

Extending Hedgerow Systems in California Agriculture

Sam Earnshaw (Professional Development Grant Program)

Project Number: EW03-007

Title: Extending Hedgerow Systems in California Agriculture

Principal Investigator:

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A mature hedgerow. – Photo by Sam Earnshaw

SARE Grant: \$60,000

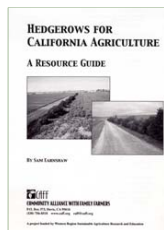
Situation

When modern agriculture replaces natural habitat with crops, risks rise for soil erosion and runoff that can reduce water quality and its attendant impacts. Likewise, dust from farming activities can reduce air quality. Pressures from regulators and market mechanisms are encouraging agricultural practices that better conserve the nation's soil, water, air, wildlife, and energy resources.

Hedgerows and windbreaks, when designed and integrated into farm systems, can:

- Help reduce pesticide use
- Increase on-farm biodiversity and habitat for wildlife and beneficial organisms
- Reduce wind and water erosion of soil
- Beautify the environment
- Diversify farm products, for example incorporating herbs or flowers

Training agricultural resource professional about hedgerows and providing them with tools to extend information could encourage farmers to consider and adopt hedgerows.



At left, the resource guide produced for the project. At right, the cover and an inside panel of a project brochure.



Objectives

1. Increase the knowledge of agricultural professionals (NRCS, Resource Conservation District, Cooperative Extension, 4-H Advisors, Pest Control Advisors) about hedgerows as a system component that can improve natural functions
2. Extend the use of hedgerows as conservation and management tools to areas of California where they are not currently common
3. Create a hedgerow resource kit for farmers and agricultural professionals that can be easily utilized throughout the state

Actions

A statewide technical team was assembled that included:

- John Anderson, Hedgerow Farms
- Robert Bugg, UC Sustainable Agriculture Research and Education Program
- Jeff Chandler, Cornflower Farms
- Rex Dufour, National Center for Appropriate Technology
- Sam Earnshaw, Gwen Huff and Molly Johnson, Community Alliance with Family Farmers
- Phil Foster, Foster Ranch
- Rachael Long, UC Cooperative Extension
- Megan McGrath, MCM Soil Sciences and Mapping Services
- Daniel Mountjoy, Natural Resources Conservation Service
- Corin Pease, UC Davis
- Paul Robins, Yolo County Resource Conservation District

Three workshops were held in the first year (King City, Fresno, and Lockeford) and one in the second year (Santa Rosa). Workshops included:

- Indoor training session with slideshow of existing hedgerows and demonstrations of how hedgerows are designed and installed
- Classroom hedgerow design and critique
- Field trip to, and work performed at, a hedgerow being planted
- Field trip to established hedgerow for comparison

Training materials, including a manual (Hedgerows for California Agriculture) and brochure, were developed for distribution and posted on the CAFF website in downloadable PDF.

A Hedgerow Education Fund was established to support personnel trained in workshops to initiate hedgerow projects or teach others about hedgerows. Mini-grants up to \$1,000 were made available.

At right, a hedgerow funded by a mini-grant is being planted at the T&D Willey Farms. Far right, a hedgerow at John Anderson's farm. – Photos by Sam Earnshaw



Results

The workshops provided 80 participants with information and training materials to train farmers, farm managers, youth, and other members of the farming community on the benefits and implementation of on-farm habitat using native plant hedgerows.

The widely used hedgerow resource manual and brochure are posted on the CAFF website, www.caff.org. More than 300 paper copies of the manual and 10,000 copies of the brochure have been distributed to ag professionals working with growers.

Since the manual was published in 2004, CAFF has facilitated the planting of 65 projects, mainly on the Central Coast with three in the Central Valley. These projects include hedgerows, windbreaks, grassed waterways, filter strips, perennial grasslands, and riparian forest plantings.

Four mini-grants from the Hedgerow Education Fund were approved and distributed:

1. Miller Moth Ranch, southern Monterey County – Established hedgerows, grassed filter strips, and shrubs adjacent to wildlife water troughs and along farm roads.
2. Summerfield Waldorf School, Santa Rosa – Planted a 1,300-foot-long hedgerow along the western border of the school's 14-acre certified biodynamic vegetable and grain farm and constructed a shade structure for propagating native plants
3. Lodi High School Agriculture Department – As part of its curriculum on relationships between farming and the environment, planted three types of hedgerows on the school farm
4. T&D Willey Farms, Madera – Planted two 600-foot-long beds of perennial shrubs along farm fields, where 30 organic crops are grown for local and wholesale markets



Sam Earnshaw documents the hedgerow planting at T&D Willey Farms. – Photo by Mark Cady



Grass forms part of this hedgerow. – Photo by Sam Earnshaw



Hedgerow trainer Sam Earnshaw speaks to a class from Fresno College at Willey Farms. – Photo by Mark Cady

Potential Benefits

This project has created a network of agriculture resource professionals with expertise in extending information about hedgerows in California.

Workshop participants, asked about the importance of hedgerows and windbreaks on farms, said:

“Very important, because these plantings address a wide range of conservation issues simultaneously.”

“These are the most critical practices that need to be integrated into the agricultural matrix.”

Of the 80 attending the workshops:

- 48 planned to work directly with farmers
- 34 planned to share information with other ag professionals
- 15 planned to conduct workshops
- 14 planned to conduct field tours

Suggestions for research included:

- Pest movement and pest-crop relationships
- Rodents, birds, and amphibians associated with planting
- Economic aspects of hedgerows
- Benefits of willows, sedges, and rushes

Participants also said they wanted more demonstration sites, success stories, information on biocontrol, and more grower meetings and tours.