Agricultural and Food Scientists

SOC: 19-1010 • Career Profile Report

■ Key Facts

$78,770	38,700	+6.0%
Median Salary	Employment	Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 8.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.5/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	6.2/10	**Investigative**	9.4/10
Artistic	5.6/10	**Social**	6.4/10
Enterprising	4.8/10	**Conventional**	6.4/10

■ Top Skills Required

Communication skills, Critical-thinking skills, Data-analysis skills, Math skills, Detail-oriented skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Agricultural and Food Scientists are research and applied science professionals who study **how food is grown, produced, processed, and made safe for consumption**. Their work improves agricultural productivity, food quality, nutrition, and sustainability by applying biology, chemistry, and data-driven research to crops, livestock, and food systems. They play a critical role in feeding growing populations while protecting public health and natural resources.

This career is well suited for individuals who enjoy scientific inquiry, problem-solving, and applying research to real-world challenges in agriculture and food systems.

What Do Agricultural and Food Scientists Do?

Agricultural and food scientists conduct research, analyze data, and develop methods to improve food production and safety.

Common responsibilities include:

- Conducting experiments on crops, soil, livestock, or food products
- Analyzing nutritional content, quality, and safety of food
- Developing improved farming or food-processing techniques
- Studying plant growth, genetics, and disease resistance
- Evaluating food preservation, storage, and packaging methods
- Collecting and interpreting scientific data
- Writing research reports and sharing findings with industry or the public

Areas of Specialization

Agricultural and food scientists often specialize in specific disciplines:

- Food Scientists and Technologists: Study food safety, quality, processing, and preservation.
- Soil and Plant Scientists: Research soil health, crop yields, and sustainable farming methods.
- Animal Scientists: Focus on livestock nutrition, breeding, and health.
- Agricultural Chemists: Analyze chemical processes affecting crops and food products.
- Biotechnology and Genetics Specialists: Develop improved plant or animal varieties.
- Postharvest and Storage Researchers: Improve shelf life and reduce food waste.

Skills and Abilities Needed

Agricultural and food scientists combine scientific rigor with practical application.

Core Professional Skills

Personal Qualities That Matter

Education and Training Pathway

Entering this field typically requires formal scientific education:

- Bachelor’s Degree: In agricultural science, food science, biology, chemistry, or related fields
- Laboratory and Field Experience: Hands-on research during education
- Master’s Degree (common): Required for many research or specialized roles
- Doctoral Degree (PhD): Needed for advanced research or academic careers
- Continuing Education: Staying current with scientific advances and regulations

Where Do Agricultural and Food Scientists Work?

These scientists work across public and private sectors:

- Food Manufacturing and Processing Companies
- Agricultural and Biotechnology Firms

- Government Agencies and Regulatory Bodies
- Universities and Research Institutions
- Testing Laboratories and Quality Assurance Facilities
- Agricultural Extension and Advisory Services

Work environments may include laboratories, offices, farms, or processing facilities.

How Much Do Agricultural and Food Scientists Earn?

Earnings vary by specialization, education, and employer:

- Entry-Level Scientists: Typically earn competitive science-based salaries
- Experienced or Advanced-Degree Scientists: Often earn higher compensation
- Research Leaders or Managers: May earn more with responsibility and expertise

Compensation often includes benefits and research funding opportunities.

Is This Career Difficult?

This career is intellectually demanding and requires persistence. Scientists must design rigorous experiments, analyze complex data, and meet regulatory standards while addressing real-world constraints such as climate, cost, and food safety. The challenge lies in translating scientific discoveries into practical, scalable solutions.

Who Should Consider Becoming an Agricultural or Food Scientist?

This career may be a strong fit if you:

- Enjoy biology, chemistry, and scientific research
- Want to improve food systems and sustainability
- Like solving complex, long-term problems
- Are detail-oriented and data-driven
- Want a career with global impact on health and food security

How to Prepare Early

- Take biology, chemistry, and environmental science courses
- Participate in science fairs or research projects
- Gain experience through internships or agricultural programs
- Learn data analysis and laboratory skills
- Explore accredited agricultural or food science degree programs

Agricultural and food scientists strengthen global food systems by applying science to improve crop yields, food safety, nutrition, and sustainability—ensuring that food is not only abundant, but safe, nutritious, and responsibly produced.