



Grower-Shipper Association of Central California
“OUR MEMBERS: PARTNERS PRODUCING PROSPERITY”

May 9, 2016

Peter Meertens
Environmental Scientist
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Ste. 101
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RE: Comments on Lower Salinas River Sediment Toxicity TMDL

Peter,

The Pest Management Committee of the Grower-Shipper Association is submitting this letter as a supplement to the Grower-Shipper Association’s March 7 letter on the proposed sediment TMDL’s for pyrethroids, upon your request following a meeting held on March 29. There are 35 members on the committee including pest control advisors, growers, and applicators. A number of committee members have been actively discussing the probable impacts of the implementation of the proposed TMDL’s, and many of us recently attended the UCCE meeting entitled **Pyrethroid Insecticide Use in the Salinas Valley: Facing the Future** held on March 29th in Salinas. The attendees had a chance to discuss in detail the repercussions of implementing the TMDL’s as proposed. There was agreement that this proposed regulation will not only drive up the costs of producing important food crops, but more significantly, would limit the ability to locally produce specialty crops and respond to the dynamics of invasive species and changing market demands

INCREASED COSTS:

Production Costs/Competition/Net Profit

The prospect of higher costs due to more regulation must be addressed. Peak season for growers in this region for crop production coincides with a time of year when nearly every other state that has the capability to grow vegetables is doing so. California growers are already hobbled with higher regulatory costs than most, if not all, of their national and international competitors. Will major retailers such as Kroger or Walmart pay higher prices for California product versus that grown in Colorado, Ohio, New Jersey, New York, Maine or Canada where growers are subject to fewer regulatory constraints? We all know that isn’t how commodity pricing works. The concept of “buy local” is admirable but California growers offer consistency of supply and quality integrated with food safety to compete in this market but competitive pricing is also a factor.

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Regulatory Costs

Taken in isolation, these added costs might appear to be manageable to those not familiar with the high production costs and typically thin profit margins associated with the impacted crops. For example, an average breakeven price for cello wrapped lettuce is close to \$11.50 per carton. This figure includes growing costs, pack charges, cooling and palletization. With retailers forcing a large percentage of product to be sold on contract for an average of about \$12.00 per carton, that leaves less than 50 cents to be split between the grower and the shipper.

It is important to remember that there have already been a host of regulatory costs imposed upon the California agricultural community including water quality requirements in the Ag order, food safety practices through LGMA, pesticide regulations through DPR, etc. As more and more regulatory measures are implemented, we believe the impact has been more pronounced for the small family farmer. By definition, small farmers have fewer units to spread the added costs over and do not have the administrative staff to address regulatory issues. We are seeing continued consolidation in our industry because achieving economies of scale is an effective tactic to deal with increased regulatory compliance measures and reporting requirements. This is happening at both the grower and handler level with the number of leafy greens handlers in California dropping by 20 percent in the last four years. (source: *CA Leafy Greens Research Program*). Information on the number of growers is harder to come by, but we believe it is similar to the handler statistic.

Costs of Mitigation

Citing specific costs increases for mitigation caused by a reduction or elimination of pyrethroid use are difficult to forecast. Some of the mitigation techniques proposed include annually planted cover crops, annually planted grassed filter strips, grassed farm roads, non-engineered grassed waterways, and non-engineered water/sediment control basins. Each of these proposed techniques have inherent costs ranging from seed purchases to earth-moving construction requirements. A major local financial component is the cost of the land required for these projects. The purchase price of agricultural land can exceed \$60,000 per acre with annual rent being more than \$3,000 per acre in parts of the valley. These cost figures do not include the loss of revenue resulting from no crops being grown on this land or the loss of income to the workers involved in producing these crops.

In addition to the vegetative mitigation strategies, the use of PAM (polyacrylamide) has been considered a possible mitigation tool for sediment control. Before adoption can happen, a formulation that is easily injected into pressurized irrigation systems needs to be made available by manufacturers. Michael Cahn, UCCE Farm Advisor, estimates the product cost of \$30/acre for application in the germination water for lettuce

Use of PAM would likely need to be paired with the use of reduced biomass cover crops to ensure that pyrethroids captured by PAM don't wash away during the rainy season.

This represents yet another cost that most growers do not currently incur. Assuming a workable PAM formulation becomes available and including the costs for cover crops this mitigation technique would result in incremental costs of \$78 per acre on 50% of the lettuce acreage just in Monterey County and would represent several millions of dollars increased costs each year.

THE SCIENCE OF DETERMINING PYRETHROID TOXICITY

We have several concerns regarding changes in measurement techniques and numeric standards for pyrethroid toxicity in both sediment and water.

1) We are concerned that scientists reporting on pyrethroids in the environment at the recent UCCE meeting stated that toxicologists are now working with even more sensitive indicator species. As new indicators are adopted for laboratory assessments, growers were cautioned that the allowable thresholds will likely be lowered.

2) New numeric standards are being proposed, such as the UC Davis standards for pyrethroids in water cited in the TMDL. The water column standards in this TMDL, which emphasize “no observable effects” to the most sensitive indicator species, are very different in concept from the standards given for *sediment* pyrethroids within the same TMDL. While the sediment standards emphasize median lethal concentration (LC50) based standards addressing *survival* of the most sensitive indicator species, the water column standards are based on the far more difficult-to-measure concept of “no observable effects.”

3) We are concerned that standards are being set below the practical ability to detect impairment in the actual environment, which means we are also getting below the ability of monitoring to detect improvements.

For those in the industry following this issue, some of the takeaways include a.) the goal for pyrethroids sediment TMDLs is a moving target; b.) the effects of mitigation will be difficult to measure; and c.) the Staff Report is not based on a complete understanding of the nature of the toxicity it attempts to control.

In reality, management practices that reduce but don't completely eliminate pyrethroids from discharged waters can have a highly beneficial effect on the environment. But with ever-changing standards and tolerance levels set so close to zero, expending the time and money to implement those practices could appear to growers to be an exercise in futility, resulting in the conclusion that continued reliance on pyrethroids is not advisable. And since some growers would have to employ an array of expensive mitigation techniques, the right decision from an economic standpoint is to stop using pyrethroids. This would create a cascade of unintended consequences, unfortunately.

DISADVANTAGES OF ALTERNATIVE PEST MANAGEMENT TOOLS

For those opting to discontinue the use of pyrethroids, the alternatives are very problematic. As the availability of crop protection materials becomes more and more limited the alternative materials can have inherent disadvantages. The limitations of alternative materials can include longer pre harvest intervals, longer restricted entry intervals, higher material costs, smaller targeted pest spectrums, need for more frequent applications, buffer zone issues, and per crop active ingredient caps. This is not an all-inclusive list of the unintended consequences but it illustrates the fact that the proposed regulation would represent a reversal of more progressive pest management techniques. Pyrethroids do not biomagnify in the environment, are safely used with little impact on most wildlife, are heavily relied upon in the UC IPM recommendations, and are highly effective. Does it make sense to present new barriers to their usage, considering the alternatives or in many cases the lack of alternatives?

Pest Resistance Management

Additionally, loss of an entire class of insecticides will make management of insect resistance even more difficult than it already is. There has been a concerted effort by The Insecticide Resistance Action Committee (IRAC) for many years to avoid exposing insect pests to a limited number of classes of compounds. This is a recipe for selecting for resistance in the insect population, similar to what happened with the diamondback moth becoming resistant to *Bacillus thuringiensis* or the Colorado Potato Beetle becoming resistant to more than one insecticide. Ideally, insecticides with different modes of action are rotated through the growing cycle so resistance to a particular class of compounds doesn't develop in the insect population. This strategy requires the availability of several different classes of insecticides which will become extremely difficult if pyrethroids are no longer an option.

Management Plans for Invasive Species

As society becomes more mobile and agricultural products from around the world are produced for American consumers, pests from other countries suddenly become a problem in California. A good example is the recently introduced Bagrada Bug. This insect, native to Africa, has decimated Brassica crops like broccoli and kale. With the help of University of California entomologists, management plans have been developed to control this insect. Pyrethroids play a crucial role in this plan and the inability to use them would impose significant losses on both small and large Brassica growers throughout the Central Coast.

Future Alternative Products Are Unlikely

The days when new materials were routinely introduced by chemical manufacturers for rotation in an insect resistance management program are over. The pipeline for new insecticides has diminished to nearly zero. Costs associated with bringing a new molecule to market is so burdensome that registrants have nearly stopped introducing new materials for specialty crops.

Export Challenges

For those unfamiliar with specialty crop production in California, it's natural to think that it should be easy enough to use another type of insecticide if pyrethroids can't be used. Unfortunately, there aren't many new materials being introduced for specialty crops. It's very costly for chemical manufacturers to obtain registrations for use on specialty crops so the economic incentive often doesn't exist in the same way as it does for a material that can be applied to millions of acres of corn or wheat. On the relatively rare occasion when a new material is registered for use on vegetables, our export partners are very slow to adopt residue tolerances, so usage of the new material precludes that crop from being sold to most export markets. To reiterate, the discontinued use of pyrethroids leaves growers and PCA's with few good options and the use of less effective, sometimes broad spectrum, often more expensive chemistries will inevitably increase. There's little reason to think that softer, more environmentally friendly insecticides will be a replacement option.

CONCLUSION:

If the proposed TMDL's are adopted, growers have the following options to consider:

1) Institute new management practices to limit release of pyrethroids from their ranches, the selection of specific mitigation strategies will depend on how well they have been tested and proven effective and affordable.

2) Discontinue use of pyrethroids, similar to the situation that currently exists with chlorpyrifos and diazinon in Region 3 and subsequently be faced with using alternative possibly less effective

chemistries, the risk of development of insect resistance, the risk of crop damage, and the risk of higher costs.

3) Implement a combination of both mitigation and use of other types of insecticides, depending on circumstances.

The final outcome will be farming operations that are less competitive in national and international markets, because of higher costs and reduced efficiencies. Mitigation steps are still being developed and it is difficult to assess specific costs that may or may not be associated with various mitigations such as PAM.


Further, we are unsure about what pyrethroid toxicity is versus what it will be, due to the age of current data, and based upon information presented at a recent Pyrethroid Toxicity workshop.

We encourage the Board to take a step back and think about the huge impact these proposed TMDLs will have. And while we believe we have supplied you with why this regulation will be economically burdensome, we also think that the unintended consequences of increased use of alternative, less effective insecticides that are less crop and pest specific with the diminished effectiveness of integrated pest management is ample reason to conclude that it would be wise to put these plans on hold.

We appreciate the opportunity to make our concerns known.

Respectfully,

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