



Western SARE Program

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ORGANIC PRODUCE FROM DRY LITTER

Situation

As population pressures increase in American Samoa, fertile land is being consumed by houses and the associated development. Meanwhile, the diets of most people in the territory are lacking in fresh fruits and vegetables, and those that are consumed must be shipped in from as much as 5,000 miles away.

Ivona Ballard used her Western SARE grant to test a way to grow fresh market vegetables on her valley floor landholding on the island of Tutuila, which has steep mountains and fertile valleys.



The dry litter system employs a portable piggy and uses bedding materials from a variety of sources, including leaves and coconut husks.

Objectives

Demonstrate the sustainable, intensive farming of fresh organic market produce using pig waste composted under a dry litter waste management system.

Actions

The project was established with portable pigpens producing mulch and compost in a dry litter system to

create raised beds on which to plant vegetables. The project included these steps:

- One pig was raised in a 10-foot by 12-foot portable piggy that was



The portable piggy is a 10- by 12-foot wire-enclosed structure.

Farmer/Rancher Grant

Project Number: FW02-040

Project Title: Increasing Sustainable Production in High Polynesian Islands

Project Coordinator:

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Technical Advisor:

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SARE Grant: \$15,510



Western SARE, a USDA organization, funds grants for research and education that develop or promote some aspect of agricultural sustainability, which embraces

- *profitable farms and ranches*
- *a healthy environment*
- *strong families and communities.*

The Western Region, one of four SARE regions nationwide, is administered through Utah State University.

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moved after six months.

- The bed was allowed to dry for two to three months.
- Vegetables, including eggplant, red lettuce, cucumbers, beans and sweet basil, were then planted in 2-foot by 50-foot beds, raised 3 feet to protect against flooding.
- No other plant nutrition was applied to the soil.
- Crops were harvested and sold to restaurants and at roadside markets.

Results

For the past four years, Ballard has successfully grown a variety of vegetables using no chemical fertilizers or pesticides. The compost created using the manure from the portable piggery and the dry litter system has been sufficient to provide the nutritional requirements for the sustainable production of vegetable crops.

Ballard now has a 60-foot by 60-foot plot developed from the project on which she continues to produce vegetables. The 3-foot-high beds have proved high enough to preclude flooding.

The Natural Resources Conservation Service takes growers to view Ballard’s dry litter system at least six times a year, and the College of Natural Resources at American Samoa Community College brings agricultural students each year as part of their coursework.

Several small piggery owners, with two or three pigs,



After the piggery had been moved several times, the remaining composted material created a fine bed for vegetable production.

have adopted the system to grow various crops, including vegetables and taro, a Samoan staple.

Larger piggery owners have been less inclined to adopt the system, however, because of the challenge of combining greater quantities of pig waste with organic matter to apply to their fields. Also, renovating traditional piggens into dry litter systems can be costly.

Potential Benefits

Ballard’s family has benefited by being able to eat fresh vegetables through the duration of the project.

Equally important has been the demonstration of alternative waste management practices for American Samoa’s



swine industry, from which several people in recent years have contracted leptospirosis, a bacterial disease associated with wild and domestic animals.