

SECTION II

A. SOILS INFORMATION

4. SOIL INTERPRETATIONS

1. Water Quantity and Water Quality

INTRODUCTION

Water quality interpretations and predictions are an integral part of planning. Non-point source agricultural pollutants in California can result from animal-waste handling and disposal, application of nutrients (both animal wastes and manufactured products), the application of pesticides, and the movement of soil particles. Impacts from any and all of these pollutants can occur in both surface and groundwater.

The current focus of this subsection is on water quality and the use and impacts of pesticides in agriculture. This subsection contains soil and pesticide information that is primarily used for early screening of pesticide fate in the landscape.

Plans are to expand this subsection in the future to include more information on the use and impacts of nutrients on water quality, especially in terms of nutrient leaching and transport potential. Also see the Agricultural Waste Management soil interpretations under the Waste Disposal sub-folder, under the Soil Interpretations folder of Section II of the eFOTG for more information.

EPA PESTICIDE PROPERTIES DATABASE

NRCS uses the EPA Pesticide Properties Database maintained by the U.S. Environmental Protection Agency. The National Pesticide Information Retrieval System (NPIRS) worked with OPP and the California Department of Pesticide Regulation to develop an interactive database that offers brief registration information on approximately 90,000 products. The data include: product number and name, company number and name, registration date, cancellation date, existing stocks date, and reason (if cancelled), and product manager name and phone number. Also offered are databases containing chemical ingredient information, searchable by common, technical, synonym, CAS number, or trade names, and firm information, searchable by firm number or name.

EPA's pesticide website address is <http://www.epa.gov/pesticides/index.htm> . In addition, the California Department of Pesticide Regulation's website address is <http://www.cdpr.ca.gov/> .

NRCS WINDOWS PESTICIDE SCREENING TOOL

The USDA-NRCS National Water and Climate Center developed and supports the Windows Pesticide Screening Tool (WIN-PST). NRCS Pest Management Policy (November 2001) requires the use of WIN-PST or other NRCS-approved environmental risk analysis tools to support the development of the pest management component of a conservation plan.

WIN-PST is a pesticide environmental risk screening tool that NRCS field office conservationists, extension agents, crop consultants, pesticide dealers and producers can use to evaluate the potential for pesticides to move with water and eroded soil/organic matter and affect non-target organisms.

NRCS partners (such as private pest control advisors) now have access to an easy-to-use tool for considering environmental risk when making recommendations that were previously based only on efficacy and economics. WIN-PST goes beyond previous NRCS screening tools to consider the impact of water table depth, irrigation, residue management and pesticide application area, method and rate class (Standard, Low, Ultralow).

WIN-PST users can specify pesticides by product name or active ingredient. Long-term human and fish toxicity data and ratings are also included in WIN-PST. These toxicity ratings can be combined with the off-site movement potential ratings to provide an overall rating of the potential risks from pesticide movement below the root zone and past the edge of the field.

Soil-Pesticide Interaction Ratings (SPISP II)

Soil-pesticide interaction ratings (SPISP II) generated by the WIN-PST screening tool help determine the potential for pesticide loss from surface runoff and from leaching or percolation below the root zone when a specific pesticide is used on a specific soil. Soil-Pesticide combinations are ranked High, Intermediate, Low, and Very Low for leaching loss potential and High, Intermediate, and Low for runoff loss potential.

High - This potential has a high probability of being lost from the field or leached below the root zone. Before deciding to use HIGH Potential pesticides, they should be evaluated for their health hazard to humans, animals, and plants. If a pesticide is a potential danger to health, an alternative pesticide, or other pest management techniques should be considered. A second tier evaluation may prove this combination not a hazard.

Intermediate - This potential is a gray area. INTERMEDIATE guidelines differ from HIGH in that: The Pesticide Solution Runoff Potential (PSRP not ISRP) may be reduced one rank (HIGH to INTERMEDIATE) if the pesticide is foliar applied, soil incorporated, or banded under the surface. The pesticide leaching potential (PLP) could be reduced one rank if foliar applied. The use of this pesticide on this soil could be considered LOW if rainfall probability is low.

Low - This pesticide applied on this soil has very low probability of being lost to surface runoff or leaching. This pesticide could be used according to the label with little hazard to the respective water resource.

Very Low - This potential is used only for leaching. The probability of leaching loss is essentially zero unless the soil contains cracks or macropores to depths greater than 30 inches.

The USDA-NRCS WIN-PST website address is
<http://www.wsi.nrcs.usda.gov/products/W2Q/pest/winpst.html> .