



Dixon/Solano RCD Water Quality Coalition

1170 North Lincoln St. Suite 110 • Dixon, CA 95630 • 707-678-1655 x103

Coalition Contact: Martha McKeen

Pyrethroid

Active Ingredients: bifenthrin, cyfluthrin, cypermethrin, esfenvalerate, fenpropathrin, gamma-cyhalothrin, lambda-cyhalothrin, permethrin

Products Names: Adjourn, Ammo, Asana XL, Athena, Baythroid, Bifenture, Bolton, Brigade, Capture, Cobalt, Danitol, Decathlon, Discus, Fanfare, Hero, Karate, Lambda-Cy, Lambdastar, Lamcap, Leverage, Mustang, Paradigm, Perm-Up, Pounce, Province, S-Fenvalostar, Scimitar, Silencer, Sniper, Stiletto, Tame Warrior

Movement: High tendency to attach to fine soil particles. Moving with sediment in irrigation tailwater or stormwater and/or through application drift.

Field Dissipation Half Life: Half-life in soils ranges from 1-2 months. In aquatic sediment, months to years.

Aquatic Toxicity Very high to Extremely High

CRITICAL USE ACTIVITIES: Spring and/or summer applications to various crops (including orchards, tomatoes, beans, peppers, alfalfa, corn, sudangrass)

RECOMMENDED PRACTICES

1) Consider Alternative Products & Integrated Pest Management Strategies (see UCCE Alternatives Products List or visit www.ipm.ucdavis.edu)

2) Where agricultural uses continue, implement one or more of the following:

Use extreme caution during applications around **field edges**. Eliminate drift and overspray, especially near ditches (supply and drainage). **Apply by ground whenever possible.**

Pay special attention to buffer zone & vegetated buffer requirements on label under **SPRAY DRIFT**

PRECAUTIONS.

Use irrigation management practices to reduce and/or slow tailwater runoff:

- * Drip or micro irrigation.
- * Monitor soil moisture levels and evapotranspiration rates in irrigation management.

Avoid applications of pyrethroids just prior to a rainfall event or irrigation to minimize the potential for runoff.

Sediment Retention (especially fines) with the following methods suggested:

- * Direct post-treatment runoff through filter strip, alfalfa field or vegetated drainage ditch.
- * Temporarily impound post-treatment runoff in a sediment basin (although basin sizes necessary to capture fine sediments may be impractical depending on site characteristics); sediment basin effectiveness can be increased by directing the basins outflow through a vegetative filter.
- * Recirculate runoff through a tailwater return system.
- * Reduce and/or delay release of tailwater after application to allow product to degrade.

Install irrigation socks where gated pipes are used to minimize soil erosion. For furrow irrigated crops, apply water-based Polyacrylamides (PAMs), after the first pyrethroid treatment post-cultivation.

Best Practices from our Current Management Plan for Sediment Toxicity

- Using alternative pest control materials (i.e., using non-pyrethroid pesticides);
- Reducing the quantity of pesticides applied by monitoring pest and beneficial populations to determine the need for pesticides and the best timing for maximum control;
- Reducing the quantity of pesticides applied with spray buffers at field edges and near ditches;
- Reducing drift by regular calibration of sprayers for pesticide applications;
- Reducing drift by using electrostatic sprayer equipment;
- Reducing drift by using effective drift control mechanisms;
- Maximizing time between application and planned irrigation runoff and/or predicted storm runoff events in order to reduce loss of applied pesticides from foliage, transport on soils, and transport of pesticides bound to particles in tailwater;
- Changing to more efficient application methods (e.g., ground vs. aerial applications and/or equipment that provides more precise applications);
- Installation of vegetated filters between application areas and ditches and/or allowing vegetation to grow in drainage ditches to reduce movement of pesticides bound to soil particles and contamination from aerial overspray (Note: vegetated BMPs may be less effective for very fine-textured clay soils);
- Reducing irrigation tailwater through conversion from flood or furrow irrigation to buried drip, sprinkler, or microirrigation where applicable;
- Reducing irrigation tailwater with tailwater return systems;
- Reducing or delaying irrigation tailwater through irrigation water management;
- Sediment and erosion control practices.