

# Discover Agriculture Careers



**Agribusiness  
Systems**



**Agriculture  
Education**



**Agriculture  
Technology**



**Animal  
Systems**



**Biotechnology**



**Environmental  
Service**



**Food  
Systems**



**Natural  
Resources**



**Plant  
Systems**



**Power  
Systems**



**Skilled Trades**



**Sustainability  
Systems**

## **Agribusiness Systems Pathway**

- Trade Manager
- Marketing Specialist
- Agricultural Loan Officer
- Sales Representative

## **Agriculture Education Systems Pathway**

- Agriculture Science Teacher
- Extension Agent
- College/University Professor
- Environmental Educator

## **Agriculture Technology Systems Pathway**

- Agriculture Pilot
- Automation Technician
- App Developer
- Precision Agriculture Specialist

## **Animal Systems Pathway**

- Veterinarian
- Herd Nutritionist
- Animal Breeder
- Meat Inspector

## **Biotechnology Systems Pathway**

- Animal Geneticist
- Microbiologist
- Bioinformatics Scientist
- Plant Breeder

## **Environmental Systems Pathway**

- Biosecurity Monitor
- Environmental Compliance Officer
- Environmental Science & Protection Technician
- Integrated Pest Management Specialist

## **Food Products & Processing Systems Pathway**

- Fermentation Scientist
- Food Scientist/Technologist
- Quality Control Technician
- Dietitian

## **Natural Resources Systems Pathway**

- Conservationist
- Forester
- Soil Scientist
- Irrigation Specialist

## **Plant Systems Pathway**

- Agronomist
- Entomologist
- Greenhouse Manager
- Landscape Designer

## **Power, Structural, & Technical Systems Pathway**

- Agriculture Engineer
- Maintenance/Service Technician
- Fleet Manager
- Supply Chain Manager

## **Skilled Trades Systems Pathway**

- Machine/Equipment Operator
- Mechanic
- Hydraulic Technician
- Assembly Technician

## **Sustainability Systems Pathway**

- Sustainability Specialist
- Restoration Specialist
- Biorefining Manager
- Nutrient/Waste Management Specialist



# Trade Manager

Trade managers are responsible for facilitating and managing the exchange of agricultural goods and commodities on an international scale. They oversee import and export processes, negotiate contracts, and ensure compliance with trade regulations.

## Salary Range



## Education Level



## Day in the Life:

A typical day includes collaborating with global partners, analyzing market trends, and coordinating logistics for efficient agricultural product movement. Trade managers also negotiate, conduct market research, and stay updated on trade policies.

## Types of Employers:

- Agricultural Export Companies
- Import-Export Agencies
- Agricultural Cooperatives
- Government Trade Agencies

## Similar Careers:

- Supply Chain Manager
- Agricultural Economist



# Agribusiness Systems Pathway





## Day in the Life:

In a day-to-day role, marketing specialists analyze market trends, identify target audiences, and design promotional campaigns to create awareness and demand for agricultural products. They may also work on pricing strategies, collaborate with advertising agencies, and utilize digital platforms for effective marketing.

## Types of Employers:

- Agricultural Cooperatives
- Food Processing Companies
- Agribusiness Consulting Firms
- Government Agricultural Agencies

## Similar Careers:

- Agricultural Sales Representative
- Marketing Manager in Agribusiness
- Product Manager for Agricultural Products



# Agribusiness Systems Pathway





# Agricultural Loan Officer

Agricultural loan officers, also known as agricultural lenders, assist producers and rural citizens in securing funds for their operations, property purchases, and more through various loan and credit options. Their responsibilities include combining agricultural and business knowledge to understand customers' financial positions and provide optimal financing solutions.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

Loan officers cultivate lending relationships, reaching out to existing and prospective borrowers. They explain available loans and credit options, develop and analyze credit information, and make decisions on loan structures and pricing. Their tasks involve maintaining secure files, ensuring borrower privacy, and participating in community events. Interviewing applicants, evaluating risks, and managing existing loan portfolios are integral to their routine.

## Types of Employers:

- Banks (including agricultural-focused banks)
- Credit Unions
- Independent Lenders

## Similar Careers:

- Financial Analyst
- Loan Officer
- Credit Analyst
- Agricultural Economist
- Business Development Officer



# Agribusiness Systems Pathway







# Sales Representative

Sales representatives connect farmers with products and services that enhance their productivity. They are responsible for building and maintaining relationships with clients, understanding their needs, and recommending suitable agricultural products such as seeds, fertilizers, and machinery.

## Salary Range



## Education Level



## Day in the Life:

In a typical day, sales representatives engage in client visits, attend agricultural events, and collaborate with farmers and others in agricultural businesses to understand their needs. They provide information on the latest agricultural technologies, negotiate sales contracts, and work to ensure customer satisfaction.

## Types of Employers:

- Agricultural Equipment Manufacturers
- Seed and Fertilizer Companies
- Agrochemical Companies
- Farm Supply Retailers

## Similar Careers:

- Marketing Specialist
- Crop Consultant
- Inside Sales Representative



# Agribusiness Systems Pathway





# Agriculture Science Teacher

Agriculture science teachers complete a teacher training program where biology, plant science, animal science, agribusiness, and agricultural technologies are required. In addition to teaching in the classroom, these educators work with students on their agricultural projects outside of class and may serve as the advisor of the student leadership (FFA) organization.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

A typical day involves developing and teaching agricultural science curriculum, covering topics like plant and animal sciences, agribusiness, technology, natural resources, and sustainability. Agriculture science teachers conduct hands-on activities, labs, and field trips, supervise agricultural projects, and evaluate student performance. They collaborate with peers, administrators, and industry professionals, ensuring the maintenance of classroom resources and staying updated on agricultural trends through professional development activities.

## Types of Employers:

- Public or Private Secondary Schools (middle and/or high schools)
- Vocational Schools and Career Academies
- Agricultural Extension Programs

## Similar Careers:

- Environmental Educator
- Extension Agent



# Agriculture Education Systems Pathway





# Extension Agent

Extension agents work in communities, providing expertise in agriculture, horticulture, family and consumer sciences, and 4-H youth development. They serve as a bridge between research institutions and the local community, delivering research-based knowledge to address agricultural challenges and enhance community well-being.

## Salary Range



## Education Level



## Day in the Life:

Extension agents with agricultural assignments spend their days engaging with local farmers, conducting on-site visits to address agricultural concerns, and organizing educational programs and workshops. They collaborate with community members, deliver presentations, and provide resources to enhance agricultural practices. A significant portion of their time involves answering inquiries, conducting local research, writing grants, and facilitating 4-H youth development programs.

## Types of Employers:

- County Cooperative Extension Offices
- Land-Grant Universities
- Government Agencies (local and state)
- Nonprofit Agricultural Organizations

## Similar Careers:

- Extension Youth Program Coordinator
- Postsecondary Educator
- Agricultural Literacy Educator



# Agriculture Education Systems Pathway





# College/University Professor

Postsecondary agriculture educators, also known as college or university professors, specialize in teaching courses within specific areas of agriculture. They contribute to academic research, mentor students, and may be involved in curriculum development.

## Salary Range



## Education Level



## Day in the Life:

A typical day for a postsecondary agriculture educator involves preparing and delivering lectures, conducting research, and mentoring students. They may lead discussions, assess student work, and collaborate with colleagues on research projects. Additionally, these educators often engage in scholarly activities such as publishing research papers and attending conferences.

## Types of Employers:

- Colleges and Universities
- Research Institutions
- Agricultural Experiment Stations
- Extension Programs
- Government Agricultural Agencies

## Similar Careers:

- Agricultural Extension Specialist
- Environmental Educator
- Agricultural Researcher



# Agriculture Education Systems Pathway



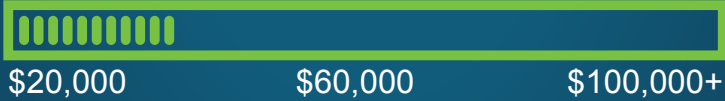




# Environmental Educator

Environmental educators foster awareness and understanding of environmental issues through educational programs. They develop and implement curriculum, conduct workshops, and promote environmental conservation, sustainability, and ecological stewardship to diverse audiences – both youth and adults. Grant writing, program planning, management, and assessment are required skills.

## Salary Range



## Education Level



## Day in the Life:

Environmental educators spend their days creating and delivering educational content, both indoors and outdoors. They design interactive lessons, lead nature walks, and organize hands-on activities. Additionally, educators may collaborate with schools, community groups, or government agencies to develop and implement environmental education initiatives.

## Types of Employers:

- Environmental Nonprofits
- Advocacy Organizations
- Educational Institutions
- Government Agencies
- Museums and Science Centers
- Zoos and Aquariums

## Similar Careers:

- Environmental Scientist
- Conservation Biologist
- Park Ranger
- Sustainability Coordinator



# Agriculture Education Systems Pathway





# Agricultural Pilot

Agricultural drone pilots operate drones with specialized sensors and cameras to collect data and monitor crops and farmland. An agricultural drone pilot provides this data to farmers who can then make farm management decisions to increase crop yields and minimize environmental impacts. Some drone pilots may fly larger drones to target delivery of pesticides and fertilizers.

## Salary Range



## Education Level



## Day in the Life:

Drone or unmanned aerial vehicle (UAV) pilots plan and execute drone flights over designated agricultural areas. The drones capture high-resolution images, thermal imagery and multispectral data, and other types of field data. This data can include information about crop health, soil moisture levels, pest infestations, and plant growth. Agricultural drone pilots analyze the data to assess the health and condition of crops, identify areas of concern such as pest or disease outbreaks, and make recommendations for crop management practices. Pilots are often responsible for maintaining and troubleshooting drone equipment.

## Types of Employers:

- Self-Employed
- Crop Management Companies
- Farm Credit Organizations

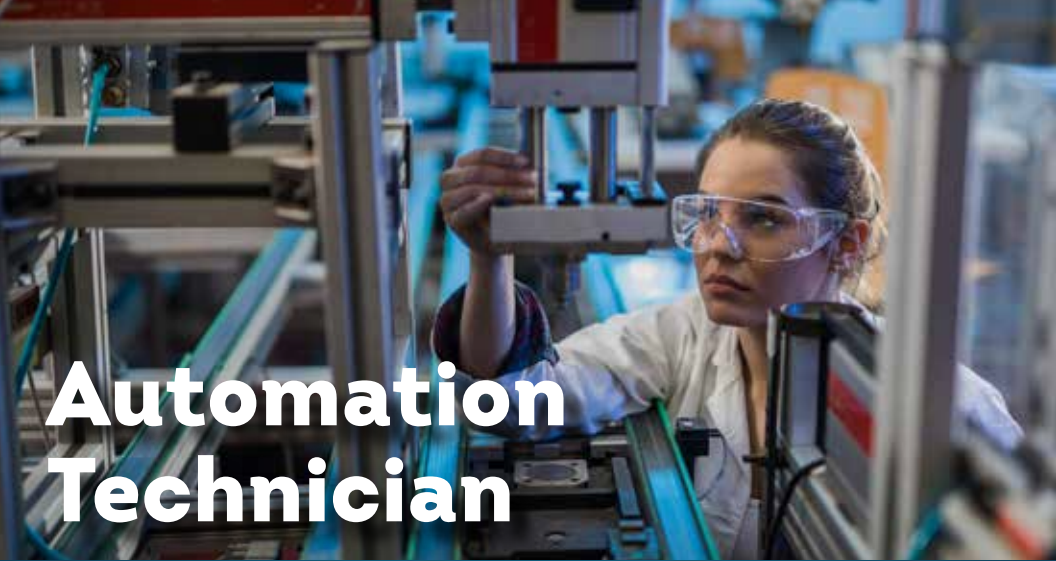
## Similar Careers:

- Commercial Pilot
- Aerial Applicator



# Agriculture Technology Systems Pathway





# Automation Technician

Agriculture automation technicians specialize in deploying and maintaining automated systems and technologies in the food and agriculture sector. Their responsibilities include installing, troubleshooting, and upgrading food processing machinery, precision farming equipment (such as drones, sensors, and automated machinery) to optimize farm operations, increase efficiency, and enhance crop yields.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

Agricultural automation technicians analyze farm requirements and plan automation solutions. They spend their time in the fields, warehouses, or factories, installing and configuring automated systems. This involves troubleshooting technical issues, conducting regular maintenance, and providing training to farm personnel on the proper use of automation equipment. Technicians may also collaborate with farmers to customize automation solutions based on specific crop needs.

## Types of Employers:

- Food Processing Machine Manufacturers
- Agricultural Equipment Manufacturers
- Precision Agriculture Companies
- Large-Scale Farms and Agribusinesses
- Agricultural Research Institutions

## Similar Careers:

- Precision Agriculture Specialist
- Agricultural Equipment Technician
- Robotics Engineer



# Agriculture Technology Systems Pathway





# App Developer

Agriculture information technology (IT) application developers specialize in creating software applications tailored to the unique needs of the agricultural industry. They design, develop, and maintain mobile and web applications that enhance farm management, streamline data collection, and optimize decision-making processes for farmers and agribusinesses.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

Agriculture IT app developers collaborate with agricultural experts throughout the day to comprehend industry-specific requirements. They dedicate their time to designing and coding applications with features such as crop monitoring, yield forecasting, and inventory management. Developers may also conduct testing, debug code, and provide ongoing support to ensure the functionality and user-friendliness of their applications. Most of their time is spent at a computer in an office or from home.

## Types of Employers:

- Agricultural Technology Companies
- Agribusinesses with In-House IT Departments
- Precision Agriculture Firms
- Software Development Companies Serving the Agricultural Sector

## Similar Careers:

- IT Software Developer
- IT Programmer
- IT Specialist



# Agriculture Technology Systems Pathway







# Precision Agriculture Specialist

Precision agriculture specialists leverage technology to optimize crop production. Their responsibilities include implementing and managing precision agriculture technologies, analyzing data to enhance decision-making, and advising/educating farmers on adopting and implementing efficient and sustainable practices.

## Salary Range



## Education Level



## Day in the Life:

A precision agriculture specialist's day involves using technology for soil and crop monitoring, analyzing data to provide insights on irrigation and fertilization strategies, and collaborating with farmers to implement precision agriculture solutions. They may spend time in the field conducting assessments, utilizing drones for aerial surveys, and working with data analysis tools.

## Types of Employers:

- Agricultural Consulting Firms
- Agribusiness Corporations
- Research Institutions
- Government Agricultural Agencies
- Farm Management Services

## Similar Careers:

- Drone Pilot
- Agriculture Engineer
- Digital Farming Lead



# Agriculture Technology Systems Pathway





# Veterinarian

Veterinarians specialize in small or large animals. They ensure the well-being of pets, livestock, and other animals (e.g., zoo animals and wildlife). Their responsibilities include diagnosing illnesses, performing surgeries, providing preventive care, and advising animal owners on nutrition and health maintenance.

## Salary Range



## Education Level



High School Diploma                      Associate's Degree/  
Technical Training                      Bachelor's Degree                      Graduate Degree

## Day in the Life:

Veterinarians engage in a mix of clinical work, surgeries, and client consultations almost daily. They may conduct examinations, administer vaccinations, perform surgical procedures, and advise animal owners on proper care. Large animal veterinarians often spend time in the field working on farms, while small animal veterinarians may primarily operate in clinical settings.

## Types of Employers:

- Private Veterinary Practices
- Animal Hospitals
- Livestock Farms
- Zoos and Wildlife Sanctuaries
- Research Institutions
- Governmental Agencies (e.g., departments of agriculture, public health agencies)

## Similar Careers:

- Veterinary Assistant
- Veterinary Technician
- Veterinary Pathologist
- Zoologist



# Animal Systems Pathway





# Herd Nutritionist

Herd nutritionists specialize in developing and implementing nutrition programs for livestock to ensure their optimal health and productivity. They analyze the dietary needs of different animal species, formulate balanced feed plans, and provide recommendations to farmers for improving herd nutrition.

## Salary Range



## Education Level



## Day in the Life:

A typical day for a herd nutritionist involves conducting on-site assessments of livestock, analyzing existing feeding programs, and collaborating with farmers to customize nutrition plans. They may spend time in offices or laboratories—as well as in the field—evaluating herd health and advising on dietary adjustments. Continuous research to stay updated on nutritional trends and advancements is also a vital part of their routine.

## Types of Employers:

- Livestock Farms
- Feed Manufacturing Companies
- Agricultural Cooperatives
- Research Institutions
- Departments of Agriculture
- Veterinary Pharmaceutical Companies

## Similar Careers:

- Animal Scientist
- Feed Formulator
- Agricultural Extension Specialist



# Animal Systems Pathway





## Day in the Life:

Animal breeders closely monitor the health and well-being of animals, select suitable breeding pairs, and ensure proper care during gestation and birthing. Animal breeders also analyze data, collaborate with veterinarians, and stay updated on advancements in breeding techniques.

## Types of Employers:

- Livestock Farms
- Zoos and Wildlife Reserves
- Research Institutions
- Biotechnology Companies

## Similar Careers:

- Geneticist
- Livestock Manager



# Animal Systems Pathway



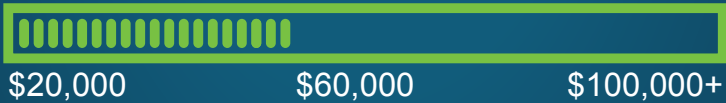




# Meat Inspector

Meat inspectors ensure the safety and quality of meat products for consumers. Responsible for inspecting slaughtered animals and processed meat, they enforce regulations to prevent the distribution of contaminated or substandard products. Meat inspectors collaborate with food producers to maintain hygiene standards and enforce compliance with industry regulations.

## Salary Range



## Education Level



## Day in the Life:

Meat inspectors examine animal carcasses and organs within meat processing facilities to ensure quality and safety. They assess the overall health of animals, check for signs of diseases, and verify that processing plants adhere to sanitation standards. Attention to detail and adherence to safety protocols are paramount to their daily tasks.

## Types of Employers:

- Federal or State Government Agencies
- Meat Processing Plants
- Food Inspection Agencies
- Regulatory Agencies

## Similar Careers:

- Food Safety Inspector
- Quality Control Technician
- Agricultural Inspector



# Animal Systems Pathway





# Animal Geneticist

Animal geneticists are professionals who specialize in the study of animal genetics to enhance desirable traits, such as disease resistance, productivity, and overall health. They conduct research, develop breeding programs, and use advanced genetic technologies to improve the genetic makeup of livestock species.

## Salary Range



## Education Level



## Day in the Life:

Animal geneticists conduct experiments to explore how genetic traits impact animal health and productivity, primarily working in labs to analyze genetic data and collaborate with researchers. They may also collect genetic samples in the field, evaluate breeding programs, and provide expertise to farmers and breeders.

## Types of Employers:

- Agricultural Research Institutions
- Livestock Breeding Companies
- Biotechnology Firms
- Universities and Academic Institutions
- Departments of Agriculture
- Zoos and Conservation Organizations

## Similar Careers:

- Animal Biotechnologist
- Genetic Engineer or Researcher
- Breeding Program Manager



## Biotechnology Systems Pathway





# Microbiologist

Microbiologists study microorganisms like bacteria, viruses, fungi, and algae by conducting various experiments to analyze their impact on different environments. They contribute to agricultural advancements by researching microbial behavior and developing innovative technologies.

## Salary Range



## Education Level



## Day in the Life:

In a typical day, microbiologists may collect samples from different sources, cultivate microorganisms in laboratory settings, and analyze data using advanced technologies. They spend significant time conducting experiments, interpreting results, and contributing to research projects aimed at solving problems related to infectious diseases, food safety, or environmental issues.

## Types of Employers:

- Research Institutions
- Pharmaceutical Companies
- Hospitals and Healthcare Facilities
- Biotechnology Companies
- Government Agencies

## Similar Careers:

- Virologist
- Immunologist
- Medical Laboratory Scientist
- Environmental Microbiologist



## Biotechnology Systems Pathway





# Bioinformatics Scientist

In agriculture, a bioinformatics scientist uses computers and advanced tools to study plants and animals. They look at the tiny building blocks of life, such as DNA and proteins, and determine how they work together. Bioinformatics scientists are experts in decoding DNA. They also create computer models to determine how a new medicine might interact with cells or how a plant might respond to changes in its environment.

## Salary Range



## Education Level



## Day in the Life:

A bioinformatics scientist's day involves designing and implementing algorithms and models, and collaborating with biologists and geneticists. They may spend time programming, developing software tools, and staying updated on the latest bioinformatics methodologies. Additionally, they participate in research discussions, contribute to scientific publications, and attend conferences to share findings and insights.

## Types of Employers:

- Research Institutions and Universities
- Biotechnology and Pharmaceutical Companies
- Government Agencies
- Bioinformatics Service Providers
- Agricultural and Environmental Research Centers

## Similar Careers:

- Animal Geneticist
- Genomics Scientist



**Biotechnology  
Systems Pathway**







# Plant Breeder

Plant breeders specialize in the development of new plant varieties with desirable traits, such as increased yield, disease resistance, or adaptability to specific environments. They employ scientific techniques and technologies to enhance the genetic makeup of crops, contributing to advancements in agriculture and sustainable food production.

## Salary Range



## Education Level



## Day in the Life:

A typical day for a plant breeder involves conducting experiments, collecting and analyzing data, and selecting plants with desired traits for further breeding. They may work in laboratories, greenhouses, and field settings where they spend time cross-breeding plants, evaluating crops, and applying biotechnological methods. Collaboration with other researchers, writing reports, and staying informed about the latest advancements in plant genetics are integral aspects of their daily routine.

## Types of Employers:

- Agricultural Research Institutions
- Biotechnology Firms
- Government Agencies
- Universities and Academic Institutions
- Private Agricultural Enterprises

## Similar Careers:

- Geneticist
- Crop Scientist
- Agricultural Research Scientist
- Horticulturist



# Biotechnology Systems Pathway

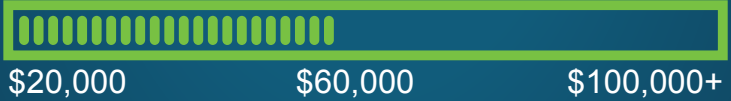




# Biosecurity Monitor

Biosecurity monitors safeguard against the spread of diseases, pests, and contaminants that can impact agriculture, public health, and the environment. Their responsibilities include implementing and enforcing biosecurity measures, conducting inspections, and educating individuals about best practices to prevent the introduction and spread of harmful agents.

## Salary Range



## Education Level



## Day in the Life:

A biosecurity monitor's daily routine includes conducting rigorous inspections of facilities, transportation systems, or agricultural areas to uphold biosecurity standards. They analyze data, collaborate with stakeholders, and devise strategies to mitigate potential biosecurity risks.

## Types of Employers:

- Agricultural Organizations
- Government Agencies
- Research Institutions
- Biosecurity Consulting Firms
- Quarantine Facilities

## Similar Careers:

- Agricultural Inspector
- Environmental Health Specialist
- Quarantine Officer
- Public Health Inspector



## Environmental Service Systems Pathway





# Environmental Compliance Officer

Environmental compliance officers ensure that organizations adhere to environmental laws and regulations. They assess potential environmental risks, develop and implement compliance strategies, and monitor activities to prevent and address violations.

## Salary Range



## Education Level



## Day in the Life

A typical day for an environmental compliance officer involves conducting site inspections, reviewing permits, and collaborating with internal teams to develop and update environmental policies. They may spend time analyzing data, preparing reports, and communicating with regulatory agencies to ensure compliance.

## Types of Employers:

- Environmental Consulting Firms
- Government Agencies
- Manufacturing Companies
- Energy Companies
- Construction Companies

## Similar Careers:

- Environmental Consultant
- Sustainability Manager



## Environmental Service Systems Pathway





# Environmental Science and Protection Technician

Environmental science and protection technicians collect and analyze samples of air, water, and soil to assess pollution levels. They may also conduct inspections to ensure compliance with environmental regulations and assist scientists in research projects focused on environmental protection.

## Salary Range



## Education Level



## Day in the Life:

A typical day for an environmental science and protection technician involves fieldwork where they gather samples and conduct tests, as well as laboratory work where they analyze data and prepare reports. They may spend time communicating findings to scientists, regulatory agencies, or the public.

## Types of Employers:

- Environmental Consulting Firms
- Government Agencies
- Laboratories
- Manufacturing Companies
- Research Institutions

## Similar Careers:

- Environmental Technician
- Water Quality Technician
- Air Quality Specialist
- Soil Conservation Technician



# Environmental Service Systems Pathway



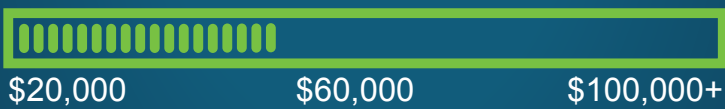




# Integrated Pest Management Specialist

Integrated pest management specialists are experts in sustainable and environmentally responsible pest control. They develop strategies to manage and control pests while minimizing environmental impact. Responsibilities include conducting pest assessments, implementing preventive measures, and recommending the responsible use of pesticides.

## Salary Range



## Education Level



## Day in the Life:

A day in the life of an IPM specialist involves conducting on-site inspections to identify pest issues, analyzing data to determine the best control methods, and educating clients on preventive measures. They may spend time collaborating with agricultural professionals, researching new pest control technologies, and staying updated on the latest industry trends.

## Types of Employers:

- Agricultural Companies
- Pest Control Agencies
- Research Institutions
- Government Agencies
- Environmental Consulting Firms

## Similar Careers:

- Agricultural Consultant
- Crop Adviser
- Plant Health Specialist
- Environmental Science and Protection Technician



# Environmental Service Systems Pathway





# Fermentation Scientist

Fermentation scientists are experts in the biological and chemical processes involved in the fermentation of substances like bacteria (used in various cheeses, yogurt, sauerkraut, etc.), yeast (used in breads, pizza dough, beverages, etc.), and enzymes to produce pharmaceuticals, and biofuels. They optimize fermentation conditions, ensure product quality, and develop new fermentation technologies.

## Salary Range



## Education Level



## Day in the Life:

A fermentation scientist's activities include designing and conducting experiments, monitoring fermentation processes, and analyzing data to improve product yield and quality. They may collaborate with cross-functional teams, troubleshoot production issues, and explore innovative fermentation techniques. In addition, they stay updated on industry trends and advancements through research, literature reviews, and attending conferences.

## Types of Employers:

- Food and Beverage Companies
- Pharmaceutical and Biotechnology Firms
- Biofuel and Energy Companies
- Research and Development Organizations
- Academic Institutions and Laboratories

## Similar Careers:

- Bioprocess Engineer
- Food Technologist
- Biotechnologist
- Biochemist



# Food Products & Processing Systems Pathway





# Food Scientist/ Technologist

Food technologists blend scientific knowledge with culinary expertise to enhance and innovate food products. They are responsible for ensuring their safety, quality, and nutritional value. They conduct research on ingredients and employ cutting-edge processing methods to improve food items.

## Salary Range



## Education Level



## Day in the Life:

A food technologist may work in laboratories or production facilities conducting taste tests, analyzing food samples, and collaborating with cross-functional teams. They spend time researching market trends, developing new recipes, and ensuring that food products meet regulatory standards.

## Types of Employers:

- Food and Beverage Companies
- Research and Development Organizations
- Government Agencies
- Academic Institutions
- Quality Control Labs

## Similar Careers:

- Flavor Chemist
- Quality Assurance Specialist
- Nutritionist



# Food Products & Processing Systems Pathway





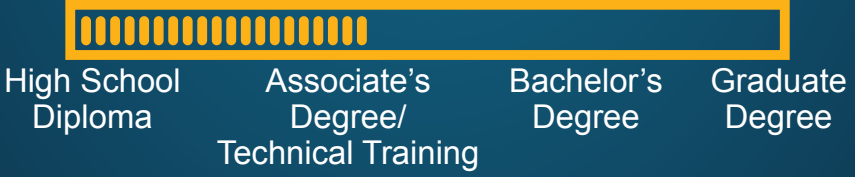
# Quality Control Technician

Quality control technicians uphold the standards of safety and excellence in the food industry. Their responsibilities include inspecting raw materials, monitoring production processes, and conducting tests to ensure that food products meet regulatory and company-specific quality standards. This career plays a crucial role in maintaining the integrity of food products and ensuring they are safe for consumption.

## Salary Range



## Education Level



# Day in the Life:

A day in the life of a quality control technician involves meticulous examination of ingredients, testing for attributes such as taste, texture, and safety, and documenting findings. They collaborate closely with production teams and offer insights to enhance quality. They also promptly address any deviations from established standards.

# Types of Employers:

- Food and Beverage Companies
- Food Processing Plants
- Quality Assurance Laboratories
- Regulatory Agencies
- Research and Development Centers

# Similar Careers:

- Chef
- Food Photographer
- Creative Director (Food Media)



## Food Products & Processing Systems Pathway







# Dietitian

Dietitians are health professionals specializing in nutrition and dietary management. Their responsibilities include assessing individuals' nutritional needs, developing personalized meal plans, and providing guidance on healthy eating habits. They often work in healthcare settings, wellness programs, schools districts, assisted living facilities, or private practices to promote overall well-being through nutrition.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](http://agclassroom.org/careers)

## Day in the Life:

In a typical day, dietitians interact with clients to understand their health goals, conduct nutritional assessments, and design dietary plans. They may collaborate with healthcare teams, educate individuals on proper nutrition, and stay updated on the latest research and dietary trends.

## Types of Employers:

- Hospitals and Healthcare Facilities
- Private Practice
- Corporate Wellness Programs
- Schools and Universities
- Government Agencies
- Fitness and Rehabilitation Centers

## Similar Careers:

- Public Health Nutritionist
- Wellness Coach



## Food Products & Processing Systems Pathway





# Conservationist

Conservationists protect and manage natural resources, including land, water, and wildlife. Their responsibilities often involve assessing environmental conditions, developing conservation plans, and implementing strategies to sustain ecosystems and biodiversity.

## Salary Range



## Education Level



## Day in the Life:

A day in the life of a conservationist may include fieldwork such as habitat assessments, wildlife surveys, and ecosystem monitoring. They collaborate with stakeholders and farmers to raise awareness about conservation issues and advocate for sustainable practices. Additionally, conservationists spend time analyzing data, developing conservation plans, and participating in community outreach to promote environmental education and engagement.

## Types of Employers:

- Environmental Nonprofit Organizations
- Government Agencies
- Conservation Non-Governmental Organizations
- Wildlife Reserves and Sanctuaries
- Private Consulting Firms Specializing in Environmental Conservation

## Similar Careers:

- Environmental Scientist
- Wildlife Biologist
- Park Ranger
- Ecologist
- Environmental Planner



**Natural Resources  
Systems Pathway**





# Forester

Foresters are professionals responsible for managing and conserving forests by ensuring sustainable practices for timber production, wildlife habitat, and environmental preservation. Their work involves assessing forest health, implementing harvesting plans, and promoting conservation efforts to maintain the ecological balance of forested areas.

## Salary Range



## Education Level



## Day in the Life:

A forester's daily activities include fieldwork to assess forest conditions, plan timber harvests, and monitor replanting efforts. They collaborate with loggers, landowners, and environmentalists to develop sustainable forest management strategies. Additionally, foresters spend time in offices analyzing data, creating management plans, and ensuring compliance with forestry regulations.

## Types of Employers:

- State and Federal Forestry Agencies (e.g., U.S. Forest Service)
- Private Timber Companies
- Environmental Consulting Firms
- Non-Profit Conservation Organizations
- Land Management Agencies

## Similar Careers:

- Forest Ecologist
- Conservation Scientist
- Park Ranger



**Natural Resources  
Systems Pathway**





# Soil Scientist

Soil scientists study the composition, structure, and classification of soils to understand their impact on plant growth, land use, and environmental sustainability. Their responsibilities include conducting soil surveys, analyzing data on soil characteristics, and providing recommendations for land management and conservation practices.

## Salary Range



## Education Level



## Day in the Life:

A day in the life of a soil scientist involves fieldwork to collect soil samples, laboratory analysis to determine soil properties, and interpreting data to create soil maps. They collaborate with agricultural experts, environmental scientists, and land developers to make informed decisions about soil utilization.

## Types of Employers:

- Agricultural Research Institutions
- Environmental Consulting Firms
- Government Agencies
- Universities and Research Organizations
- Private Agricultural Companies
- Land Development and Construction Companies

## Similar Careers:

- Environmental Scientist
- Agronomist
- Hydrologist
- Geologist
- Ecologist



**Natural Resources  
Systems Pathway**







# Irrigation Specialist

Irrigation specialists design, implement, and manage irrigation systems to optimize water distribution for agriculture, landscapes, and other plant-growing environments. Professionals in this career ensure efficient water use, environmental sustainability, and crop health by employing advanced irrigation technologies and practices.

## Salary Range



## Education Level



## Day in the Life:

An irrigation specialist's daily tasks involve assessing water needs, designing irrigation systems, installing and maintaining equipment, and troubleshooting issues. They collaborate with farmers, landscapers, greenhouse managers, and environmental scientists to develop water-efficient strategies. Field visits, data analysis, and staying updated on irrigation technology advancements are integral components of their day.

## Types of Employers:

- Agricultural Enterprises
- Landscaping Companies
- Golf Courses
- Greenhouse Growers
- Private Seed Companies
- Environmental Consulting Firms

## Similar Careers:

- Agricultural Engineer
- Environmental Consultant
- Water Resource Specialist
- Landscape Architect



**Natural Resources  
Systems Pathway**





# Agronomist

Agronomists specialize in the science and technology of crop production and soil management. These professionals work to enhance agricultural productivity and sustainability, as well as to reduce environmental impacts. Responsibilities include conducting research, providing recommendations to farmers, and implementing strategies to optimize crop yields.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

A typical day for an agronomist involves conducting field studies to assess soil conditions, analyzing data to recommend appropriate crops and cultivation practices, and collaborating with farmers to improve yield and sustainability. They may spend significant time outdoors, engaging with agricultural communities and utilizing technology for data analysis.

## Types of Employers:

- Agricultural Research Institutions
- Agribusiness Companies
- Government Agencies
- Environmental Consulting Firms

## Similar Careers:

- Row Crop Producer/Farmer
- Crop Scout
- Pest Control Advisor
- Soil Scientist



## Plant Systems Pathway





# Entomologist

Entomologists are scientists who specialize in the study of insects and their relationships with other organisms and the environment. They conduct research to understand insect behavior, ecology, and impact on agriculture and ecosystems. Responsibilities include insect classification, pest management, and developing strategies for insect-related challenges.

## Salary Range



## Education Level



## Day in the Life:

A day in the life of an entomologist involves fieldwork to collect insect samples, laboratory analysis to study their anatomy and behavior, and collaboration with teams to develop integrated pest management solutions. Entomologists may work with plants or animal pests/insects. They may spend time outdoors conducting surveys and indoors using advanced technologies for genetic research.

## Types of Employers:

- Research Institutions
- Universities and Colleges
- Government Agencies
- Agriculture and Forestry Companies
- Environmental Consulting Firms

## Similar Careers:

- Agricultural Scientist
- Ecologist
- Environmental Scientist
- Pest Control Specialist



## Plant Systems Pathway





# Greenhouse Manager

Greenhouse managers oversee the day-to-day operations of greenhouse facilities, ensuring optimal conditions for plant growth. Their responsibilities include managing staff, implementing cultivation plans, monitoring environmental factors, and maintaining equipment to cultivate healthy and thriving plants.

## Salary Range



## Education Level



## Day in the Life:

Typically greenhouse managers supervise planting and harvesting activities, monitoring temperature and humidity levels, and coordinating pest control measures. They collaborate with horticulturists, growers, and maintenance teams to achieve production goals and address any issues that may arise in the greenhouse.

## Types of Employers:

- Commercial Greenhouse Operations
- Research Institutions and Universities
- Botanical Gardens
- Nurseries and Garden Centers
- Agricultural Companies
- Large-Scale Farms and Plantations

## Similar Careers:

- Horticulturist
- Crop Production Manager
- Nursery Manager
- Farm Manager
- Agricultural Scientist



## Plant Systems Pathway







# Landscape Designer

Landscape designers are creative professionals who plan and design outdoor spaces, including gardens, parks, and residential or commercial landscapes. The responsibilities of these professionals involve collaborating with clients, selecting appropriate plants and materials, creating design plans, and overseeing the implementation of the projects.

## Salary Range



## Education Level



## Day in the Life:

In a typical day, a landscape designer may meet with clients to understand their preferences, conduct site assessments, sketch design proposals, and communicate with contractors for project execution. They spend time outdoors surveying sites and indoors using design software to bring their visions to life.

## Types of Employers:

- Landscape Design Firms
- Architectural Companies
- Urban Planning Agencies
- Government Departments
- Real Estate Developers
- Self-Employed (freelance)

## Similar Careers:

- Landscape Architect
- Urban Planner
- Horticulturist
- Environmental Designer
- Garden Designer



## Plant Systems Pathway





# Agriculture Engineer

Agriculture engineers specialize in designing, developing, and improving systems and equipment used in farming and agriculture. Their responsibilities include creating solutions to enhance crop yields, developing sustainable farming practices, and designing machinery for efficient food production.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

A day in the life of an agriculture engineer may involve conducting on-site evaluations, collaborating with farmers to understand their needs, and using computer-aided design (CAD) software to create and analyze equipment. They may also spend time researching and implementing innovative technologies to address agricultural challenges.

## Types of Employers:

- Agricultural Machinery Manufacturers
- Government Agricultural Agencies
- Research Institutions
- Agribusiness Companies
- Environmental Consulting Firms
- Academic Institutions

## Similar Careers:

- Civil Engineer (with a focus in agricultural projects)
- Environmental Engineer
- Biological Systems Engineer
- Precision Agriculture Specialist



**Power, Structural, &  
Technical Systems  
Pathway**





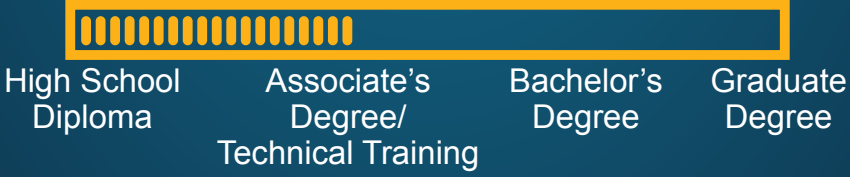
# Maintenance/Service Technician

Maintenance/service technicians are professionals skilled in inspecting, repairing, and maintaining various types of machinery and equipment. They play a crucial role in ensuring the continuous operation and longevity of machinery in the agricultural industry.

## Salary Range



## Education Level



## Day in the Life:

Maintenance and service technicians perform routine inspections—diagnosing mechanical issues and executing repairs or replacements of faulty components. They may also conduct preventive maintenance, respond to emergency breakdowns, and collaborate with other team members to optimize equipment performance.

## Types of Employers:

- Manufacturing Companies
- Industrial Facilities
- Automotive Workshops
- Aerospace Companies
- Energy Plants
- Construction Companies

## Similar Careers:

- Heating, Ventilation, Air Conditioning (HVAC) Technician
- Field Service Technician
- Industrial Maintenance Technician
- Electronics Technician



## Power, Structural, & Technical Systems Pathway





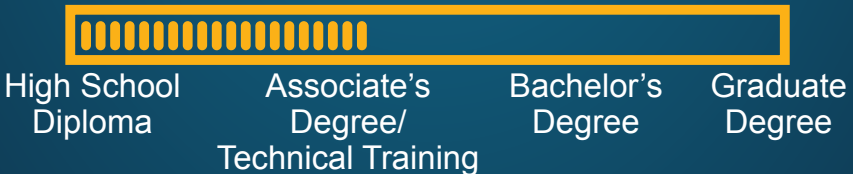
# Fleet Manager

Fleet managers oversee the operation, maintenance, and distribution logistics of vehicles specifically used in agricultural farming and product distribution. They procure vehicles tailored to farming needs, schedule maintenance to ensure uninterrupted operations, manage transportation schedules to optimize distribution efficiency, and ensure compliance with agricultural regulations during transportation.

## Salary Range



## Education Level



## Day in the Life:

A typical day for a fleet manager involves coordinating vehicle maintenance schedules, managing fuel efficiency programs, tracking vehicle locations, and implementing safety protocols. They work closely with drivers, maintenance teams, and logistics staff to ensure the smooth operation of the fleet.

## Types of Employers:

- Transportation and Logistics Companies
- Delivery and Distribution Services
- Corporate Fleets (large companies with extensive vehicle usage)
- Government Agencies

## Similar Careers:

- Logistics Manager
- Transportation Manager
- Operations Manager (with a focus on vehicle fleets)
- Supply Chain Manager



**Power, Structural, &  
Technical Systems  
Pathway**







# Supply Chain Manager

Supply chain managers oversee and optimize the movement of agricultural products from production to distribution. These professionals are responsible for coordinating and managing every step of the supply chain process, ensuring efficiency, cost-effectiveness, and timely delivery.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

Supply chain managers collaborate on strategic planning and work with farmers, processors, distributors, and retailers to ensure product inventory and delivery. They analyze market trends, negotiate contracts, manage inventory, and implement logistics solutions to streamline the flow of agricultural products from farm to market.

## Types of Employers:

- Agribusiness Corporations
- Food Processing Companies
- Logistics and Transportation Companies
- Agricultural Cooperatives
- Government Agricultural Agencies
- Retailers and Supermarkets


## Similar Careers:

- Logistics Coordinator
- Distribution Manager
- Agricultural Operations Manager
- Procurement Specialist



**Power, Structural, &  
Technical Systems  
Pathway**

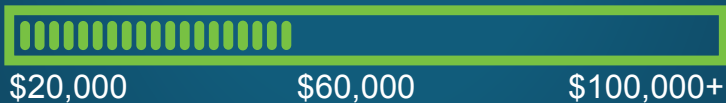




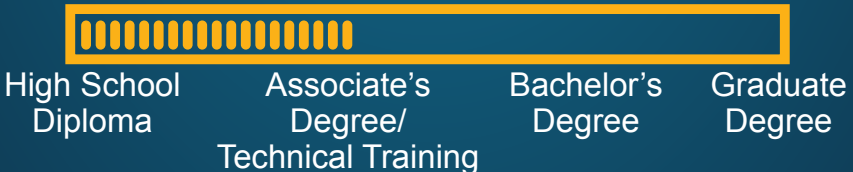
# Machine/Equipment Operator

Machine/equipment operators are experts in various types of machinery used in construction, agriculture, manufacturing, or other industries. The duties of these professionals include efficiently maneuvering heavy equipment, performing routine maintenance checks, and adhering to safety guidelines to ensure the proper functioning of the machines.

## Salary Range



## Education Level



## Day in the Life:

A typical day for a machine/equipment operator involves inspecting equipment before operation, coordinating with team members for project requirements, executing tasks such as planting, harvesting, excavation or material handling, and maintaining records of machine usage. They spend the majority of their time outdoors, navigating equipment across work sites.

## Types of Employers:

- Construction Companies
- Manufacturing Plants
- Mining Operations
- Farm Operations
- Warehousing and Logistics
- Government Departments (public works)

## Similar Careers:

- Crane Operator
- Forklift Operator
- Excavator Operator
- Bulldozer Operator



**Skilled Trades  
Systems Pathway**

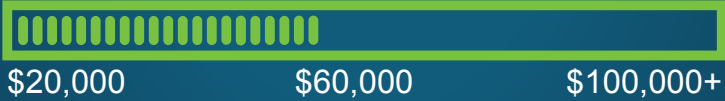




# Mechanic

Mechanics are responsible for inspecting, repairing, and maintaining vehicles and machinery. They possess expertise in diagnosing mechanical issues, performing necessary repairs, and ensuring that vehicles and equipment operate efficiently and safely.

## Salary Range



## Education Level



## Day in the Life:

A mechanic's day involves inspecting vehicles or machinery, identifying mechanical problems, and using diagnostic tools to determine the cause. They perform repairs or replacements on parts, conduct routine maintenance, and may use computerized systems for advanced troubleshooting. As farmers need to plant and harvest at specific times, mechanics are very busy during these seasons to ensure farm production. Much of their time is spent in garages or workshops, and they often interact with customers to explain issues and proposed solutions.

## Types of Employers:

- Automotive Repair Shops
- Dealerships (car, truck, heavy equipment)
- Fleet Maintenance Departments
- Manufacturing Companies
- Construction Firms
- Agricultural Equipment Dealers
- Large Farms

## Similar Careers:

- Automotive Technician
- Diesel Mechanic
- Aircraft Mechanic



## Skilled Trades Systems Pathway

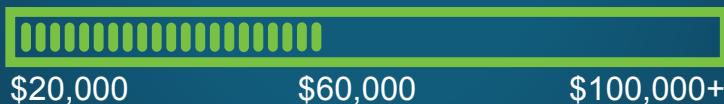




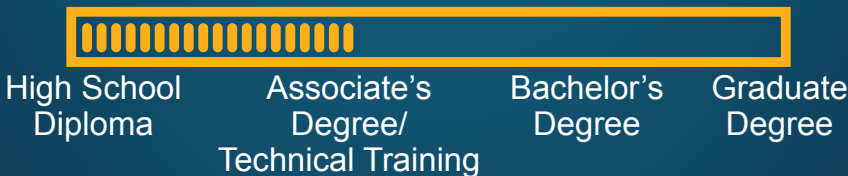
# Hydraulic Technician

Hydraulic technicians specialize in the maintenance, repair, and installation of hydraulic systems, which utilize fluid power to operate machinery and equipment. Their responsibilities include diagnosing hydraulic issues, repairing or replacing faulty components, and ensuring that hydraulic systems function optimally.

## Salary Range



## Education Level



## Day in the Life:

Hydraulic technicians may inspect hydraulic systems, troubleshoot system problems, dismantle and repair components, and conduct tests to ensure proper functioning. They often work in workshops or on-site, collaborating with engineers and other technicians to enhance hydraulic performance.

## Types of Employers:

- Manufacturing Companies
- Construction Firms
- Aerospace Industry
- Agricultural Machinery Companies
- Hydraulic Equipment Manufacturers
- Maintenance and Repair Services

## Similar Careers:

- Pneumatic Technician
- Mechanical Engineer
- Industrial Machinery Mechanic
- Fluid Power Engineer



**Skilled Trades  
Systems Pathway**







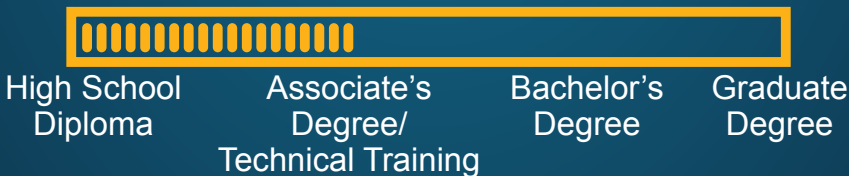
# Assembly Technician

Assembly technicians engage in manufacturing and production processes, focusing on assembling components and products according to specific guidelines and standards. Their responsibilities include interpreting technical drawings, using various hand and power tools, and ensuring the accuracy and quality of the assembled items.

## Salary Range



## Education Level



## Day in the Life:

A day in the life of an assembly technician involves working in a production facility (e.g., greenhouses, food processing plants), following assembly instructions, and collaborating with team members to meet production targets. They often use precision instruments and may be involved in troubleshooting and resolving manufacturing issues.

## Types of Employers:

- Greenhouse Operators
- Food Processors
- Electronics and Technology Firms
- Automotive Industry
- Aerospace Companies
- Medical Device Manufacturers

## Similar Careers:

- Production Assembler
- Manufacturing Technician
- Quality Control Inspector
- Maintenance Technician



## Skilled Trades Systems Pathway





# Sustainability Specialist

Sustainability specialists advance environmentally responsible practices within the agricultural sector. Their role encompasses developing and executing sustainable farming initiatives, conducting assessments of environmental impact on agricultural operations, and providing guidance on strategies to enhance ecological resilience. They work at the nexus of agriculture and environmental science by driving practices that contribute to both ecological health and the prosperity of agricultural communities.

## Salary Range



## Education Level



Discover Agriculture Careers: [agclassroom.org/careers](https://agclassroom.org/careers)

## Day in the Life:

A sustainability specialist's day involves analyzing data to measure environmental performance, collaborating with cross-functional teams to integrate sustainable practices, and staying abreast of industry trends and regulations. They may conduct site visits, engage with stakeholders, and develop reports to communicate sustainability progress. Additionally, they often participate in educational initiatives to raise awareness about sustainable practices.

## Types of Employers:

- Corporate Sustainability Departments
- Environmental Consulting Firms
- Nonprofit Organizations
- Government Agencies
- Educational Institutions

## Similar Careers:

- Environmental Analyst
- Climate Change Analyst



**Sustainability  
Systems  
Pathway**





# Restoration Specialist

Restoration specialists are environmental professionals dedicated to the revitalization and rehabilitation of ecosystems, wetlands, forests, and other natural habitats. Their responsibilities include conducting ecological assessments, implementing restoration plans, and overseeing the reestablishment of native vegetation and wildlife.

## Salary Range



## Education Level



## Day in the Life:

In a typical day, restoration specialists engage in fieldwork—collecting data on soil composition, plant life, and wildlife. They collaborate with environmental scientists, use specialized equipment for planting, and monitor the progress of restoration projects. Office work involves analyzing data, preparing reports, and coordinating with stakeholders to ensure project success.

## Types of Employers:

- Environmental Consulting Firms
- Government Agencies
- Nonprofit Organizations
- Land Management Companies
- Research Institutions
- Ecological Restoration Companies

## Similar Careers:

- Ecologist
- Conservation Biologist
- Environmental Scientist
- Landscape Architect



**Sustainability  
Systems  
Pathway**





# Biorefining Manager

Biorefining managers oversee the operations of biorefineries, which are facilities that convert biomass into valuable products such as biofuels, chemicals, and other renewable materials. They are responsible for ensuring efficient and sustainable production processes, managing resources, and meeting regulatory standards within the biorefinery industry.

## Salary Range



## Education Level



## Day in the Life:

A biorefining manager's day involves coordinating and overseeing daily operations, optimizing production processes, and managing a team of technicians and operators. They may analyze production data, ensure compliance with environmental regulations, and collaborate with research and development teams to enhance refining processes. Additionally, biorefining managers may engage in strategic planning to improve efficiency and explore new opportunities for sustainable product development.

## Types of Employers:

- Energy Corporations
- Agribusiness Firms with Biorefinery Operations
- Chemical Manufacturing Companies
- Research Institutions

## Similar Careers:

- Renewable Energy Specialist
- Sustainability Specialist
- Nutrient/Waste Management Specialist



**Sustainability  
Systems  
Pathway**







# Nutrient/Waste Management Specialist

Nutrient/waste management specialists develop and implement strategies to optimize nutrient usage and manage agricultural waste. They focus on enhancing soil health, minimizing environmental impact, and ensuring compliance with regulations related to nutrient and waste management.

## Salary Range



## Education Level



## Day in the Life:

In a typical day, a nutrient/waste management specialist may conduct soil and waste assessments, analyze data to determine nutrient needs, and develop plans to mitigate environmental risks. They collaborate with farmers by providing guidance on fertilization practices and waste disposal methods. Fieldwork may involve on-site inspections, soil sampling, and monitoring waste treatment processes. Additionally, specialists stay informed about evolving environmental regulations to ensure compliance.

## Types of Employers:

- Agricultural Consulting Firms
- Environmental Regulatory Agencies
- Agribusiness Corporations
- Research Institutions Specializing in Soil Science
- Government Agricultural Departments

## Similar Careers:

- Soil Scientist
- Waste Management Engineer
- Environmental Scientist



**Sustainability  
Systems  
Pathway**

