

OKLAHOMA PRODUCER GRANT PROGRAM

The Kerr
Center



FUNDING FARMER INNOVATION

YEAR GRANT AWARDED: 2000

**AREA 4: Crops and Livestock
Adapted to Oklahoma**

PRINCIPAL COOPERATOR

Richard Ortez
4208 Bethel Rd.
Glencoe, OK 74032
405.624.1019

OTHER COOPERATORS

Tom Denny, independent farmer
Nathan Anderson, Payne County
Extension Director
Vincent Russo, Experimental Plant
Physiologist, USDA-ARS
William McGlynn, Horticultural
Products Processing Specialist, OSU

PROJECT BASICS

Duration: Two years (2000-2001)
Type: Research project
Grant Amount: \$7,380
Location: Glencoe, Payne County



For more information/
to apply, contact:

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OKLAHOMA PRODUCER GRANTS

PROJECT FACT SHEET



Richard Ortez sells his produce at local farmers' markets.

Dry Edible Beans: An Alternative Crop for Small Producers in North Central Oklahoma

Margo Hale, ATTRA, for the Kerr Center for Sustainable Agriculture

FARM/RANCH PROFILE

Richard Ortez operates El Sueño Enterprises, a small "seed to table" diversified agribusiness in Payne County, Oklahoma. El Sueño Enterprises consists of El Sueño Garden, where Ortez grows vegetables, beans, and grains, and a commercial processing kitchen ("Boarding House Classics" brand). Ortez sells his products at a local farmers' market. All of the value-added products that Ortez sells have at least one ingredient from his farm.

PROJECT OBJECTIVES

Ortez was looking to add a crop to his operation that would yield more profit per acre than hay, but be less labor intensive than vegetables. He thought dry edible beans (*Phaseolus vulgaris*) might be a potential crop. He was considering marketing packaged dry beans and needed to investigate whether he could grow beans profitably on a small scale.

His project objectives were to:

1. Determine growth requirements for beans in north central Oklahoma.
2. Develop machinery for cutting, thrashing, cleaning, drying, and storing crops from small plots (less than 1/4 acre).
3. Develop several value-added products that he could market directly to customer.

PROJECT DESCRIPTION***Production:***

Ortez planted 16 200-foot rows of pinto beans for his first crop, to evaluate different seeding and fertilizer rates. Unfortunately, deer decimated this first crop of beans. While Ortez couldn't evaluate his seeding and fertilizer application rates, he did determine that the first problem he would have to overcome would be keeping deer out of the bean plots. Ortez experimented with several fence designs before he settled on an eight-strand, 6-1/2-foot electrified fence to keep the deer out. This fence has been successful at keeping the deer out and protecting his bean crops.

Ortez planted small plots of pinto, small red, small black, and Great Northern beans in the first full year of the grant project, and planted navy, small black, small red, and black-eyed pea varieties in the second year. He had great success with growing the beans and estimated his first full crop yielded about 750 pounds of beans in the field. The second year crop yielded an estimated 800-1,500 pounds of beans per acre per variety, close to commercial yields of around 2,000 pounds per acre.

Ortez noted that the growing and production of dry beans was different than growing other beans, such as green beans. He found that there was a narrow



Richard Ortez

planting window for the dry beans. It is important to plant the beans so that they mature in August, when the weather is dry and hot. If beans mature later into the fall, the cooler, wetter weather increases the risk of losing the crop to mold.

Harvest:

Harvesting the beans proved to be Ortez' biggest challenge. Because the plot sizes were small, it was a challenge finding small-scale, inexpensive harvesting equipment. The first year of the project, Ortez tested two harvesting methods. He used a Craftsman chipper/shredder and a W.W. Grander chipper/shredder as thrashing machines. The Craftsman unit was not successful, as it completely broke all beans. The W.W. Grander unit was a little more successful. It removed pinto beans from their pods, but broke nearly a third of them. Bean breakage varied among bean varieties. Ortez determined that using a chipper/shredder would not work. This method also required a great deal of physical labor to harvest, dry, thrash, and clean the beans. The amount of labor required would not be economical.

For the second year of the project, Ortez acquired an antique Allis-Chalmers Model 60 All-Crop combine. This unit was small enough (5-foot width) to work in Ortez' plots. With the installation of a couple of parts, Ortez was able to use the machine as a thrasher to harvest the crop. This piece of equipment greatly reduced the hours needed to harvest the beans. Ortez had difficulty finding affordable, small-scale equipment. Using antique equipment is a cost-effective solution to this problem.

Once harvested, the beans had to be separated from the chaff and broken beans. Ortez constructed a series of sieves, with varying widths of slits. The series of sieves separates out the plant debris, bean halves, and whole beans. Using this system, Ortez can clean 10-15 pounds of beans in 10-15 minutes.

Marketing:

As this project developed, Ortez realized that the market for packaged dry beans was declining. In grocery stores, he noticed that packaged dry beans were getting less shelf space, while canned beans were increasing. Ortez is not licensed to process canned beans in his facility, so he knew he would have to develop another value-added product in order to market his beans. Ortez now sells a canned acidified bean salad.

While there may not be a growing market for packaged dry beans, Ortez is still investigating other ways to market the beans. He is considering using agritourism to market the beans, where customers could come to the farm, help harvest beans, and leave with packaged beans.

Other products that came out of this project were small grains and appropriate value-added products. Ortez planted grains in between the bean plots as a means of separating the beans to prevent cross-pollination. These grew very well and gave good yields. Further, the equipment used to harvest the beans is also suitable for harvesting grains. Thus, Ortez was able to harvest these grains, grind them into a fine meal, and combine them with commercial flour to make baked goods such as bread and cookies. He also markets beans through his breads by grinding them to a fine meal and adding them to flour to produce "high protein" bread.

PROJECT RESULTS

Ortez was very pleased with the results of this project. He determined that dry beans could be successfully cultivated on his farm. He encountered challenges with deer damage and harvesting equipment, but was able to solve those problems. While his initial goal of marketing packaged dry beans didn't go as planned, Ortez was able to market the beans through a processed bean salad. He was also able to develop other products through the use of the grains he planted between the beans.

Ortez continues to grow and market beans, along with many other crops and products. He sells his products at the Stillwater Community Farmers' Market. He continues to work with the Kerr Center and be involved with its Producer Grant program, with a subsequent grant to further develop and market the bean seed enterprise.

RESOURCES

To learn more about Richard Ortez' farm and products, visit www.elsuenoenterprises.com.



Grants Awarded Statewide!

Oklahoma Producer Grant Program

Farmers and ranchers know their land better than anyone else. They know their problems, and they often have innovative ideas about how to solve those problems.

While good ideas may not in short supply, money often is. This program, the first of its kind in Oklahoma, supports farmer and rancher innovation with cash grants.

Established in 1998, the Oklahoma Producer Grant program encourages an exchange of ideas and experiences between producers that will benefit all.

WHAT IS A PRODUCER GRANT?

- It funds projects that promote a sustainable agriculture and are innovative, unique, and experimental
- Two year grants are funded up to \$3,500, three year grants up to \$7,500

WHAT KIND OF PROJECTS WILL BE FUNDED?

- Those that address one or more of eight priority areas (some years, special areas are added)
 - Research, demonstration or educational projects*
 - Research and demonstrations with a strong educational component—results are shared with other producers
 - Projects with agriculture professionals (Extension, NRCS, etc.) as collaborators/cooperators given priority
 - Ideas applicable to more than one farm
- * A demonstration project is an on-farm demonstration of a farming/ranching practice; a research project is an on-farm test of an idea or technology. An educational project shares information about innovative approaches.

WHO MAY APPLY FOR A GRANT?

- Active, resident producers in Oklahoma

HOW ARE GRANTS AWARDED?

- Annually, on a competitive basis
- Proposals are evaluated by an impartial technical committee of ag professionals and producers

WHAT IS THE APPLICATION PROCESS?

- Producers or producer groups may submit grant proposals once a year during the "Call for Proposals" time period
- Application forms are available from the Kerr Center or online

WHAT IS A SUSTAINABLE AGRICULTURE?

- A sustainable agricultural system will last over the long term because it maintains or increases net farm profit, protects and conserves natural resources, and is equitable to farmers and ranchers.

8 Eight Priority Areas and a Few Examples

1. Soil Conservation, Soil Health

Farming methods that stop erosion, increase organic matter, improve texture and structure and microorganisms.

2. Water Quality, Water Conservation

Farming methods that prevent soil erosion or filter pollutants, efficient irrigation systems

3. Proper Management of Organic Wastes

Non-polluting approaches to waste application, composting, new, less concentrated systems of raising livestock and poultry

4. Crops and Livestock Adapted to Oklahoma

New crops or varieties that match climate and soil type, livestock adapted to climate and forage

5. Biological Diversity

Incorporating wildlife habitat, rotations, diversified crops and livestock, cover crops

6. Environmentally-Safe Pest Management

Approaches to weed management that eliminate or cut spraying, methods of insect and disease management that emphasize use of beneficials, biological control agents, or innovative rotations

7. Energy Conservation

Reducing use of diesel or gasoline through lowering horsepower needs, reducing tillage, using renewable fuels, recycling

8. Farm Diversification and Increased Profitability

Cutting expenditures for inputs, adding value to crops or livestock, diversifying farm enterprises, growing crops that receive premium prices, maximizing the use of on farm resources, substituting management for off-farm inputs, direct marketing

Further Resources (available from Kerr Center or online at www.kerrcenter.com)

For more information on the program, field events, application, and descriptions of funded projects go to www.kerrcenter.com