

Agronomy and Crop Science Occupation Report



CIP 01.1102

Cochise, Pima, Santa Cruz








Agronomy and Crop Science

CIP 2010: A program that focuses on the chemical, physical, and biological relationships of crops and the soils nurturing them. Includes instruction in the growth and behavior of agriculture crops, the development of new plant varieties, and the scientific management of soils and nutrients for maximum plant nutrition, health, and productivity.

Occupation Gender Breakdown 2016

	Gender	Jobs	Percent
●	Males	425	77.8% 
●	Females	121	22.2% 

Occupation Age Breakdown 2016

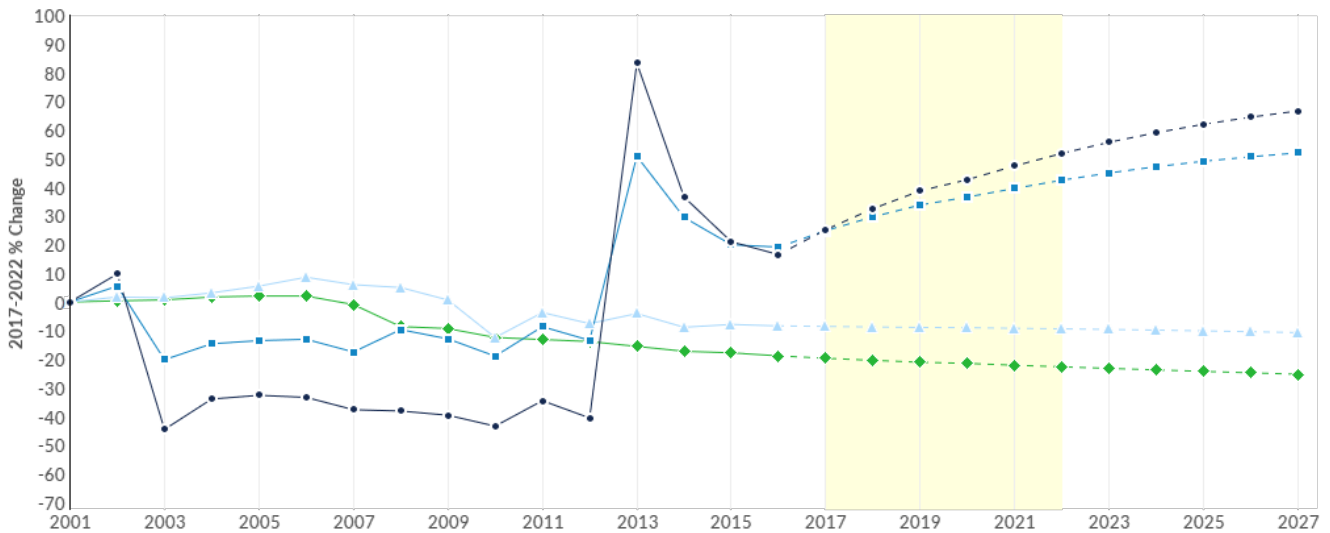
	Age	Jobs	Percent
●	14-18	1	0.1% 
●	19-24	17	3.0% 
●	25-34	41	7.5% 
●	35-44	76	14.0% 
●	45-54	127	23.2% 
●	55-64	202	37.0% 
●	65+	84	15.3% 

Occupation Summary for 01.1102

547 Jobs (2016) 66% below National average	14.1% % Change (2017-2022) Nation: -3.7%	\$17.77/hr Median Hourly Earnings Nation: \$15.78/hr
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August 10, 2017

Occupation Change Summary



Region	2017 Jobs	2022 Jobs	Change	% Change	Median Hourly Earnings
● Cochise County, AZ	259	315	56	22%	\$16.06
● Cochise, Pima, SC	573	654	81	14%	\$17.77
● Arizona (AZ)	4,164	4,125	-39	-1%	\$19.47
● United States	526,291	506,711	-19,580	-4%	\$15.78

SOC	Description	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	5 years or more	None
19-1013	Soil and Plant Scientists	Bachelor's degree	None	None
19-4011	Agricultural and Food Science Technicians	Associate's degree	None	Moderate term on-the-job training

Occupation Breakdown - 2017 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
11-9013	Farmers, Ranchers, and Other Agricultural Managers	255	503	3,671	484,642
19-4011	Agricultural and Food Science Technicians	<10	19	231	24,730
19-1013	Soil and Plant Scientists	<10	51	262	16,920
	Total	259	573	4,164	526,291

August 10, 2017

Occupation Breakdown - 2022 Jobs

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
11-9013	Farmers, Ranchers, and Other Agricultural Managers	309	578	3,596	463,262
19-4011	Agricultural and Food Science Technicians	<10	23	256	25,832
19-1013	Soil and Plant Scientists	<10	52	273	17,617
	Total	315	654	4,125	506,711

Occupation Breakdown - Change

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
11-9013	Farmers, Ranchers, and Other Agricultural Managers	54	75	-75	-21,380
19-1013	Soil and Plant Scientists	--	1	11	697
19-4011	Agricultural and Food Science Technicians	--	4	25	1,102
	Total	56	81	-39	-19,580

Occupation Breakdown - Median Hourly Earnings

Occupation	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
19-1013	Soil and Plant Scientists	--	\$30.05	\$32.49	\$29.78
19-4011	Agricultural and Food Science Technicians	--	\$16.73	\$16.79	\$18.05
11-9013	Farmers, Ranchers, and Other Agricultural Managers	\$15.88	\$16.52	\$18.72	\$15.20
	Total	\$16.06	\$17.77	\$19.47	\$15.78
19-1013	Soil and Plant Scientists	--	\$30.05	\$32.49	\$29.78








Top Industries – Change from 2017 - 2022

NAICS Code	Description	Cochise County, AZ	Cochise, Pima, SC	Arizona (AZ)	United States
111000	Crop Production	57	78	31	-3,799
115112	Soil Preparation, Planting, and Cultivating	--	--	1	-103
115115	Farm Labor Contractors and Crew Leaders	--	--	4	226
115210	Support Activities for Animal Production	--	-1	-6	-215
112000	Animal Production and Aquaculture	-2	-1	-103	-16,981
	Total	55	76	-74	-20,872

Source: QCEW Employees, Non-QCEW Employees & Self-Employed - Emsi 2017.3 Class of Worker

National Educational Attainment 2016








Farmers, Ranchers, and Other Agricultural Managers (11-9013)

	Education Level	Percent
●	Less than high school diploma	12.0% 
●	High school diploma or equivalent	36.9% 
●	Some college, no degree	19.8% 
●	Associate's degree	9.1% 
●	Bachelor's degree	18.3% 
●	Master's degree	3.0% 
●	Doctoral or professional degree	0.9% 

* National Educational Attainment – Settings

National Educational Attainment








Soil and Plant Scientists (19-1013)

	Education Level	2016 Percent
●	Less than high school diploma	0.0% 
●	High school diploma or equivalent	0.2% 
●	Some college, no degree	10.9% 
●	Associate's degree	8.0% 
●	Bachelor's degree	45.8% 
●	Master's degree	21.0% 
●	Doctoral or professional degree	14.2% 

* National Educational Attainment - Settings

National Educational Attainment

Agricultural and Food Science Technicians (19-4011)

	Education Level	2016 Percent
●	Less than high school diploma	8.6% 
●	High school diploma or equivalent	29.0% 
●	Some college, no degree	25.8% 
●	Associate's degree	10.5% 
●	Bachelor's degree	22.1% 
●	Master's degree	3.3% 
●	Doctoral or professional degree	0.7% 

August 10, 2017

Appendix A - Data Sources and Calculations

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: Arizona Department of Administration, Office of Employment and Population Statistics