



Agricultural and Food Science Technician Overview

The Field - Specialty Areas - Preparation - Day in the Life - Earnings - Employment - Career Path Forecast - Professional Organizations

The Field

Agricultural and food science technicians work with related scientists to conduct research, development, and testing on food and other agricultural products. Agricultural technicians are involved in food, fiber, and animal research, production, and processing. Some conduct tests and experiments to improve the yield and quality of crops or to increase the resistance of plants and animals to disease, insects, or other hazards. Other agricultural technicians breed animals for the purpose of investigating nutrition. Food science technicians assist food scientists and technologists in research and development, production technology, and quality control. For example, food science technicians may conduct tests on food additives and preservatives to ensure compliance with Food and Drug Administration regulations regarding color, texture, and nutrients. These technicians analyze, record, and compile test results; order supplies to maintain laboratory inventory; and clean and sterilize laboratory equipment.



Preparation

Most science technicians need an associate degree or a certificate in applied science or science-related technology. Science technicians with a high school diploma and no college degree typically begin work as trainees under the direct supervision of a more experienced technician, and eventually earn a 2-year degree in science technology.

There are several ways to qualify for a job as a science technician. Many employers prefer applicants who have at least 2 years of specialized training or an associate degree in applied science or science-related technology. Because employers' preferences vary, however, some science technicians have a bachelor's degree in chemistry, biology, or forensic science or have completed several science and math courses at a 4-year college.



"Agricultural and Food Science Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.

Whatever their degree, science technicians usually need hands-on training either in school or on the job. Most can get good career preparation through 2-year formal training programs that combine the teaching of scientific principles and theory with practical hands-on application in a laboratory setting with up-to-date equipment. Graduates of bachelor's degree programs in science who have considerable experience in laboratory-based courses, have completed internships, or have held summer jobs in laboratories also are well qualified for science technician positions and are preferred by some employers.



Job candidates, who have extensive hands-on experience with a variety of laboratory equipment, including computers and related equipment, usually require a short period of on-the-job training. Those with a high school diploma and no college degree typically begin work as trainees under the direct supervision of a more experienced technician. Many with a high school diploma eventually earn a 2-year degree in science technology, often paid for by their employer.

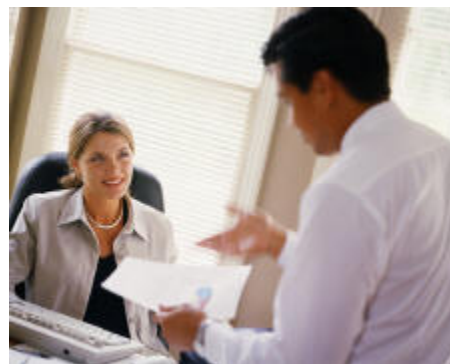
Many technical and community colleges offer associate degrees in a specific technology or more general education in science and mathematics. A number of associate degree programs are designed to provide easy transfer to bachelor's degree programs at colleges or universities. Technical institutes usually offer technician training, but they provide less theory and general education than do community colleges. The length of programs at technical institutes varies, although 1-year certificate programs and 2-year associate degree programs are common.



Some schools offer cooperative-education or internship programs, allowing students the opportunity to work at a local company or some other workplace while attending classes during alternate terms. Participation in such programs can significantly enhance a student's employment prospects.

Precollege Prep

People interested in careers as science technicians should take as many high school science and math courses as possible. Science courses taken beyond high school, in an associate or bachelor's degree program, should be laboratory oriented, with an emphasis on bench skills. A solid background in applied chemistry, physics, and math is vital.



"Agricultural and Food Science Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.

Other Skills

Communication skills are important because technicians are often required to report their findings both orally and in writing. In addition, technicians should be able to work well with others. Because computers often are used in research and development laboratories, technicians should also have strong computer skills, especially in computer modeling. Organizational ability, an eye for detail, and skill in interpreting scientific results are important as well, as are a high mechanical aptitude, attention to detail, and analytical thinking.

Technicians usually begin work as trainees in routine positions under the direct supervision of a scientist or a more experienced technician. As they gain experience, technicians take on more responsibility and carry out assignments under only general supervision, and some eventually become supervisors. However, technicians employed at universities often have job prospects tied to those of particular professors; when those professors retire or leave, these technicians face uncertain employment prospects.

Day in the Life

Science technicians work under a wide variety of conditions. Most work indoors, usually in laboratories, and have regular hours. Some occasionally work irregular hours to monitor experiments that cannot be completed during regular working hours. Production technicians often work in 8-hour shifts around the clock. Others, such as agricultural, forest and conservation, geological and petroleum, and environmental science and protection technicians, perform much of their work outdoors, sometimes in remote locations.



Advances in automation and information technology require technicians to operate more sophisticated laboratory equipment. Science technicians make extensive use of computers, electronic measuring equipment, and traditional experimental apparatus.

Technicians usually begin work as trainees in routine positions under the direct supervision of a scientist or a more experienced technician. As they gain experience, technicians take on more responsibility and carry out assignments under only general supervision, and some eventually become supervisors.

Earnings

According to the U.S. Bureau of Labor Statistics, the median hourly earnings of agricultural and food science technicians is about \$15.26 per hour.

Employment

Agricultural and food science technicians hold about 26,000 jobs in the United States. Around 32 percent of agricultural and food science technicians work in educational services and 20 percent work for food processing companies; most of the rest are employed in agriculture.

"Agricultural and Food Science Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.

Career Path Forecast

According to the U.S. Bureau of Labor Statistics, Employment of agricultural and food science technicians is projected to grow about as fast as the average through 2016. Research in biotechnology and other areas of agricultural science will increase as it becomes more important to balance greater agricultural output with protection and preservation of soil, water, and the ecosystem. In particular, research will be needed to combat insects and diseases as they adapt to pesticides and as soil fertility and water quality continue to need improvement. The best opportunities for agricultural and food science technicians will be in agricultural biotechnology, specifically in research and development on biofuels.



Professional Organizations

Professional societies provide an excellent means of keeping current and in touch with other professionals in the field. These groups can play a key role in your development and keep you abreast of what is happening in your field. Associations promote the interests of their members and provide a network of contacts that can help you find jobs and move your career forward. They can offer a variety of services including job referral services, continuing education courses, insurance, travel benefits, periodicals, and meeting and conference opportunities. The following is a partial list of professional associations serving agricultural and food science technicians.



- ▶ **American Society of Agronomy (www.agronomy.org)**
- ▶ **Crop Science Society of America (www.crops.org)**
- ▶ **Institute of Food Technologists (www.ift.org)**
- ▶ **Institute of Food Science and Technology (www.ifst.org)**
- ▶ **Soil Science Society of America (www.soils.org)**

"Agricultural and Food Science Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.