

# San Joaquin County & Delta Water Quality Coalition

## Watershed News

May 2012

### Water Quality Management Objectives

- Identify potential sources of water quality issues at specific monitoring sites
- Inform growers of results of monitoring
- Gather information on management practices
- Provide landowners with additional management practices to improve water quality
- Evaluate management practices
- Provide information on water quality issues & solutions for improving water quality

### Regional Board pushing nutrient application reporting

By Mike Wackman  
SJC & DWQC

The Central Valley Regional Water Quality Control Board (Regional Board) is seeking to have all farmers develop a nutrient management budget, certified by approved crop advisors, and report all nutrient applications to Sacramento. The budget would include the amount of fertilizer applied and the amount typically consumed by the plant. A farmer would have a budget for each individual crop and maintain the information for up to 5 years in their records.

The Coalition has questioned the need for such information and record keep-

ing. Is the Regional Board now going to tell farmer how much fertilizer they need to apply? What happens if a farmer applies more fertilizer than the Regional Board thinks they should? What expertise does the Regional Board have in farming and nutrient application and under what authority can they limit the amount a farmer applies? Will reductions in nutrient applications improve water quality? These and many more question remain unanswered by the Regional Board.

Groundwater contamination has been the reasoning for these new regulations. Several studies have been conducted indicating ni-

trate contamination in groundwater throughout the Central Valley caused by past fertilization practices and poor nutrient management. However, with new farming practices and technology, over fertilization of nitrogen has been limited in recent years.

The Regional Board however believes large amounts of nitrates are still being over applied and the excess nitrates are leaching into the groundwater. Several small communities in the Central Valley have nitrate contaminated wells and need to be addressed but the current proposals do not take this concern into consideration.

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### Finances of the Coalition, fee increases

Financial Officer for the  
San Joaquin County and  
Delta Water  
Quality Coalition

As I'm sure you've already seen, Coalition membership rates area going up this year. There are several reasons for this. The biggest culprit is an increase in fees charged to the Coalition by the State Water Resources Control Board.

State lawmakers in June 2011 removed general fund

support for regulatory programs. This means the fees charged by the state water board must cover the cost of those programs. RCD and Coalition staff went to Sacramento to implore the state water board to find other ways to offset the cost of the program but those requests fell on deaf ears. In 2011, the Coalition paid \$41,406.00 on your behalf for the privilege of being regulated by the state. We expect to pay over \$200,000 in 2012.

The state increased our fee from \$.12/acre to \$.56/acre.

In addition, grant funds that paid for education and outreach and other Coalition activities have nearly all expired. This results in an increase in education and general operating costs for the Coalition.

Last year's membership fees were artificially low. Tight fiscal management by the San Joaquin County

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"Any waste (e.g., pesticides, nutrients, and sediment) that leaves the irrigated land surface and reaches groundwater or surface water is regulated." Regional Board Framework

# Chlorpyrifos continues to be detected in Coalition waterbodies

By Melissa Turner MLJ-LLC

One of the highest priority materials targeted for reduced inputs by the Regional Water Quality Control Board is chlorpyrifos.

Chlorpyrifos is an organophosphate insecticide found in products such as Lorsban. Any chlorpyrifos detection with a concentration of 0.015 parts per billion (ppb) or higher is an exceedance of the State's Water Quality Objective (WQO) and the Total Maximum Daily Load (TMDL) for the that waterbody.

The regulations require a management plan for any water body that exceeds the WQO for chlorpyrifos. All growers in the Delta and on tributaries to the delta are now subject to the new additional monitoring and regulations due to the TMDL requirements.



## Have additional management practices been effective?

Coalition monitoring indicates WQO for chlorpyrifos were exceeded in 17 subwatersheds. The water board requires the Coalition to develop Management Plans for subwatersheds with exceedances of chlorpyrifos and designates those watersheds as "high priority." The Coalition works with growers within these high priority subwatersheds to implement additional management practices to reduce and/or eliminate chlorpyrifos exceedances that could be caused by runoff and spray drift.

The Coalition tracks the implementation of new management practices within these high priority subwatersheds to demonstrate compliance with the Irrigated Lands Regulatory Program and the Delta chlorpyrifos and diazinon TMDL.

Newly implemented management practices include:

1. Installation of retention pond/holding basin/ return systems
2. Installation of sprinkler or micro irrigation
3. Reduced runoff water volumes using irrigation management
4. Reduced use of the pesticide found in exceedances
5. Use of center grass rows (conservation cover), grass waterways or grass filter strips

Most growers have reduced use of chlorpyrifos products. Since 2009 the overall number of chlorpyrifos exceedances has decreased.

Figure 1 illustrates the reduction in exceedances in first and second priority subwatersheds. The Coalition has documented increased use of management practices in these subwatersheds .

The Coalition has started to focus on other priority subwatersheds, and it is expected that there will be even fewer exceedances in 2012.

Though there are fewer exceedances than in 2008,



chlorpyrifos continues to be a water quality problem

In 2011, the Coalition collected samples that exceeded the WQO in the following subwatersheds:

- **Multiple Detections:** Temple Creek, Roberts Island, French Camp Slough, Bear Creek, Walthall Slough
- **Single Detection:** Littlejohns Creek, Duck Creek, Mormon Slough, Terminous Tract Drain

The Coalition will continue to monitor for the effectiveness of Management practices.

There are management practice cost-share assistance programs available through the USDA NRCS office in Stockton for growers interested in installing water quality and other management practices.

Count of Chlorpyrifos Exceedances by Year  
First and Second Priority Subwatersheds

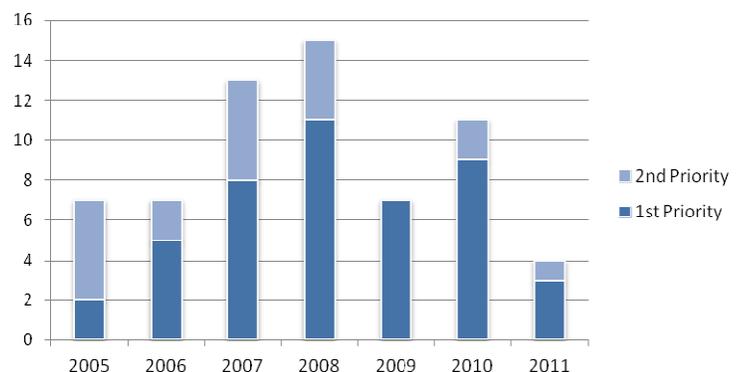


Figure 1

# Use of insecticides in vine mealybug management

by Chuck Ingels, David Haviland, and Steve Quashnick

Vine mealybug (VMB) infestations have led to greater reliance on insecticides. Several strategies can be employed, with non-chemical methods important, but insecticides being most effective; several newer insecticides are safer and less harmful to beneficials than organophosphates.

**Chemical Control.** Possible insecticide options include: 1) Lorsban (chlorpyrifos) as a delayed-dormant application to the trunk just before bud break, 2) one or two applications of Applaud (buprofezin) in the spring when crawlers are moving up the trunk, 3) soil applications of neonicotinoids during bloom, 4) applications of Movento (spirotetramat) from April through June, and 5) late-season foliar sprays of contact mate-

rials containing active ingredients such as Clutch (clothianidin) and Assail (acetamiprid). Management



programs typically include one to three of these options in any given year.

Lorsban can be applied as delayed-dormant or postharvest treatments that also can help control ants. As a postharvest application, Lorsban

has been used to kill VMB before they are able to return below ground for the winter. This practice is becoming less common because: 1) Recent research has found it is not effective, 2) label changes mandate only one application can be used per season (making delayed-dormant treatments a much better option), and 3) this timing may severely impact beneficials, which are in the period of highest densities in late summer. Lorsban has a high solution runoff risk and a very high aquatic toxicity.

Movento has been shown to be highly effective when applied from April through June, and it is safe to beneficials. After application, it moves systemically in the vine and must be ingested by a mealybug, which then

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## Pesticides found in surface waters

Article by Terry Prichard

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The water quality coalition surface water monitoring program found ten pesticide exceedances of the water quality standards during 2011. Seven of those exceedances were chlorpyrifos (Lorsban, Lock-On, Govern). The most recent pesticide reporting data (2009) reveals 71,861 pounds of active ingredient used in San Joaquin County, the majority of the pesticide (84%) being applied to walnuts, wine grapes and alfalfa. Three of the exceedances were in January, October and November. Previous year's pesticide reporting data indicate chlorpyrifos applications to wine grapes for vine mealybug occurred closest to when the exceedances occurred.

### Pathways for Pesticide Movement to Surface Waters

The pathway for pesticide movement from the site of application to

surface waters can be drift during application, movement of fallen leaves by wind, and movement via winter runoff water. Chlorpyrifos is very water soluble, making it easily moved in runoff waters. Additionally, chlorpyrifos has a relatively long life in the environment. It takes about 40 days for the pesticide to degrade to one-half its original concentration extending the period when risks of runoff are possible.

### Practices to Reduce Offsite Pesticide Movement

#### Conditions

- Don't spray when winds are high enough to cause drift into sensitive areas.
- Spray when wind direction is blowing away from sensitive areas.
- Turn off sprayer when turning at row ends.
- Don't spray when temperature inversions exist

#### Buffer Zones

- Observe a buffer between the sprayed crop and surface water sources or conduits to surface water where no chemical is applied.

#### Application Equipment

- Use as coarse a spray as possible (250-400 microns) while still getting good coverage.
- Use low drift nozzles.
- Adjust sprayers to accurately direct spray into canopy "target".

#### Product Choice

- Use drift reduction additives.
- If a risk of offsite movement exists, use an alternative material or a different time of application.
- See article: "Use of insecticides in vine mealybug management" above for product choices to control vine mealybug in grapes.

## **SAN JOAQUIN COUNTY & DELTA WATER QUALITY COALITION**

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### **Finances— Expense of compliance**

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Resource Conservation District (RCD) Board of Directors resulted in a reserve fund that accumulated during the previous six years. The RCD's goal in 2011 was to return some of those funds to Coalition members in the form of lower membership rates.

General fund expenses for the Coalition in 2011 were \$953,234.05. Water quality monitoring, analysis, reporting, and associated compliance activities accounted for \$801,783.42 or over 84% of expenses.

Other Coalition compliance expenses include payment of water board fees, other communication with Regional Board staff, enrollment and membership activities, and miscellaneous expenses including computer software and licensing. The total expended for these activities in 2011 was \$143,073.16 or 15% of expenses. In 2011, Coalition administrative costs were \$28,474.12 or not quite 3% of expenses.

Education and outreach to our members was largely paid for by grants from the State Water Board, the Department of Pesticide Regulation, and the USDA Natural Resources Conservation Service. Additional education and outreach was provided by partnering agencies including the Agriculture Commissioners in San Joaquin and Contra Costa Counties, UC Cooperative Extension, and the Lodi Winegrape Commission.

Income for 2011 was \$736,389.81, about \$220,000 below general fund expenses. This was deemed the most cost effective way to return some of those reserve fund dollars back to you growers. What about the rest of the reserve fund? The fund is designated to hire legal counsel and other unforeseen needs. On your behalf, the Coalition joined with others

across the state to sue the Regional Board for incorrectly completing environmental documentation for the proposed new Long Term Irrigated Lands Program. We have also retained the services of an attorney to help in negotiations of a new waste discharge order for that long-term program. Though we are suing the Regional Board over the new program, we still are required to move forward until the courts makes a determination. And make no mistake, the state is seeking to expand the program and require even more expensive monitoring of groundwater.

### **Vine mealybug**

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dies within a few days to several weeks. Movento has an intermediate runoff risk and a low aquatic toxicity.

Applaud (buprofezin) is an in-

### **Regional Board - nutrient reporting, groundwater monitoring**

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A new groundwater monitoring plan will also have to be developed at growers expense. How and at what cost remains to be determined by the requirements of the Regional Board.

These new regulations are being considered by the Regional Board during the development of new permits for water discharges from agricultural lands. These permits or Waste Discharge Requirements (WDR) will replace the current conditional waiver that farmers operate under and include groundwater.

Each coalition will have individual WDRs that will be unique for the coalition areas. So the San Joaquin County and Delta Water Quality Coalition WDR will be slightly different than the East San Joaquin Coalition. Howev-

sect growth regulator that is most effective against the crawler stage; it is best used twice in the spring.

Neonicotinoids, Imidacloprid (foliar Provado, soil-applied Admire, plus generic products), Clutch, Assail, and thiamethoxam (foliar Actara, soil-applied Platinum) are registered for grapes in California. For foliar applications, only Clutch and to some extent Assail are effective against VMB. Neonicotinoids are most effective when applied through the drip system. In sandy soils, Admire and Clutch can be effective when applied from April through June; Venom (dinotefuran) and Platinum (thiamethoxam) have some efficacy in northern San Joaquin Valley vineyards.

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er, the WDRs will contain many similar requirements throughout the Central Valley.

Since it takes about a year to develop the WDRs and the Regional Board has limited staff to work on the WDRs, they developed a schedule on when each of the Coalition's WDRs will be developed. The Regional Board is in the process of writing the East San Joaquin Water Quality Coalition WDR which covers irrigated lands east of the San Joaquin River within Madera, Merced, Stanislaus, Tuolumne and Mariposa Counties and portions of Calaveras County.

Our Coalition is scheduled to begin working with the Regional Board in September to develop the WDR for our area and be completed by October of 2013. Active participation by our membership in the process is needed.