

# ULATIS CREEK SEDIMENT TOXICITY MANAGEMENT PLAN MEETING OCTOBER 17, 2019

# OBJECTIVE

Attendees feel clear about the issue, potential solutions and are able to express their thoughts, questions and preferences on the strategies we choose to prevent exceedances in the future.

# AGENDA

- 11:30 12:00
  - Welcome & Introduction Activity
- 12:05 12:25
  - What we know about the exceedances & What we are required to do
- 12:30 12:45
  - Hear from Technical Advisers
- 12:45 1:15
  - Options to Address the Exceedance
- 1:20 1:30
  - Conclusions & MANDATORY Exit Survey

## Groundrules

- Stay Focused
  - Cell phones off
- Listen Openly
  - Practice patience, attention, & respect for different views.
- Speak Candidly and Concisely
  - Share your views honestly, share the floor generously.
- Suspend Certainty
  - Be curious about new information, approaches, & opinions.

About the Survey: Key Questions

# INTRODUCTIONS



## MANAGEMENT PLAN REQUIREMENTS & TIMELINE

- Management Plan Timeline August 2019 2022
- Outreach & Education throughout
- By March 2020
  - Decide on strategy (ies) to avoid future exceedances and to track "practices"
- By February 2021
  - "Management Practice" Tracking: Growers report 2020 actions during 2020 Crop Year Farm Reporting online.

#### Management Plan Boundaries for the Cache Slough Represented Drainages.





# MOST LIKELY PATHWAYS

Timing & History Indicates Most Likely Causes are:

- ALFALFA Application Drift or Overspray onto Ditches
  - Internal field ditches can contribute
  - Aerial vs. ground applications
- TOMATOES Attached to Sediment in Irrigation Tailwater

# MOST LIKELY PATHWAYS

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

Aquatic Toxicity – Very high\*

Management goal -

- Prevent drift or overspray to non-target areas.
- Retain fine sediments,
- Reduce velocity and/or <u>amount of tailwater</u> especially post-application
- Vegetated filters & buffers

#### Highway 113 agricultural\* drain (photo from 2014)



\*Also includes City of Dixon runoff

Slide Source: Donald Weston UC Berkeley

# Z-Drain Action Plan – 2013/2014

#### 2013 & 2014 Crop Seasons -

100% will avoid overspray of ditches during any pesticide applications

o 100% will either

1. Use reduced risk alternative products

OR

2. Implement one of the following practices if they use pyrethroids.

- Manage irrigation to eliminate tail water runoff
- Apply water-based PAM during 1<sub>st</sub> irrigation post-application

# Another Central Valley Coalition's Approach

1. Verify that members have a hydraulic barrier between parcel and the waterbody,

2. OR have completed a Sediment & Erosion Control Plan (SECP) and implemented appropriate practices to prevent the discharge of sediment, and

3. AND Focused outreach surveys to ensure adequate practices to reduce spray drift.

# **3** Potential Strategies

### 1. <u>AWARENESS STRATEGY</u>

- 2. <u>TRAINING/PLANNING</u> <u>STRATEGY</u>
- 3. <u>MANAGEMENT</u> <u>PRACTICE STRATEGY</u>

#### <u>?"OTHER" STRATEGY</u>

# AWARENESS STRATEGY

Verify that ALL individuals involved in pesticide and irrigation activities for are aware of issue and informed on how pyrethroids end up in waterways and the practices that minimize the issue.

#### How would we track this?

• Reporters (Growers) would document awareness for everyone related to their operation (growers, pest control advisers, employee applicators, employee irrigators, commercial applicators) during their Irrigated Lands Program 2020 Crop Year Online Farm Reporting. Informational materials would be available online in English and Spanish.

# www.curesworks.org/bestmanagement-practices/



# TRAINING/PLANNING STRATEGY

Commitment from members to complete (or have employees complete) training (like sediment & erosion control online certification course or NRCS irrigation water management training or agricultural commissioner sponsored training for field employees) or commit to have a technical assistance site visit and conservation plan developed.

#### How would we track this?

Reporters (Growers) would document completion of or plan to complete training for themselves or employees, during their Irrigated Lands Program 2020 Crop Year Online Farm Reporting. Informational materials would be available online in English and Spanish. C A https://irrigated-lands-regulatory-program.thinkific.com/courses/online-secp-self-certification-training





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### **Online SECP Self-Certification Training**

**Enroll for free** 

# MANAGEMENT PRACTICE STRATEGY

Grower reporting of management practices implemented or planned to be implemented. Choosing from a list of recommended management practices (focus on pesticide application and sediment and erosion control practices).

#### How would we track this?

 Reporters (Growers) would report implemented or planned practices by farm during their Irrigated Lands Program 2020 Crop Year Online Farm Reporting.

# **Small Group Questions**

- 1. What are the pros and cons of each strategy?
- 2. From your perspective, which strategy will be the most effective for growers, PCAs, and applicators to help avoid future exceedances?
- 3. Would you recommend any other strategy?

# Additional Materials Provided at 10-17-19 Meeting



#### Dixon/Solano RCD Water Quality Coalition



1170 North Lincoln St. Suite 110 • Dixon, CA 95630 • 707-678-1655 Coalition Contact: Kelly Huff, ext. 102

#### Pyrethroid

**Product Types:** esfenvalerate, lambda-cyhalothrin, gamma-cyhalothrin, bifentrhin, cypermethrin, permethrin, cyfluthrin

**Products Include:** Adjourn, Ammo, Asana XL, Athena, Baythroid, Bifenture, Bolton, Brigade, Capture, Cobalt, Fanfare, Hero, Karate, Lambda-Cy, Lambdastar, Lamcap, Leverage, Mustang, Paradigm, Pounce, Province, S-Fenvalostar, Silencer, Sniper, Stiletto, 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 <u>www.ipm.ucdavis.edu</u>)
- 2) Where agricultural uses continue, implement one or more of the following:
  - Use extreme caution during applications around **field edges.** Eliminate drift and overspray, <u>especially</u> <u>near ditches (supply and drainage)</u>. Apply by ground whenever possible.
  - Pay special attention to buffer zone & vegetated buffer requirements on label under **SPRAY DRIFT PRECAUTIONS.** 
    - 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 vegetated filter strip or vegetated ditch
      - \* 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.
    - Apply water-based Polyacrylamides (PAMs), after the first pyrethroid treatment post-cultivation.

#### 1170 N. Lincoln Street, Suite 110, Dixon, CA 95620 Phone (707) 678-1655

#### Products Containing Pyrethroid Insecticide Active Ingredients\*

Product Names	Active Ingredient
Athena	Bifenthrin
Bifenture	Bifenthrin
Brigade	Bifenthrin
Capture	Bifenthrin
Brigadier**	Bifenthrin & Imadacloprid
Fanfare	Bifenthrin
Hero	Bifenthrin & Cypermethrin
Sniper	Bifentrhin
Swagger**	Bifenthrin & Imadacloprid
Baythroid	Cyfluthrin
Leverage	Cyfluthrin
Tombstone	Cyfluthrin
Ammo	Cypermethrin
Mustang	Cypermethrin
Adjourn	Esfenvalerate
Dupont Asana XL	Esfenvalerate
Fenvastar	Esfenvalerate
S-Fenvalostar	Esfenvalerate
Danitol	Fenpropathrin
Tame	Fenpropathrin
Bolton	Gamma-Cyhalothrin & Chlorpyrifos
Cobalt	Gamma-Cyhalothrin & Chlorpyrifos
Declare	Gamma-Cyhalothrin
Proaxis	Gamma-Cyhalothrin
Agrisolutions Grizzly Z	Lambda-Cyhalothrin
Besiege**	Lambda-Cyhalothrin & Chlorantraniliprole
Kaiso	Lambda-Cyhalothrin
Karate	Lambda-Cyhalothrin
Kendo	Lambda-Cyhalothrin
Lambda-Cy	Lambda-Cyhalothrin
Lambdastar	Lambda-Cyhalothrin
Lamcap	Lambda-Cyhalothrin
Paradigm	Lambda-Cyhalothrin
Province	Lambda-Cyhalothrin
Silencer	Lambda-Cyhalothrin
Voliam Xpress**	Lambda-Cyhalothrin & Chlorantraniliprole
Warrior	Lambda-Cyhalothrin
Agrisolutions Artic 3.2 E	Permethrin
Ambush	Permethrin
Kontrol	Permethrin
Stiletto	Permethrin
Pounce	Permethrin

\* This list focuses on products that are commonly used in local agriculture. It is not inclusive of ALL pyrethroid products that could be used. \*\* The main active.ingredient in these products is a reduced risk product, but they also include pyrethroids