

Middle School Career Investigations

Agriculture, Food, and Natural Resources Pathways

Menu

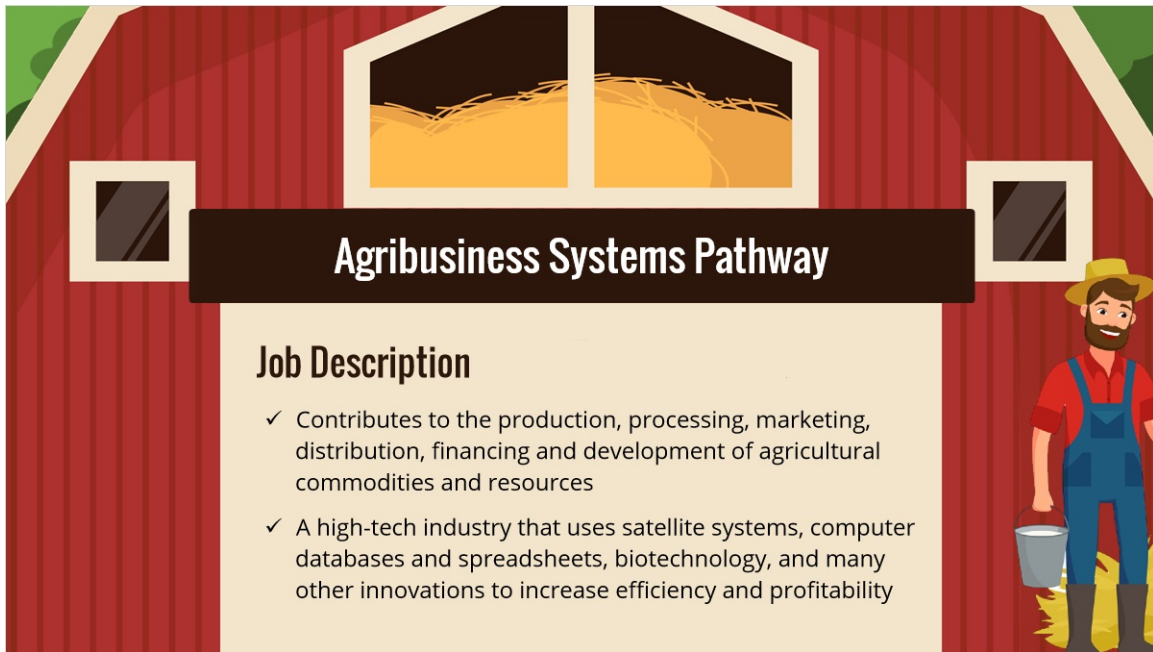


There are 7 different pathways in Agriculture, Food, and Natural Resources: Agribusiness Systems; Animal Systems; Environmental Service Systems; Food Products and Processing Systems; Natural Resources Systems; Plant Systems; and Power, Structural, and Technical Systems. Click on each of the buttons to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

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Agriculture, Food, and Natural Resources Pathways

Agribusiness Systems Description



Agribusiness Systems Pathway

Job Description

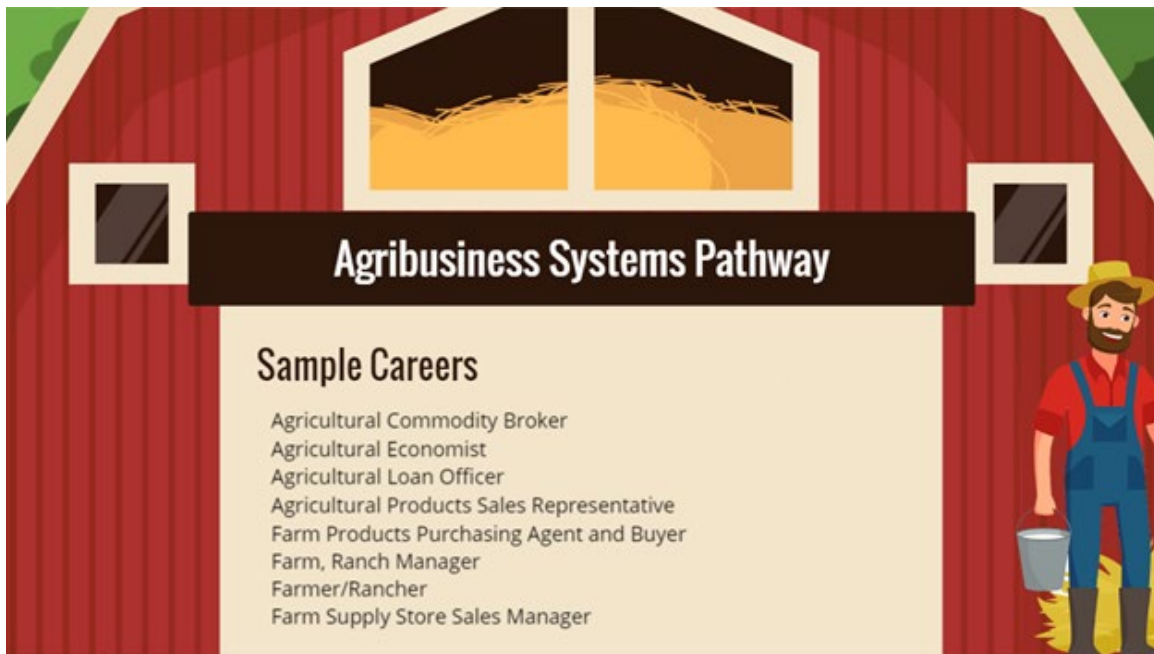
- ✓ Contributes to the production, processing, marketing, distribution, financing and development of agricultural commodities and resources
- ✓ A high-tech industry that uses satellite systems, computer databases and spreadsheets, biotechnology, and many other innovations to increase efficiency and profitability

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.

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Agriculture, Food, and Natural Resources Pathways

Agribusiness Systems Sample Careers

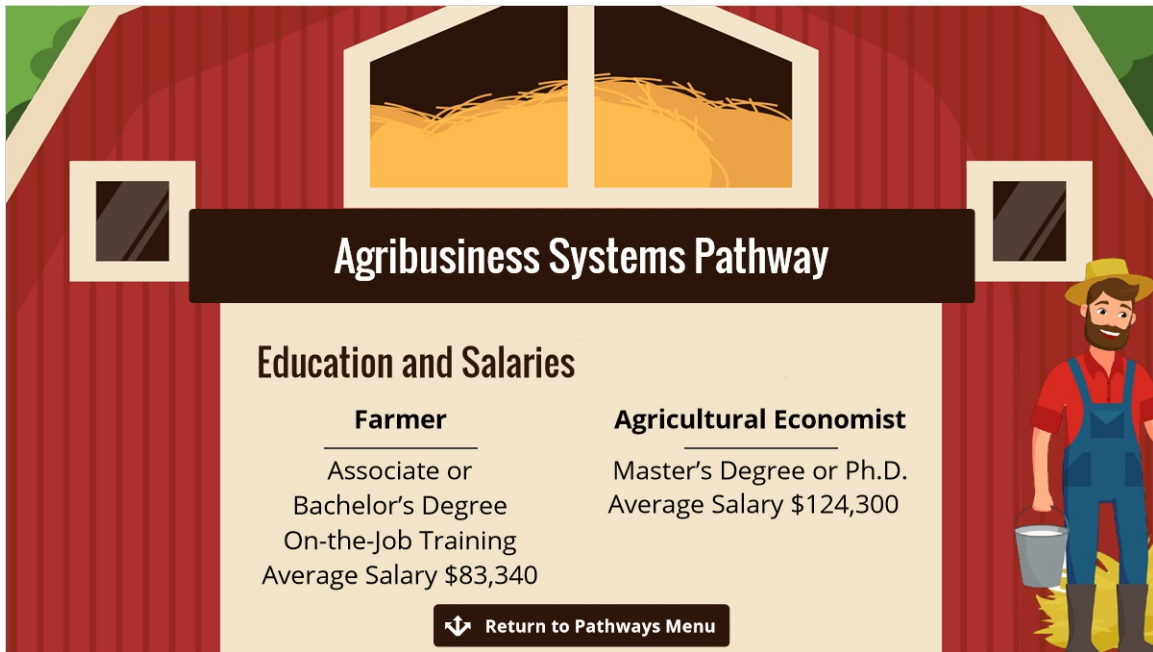


Sample careers in the Agribusiness Systems Pathway include Agricultural Commodity Broker, Agricultural Economist, Agricultural Loan Officer, Agricultural Products Sales Representative, Farm Products Purchasing Agent and Buyer, Farm or Ranch Manager, Farmer or Rancher, and Farm Supply Store Sales Manager.

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Agriculture, Food, and Natural Resources Pathways

Agribusiness Systems Sample Careers



Agribusiness Systems Pathway

Education and Salaries

| <u>Farmer</u> | <u>Agricultural Economist</u> |
|--------------------------------|-------------------------------|
| Associate or Bachelor's Degree | Master's Degree or Ph.D. |
| On-the-Job Training | |
| Average Salary \$83,340 | Average Salary \$124,300 |

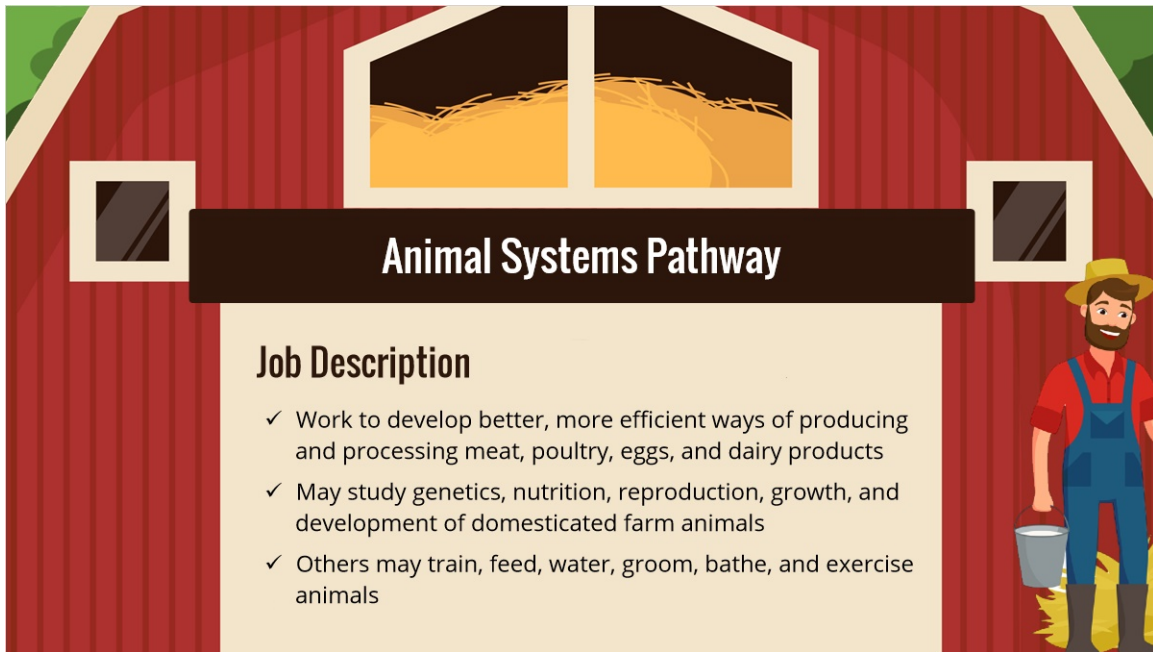
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There is a range in educational requirements and salaries in the Agribusiness Systems Pathway. A Farmer or Rancher requires an Associate Degree and may require a Bachelor's Degree. They have an average salary of \$83,340. An Agricultural Economist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

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Agriculture, Food, and Natural Resources Pathways

Animal Systems Description



Animal Systems Pathway

Job Description

- ✓ Work to develop better, more efficient ways of producing and processing meat, poultry, eggs, and dairy products
- ✓ May study genetics, nutrition, reproduction, growth, and development of domesticated farm animals
- ✓ Others may train, feed, water, groom, bathe, and exercise animals

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.

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Agriculture, Food, and Natural Resources Pathways

Animal Systems Sample Careers



Animal Systems Pathway

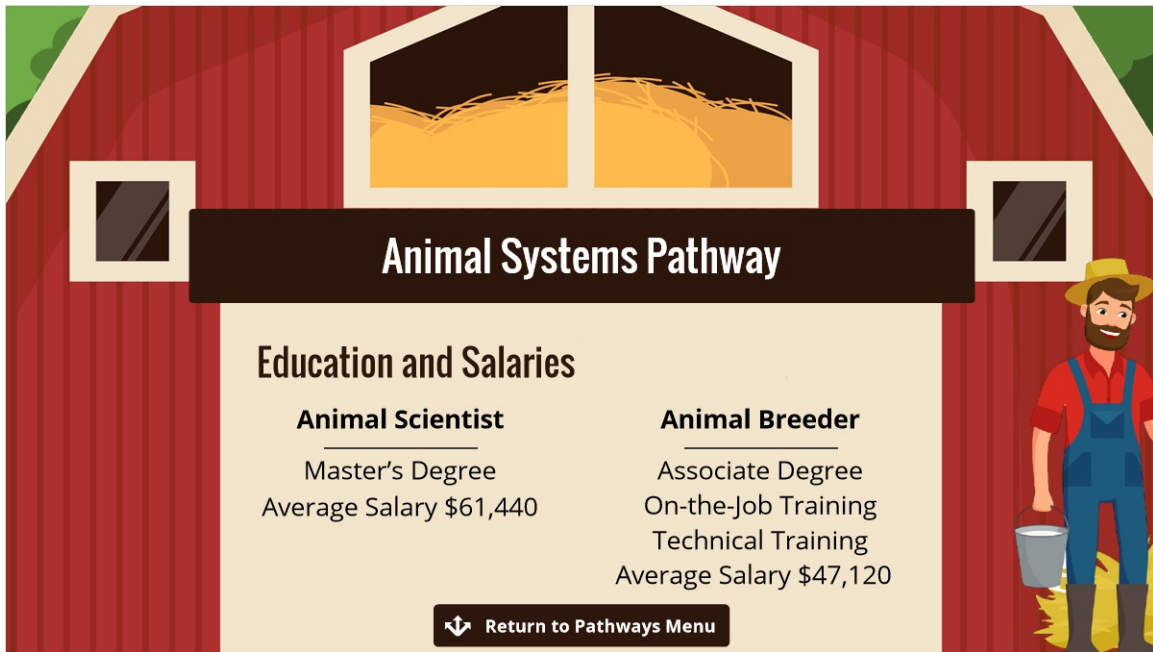
Sample Careers

- Agricultural Products Sales Representative
- Animal Breeder
- Animal Geneticist
- Animal Nutritionist
- Animal Scientist
- Aquacultural Manager
- Poultry Manager
- Veterinarian
- Veterinary Technician

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.

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Agriculture, Food, and Natural Resources Pathways

Animal Systems Sample Careers



The infographic features a red barn background with two windows showing hay. A black banner across the middle reads "Animal Systems Pathway". Below this, a light beige box contains the text "Education and Salaries". To the right of the text is an illustration of a farmer in a red shirt, blue overalls, and a yellow hat, holding a white bucket. At the bottom of the beige box is a black button with a white arrow and the text "Return to Pathways Menu".

| Education and Salaries | |
|-------------------------------|-------------------------|
| Animal Scientist | Animal Breeder |
| Master's Degree | Associate Degree |
| Average Salary \$61,440 | On-the-Job Training |
| | Technical Training |
| | Average Salary \$47,120 |

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.

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Agriculture, Food, and Natural Resources Pathways

Environmental Service Systems Description



Environmental Service Systems Pathway

Job Description

- ✓ Involved in water and air pollution control, recycling, waste disposal, and public health issues
- ✓ 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

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.

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Agriculture, Food, and Natural Resources Pathways

Environmental Service Systems Sample Careers



The illustration shows a red barn with a white roof and two windows. The windows show yellow hay. A farmer with a beard, wearing a red shirt, blue overalls, and a yellow hat, is standing next to the barn holding a white bucket. The text is overlaid on the barn's facade.

Environmental Service Systems Pathway

Sample Careers

- Agricultural Products Sales Representative
- Environmental Compliance Inspector
- Environmental Engineer
- Environmental Sampling and Analysis Technician
- Hazardous Materials Handler
- Recycling Coordinator
- Toxicologist
- Turf Farmer
- Water Conservationist

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.

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Agriculture, Food, and Natural Resources Pathways

Environmental Service Systems Sample Careers

Environmental Service Systems Pathway

| | |
|-------------------------------|---|
| Education and Salaries | |
| Environmental Engineer | Agricultural Products Sales Representative |
| Bachelor's Degree | High School Diploma |
| Average Salary \$89,480 | On-the-Job Training |
| | Average Salary \$55,730 |

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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.

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Agriculture, Food, and Natural Resources Pathways

Food Product and Processing Systems Description



Food Product and Processing Systems Pathway

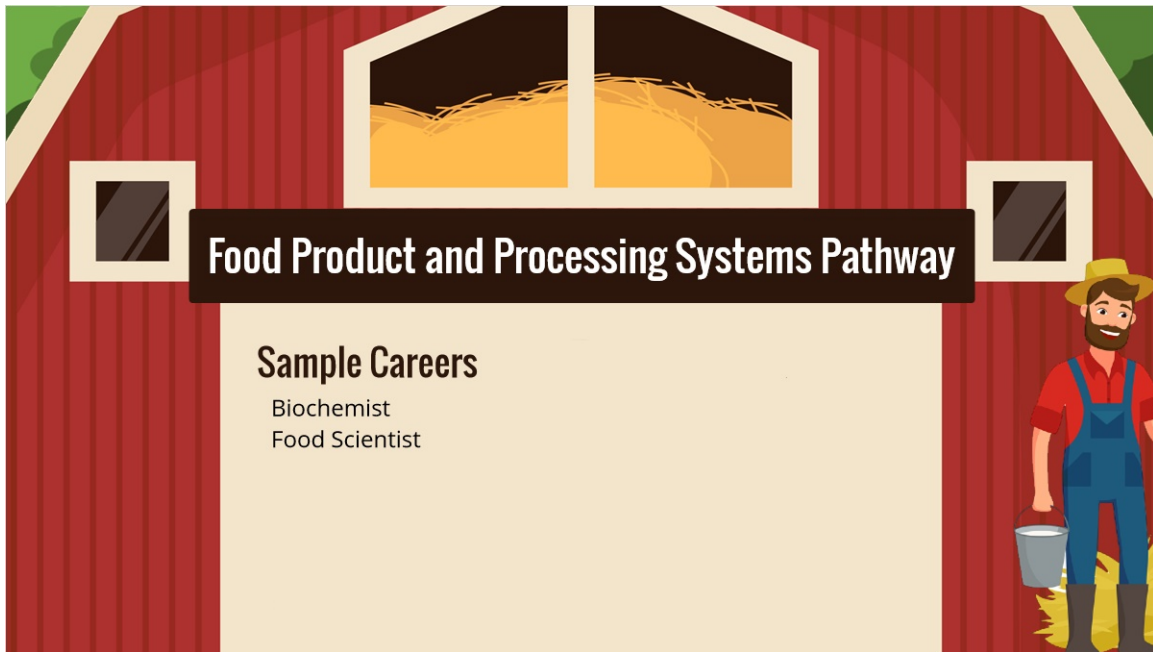
Job Description

- ✓ Discover new food sources, analyze food content, and develop ways to process, preserve, package, or store food according to industry and government regulations
- ✓ 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

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.

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Agriculture, Food, and Natural Resources Pathways

Food Product and Processing Sample Careers

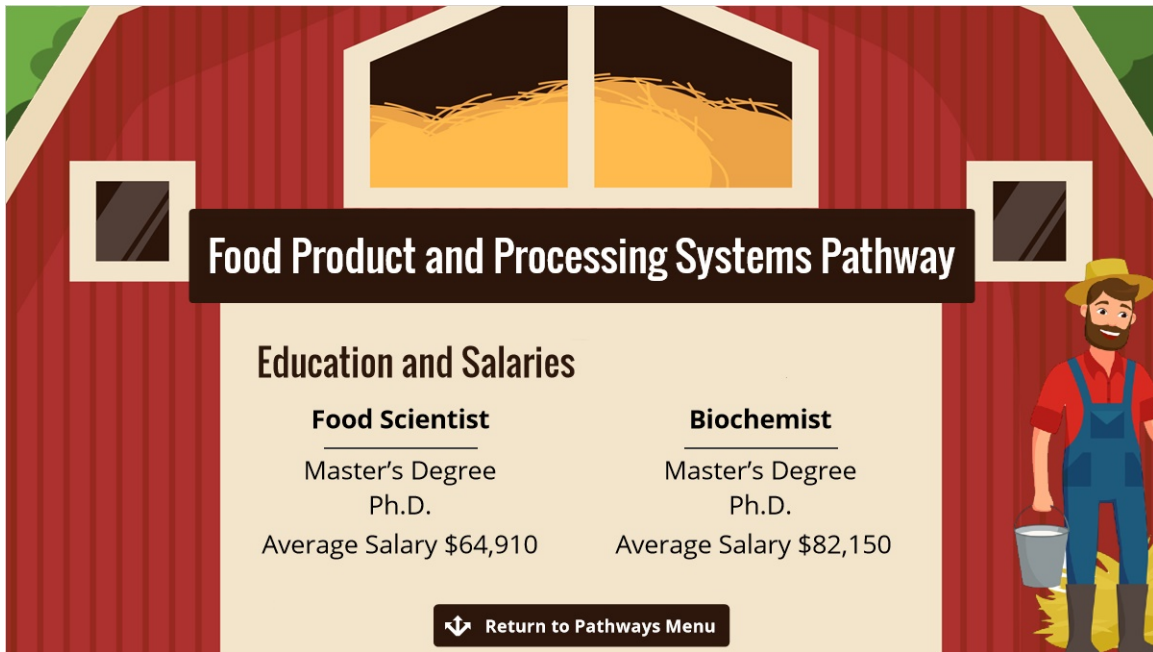


Sample careers in the Food Product and Processing Systems Pathway include Biochemist and Food Scientist.

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Agriculture, Food, and Natural Resources Pathways

Food Product and Processing Systems Sample Careers



Food Product and Processing Systems Pathway

Education and Salaries

| Food Scientist | Biochemist |
|--------------------------|--------------------------|
| Master's Degree Ph.D. | Master's Degree Ph.D. |
| Average Salary \$64,910 | Average Salary \$82,150 |

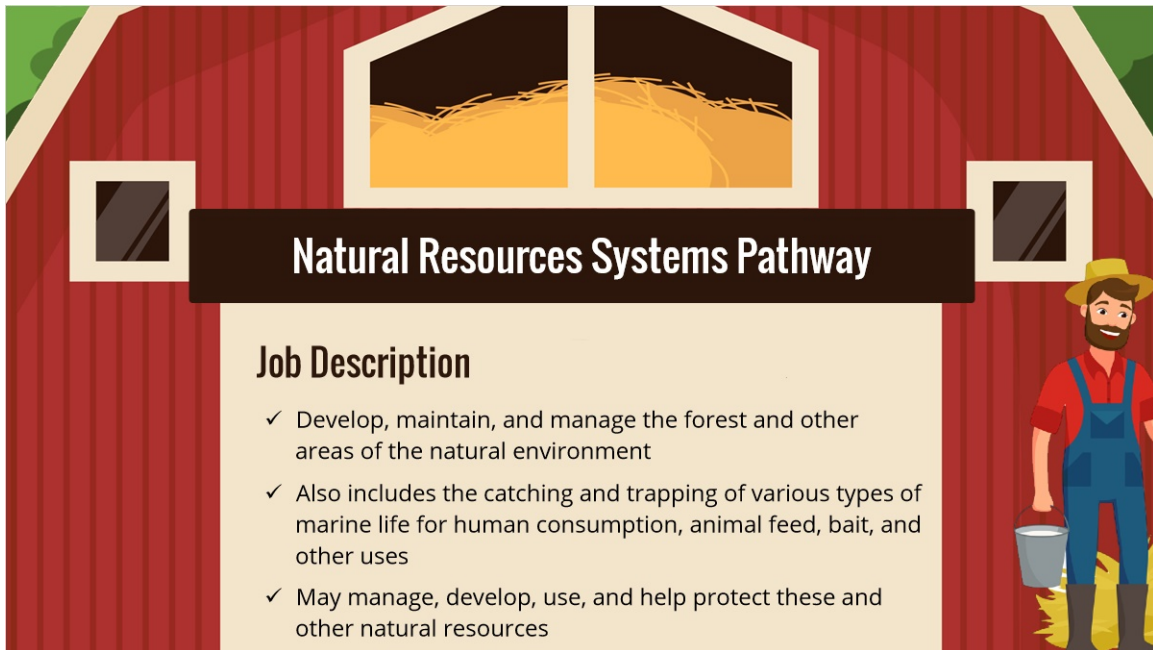
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Many careers in the Food Product and Processing Systems Pathway require some level of higher education. A Food Scientist requires a Master's Degree and possibly a Ph.D., and has an average salary of \$64,910. A Biochemist also requires a Master's Degree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

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Agriculture, Food, and Natural Resources Pathways

Natural Resources Systems Description



Natural Resources Systems Pathway

Job Description

- ✓ Develop, maintain, and manage the forest and other areas of the natural environment
- ✓ Also includes the catching and trapping of various types of marine life for human consumption, animal feed, bait, and other uses
- ✓ May manage, develop, use, and help protect these and other natural resources

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.

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Agriculture, Food, and Natural Resources Pathways

Natural Resources Systems Sample Careers



Natural Resources Systems Pathway

Sample Careers

| | |
|----------------------------|--------------------------|
| Ecologist | Microbiologist |
| Fish and Game Officer | Outdoor Recreation Guide |
| Fisheries Technician | Park Manager |
| Forest Manager or Forester | Park Technician |
| Forest Technician | Range Technician |
| Geological Technician | Wildlife Manager |
| Logging Equipment Operator | |

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.

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Natural Resources Systems Sample Careers

The infographic features a red barn background with two windows showing hay. A black banner across the middle reads "Natural Resources Systems Pathway". Below this, a light beige box contains the text "Education and Salaries". To the right of the text is an illustration of a farmer in a red shirt, blue overalls, and a yellow hat, holding a white bucket. At the bottom of the beige box is a black button with a white arrow and the text "Return to Pathways Menu".

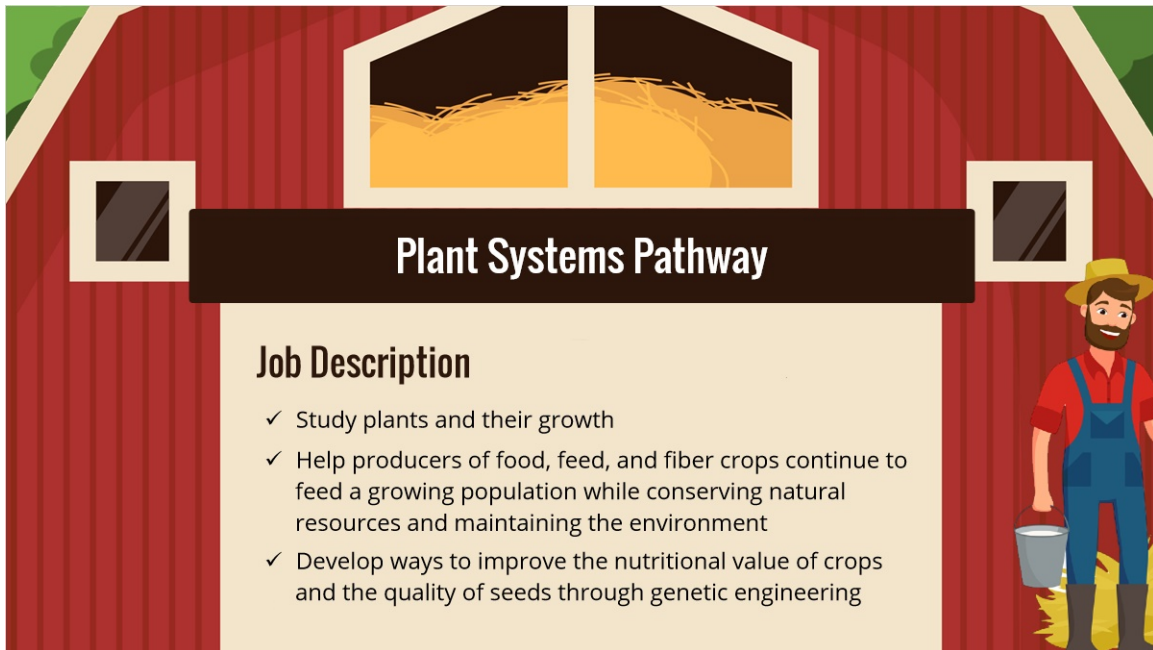
| Education and Salaries | |
|-------------------------|--------------------------|
| Forester | Forest Technician |
| Master's Degree | High School Diploma |
| Average Salary \$58,760 | Average Salary \$39,830 |

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.

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Agriculture, Food, and Natural Resources Pathways

Plant Systems Description



Plant Systems Pathway

Job Description

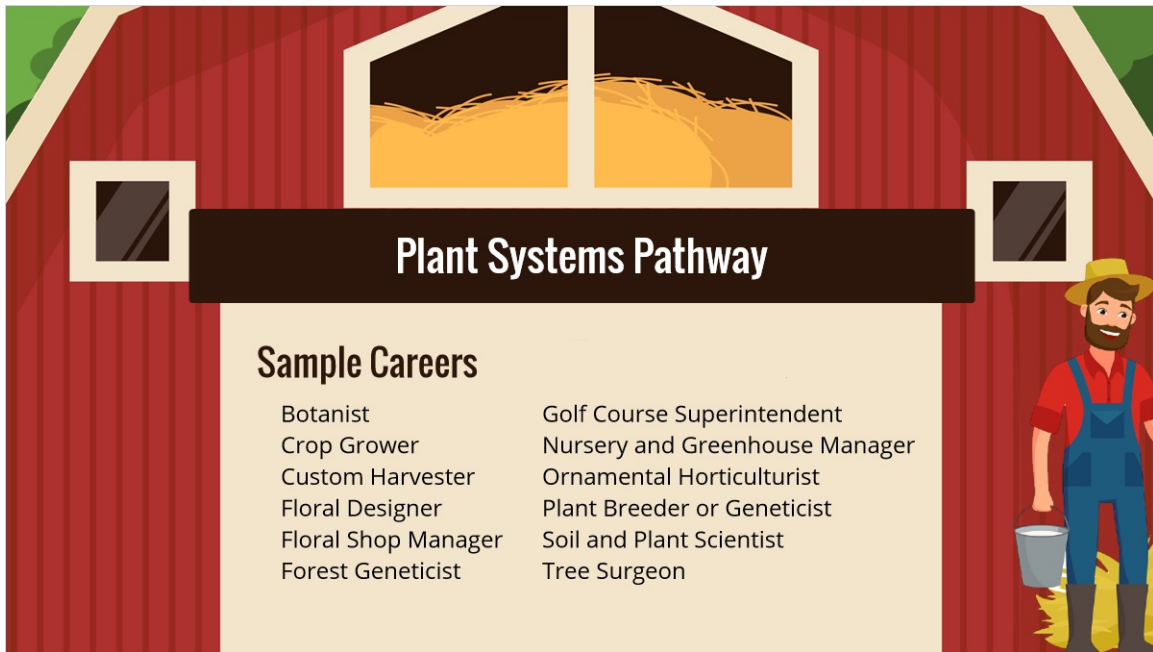
- ✓ Study plants and their growth
- ✓ Help producers of food, feed, and fiber crops continue to feed a growing population while conserving natural resources and maintaining the environment
- ✓ Develop ways to improve the nutritional value of crops and the quality of seeds through genetic engineering

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.

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Agriculture, Food, and Natural Resources Pathways

Plant Systems Sample Careers



Plant Systems Pathway

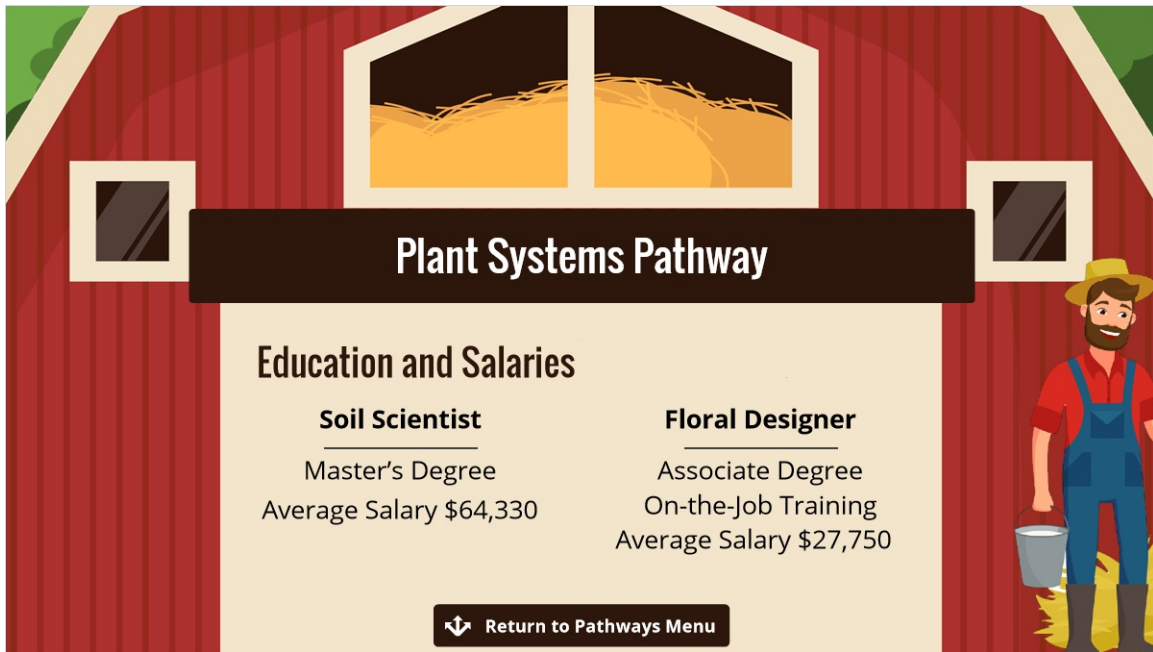
Sample Careers

| | |
|---------------------|--------------------------------|
| Botanist | Golf Course Superintendent |
| Crop Grower | Nursery and Greenhouse Manager |
| Custom Harvester | Ornamental Horticulturist |
| Floral Designer | Plant Breeder or Geneticist |
| Floral Shop Manager | Soil and Plant Scientist |
| Forest Geneticist | Tree Surgeon |

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.

Middle School Career Investigations
Agriculture, Food, and Natural Resources Pathways

Plant Systems Sample Careers

An infographic titled "Plant Systems Pathway" set against a background of a red barn with two windows showing hay. A farmer in a red shirt, blue overalls, and a yellow hat stands on the right holding a bucket. The infographic lists two careers: Soil Scientist and Floral Designer, with their respective educational requirements and average salaries. A button at the bottom says "Return to Pathways Menu".

| Education and Salaries | |
|-------------------------|-------------------------|
| Soil Scientist | Floral Designer |
| Master's Degree | Associate Degree |
| Average Salary \$64,330 | On-the-Job Training |
| | Average Salary \$27,750 |

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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.

Middle School Career Investigations

Agriculture, Food, and Natural Resources Pathways

Power, Structural, and Technical Systems Description



Power, Structural, and Technical Systems Pathway

Job Description

- ✓ Apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures, and controls to the field of agriculture
- ✓ Design agricultural structures as well as machinery and equipment
- ✓ Develop ways to conserve soil and water, to improve the processing of agricultural products, and to implement new technologies

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.

Middle School Career Investigations

Agriculture, Food, and Natural Resources Pathways

Power, Structural, and Technical Systems Sample Careers



Power, Structural, and Technical Systems Pathway

Sample Careers

- Agricultural Engineer
- Agricultural Equipment Operator
- Agricultural Equipment Parts Manager
- Agricultural Equipment Parts Salesperson
- Machinist
- Parts Manager
- Welder

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.

Middle School Career Investigations

Agriculture, Food, and Natural Resources Pathways

Power, Structural, and Technical Systems Sample Careers



Power, Structural, and Technical Systems Pathway

Education and Salaries

| | |
|---|--|
| Agricultural Equipment Operator | Agricultural Engineer |
| High School Diploma On-the-Job Training Average Salary \$30,830 | Bachelor's Degree Average Salary \$89,480 |

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.