



# THE SAN JOAQUIN SUSTAINABLE FARMING PROJECT

## Best Management Practices

### A Resource Guide for Alfalfa, Almond & Cotton Growers



## Best Management Practices Sustain your farm, community & environment

### Why are Best Management Practices important?

As a farmer in the San Joaquin Valley, you are well aware of the challenges of balancing a successful crop with protecting the quality of our water, air and soil. By adopting BMPs, you contribute to making our skies and the Lower San Joaquin River cleaner and help your community meet air and water quality standards required by the government.

### What are BMPs?

BMPs are sound farming activities or practices that prevent pesticides, nutrients and other materials from polluting our water, air and soil.

### Can I make a difference?

You will join a legion of California farmers who are following careful management practices and good farming strategies that demonstrate growers can maintain crop yields and profits and reduce harmful erosion and sedimentation, pesticide drift and runoff.

### Hard at work

*BMPs produce effective filters to keep nutrients from washing into waterways*

Materials	% rate of removal*
Nitrogen	24 to 67%
Sediment	48 to 89%
Metals	29 to 86%
Phosphorus	20 to 65%
Pesticides	10 to 100%

Sources: Center for Watershed Protection and the University of Georgia Institute of Ecology.

*\*Filter rate depends on various factors such as the choice of BMP; a vegetative buffer or dry pond and the terrain.*

### How can I learn more?

There are a number of resources available about BMPs. The following page details four innovative projects that demonstrate BMP and integrated pest management success in California agriculture.

## Sierra Orchards

During his 30 years operating Sierra Orchards in Winters, Craig McNamara firmly believes in “protecting our nation’s land, water and air resources.” Holding to this philosophy, the organic walnut grower enacted a series of conservation practices:

- Buried drip irrigation, tailwater return ponds and sediment trapping ponds.
- Hedgerows propertywide and 3/4 mile of upland riparian planting along a creek.
- Removal of invasive weeds and trees and replanting with native trees and shrubs.
- Cover crops to provide fertilizer and retain winter moisture and runoff.

McNamara has worked with local watershed partners and used federal funding to plant more than 10 acres of native upland oak forest to stabilize adjacent creek banks and eliminate erosion. In 2001, he launched the Center For Land-Based Learning, an environmental education program.



## Protecting Central Coast Watersheds- <http://www.ecoact.org>

For years, a heavy amount of nutrients, pathogens and sediment from livestock operations in Santa Cruz, San Benito and southern Santa Clara counties washed into waterways and made their way into the Monterey Bay. Ecology Action in Santa Cruz teamed up with the local Resource Conservation Districts and the U.S. Natural Resources Conservation Service to launch 16 demonstration projects. Participating operators implemented more than 60 BMPs, including:

- Manure bunkers.
- Grassed filter areas.
- Exclusionary fencing.
- Retention basins to retain runoff at farm.
- Pasture re-grading to direct runoff to filter areas.

These projects kept an estimated two tons of nitrogen out of the local waterways and groundwater supplies.



## Lodi-Woodbridge Winegrape Commission- <http://www.lodiwine.com>

The commission’s sustainable winegrowing program helps Lodi-area growers adopt innovative integrated pest management practices to reduce pesticide use to a level almost comparable to the rate applied in organic vineyards. Growers complete the group’s self-assessment process to develop an action plan.

The group’s BMPs include:

- Organic fertilizers.
- Encouraging growers to reduce or eliminate pre-emergent herbicide use.
- Monitoring and waiting to spray for pests and diseases until there is a substantial threat of crop losses.
- Using organic fertilizers, planting cover crops and installing drip irrigation.
- Owl boxes and raptor perches to attract owls and hawks for controlling rodents.
- Release of mite predators use of reduced-risk pesticides.



## Sustainable Cotton Project- <http://www.sustainablecotton.org>

In the past 15 years, San Joaquin Valley cotton growers have learned how BMPs can significantly reduce the use of insecticides and miticides, including chlorpyrifos and other chemicals that are toxic to fish and wildlife and find their way to local streams and watersheds. BMPs include:

- Monitoring and using U.C. IPM thresholds and year-round plans.
- Cutting back on pesticides and eliminating the 13 most harmful chemicals on cotton.
- Using compost and planting annual hedgerows to serve as trap crops, dust control and food sources for beneficial insects.

SCP farmers use significantly fewer chemicals known to cause water and air pollution in the local watersheds and producing a value-added trademarked Cleaner Cotton™ for the growing green consumer market.



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### Other BMP resources about water quality protection:

University of California IPM: [www.ipm.ucdavis.edu/PMG/crops-agriculture.html](http://www.ipm.ucdavis.edu/PMG/crops-agriculture.html)

California Agricultural Water Stewardship Initiative: [www.agwaterstewards.org](http://www.agwaterstewards.org)

Almond Board of California: [www.almondboard.com](http://www.almondboard.com)

Natural Resources Conservation Service: [www.ca.nrcs.usda.gov](http://www.ca.nrcs.usda.gov)

National Center for Appropriate Technology: [www.ncat.org](http://www.ncat.org)

East San Joaquin Water Quality Coalition: [www.esjcoalition.org](http://www.esjcoalition.org)

Coalition for Urban/Rural Environmental Stewardship: [www.curesworks.org](http://www.curesworks.org)