

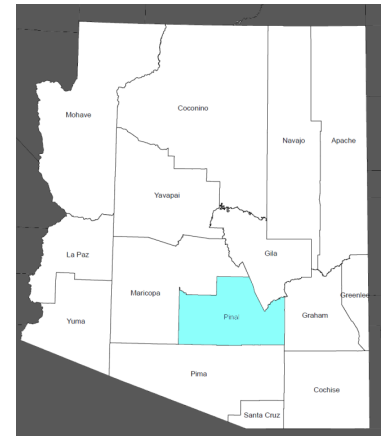
Pinal County, AZ

Arizona County Agricultural Economy Profiles University of Arizona Cooperative Extension

Overview

Pinal County is located in central Arizona bordered to the north and west by Maricopa County, to the south by Pima County, to the east by Graham County, and to the northeast by Gila County. The third most populous county in the state, major population centers include Casa Grande, Maricopa, and Apache Junction. With metropolitan Phoenix and Tucson on either side of Pinal County, the county has experienced an annual population growth rate of 2.1% from 2010 to 2018. 21.9% of the county's population lives in rural areas.

Top industries in Pinal County include mining, agriculture, and government. Mining occurs primarily in the eastern part of the county, while agriculture occurs in the valleys along the Gila and Santa Cruz rivers and the Central Arizona Project canal. Agriculture plays an important role in Pinal County's economy. While on-farm agriculture accounts for a small share of Pinal County's GDP (less than 1%), jobs in agriculture account for approximately 5% of all private employment, higher than the state and national averages. Additionally, approximately one-third of county land is in farms. Pinal County accounts for about one-fourth of Arizona's total agricultural cash receipts.



Map of Pinal County, Arizona

Indicator	Pinal County	Arizona
Land Area (square miles)	5,374	113,990
Land in Farms (Crops, Grazing) (square miles)	1,751	40,822
Population (2018)	447,138	7,171,646
Annual Average Population Growth Rate (2010-18)	2.1%	1.4%
Percent of Population Over 65 (2018)	20.4%	17.5%
Percent Population Rural (2010)	21.9%	10.2%
Total Employment (2018)	62,137	2,826,095
Share Federal, State, & Local Government Employment (2018)	31.9%	13.8%
GDP (2018)	\$7.6 billion	\$348.3 billion
Ag, Forestry, & Hunting GDP (on-farm only) (2018)	\$28.1 million	\$2.3 billion

Industry	Location Quotient
Cotton farming	46.64
Dairy cattle and milk production	25.82
Cotton ginning	23.80
Hay farming	13.35
Lessors of other real estate property	8.57
All other miscellaneous crop farming	7.25
Wheat farming	6.43
Soil preparation, planting, and cultivating	6.11
Crop harvesting, primarily by machine	5.43
Other gasoline stations	4.88

Top 10 Private Industries in Pinal County by Employment LQ

An economy can be characterized by the industries that make up the “base” of the economy. A common way to measure this is with location quotients (LQs). LQs are the ratio of a particular industry's share of employment within a region to the same industry's share of national employment. An industry with a LQ greater than 1.25 is considered part of the economic base, exporting goods and services and bringing money into the region. LQs also help identify a region's areas of specialization. Higher LQs indicate greater specialization.

Of the top 10 most concentrated private industries in Pinal County, agriculture accounts for eight, reflecting not only employment on-farm, but also industries that prepare land and are involved in harvest and postharvest activities. Cotton farming ranks first with employment more than 46 times more concentrated than the national average, and dairy cattle and milk production ranks second, with an LQ of nearly 26.

Pinal County, AZ

Every 5 years, U.S. Department of Agriculture releases the Census of Agriculture, which provides the most comprehensive source of information on agricultural production by county. The Census provides information on the number of farms, types of crops and livestock produced, and farm characteristics, among other information. A farm is defined as any establishment that produced and sold, or could have sold, more than \$1,000 or more of agricultural products in the Census year. The following information comes from the most recent 2017 Census of Agriculture.

Farms

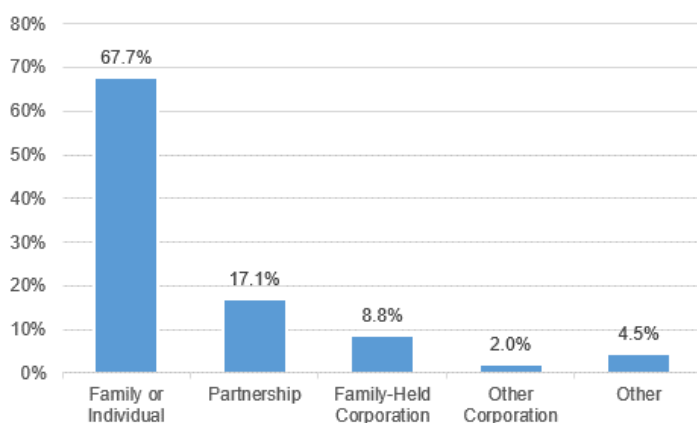
There were 762 farms in Pinal County in 2017, covering 235,185 acres of cropland (98% irrigated) and 772,331 acres of pastureland (<1% irrigated). The average farm size was 1,471 acres, significantly larger than the national average of 441 acres. The top 10% of farms account for 88% of county acreage.

Of 762 total farms, 244 had less than \$1,000 in sales and 146 had more than \$500,000 in sales. The majority of county farms (68%) are family- or individually-held farms, 17% are partnerships, and 9% are family-held corporations.

Farms are classified by the type of agricultural products they produce. When a farm or ranch produces more than one agricultural product, they are classified by the product that constitutes more than 50% of their sales. The most common type of operation in Pinal County is aquaculture and other animal production* (222 farms), followed closely by beef cattle ranching and farming (180), and sugarcane, hay, and all other crop farming (122 farms).

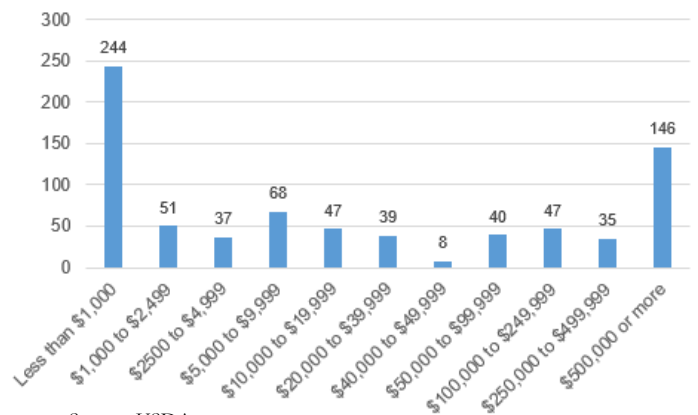
While the number of farms is helpful in understanding how many farms “specialize” in different types of agricultural production, it does not reflect the magnitude or scale of production by commodity, which is better captured by sales or cash receipts (next page).

Pinal County Farms by Legal Organization, 2017



Source: USDA

Pinal County Farms by Annual Sales, 2017



Source: USDA

Pinal County Farms by Industry

Category	Farms
<i>Total farms</i>	762
Oilseed and grain farming	26
Vegetable and melon farming	17
Fruit and tree nut farming	20
Greenhouse, nursery, and floriculture production	12
Other crop farming	208
Cotton farming	86
Hay and all other crop farming	122
Beef cattle ranching and farming	180
Cattle feedlots	7
Dairy cattle and milk production	31
Hog and pig farming	6
Poultry and egg production	10
Sheep and goat farming	23
<u>Aquaculture and other animal production*</u>	<u>222</u>

* Includes farms where no single type of livestock accounts for more than 50% of farm sales.

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Production & Marketing

Pinal County is a livestock-dominant county, with 64% of county cash receipts originating from sales of livestock, and 36% from crops. Pinal County is a major agricultural producer, ranking in the top 2% of counties in the U.S. for the sale of cattle, cotton, other crops and hay, and vegetables and melons.

According to the 2017 Census of Agriculture, major agricultural products by sales includes **cattle and calves** (\$283.2 million), **milk from cows** (\$268.2 million), **cotton and cottonseed** (\$92.0 million), **other crops and hay** (\$79.1 million), **grains, oilseeds, dry beans, dry peas** (particularly barley and wheat) (\$50.2 million), and **vegetables, melons, potatoes, and sweet potatoes** (\$49.3 million).

Similar to the national average, local marketing represents less than 1% of county cash receipts. Additionally, there were 4 farms with reported sales of organic production.

Tribal Agriculture

Pinal County contains portions of the Gila River Indian Community, the Tohono O'odham Nation, the San Carlos Apache Reservation, and the Maricopa Ak-Chin Reservation. Statistics reported below represent production within entire tribal areas, therefore production occurring within Pinal County is only a portion of the totals reported.

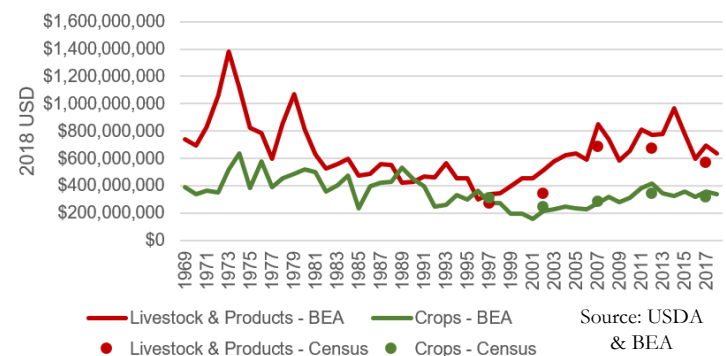
The Gila River Indian Community had 55 farms operating in 2017, with 40,930 acres of crops, and \$32.8 million in sales, primarily cotton and hay.

The Tohono O'odham Nation operated 164 farms, with 2.6 million acres in farms, 8,603 acres of which were in crops. These farms generated \$8.1 million in total sales in 2017. The most common type of operation was farms producing cattle and calves, followed by those producing horses.

A total of 198 farms operated on the San Carlos Apache Reservation in 2017, of which a large majority were small farms (187 were between 1 and 9 acres in size and 169 farms sold less than \$1,000 in agricultural products). Most farms (193) had inventory of cattle and calves, but only 66 farms sold cattle in 2017. Most cattle production within the San Carlos Apache Reservation is beef cattle.

Finally, the Maricopa Ak-Chin Reservation had 3 farms in operation in 2017.

Pinal County Agricultural Cash Receipts for Crops & Livestock, 1969 to 2018



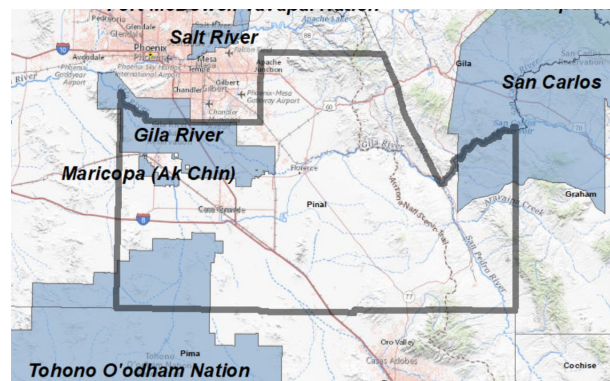
Central Arizona Dairy Industry

Between 1979 and 2018, Arizona's milk cow inventory increased from about 70,000 cows to more than 210,000 cows, with Pinal County playing a major role in raising milk cows since around 2005.

In 2017, Pinal County had 25 dairies with \$268.2 million in sales, accounting for about 31% of the state's milks sales. Combined, Maricopa and Pinal counties in Central Arizona generated 88% of Arizona's milk sales.

As the dairy industry has grown in Pinal County, crop production has largely shifted towards agricultural products that are used as feed crops. There has been a shift in acreage towards forage land, growing hay (including alfalfa hay), grass silage, haylage, and greenchop and corn for silage. This has also been accompanied by a reduction in acreage for both wheat and cotton.

Pinal County Tribal Areas



Pinal County, AZ

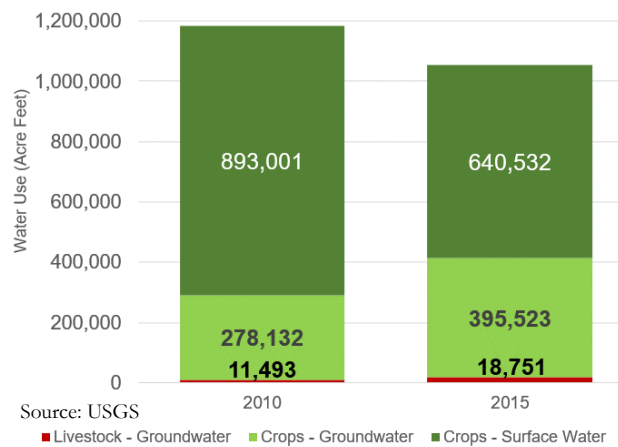
Irrigation Water Use

In Arizona, agriculture accounts for about 75% of the state's water use. More than half of withdrawals for agricultural uses in the state are from surface water. In some areas of the state with high demand, groundwater withdrawals for irrigated agriculture are limited by the 1980 Groundwater Management Act. This legislation established five Active Management Areas (AMA) as well as other Irrigation Non-Expansion Areas (INA) where groundwater pumping and expansion of irrigated agriculture are limited.

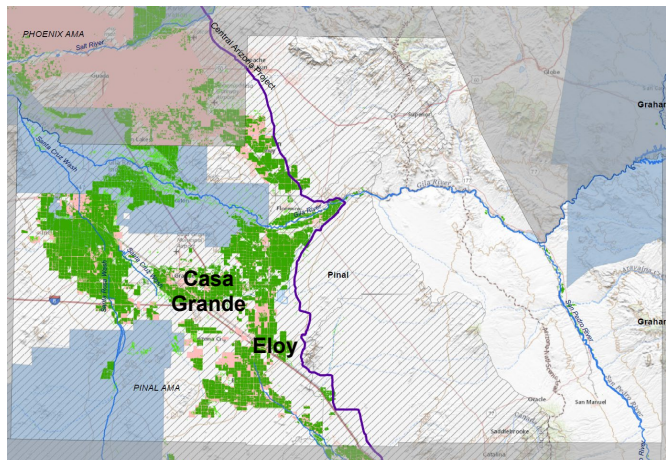
Pinal County has land in three AMAs: 42.1% of county land area is in the Pinal AMA, 15.4% is in the Phoenix AMA, and 13.3% is in the Tucson AMA. Data available for AMAs from the Arizona Department of Water Resources show that demand for water in the Pinal AMA has increased since 1985, and agricultural demand has increased as well, though the share of agricultural demand as a percent of total has fallen from nearly 92% in 1985 to nearly 81% in 2017.

Based on 2015 USGS estimates of water use, agriculture accounted for 92.3% of Pinal County water withdrawals. Agricultural irrigation water use in Pinal County is dominated by production of crops, with a slight majority coming from surface water. Water source is split between groundwater (414,274 acre-feet (AF)) and surface water (640,532 AF). An acre-foot is the amount of water required to cover one acre one foot deep in water. Irrigated crop production occurs primarily in the western half of the county. Groundwater use increased between 2010 and 2015 and surface water use declined. Meanwhile, total irrigated acreage is estimated to have declined between 2010 and 2015, and acreage by irrigation technology shifted from gravity-flow irrigation to include a small share of sprinkler and microirrigation acreage.

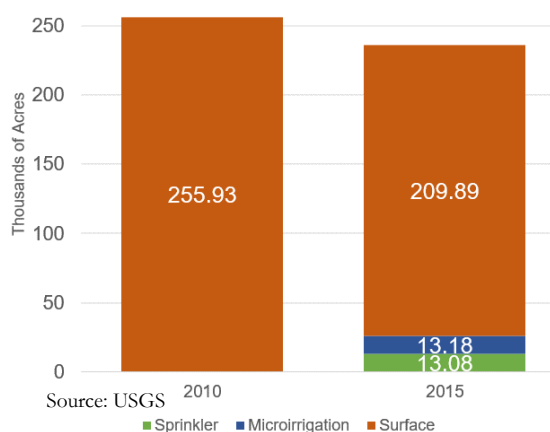
Pinal County Agricultural Water Use by Use and Source



Pinal County Water Map



Pinal County Irrigated Acres by Irrigation Technology



Pinal AMA Water Demand, 1985-2017

