beeswax, honey, and replace combs as needed.
- Apiary workers are required to have a degree.

➤ **Animal Geneticist**

- An animal geneticist studies and analyzes genetic makeup of various animals.
- You will identify specific genes associated with behaviors and health issues, such as immunity and susceptibility to diseases.
- You'll identify ways of improving selection processes and ways to reduce genetic differences in breeds.
- A bachelor's degree in genetics or animal science, dairy science, biology, and poultry science is required.

➤ **Extension officer**

- An agricultural extension officer directly works with farmers and companies related to agriculture.
- Their primary role is to aid these groups to make better decisions to increase agricultural production.
- The extension officer is constantly armed with the latest techniques and information related to agriculture and they relay this information to farmers and agricultural business.
- A bachelor's degree in Agriculture is required.

➤ **Botanist**

- A botanist is a scientist who specializes in plant biology, and is an expert on varieties of vegetation including, algae, grass, cacti, flowers, moss, trees, shrubs and edibles, including herbs, fruits and vegetables.
- Unlike landscapers and gardeners who arrange, grow and care for plants, botanists research them.
- The minimum requirement is to acquire a Bachelor's or Master's degree. A Doctorate degree is required for advanced research positions.

➤ **Food Chemist/Microbiologist/Researcher**

- A food chemist, food microbiologist and food researcher work within the food industry framework to advance food technology, develop effective modernization, research beneficial and harmful effects of microbes and more.
- The focus for all positions is to advance food quality and food safety. A bachelor's degree in chemistry, food science or biology is required.

➤ **Farm Workers and Laborers**

- Farm workers and laborers are essential to the agriculture industry, and despite the seasonal nature of some jobs, they are always in demand.
- In addition to planting and harvesting crops, farm workers and laborers perform related tasks such as installing irrigation systems, packing and loading harvested food onto trucks for shipment, and maintaining farm equipment.
- They also do routine animal care tasks on ranches and dairy farms, keep written records on animals, assist at births, and keep animal housing areas clean.

➤ **Food Manufacturing**

- There are numerous careers within food manufacturing, from a line employee, equipment mechanic, floor supervisor to a purchasing manager.
- All processes involved in the manufacturing of food have various positions that require expertise, such as mixing ingredients, baking, packaging, and distribution.
- Depending on your job, you may only need a high school diploma.

• **Food Packers and Packers**

- Before agricultural products can reach their ultimate destination, they must be packaged safely and appropriately for shipment.
- This is what food packers and packagers do. Contemporary packing operations are usually done with sophisticated package processing equipment that takes skill and experience to operate.
- As you might expect, the employment outlook for food packers in agriculture is best in parts of the country where agriculture is a larger part of the economy.

➤ **Horticulturist**

- A horticulturist is someone who uses scientific knowledge to cultivate and propagate plants, and then uses this knowledge to provide technical information to fruit, vegetable and flower growers as well as farmers.
- A horticulturist will conduct pest and disease investigations and experiment with improved varieties of plants with greater resistance to disease.
- They will sometimes work in the field of landscaping design to create gardens, recreational areas, and parks, with the goal of preserving our natural resources.

➤ **Livestock Production Manager**

- Must be knowledgeable in animal science and the livestock industry for several types of livestock.
- You'll be in charge of raising and marketing livestock through close monitoring and evaluations of livestock needs and health. Manage all related paperwork, reports and business responsibilities.

➤ **Maintenance/Service Technician**

- The maintenance/service technician will travel to different locations to repair agriculture equipment, such as farming equipment and lawn/garden machines.
- You'll be responsible for diagnosing the problem and executing a repair to restore normal usage.
- You'll service diesel and gas engines and transmissions. A two-year degree in an agriculture related field along with two years working with agricultural equipment is sometimes required. However, some employers may only require a high school diploma.

➤ **Plant breeder**

- A plant breeder works in a controlled environment conducting tests on different types of plants, and common industries of employment include government, academia, and food sciences.
- Entry-level positions in this field require a bachelor's degree in a discipline related to plant science, while career advancement often requires a master's degree or completion of a Ph.D. program.

➤ **Silviculturist**

- Manage public and private forested lands for economic, recreational, and conservation purposes.
- Takes inventory for the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement.
- May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations.
- May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine optimal harvesting schedules.

➤ **Viticulturist**

- A viticulturist studies and applies growing processes of grape vines to produce the amount and quality of grapes necessary for wine production.
- They must have an understanding of optimum ripeness and proper harvesting of grapes. They also design and implement pest and disease control programs following pest management practices and a sustainable farming approach.

➤ **Veterinarian**

- A veterinarian working in agriculture is often referred to as a large animal veterinarian. The animals you'll treat include horses, dairy cows, beef, hogs/pigs and goats.
- You may also serve chicken and turkey farmers. You may work at a private animal hospital or a county/state veterinarian department or hospital.
- You'll make calls to farms and ranches to treat, assess and advise on individual animal health issues as well as herd health.

- This requires a Doctor of Veterinary Medicine degree.
- **Weed Scientist**
  - A weed scientist researches, and diagnoses field crop weed problems and offers solutions, such as mechanical, chemical or natural plantings.
  - You can also find careers in golf course management or working with homeowners. You may choose a career developing products specifically for weed control.
  - Some jobs require a master's degree in weed science.
- **Soil Scientist/Soil Conservationist**
  - A soil scientist analyzes and evaluates the upper Earth crust (several feet) for its chemical and physical condition.
  - You'll go out into the field to gather samples and provide assessments to advice on agricultural conditions, problems and solutions.
  - You may work for universities, federal or state governments, individual farms, or corporate farms.
  - A bachelor's degree in soil science or related field is needed.

## Questions

Match Careers with the best suited job description

No.	Career	Job Description
1	Animal Geneticist	Conduct pest and disease investigations and experiment with improved varieties of plants with greater resistance to disease.
2	Veterinarian	Manage public and private forested lands for economic, recreational, and conservation purposes.
3	Silviculturist	Studies and analyzes genetic makeup of various animals.
4	Horticulturist	Produce and create quality seeds to assist growers in realizing maximize yields.
5	Agronomist	Treat, assess and advise on individual animal health issues as well as herd health.

## References

### Book

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