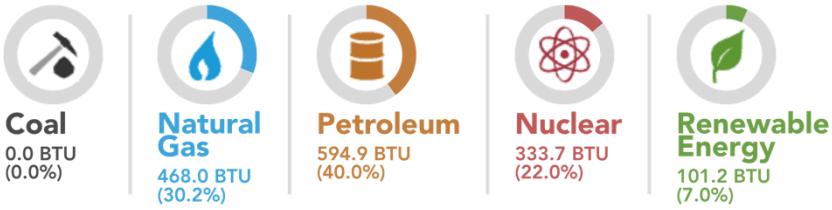
Your Farm Location
Pinal County, Arizona

Population: 425,264
(6% of Arizona's population)

Energy Sources:



D

Solar Friendliness Grade for Arizona: D

- − Energy producers can sell energy for half its value.
- + No taxes on solar panels.
- + No taxes on purchase of solar panels.
- + Some local policies or laws support solar energy.
- + Receive $1,000 credit from state on install.

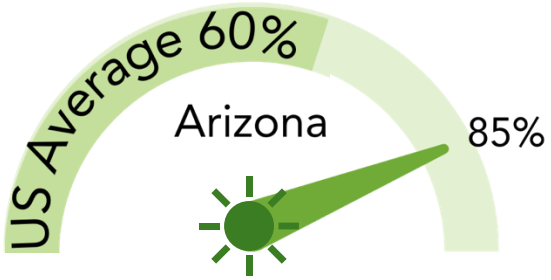
Climate: Semi-arid with hot summers and mild winters

Annual Precipitation: 13 inches

Average Temperatures:

Season	Minimum	Maximum
Winter	39°F	65°F
Spring	51°F	82°F
Summer	71°F	101°F
Fall	56°F	84°F

% Sun per Day:



Information obtained from various sources: U.S. Census Bureau, CNET- Digital Media Publication, Current Results- Weather and Science Facts, USDA Southwest Climate, and U.S. Energy Information Administration.

About Your Farm

Crop: Cherry Tomatoes
Farm Size: 10 acres
Annual Yield: 10,000 pounds per acre
Farmer's income: $0.70 per pound
Total income: $70,000

Figure 1: Fully grown tomato plant.
Wikimedia Commons image.

Tomato needs:

Sun: 3-4 hours full sun each day (Shade Tolerant)
Water: Medium needs (20-30 inches)
Irrigation Type: Drip irrigation
Temperatures: 70 to 85°F
Plant height: 3-4 feet tall at full growth

About Tomatoes

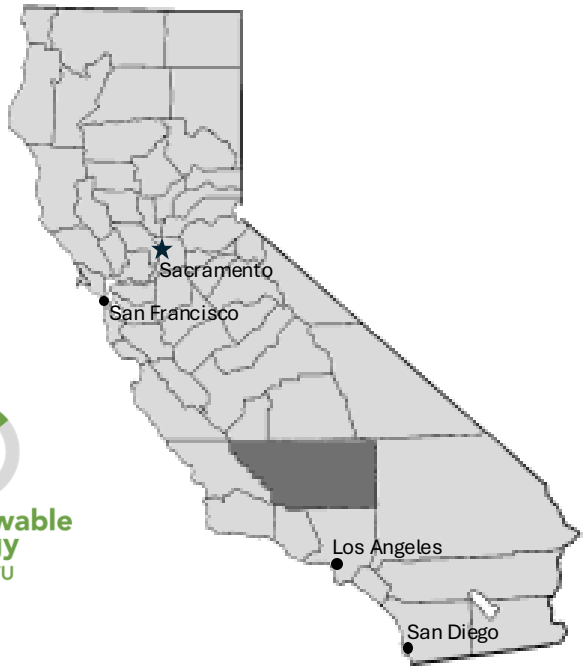
- In the U.S., farmers grow tomatoes on more than 400,000 acres of land each year.
- They don't like frost and need warm soil (at least 60°F) to grow. If the temperature gets too hot or cold, it can affect their quality.
- Wind can easily damage the plants. Artificial barriers or taller crops grown between fields can be used as windbreaks to protect them.
- They are planted in early spring when temperatures begin to warm up. They can be harvested multiple times as fruit ripens through the summer.

Figure 2: California Farmer harvesting cherry tomatoes.
Wikimedia Commons image

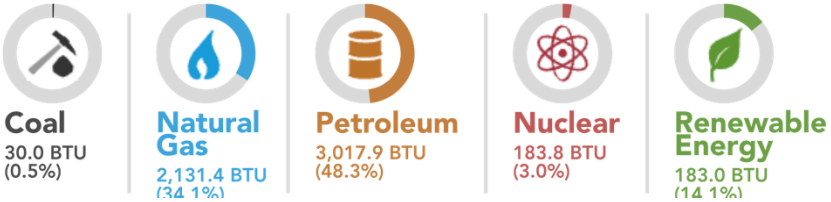
Harvesting: Your crop is hand picked when it is red and easily detaches from the vine. No large trucks or tractors need to be in the fields. Farm hands load them into 3-5 gallon containers and then place all fruit in a larger truck for transport out of the field.

Your Farm Location
Kern County, California

Population: 909,235
(2% of California's population)



Energy Sources:



Solar Friendliness Grade for California: D

- − Energy producers can sell energy for half its value.
- \+ No taxes on solar panels.
- − Taxes on purchase of solar panels.
- \+ Some state policies or laws support solar energy.
- \+ State credit for owning batteries and storage units.

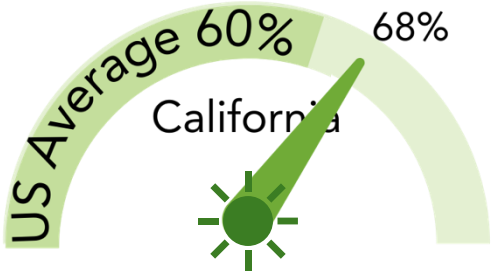
Climate: Mediterranean with hot, dry summers and mild, wet winters

Annual Precipitation: 10 inches

Average Temperatures:

Season	Minimum	Maximum
Winter	36°F	57°F
Spring	46°F	72°F
Summer	62°F	92°F
Fall	49°F	76°F

% Sun per Day:



Information obtained from various sources: U.S. Census Bureau, CNET- Digital Media Publication, Current Results- Weather and Science Facts, USDA Southwest Climate, and U.S. Energy Information Administration.

About Your Farm

Crop: Almond Trees
Farm Size: 15 acres
Annual Yield: 2,000 pounds per acre
Farmer's income: $2.00 per pound
Total income: $60,000

Figure 1: Almond drupe fruit on a branch. Wikimedia Commons image

Almond Tree needs:

Sun: 5 hours full sun each day (Sun Tolerant)
Water: High needs (40 inches)
Irrigation Type: Flood fields
Temperatures: 59 to 86°F
Plant height: 20 feet tall at full growth

About Almond Trees

- Almonds are not a nut. They are a type of fruit called a drupe. This means they have a soft outer layer with a hard seed inside.
- California grows more almonds than any other place in the world.
- Almond trees need cold weather in the winter (below 45°F) to rest and go through a dormant stage. But when the trees bloom in the spring, temperatures below 50°F can hurt the flowers.
- In the summer, almond trees need long, sunny days to help the fruit grow. They are usually harvested in the fall.
- They don't do well in dry conditions. They need a lot of water to stay healthy and grow.

Figure 2: (Left) Tree trimmer. Figure 3: (Right) Tree Shaker. Wikimedia Commons Images

Harvesting: Tree shakers shake the fruit free and then sweeper machines come in for harvesting. Your trees then require pruning, meaning the branches need to be cut with a large pruning machine.

Your Farm Location
Humboldt County, Nevada

Population: 17,285
(0.6% of Nevada's population)

Energy Sources:

Coal	Natural Gas	Petroleum	Nuclear	Renewable Energy
35.8 BTU (5.0%)	302.3 BTU (42.3%)	303.2 BTU (42.5%)	0.0 BTU (0.0%)	72.7 BTU (10.2%)

F

Solar Friendliness Grade for Nevada: F

- \+ Energy producers can sell energy for its full value.
- – Solar panels are taxed.
- – Purchase of solar panels is taxed.
- – Policies and laws don't support switching to solar.
- – No local programs to help pay for install.

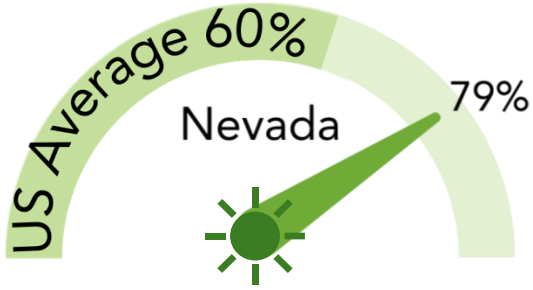
Climate: Semi-arid with hot summers and mild winters

Annual Precipitation: 12 inches

Average Temperatures:

Season	Minimum	Maximum
Winter	21°F	41°F
Spring	33°F	58°F
Summer	51°F	83°F
Fall	35°F	62°F

% Sun per Day:



Information obtained from various sources: U.S. Census Bureau, CNET- Digital Media Publication, Current Results- Weather and Science Facts, USDA Southwest Climate, and U.S. Energy Information Administration.

About Your Farm

Crop: Yukon Potatoes
Farm Size: 20 acres
Annual Yield: 30,000 pounds per acre
Farmer's income: $0.15 per pound
Total income: $90,000

Figure 1: Fully grown Potato plant.
Wikimedia Commons image.

Potato needs:

Sun: 6-8 hours full sun each day (Sun Tolerant)
Water: Low needs (15-30 inches)
Irrigation Type: Sprinkler lines
Temperatures: 68 to 75°F
Plant height: 6-8 inches tall at full growth

About Potatoes:

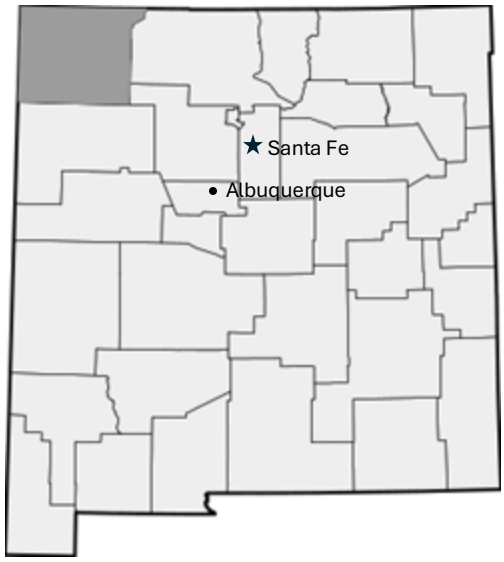
- This is a starchy tuber. It grows underground and is the nutrient energy storage for the plant.
- It is the 3rd largest crop in the world after rice and wheat.
- They need wet soil when planting in early spring.
- Once rooted, fields need to remain slightly damp.
- Potatoes are extremely sensitive to high temperatures. When the plant is growing in the summer, high heat can reduce the yield.
- Harvesting is in mid-summer when plants begin to yellow and dry.

Harvesting: Your crop requires a potato harvester pulled by a tractor. The harvester digs into the soil and pulls up the potatoes while filtering out the dirt. A conveyor belt then sends the potatoes to a loading truck that drives beside the harvester.

Figure 2: Potato Harvester pulled by tractor with loading truck alongside. Wikimedia image.

Your Ranch Location
San Juan County, New Mexico

Population: 121,661
(6% of New Mexico's population)



Energy Sources:

Coal
138.1 BTU
(17.9%)

Natural Gas
301.3 BTU
(39.0%)

Petroleum
255.6 BTU
(33.1%)

Nuclear
0.0 BTU
(0.0%)

Renewable Energy
77.3 BTU
(10.0%)

B

Solar Friendliness Grade for New Mexico: B

- Energy producers may sell energy for its full value.
- No taxes on solar panels.
- No taxes on purchase of solar panels.
- Some local policies or laws support solar energy.
- Receive $6,000 credit from state on install.

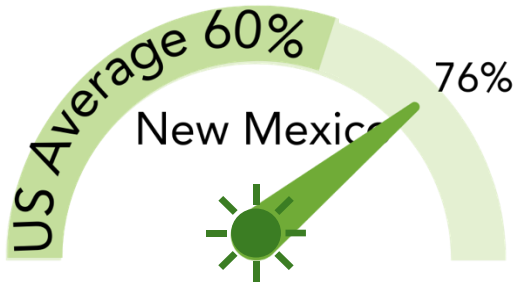
Climate: Semi-arid with mild summers and mild winters

Annual Precipitation: 10 inches

Average Temperatures:

Season	Minimum	Maximum
Winter	18°F	44°F
Spring	34°F	65°F
Summer	54°F	87°F
Fall	36°F	66°F

% Sun per Day:



Information obtained from various sources: U.S. Census Bureau, CNET- Digital Media Publication, Current Results- Weather and Science Facts, USDA Southwest Climate, and U.S. Energy Information Administration.

About Your Ranch

Animal: Navajo-Churro Sheep
Ranch Size: 120 ewes on 60 acres
Annual Yield: 7,200 pounds of meat & 480 pounds of fleece
Rancher's income: $7 per pound of meat & $10 per pound of fleece
Total income: $55,200

Figure 1: Navajo-Churro ewe

Navajo-Churro Sheep needs:

Sun: Will seek out shade throughout the day.
Water: Medium needs (400-500 gallons/week)
Temperatures: 20°F to over 100°F
Animal height: 30-36 inches at the shoulder

About Navajo-Churro Sheep

- Navajo-Churros have been raised by the Diné (Navajo) for over 400 years in the southwest U.S. They have adapted to hot summers and cold winters.
- In summer, they graze native grasses that need full sun to grow.
- In winter, too much snow can make grazing hard, so ranchers will give the sheep extra food.
- In spring, after the sheep are sheared, they need to be kept out of the wind, so they do not get too cold.
- Sheep will rub against things, and baby sheep like to climb objects.
- Predators will attack and eat the sheep if they're not protected.

Harvesting and shearing:

In the spring, dogs help herd your sheep from the pastures for shearing of their fleece. The ewes will have 1 or 2 lambs each during the spring. Those lambs will be brought in and harvested for meat 6-8 months later.

Figure 2: Shearing a Navajo-Churro sheep at the 2024 Bosque Redondo Memorial Fiber Fair. Credit: BRM/NMHS