



THE SAN JOAQUIN SUSTAINABLE FARMING PROJECT

Farming & Water Quality

What is the problem?

When diazinon and chlorpyrifos (and other chemicals) are applied to fruit and nut orchards and field crops to control insect pests, these insecticides are washed off by winter rains and by summer irrigation. In Fresno, Madera and Merced counties this runoff drains into the San Joaquin River and its tributaries. Because these chemicals are highly toxic to insect pests, they are also highly toxic to fish and to the aquatic insects that are the primary food source for larval fish. Protecting habitat for aquatic life, such as fish, is required by California's state water quality plans. These plans are intended to protect the public's surface waters for uses such as drinking, swimming, fishing and biological habitat. It is therefore the Regional Water Quality Control Board's responsibility to ensure that rivers are free from levels of chemicals that impair the survival of these fish, as well as other aquatic life.

What is the solution?

Solving this problem will require changes in conventional pest control, pesticide applications and water management practices. It will require outreach to provide growers with the information they need to understand the problem and adjust their practices. Participation of growers, PCAs, irrigation districts, non profits, educational institutions and federal, state and local agencies is essential. Many of the changes that can be implemented to reduce the impacts of these pesticides can also help solve other water quality problems such as excess sediment, salts and nutrients in irrigation water which reduce the agricultural productivity of the land.

How Can I Help?

First, sign up with the San Joaquin Sustainable Farming Project! Through it you will get the best, most up-to-date scientific and technical information from University of California (UC) and other experts to help you farm in a way that protects our local watersheds. As you use Best Management Practices (BMPs) on your farm, you can save money, time and our water resources.

What Best Management Practices (BMPs) Are Available To Me?

BMPs include: Use of Integrated Pest Management (IPM); applications of pesticides only when scouting information or UC guidelines indicate treatment is required; use of pest control products that have minimal impact to water quality, such as Bt or pheromones or reduced risk materials; and eliminating or reducing rates of use of diazinon and chlorpyrifos. BMPs also include improvements in the application efficiency of air blast sprayers, use of smart sprayers to optimize application efficiency, further minimization of pesticide drift, and elimination of incidental applications to non-target areas. Other practices are water conservation through the use of drip and microsprinkler irrigation and retention of irrigation water until pesticide concentrations are below required levels. Lastly, the use of cover crops and conservation buffers can reduce pesticide concentrations in runoff. Researchers in California are looking at the best ways to optimize the efficiency of buffers, such as minimum size requirements and most effective plant species to use.

Sustainable farming systems support the use of BMPs, which promote environmental health along with economic profitability. California farmers are leaders in implementing positive solutions that protect and maintain the ability to produce quality agricultural products while protecting valuable water, air and land resources. Contact us for more information.

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