# Middle School Career Investigations: Virginia Agriculture and Resources Pathway

## Menu

There are 7 different pathways in Agriculture, Food, and Natural Resources: Agribusiness Systems; Animal Systems; Environmental Service Systems; Food Products and Processing Systems; Natural Resources Systems; Plant Systems; and Power, Structural, and Technical Systems. Click on each of the buttons to learn more about the pathways. Make sure to visit each one.

## Agribusiness Systems Description

Professionals in the Agribusiness Systems Pathway contribute to the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, like food, fiber, wood products, natural resources, horticulture, and other plant and animal products and services. Agribusiness is a high-tech industry that uses satellite systems, computer databases and spreadsheets, biotechnology, and many other innovations to increase efficiency and profitability.

## Agribusiness Systems Sample Careers

Sample careers in the Agribusiness Systems Pathway include Agricultural Commodity Broker, Agricultural Economist, Agricultural Loan Officer, Agricultural Products Sales Representative, Farm Products Purchasing Agent and Buyer, Farm or Ranch Manager, Farmer or Rancher, and Farm Supply Store Sales Manager.

## Agribusiness Systems Sample Careers

There is a range in educational requirements and salaries in the Agribusiness Systems Pathway. A Farmer or Rancher requires an Associate Degree and may require a Bachelor’s Degree. They have an average salary of $83,340. An Agricultural Economist requires a Master’s Degree and may require a Ph.D. They have an average salary of $124,300.

## Animal Systems Description

Professionals in the Animal Systems Pathway work to develop better, more efficient ways of producing and processing meat, poultry, eggs, and dairy products. They may study genetics, nutrition, reproduction, growth, and development of domesticated farm animals. Others may train, feed, water, groom, bathe, and exercise animals. They also clean, disinfect, and repair their cages.

## Animal Systems Sample Careers

Sample careers in the Animal Systems Pathway include Agricultural Products Sales Representative, Animal Breeder, Animal Geneticist, Animal Nutritionist, Animal Scientist, Aquacultural Manager, Poultry Manager, Veterinarian, and Veterinary Technician.

## Animal Systems Sample Careers

There is a range in educational requirements and salaries in the Animal Systems Pathway. An Animal Scientist requires a Master’s Degree and has an average salary of $61,440. An Animal Breeder requires an Associate Degree, but also needs on-the-job and technical training. An Animal Breeder has an average salary of $47,120.

## Environmental Service Systems Description

Professionals in the Environmental Service Systems Pathway are involved in water and air pollution control, recycling, waste disposal, and public health issues. This pathway includes environmental engineers and technicians who conduct hazardous-waste management studies, evaluate the significance of the hazard, offer analysis on treatment and containment, and develop regulations for prevention.

## Environmental Service Systems Sample Careers

Sample careers in the Environmental Service Systems Pathway include Environmental Compliance Inspector, Environmental Sampling and Analysis Technician, Hazardous Materials Handler, Recycling Coordinator, Toxicologist, Turf Farmer, and Water Conservationist.

## Environmental Service Systems Sample Careers

There is a range in educational requirements and salaries in the Environmental Service Systems Pathway. An Environmental Engineer requires a Bachelor’s Degree and has an average salary of $89,480. An Agricultural Products Sales Representative requires a high school diploma, but also needs on-the-job training. An Agricultural Products Sales Representative has an average salary of $55,730.

## Food Product and Processing Systems Description

Professionals in the Food Product and Processing Systems Pathway discover new food sources, analyze food content, and develop ways to process, preserve, package, or store food according to industry and government regulations. They create new food products to meet consumer needs and inspect food-processing areas to ensure that sanitation, safety, quality and waste management standards are met.

## Food Product and Processing Sample Careers

Sample careers in the Food Product and Processing Systems Pathway include Biochemist and Food Scientist.

## Food Product and Processing Systems Sample Careers

Many careers in the Food Product and Processing Systems Pathway require some level of higher education. A Food Scientist requires a Master’s Degree and possibly a Ph.D., and has an average salary of $64,910. A Biochemist also requires a Master’s Degree and possibly a Ph.D. A Biochemist has an average salary of $82,150.

## Natural Resources Systems Description

Professionals in the Natural Resources Systems Pathway help develop, maintain, and manage the forest and other areas of the natural environment. This pathway also includes professionals responsible for catching and trapping various types of marine life for human consumption, animal feed, bait, and other uses. Through conservation, individuals in this pathway manage, develop, use, and help protect these and other natural resources.

## Natural Resources Systems Sample Careers

Sample careers in the Natural Resources Systems Pathway include Ecologist, Fish and Game Officer, Fisheries Technician, Forest Manager or Forester, Forest Technician, Geological Technician, Logging Equipment Operator, Microbiologist, Outdoor Recreation Guide, Park Manager, Park Technician, Range Technician, and Wildlife Manager.

## Natural Resources Systems Sample Careers

There is a range in educational requirements and salaries in the Natural Resources Systems Pathway. A Forester requires a Master’s Degree and has an average salary of $58,760. A Forest Technician requires a high school diploma. A Forest Technician has an average salary of $39,830.

## Plant Systems Description

Professionals in the Plant Systems Pathway study plants and their growth. This helps producers of food, feed, and fiber crops continue to feed a growing population while conserving natural resources and maintaining the environment. Individuals in this pathway also develop ways to improve the nutritional value of crops and the quality of seeds through genetic engineering.

## Plant Systems Sample Careers

Sample careers in the Plant Systems Pathway include Botanist, Crop Grower, Custom Harvester, Floral Designer, Floral Shop Manager, Forest Geneticist, Golf Course Superintendent, Nursery and Greenhouse Manager, Ornamental Horticulturist, Plant Breeder or Geneticist, Soil and Plant Scientist, and Tree Surgeon.

## Plant Systems Sample Careers

There is a range in educational requirements and salaries in the Plant Systems Pathway. A Soil Scientist requires a Master’s Degree and has an average salary of $64,330. A Floral Designer requires an Associate Degree and on-the-job training. A Floral Designer has an average salary of $27,750.

## Power, Structural, and Technical Systems Description

Professionals in the Power, Structural, and Technical Systems Pathway apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures, and controls to the field of agriculture. They design agricultural structures as well as machinery and equipment. They develop ways to conserve soil and water, to improve the processing of agricultural products, and to implement new technologies.

## Power, Structural, and Technical Systems Sample Careers

Sample careers in the Power, Structural, and Technical Systems Pathway include Agricultural Engineer, Agricultural Equipment Operator, Agricultural Equipment Parts Manager, Agricultural Equipment Parts Salesperson, Machinist, Parts Manager, and Welder.

## Power, Structural, and Technical Systems Sample Careers

There is a range in educational requirements and salaries in the Power, Structural, and Technical Systems Pathway. An Agricultural Equipment Operator requires a high school diploma, but also needs on-the-job training. An Agricultural Equipment Operator has an average salary of $30,830. An Agricultural Engineer requires a Bachelor’s Degree. An Agricultural Engineer has an average salary of $89,480.