

19-1013 Soil and Plant Scientists

LF

Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.

Training Category: Bachelor's degree

2007 Average Wage:	n/a
2006 Estimated Employment:	24
2016 Projected Employment:	22
Growth Rate, 2006-2016:	-8.3%
Annual Openings:	1

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	66.7%	68.2%
State Government, ex. Education and Hospitals	4.2%	4.6%
Local Government, ex. Education	4.2%	4.6%
5413 Architectural and Engineering Services	n	n
Self-Employed Workers	n	n

19-1022 Microbiologists

FA

Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Include medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms. *Examples: Bacteriologist; Virologist*

Training Category: Doctoral degree

2007 Average Wage:	n/a
2006 Estimated Employment:	34
2016 Projected Employment:	41
Growth Rate, 2006-2016:	20.6%
Annual Openings:	2

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	35.3%	31.7%
5417 Scientific Research and Development Svcs	n	n
562 Waste Management and Remediation Service	n	n
6113 Colleges and Universities	n	n
621 Ambulatory Health Care Services	n	n
622 Hospitals	n	n

19-1023 Zoologists and Wildlife Biologists

LF

Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas. *Example: Ornithologist*

Training Category: Bachelor's degree

2007 Average Wage:	n/a
2006 Estimated Employment:	88
2016 Projected Employment:	92
Growth Rate, 2006-2016:	4.5%
Annual Openings:	2

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	52.3%	53.3%
Federal Government, ex. Postal Service	22.7%	19.6%
Self-Employed Workers	2.3%	2.2%
6113 Colleges and Universities	n	n
813 Religious, Grantmaking, Civic, Prof, & Similar Orgs	n	n

19-1029 Biological Scientists, All Other

LF

All biological scientists not listed separately. *Examples: Geneticist; Paleobotanist; Plant Taxonomist*

Training Category: Doctoral degree

2007 Average Wage:	\$31.25
2006 Estimated Employment:	43
2016 Projected Employment:	42
Growth Rate, 2006-2016:	-2.3%
Annual Openings:	1

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	79.1%	73.8%
State Government, ex. Education and Hospitals	2.3%	2.4%
Self-Employed Workers	2.3%	2.4%
5413 Architectural and Engineering Services	n	n
622 Hospitals	n	n

19-1031 Conservation Scientists

FA

Manage, improve, and protect natural resources to maximize their use without damaging the environment. *Examples: Range Manager; Conservation Officer*

Training Category: Bachelor's degree

2007 Average Wage:	\$29.93
2006 Estimated Employment:	52
2016 Projected Employment:	60
Growth Rate, 2006-2016:	15.4%
Annual Openings:	3

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	48.1%	46.7%
State Government, ex. Education and Hospitals	5.8%	5.0%
5416 Management & Technical Consulting Svcs	n	n
562 Waste Management and Remediation Service	n	n
6113 Colleges and Universities	n	n
813 Religious, Grantmaking, Civic, Prof, & Similar Orgs	n	n

19-1032 Foresters

LF

Manage forested lands for economic, recreational, and conservation purposes. *Examples: Forest Ecologist; Timber Management Specialist*

Training Category: Bachelor's degree

2007 Average Wage:	\$24.66
2006 Estimated Employment:	54
2016 Projected Employment:	57
Growth Rate, 2006-2016:	5.6%
Annual Openings:	2

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	42.6%	38.6%
State Government, ex. Education and Hospitals	37.0%	40.4%
Local Government, ex. Education	5.6%	7.0%
Self-Employed Workers	3.7%	3.5%
321 Wood Product Manufacturing	n	n
813 Religious, Grantmaking, Civic, Prof, & Similar Orgs	n	n

19-1042 Medical Scientists, Except Epidemiologists

FA

Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation or other research, production, technical writing, or related activities. Include medical scientists such as physicians, dentists, public health specialists, pharmacologists, and medical pathologists. Exclude practitioners who provide medical or dental care or dispense drugs. *Examples: Cancer Researcher; Toxicologist; Virologist*

Training Category: Doctoral degree

2007 Average Wage:	n/a
2006 Estimated Employment:	n
2016 Projected Employment:	n
Growth Rate, 2006-2016:	n
Annual Openings:	n

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	4.0%	3.3%
339 Miscellaneous Manufacturing	n	n
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n
621 Ambulatory Health Care Services	n	n
622 Hospitals	n	n

19-1099 Life Scientists, All Other

FA

All life scientists not listed separately

Training Category: Bachelor's degree

2007 Average Wage:	n/a
2006 Estimated Employment:	97
2016 Projected Employment:	114
Growth Rate, 2006-2016:	17.5%
Annual Openings:	5

Industry	2006 Share	2016 Share
Self-Employed Workers	3.1%	2.6%
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n
622 Hospitals	n	n
813 Religious, Grantmaking, Civic, Prof, & Similar Orgs	n	n

19-2012 Physicists

LF

Conduct research into the phases of physical phenomena, develop theories and laws on the basis of observation and experiments, and devise methods to apply laws and theories to industry and other fields. *Examples: Fluid Dynamicist; Rheologist; Thermodynamicist*

Training Category: Doctoral degree

2007 Average Wage:	\$45.77
2006 Estimated Employment:	70
2016 Projected Employment:	73
Growth Rate, 2006-2016:	4.3%
Annual Openings:	2

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	10.0%	9.6%
Federal Government, ex. Postal Service	4.3%	4.1%
334 Computer and Electronic Product Mfg	n	n
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n
622 Hospitals	n	n

19-2021 Atmospheric and Space Scientists

FA

Investigate atmospheric phenomena and interpret meteorological data gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Include weather analysts and forecasters whose functions require the detailed knowledge of a meteorologist. *Examples: Meteorologist*

Training Category: Bachelor's degree

2007 Average Wage:	\$26.21
2006 Estimated Employment:	62
2016 Projected Employment:	74
Growth Rate, 2006-2016:	19.4%
Annual Openings:	3

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	6.5%	4.1%
515 Broadcasting (except Internet)	n	n
5416 Management & Technical Consulting Svcs	n	n
5419 Other Professional & Technical Services	n	n
6113 Colleges and Universities	n	n

19-2031 Chemists

FA

Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. *Examples: Inorganic Chemist; Chemical Analyst*

Training Category: Bachelor's degree

2007 Average Wage:	\$34.93
2006 Estimated Employment:	182
2016 Projected Employment:	204
Growth Rate, 2006-2016:	12.1%
Annual Openings:	7

Industry	2006 Share	2016 Share
5413 Architectural and Engineering Services	30.2%	35.8%
325 Chemical Manufacturing	19.8%	20.1%
221 Utilities	n	n
312 Beverage & Tobacco Product Manufacturing	n	n
334 Computer and Electronic Product Mfg	n	n
339 Miscellaneous Manufacturing	n	n

19-2032 Materials Scientists

LF

Research and study the structures and chemical properties of various natural and manmade materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. *Examples: Ceramics Scientists, Metallurgical Scientists*

Training Category: Bachelor's degree

2007 Average Wage:	\$38.31
2006 Estimated Employment:	n
2016 Projected Employment:	n
Growth Rate, 2006-2016:	n
Annual Openings:	n

Industry	2006 Share	2016 Share
313 Textile Mills	n	n
322 Paper Manufacturing	n	n
325 Chemical Manufacturing	n	n
334 Computer and Electronic Product Mfg	n	n
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n

19-2041 Environmental Scientists and Specialists, Including Health

VF

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. *Examples: Environmental Analyst; Water Pollution Specialist*

Training Category: Master's degree

2007 Average Wage:	\$30.54
2006 Estimated Employment:	436
2016 Projected Employment:	537
Growth Rate, 2006-2016:	23.2%
Annual Openings:	21

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	38.3%	32.8%
5413 Architectural and Engineering Services	16.1%	17.7%
Local Government, ex. Education	2.5%	2.4%
Self-Employed Workers	2.1%	1.9%
221 Utilities	n	n
5416 Management & Technical Consulting Svcs	n	n

19-2042 Geoscientists, Except Hydrologists and Geographers

FA

Study the composition, structure, and other physical aspects of the earth. *Examples: Oceanographer; Paleontologist*

Training Category: Master's degree

2007 Average Wage:	\$30.60
2006 Estimated Employment:	84
2016 Projected Employment:	105
Growth Rate, 2006-2016:	25.0%
Annual Openings:	4

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	13.1%	9.5%
State Government, ex. Education and Hospitals	9.5%	7.6%
Self-Employed Workers	2.4%	1.9%
5413 Architectural and Engineering Services	n	n
5416 Management & Technical Consulting Svcs	n	n
6113 Colleges and Universities	n	n

19-2043 Hydrologists

FA

Research the distribution, circulation, and physical properties of underground and surface waters; study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere. *Example: Hydrogeologist*

Training Category: Master's degree

2007 Average Wage:	\$34.06
2006 Estimated Employment:	79
2016 Projected Employment:	93
Growth Rate, 2006-2016:	17.7%
Annual Openings:	3

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	36.7%	33.3%
Federal Government, ex. Postal Service	17.7%	14.0%
Self-Employed Workers	2.5%	2.2%
5413 Architectural and Engineering Services	n	n
5416 Management & Technical Consulting Svcs	n	n
5417 Scientific Research and Development Svcs	n	n

19-2099 Physical Scientists, All Other

FA

All physical scientists not listed separately.

Training Category: Bachelor's degree

2007 Average Wage:	\$29.79
2006 Estimated Employment:	209
2016 Projected Employment:	230
Growth Rate, 2006-2016:	10.0%
Annual Openings:	6

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	20.1%	17.0%
State Government, ex. Education and Hospitals	19.6%	18.7%
325 Chemical Manufacturing	n	n
334 Computer and Electronic Product Mfg	n	n
5413 Architectural and Engineering Services	n	n
5417 Scientific Research and Development Svcs	n	n

19-3011 Economists

LS

Conduct research, prepare reports, or formulate plans to aid in solution of economic problems arising from production and distribution of goods and services. May collect and process economic and statistical data using econometric and sampling techniques. *Examples: Econometrician; Economic Research Analyst; Industrial Economist*

Training Category: Master's degree

2007 Average Wage:	n/a
2006 Estimated Employment:	43
2016 Projected Employment:	49
Growth Rate, 2006-2016:	14.0%
Annual Openings:	2

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	44.2%	40.8%
332 Fabricated Metal Product Manufacturing	n	n
523 Financial Investment and Related Activities	n	n
5417 Scientific Research and Development Svcs	n	n

19-3021 Market Research Analysts

FA

Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits. *Examples: Advertising Analyst; Marketing Consultant; Marketing Forecaster*

Training Category: Bachelor's degree

2007 Average Wage:	\$33.31
2006 Estimated Employment:	388
2016 Projected Employment:	430
Growth Rate, 2006-2016:	10.8%
Annual Openings:	7

Industry	2006 Share	2016 Share
334 Computer and Electronic Product Mfg	18.8%	14.9%
519 Other Information Services	8.8%	8.6%
524 Insurance Carriers & Related Activities	6.7%	6.7%
Self-Employed Workers	6.7%	5.8%
511 Publishing Industries	n	n
551 Management of Companies and Enterprises	n	n

19-3022 Survey Researchers

LS

Design or conduct surveys. May supervise interviewers who conduct the survey in person or over the telephone. May present survey results to client. *Example: Pollster*

Training Category: Bachelor's degree

2007 Average Wage:	\$11.83
2006 Estimated Employment:	n
2016 Projected Employment:	n
Growth Rate, 2006-2016:	n
Annual Openings:	n

Industry	2006 Share	2016 Share
Self-Employed Workers	6.9%	6.1%
481 Air Transportation	n	n
5419 Other Professional & Technical Services	n	n
621 Ambulatory Health Care Services	n	n

19-3031 Clinical, Counseling, and School Psychologists

VF

Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs. *Examples: Vocational Psychologist; Child Psychologist*

Training Category: Doctoral degree

2007 Average Wage:	\$29.34
2006 Estimated Employment:	698
2016 Projected Employment:	828
Growth Rate, 2006-2016:	18.6%
Annual Openings:	24

Industry	2006 Share	2016 Share
Self-Employed Workers	34.1%	34.3%
6111 Elementary and Secondary Schools	30.1%	29.5%
621 Ambulatory Health Care Services	10.9%	12.1%
622 Hospitals	n	n
623 Nursing and Residential Care Facilities	n	n
624 Social Assistance	n	n

19-3039 Psychologists, All Other

FA

All psychologists not listed separately. *Examples: Social Psychologist; Psychometrist*

Training Category: Master's degree

2007 Average Wage:	\$39.64
2006 Estimated Employment:	65
2016 Projected Employment:	82
Growth Rate, 2006-2016:	26.2%
Annual Openings:	3

Industry	2006 Share	2016 Share
621 Ambulatory Health Care Services	56.9%	57.3%
Self-Employed Workers	26.2%	28.1%
Federal Government, ex. Postal Service	7.7%	4.9%
6111 Elementary and Secondary Schools	n	n
622 Hospitals	n	n

19-3051 Urban and Regional Planners

FA

Develop comprehensive plans and programs for use of land and physical facilities of local jurisdictions, such as towns, cities, counties, and metropolitan areas. *Example: City Planner*

Training Category: Master's degree

2007 Average Wage:	\$24.32
2006 Estimated Employment:	149
2016 Projected Employment:	168
Growth Rate, 2006-2016:	12.8%
Annual Openings:	6

Industry	2006 Share	2016 Share
Local Government, ex. Education	84.6%	85.7%
State Government, ex. Education and Hospitals	15.4%	14.3%

19-3099 Social Scientists and Related Workers, All Other

LF

All social scientists and related workers not listed separately. *Examples: Ethnologist; Linguist; Philologist*

Training Category: Master's degree

2007 Average Wage:	\$29.72
2006 Estimated Employment:	75
2016 Projected Employment:	80
Growth Rate, 2006-2016:	6.7%
Annual Openings:	3

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	30.7%	30.0%
Federal Government, ex. Postal Service	16.0%	13.8%
Self-Employed Workers	6.7%	7.5%
443 Electronics and Appliance Stores	n	n
6111 Elementary and Secondary Schools	n	n
624 Social Assistance	n	n

19-4011 Agricultural and Food Science Technicians

FA

Work with agricultural scientists in food, fiber, and animal research, production, and processing; assist with animal breeding and nutrition work; under supervision, conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. *Examples: Dairy Technologist*

Training Category: Associate's degree

2007 Average Wage:	\$18.66
2006 Estimated Employment:	40
2016 Projected Employment:	46
Growth Rate, 2006-2016:	15.0%
Annual Openings:	2

Industry	2006 Share	2016 Share
311 Food Manufacturing	n	n
312 Beverage & Tobacco Product Manufacturing	n	n
5417 Scientific Research and Development Svcs	n	n
551 Management of Companies and Enterprises	n	n
6113 Colleges and Universities	n	n

19-4021 Biological Technicians

FA

Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs. *Examples: Biotechnologist; Wildlife Technician; Specimen Technician*

Training Category: Bachelor's degree

2007 Average Wage:	\$18.20
2006 Estimated Employment:	186
2016 Projected Employment:	218
Growth Rate, 2006-2016:	17.2%
Annual Openings:	10

Industry	2006 Share	2016 Share
622 Hospitals	32.8%	31.2%
Federal Government, ex. Postal Service	11.3%	8.7%
5417 Scientific Research and Development Svcs	n	n
6112 Junior Colleges	n	n
6113 Colleges and Universities	n	n

19-4031 Chemical Technicians

LS

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes, such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences. *Examples: Fiber Analyst; Paint Tester*

Training Category: Associate's degree

2007 Average Wage:	\$18.63
2006 Estimated Employment:	138
2016 Projected Employment:	147
Growth Rate, 2006-2016:	6.5%
Annual Openings:	6

Industry	2006 Share	2016 Share
221 Utilities	n	n
325 Chemical Manufacturing	n	n
339 Miscellaneous Manufacturing	n	n
424 Merchant Wholesalers, Nondurable Goods	n	n
5413 Architectural and Engineering Services	n	n
6113 Colleges and Universities	n	n

19-4061 Social Science Research Assistants

LF

Assist social scientists in laboratory, survey, and other social research. May perform publication activities, laboratory analysis, quality control, or data management. Normally these individuals work under the direct supervision of a social scientist and assist in those activities which are more routine. *Examples: City Planning Aide; Economic Research Assistant*

Training Category: Associate's degree

2007 Average Wage:	n/a
2006 Estimated Employment:	n
2016 Projected Employment:	n
Growth Rate, 2006-2016:	n
Annual Openings:	n

Industry	2006 Share	2016 Share
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n

19-4091 Environmental Science and Protection Technicians, Including Health

VF

Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned. *Example: Pollution Control Technician*

Training Category: Associate's degree

2007 Average Wage:	\$17.89
2006 Estimated Employment:	217
2016 Projected Employment:	275
Growth Rate, 2006-2016:	26.7%
Annual Openings:	14

Industry	2006 Share	2016 Share
5413 Architectural and Engineering Services	52.1%	54.2%
State Government, ex. Education and Hospitals	12.4%	10.2%
Local Government, ex. Education	2.8%	2.6%
334 Computer and Electronic Product Mfg	n	n
5416 Management & Technical Consulting Svcs	n	n
5417 Scientific Research and Development Svcs	n	n

19-4092 Forensic Science Technicians

FA

Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry. *Examples: Ballistic Expert; Fingerprint Classifier; Polygraph Examiner*

Training Category: Bachelor's degree

2007 Average Wage:	\$25.46
2006 Estimated Employment:	45
2016 Projected Employment:	59
Growth Rate, 2006-2016:	31.1%
Annual Openings:	3

Industry	2006 Share	2016 Share
State Government, ex. Education and Hospitals	80.0%	78.0%
Local Government, ex. Education	6.7%	6.8%
5413 Architectural and Engineering Services	n	n
Self-Employed Workers	n	n

19-4093 Forest and Conservation Technicians

LF

Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters; train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats, and help provide technical assistance regarding the conservation of soil, water, and related natural resources. *Examples: Grazing Examiner; Soil Tester; Tree Warden*

Training Category: Associate's degree

2007 Average Wage:	\$17.33
2006 Estimated Employment:	99
2016 Projected Employment:	98
Growth Rate, 2006-2016:	-1.0%
Annual Openings:	4

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	83.8%	80.6%
Self-Employed Workers	2.0%	2.0%
Local Government, ex. Education	1.0%	2.0%
113 Forestry and Logging	n	n
5417 Scientific Research and Development Svcs	n	n
6113 Colleges and Universities	n	n

19-4099 Life, Physical, and Social Science Technicians, All Other

FA

All life, physical, and social science technicians not listed separately. *Examples: Laser Technician; Radiographer; Meteorological Aide*

Training Category: Associate's degree

2007 Average Wage:	\$18.70
2006 Estimated Employment:	419
2016 Projected Employment:	439
Growth Rate, 2006-2016:	4.8%
Annual Openings:	18

Industry	2006 Share	2016 Share
Federal Government, ex. Postal Service	4.3%	3.6%
322 Paper Manufacturing	n	n
325 Chemical Manufacturing	n	n
5413 Architectural and Engineering Services	n	n
6113 Colleges and Universities	n	n
622 Hospitals	n	n