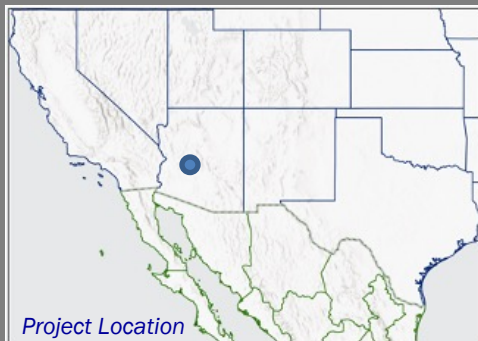


## LAND CONSERVATION

# Regenerative Agriculture in the Arid Southwest at Oatman Flats Ranch

**Oatman  
Flats**<sup>TM</sup>  
RANCH  
LLC

Oatman Flats Ranch, near Gila Bend, Arizona, is a 665-acre operation that grows native and low-water-using crops that can thrive in arid environments. In May 2022, Oatman Flats became the first regenerative organic certified<sup>®</sup> (ROC) grain farm in the Southwest. ROC is a level up from organic certification, and it represents a more holistic approach to farming that considers soil health, animal welfare, and social fairness. Oatman Farms<sup>®</sup>, the sister company of Oatman Flats Ranch, was founded in 2020. Oatman Farms<sup>®</sup> is a food company that works with chefs and bakers to create products from ROC heritage crops, including grains grown at Oatman Flats Ranch, and sell them directly to consumers. Together, Oatman Flats Ranch and Oatman Farms<sup>®</sup> work to find profitable, regenerative solutions to revitalize and sustain family farms in arid environments.



USDA Southwest Climate Hub  
U.S. DEPARTMENT OF AGRICULTURE



*Sheep at Oatman Flats Graze Rotationally, Moving Every Few Days*

## KEY ISSUES ADDRESSED

Arizona farms are currently facing the worst water crisis in history, as surface water availability decreases each year. Current commodity market conditions favor industrialized farming practices like over tillage, monocropping, and chemical spraying. These maladaptive practices can lead to soil erosion and nutrient depletion, lower quality crops, and overall land degradation. These poorly cultivated crops can be sold at lower prices and still be profitable due to government subsidies. ROC crops, including the heritage grains grown at Oatman Flats, are more expensive to produce, and a stable consumer market does not yet exist for some of these desert-adapted crops.

## PROJECT GOALS

- Use the limited water available in southern Arizona's arid lower Gila River environment in the most efficient way
- Improve soil health, increase soil organic matter, and sequester carbon in soil
- Construct a replicable and profitable regenerative ranching model for hotter and drier environments

## SHARING REGENERATIVE RESOURCES

Oatman Flats collaborates with local organizations to host workshops covering holistic farm management and food entrepreneurship. They also offer farm tours, and share regenerative agriculture resources on their social media.



An Ironwood Tree Surrounded by Agave in the Native Crop Garden

## PROJECT HIGHLIGHTS

**Cultivating Low-Water Cash Crops:** Oatman Flats chose to cultivate small grains, particularly heritage wheats. Heritage grains were grown by Indigenous communities for hundreds of years, and are low-water species adapted to arid conditions. For example, White Sonora wheat was first grown in the Gila River Valley 300 years ago and thrives in the salty soil found on Oatman Flats.

**Improving Soil Health to Increase Irrigation Efficiency:** Oatman Flats works to increase soil organic matter (SOM), building the soil's water storage capacity. They maintain diverse summer and winter cover crops, which build carbon-rich and well-structured soils to increase long-term water use efficiency.

**Rotational Grazing with Sheep:** Oatman Flats uses a herd of nearly 300 sheep to mulch their cover crops and augment nutrient cycling via urine, manure, and trampling. Oatman Flats rotates the herd through their fields every two to three days.

**Finding a Market for Premium Products:** Oatman Flats hopes that consumers whose values align with ROC principles will be willing to pay a premium for local foods produced through these environmentally friendly practices. Oatman Farms® now operates a community supported agriculture program which provides a box of ROC grain products from the ranch in exchange for a monthly subscription fee.

## Collaborators

- Oatman Flats Ranch

CART Author: Erin Connolly, Drought Learning Network (DLN), July 2024.

Photos by Ariel Léger, University of Arizona.

For more information on CART or DLN, contact Karlee Jewell ([karlee\\_jewell@fws.gov](mailto:karlee_jewell@fws.gov)) or Maude Dinan ([mdinan@nmsu.edu](mailto:mdinan@nmsu.edu)).

Visit CART:



## LESSONS LEARNED

Weed management is a major challenge with regenerative organic farming. To control Johnson and bermuda grass, Oatman Flats alters the microbial balance of the soil to favor fungi by increasing SOM. They also use a tractor to push tumbleweeds into the irrigation canal and burn them into char and ash, which they use as fertilizer. Results from this combination of methods are still unclear.

Oatman Farms® emphasizes the importance of cooperation and community to produce profitable goods and find consumer outlets. Oatman Farms® has begun selling products to restaurants and school districts, and collaborated with local chefs to create sourdough loaves and pancake mixes which are now available online and in stores all over Arizona.

Mesquite flour can be sold for up to \$15/lb, but harvesting and processing the pods is very labor-intensive. The pods must be hand-picked, and can't be harvested from the soil because they could be contaminated with aflatoxins. Oatman Flats is experimenting with techniques to reduce these labor costs, including laying tarps on the ground as the pods ripen to catch them.

## NEXT STEPS

- Convert farm from flood irrigation to solid set sprinklers, saving an estimated 54% of water
- Rebuild and reline wells, and repair additional below-ground water infrastructure which was damaged by a Gila River flooding event
- Begin riparian restoration along farm boundaries, and build shade structures for the sheep

For more information on this project, contact Yadi Wang:

[yadi@oatmanfarms.com](mailto:yadi@oatmanfarms.com)



A Field of Native Mesquite Trees at Oatman Flats Ranch