

Comments of Makhteshim Agan of North America, Inc. (“MANA”)  
on the March 2007 Public Review Draft Staff Report for  
Basin Plan Amendments for the Control of Diazinon and Chlorpyrifos Runoff Into the  
Sacramento and Feather Rivers

April 12, 2007

Introduction

Makhteshim Agan of North America, Inc. (“MANA”) is the sole supplier of technical diazinon used in the United States, and one of several suppliers of technical chlorpyrifos. MANA also maintains both Federal and California registrations for products that incorporate these active ingredients. MANA has been an active participant in the development of amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, and has given particular attention to the provisions of the plan directed towards diazinon and chlorpyrifos.

MANA has attempted to be constructive throughout the process of developing Basin Plan amendments, and offers the additional comments set forth below in the same positive spirit.

MANA Generally Applauds the Staff’s Proposals

As a general matter, MANA applauds the revisions proposed in this Draft Staff Report. MANA brought to the Regional Water Quality Control Board’s attention in 2004 the mathematical reporting error in a key report on which the Board had relied in establishing the current plan provisions, and eagerly has been awaiting the corrective action reflected in this proposal. The levels proposed by the staff (0.16 µg/L acute and 0.10 µg/L chronic), and the related changes to the Basin Plan which the staff now describes, are a considerable improvement over existing provisions.

Of central importance to the reasonableness of the revisions is the proposal to add to Section 7 of the “Regional Water Board Prohibitions” the proposed clarification that “[t]hese prohibitions apply only to dischargers causing or contributing to the exceedence of the water quality objective or loading capacity.” The staff also has appropriately recognized the uncertainties surrounding assertions that very low levels of organophosphate pesticides may have an adverse impact on some endangered or threatened species.

Nonetheless, MANA continues to believe, as it has explained in the past, that it would be more appropriate to set the diazinon acute and chronic water quality objectives at 0.17 µg/L levels that have been endorsed by USEPA. Diazinon is used throughout the United States and overseas, and maintaining harmonized, identical standards throughout the world would simplify stewardship efforts and avoid unnecessary confusion. Moreover, the rationale offered by the Staff for relying on the CDFG’s calculation s –

which produce a different outcome because CDFG excluded two data points – is not reasonable.<sup>1</sup>

### The Proposal Properly Gives Chlorpyrifos and Diazinon Equivalent Regulatory Treatment

MANA concurs with the Staff’s proposed choice of Implementation Framework Alternatives (*i.e.*, Inclusion of Chlorpyrifos into Existing Framework). Growers in the Central Valley have become familiar with that framework, and there is no rational basis to impose different obligations on growers who use chlorpyrifos than on those who use diazinon. It is in the public interest for regulatory agencies to maintain as level a playing field as possible among potentially-competitive products.

### The Chosen Load Allocation Methodology is Appropriate, but Measurement Locations Should be Identified More Clearly in the Basin Plan Itself and The Additivity Formula Should be Revisited

Under the circumstances presented by diazinon and chlorpyrifos usage in the Sacramento and San Joaquin River basins, the load allocation methodology proposed in the Draft Staff Report is reasonable. As noted above, however, a crucial reason for this is the proposed amendment to the “prohibitions” section of the Basin Plan that would confirm that “prohibitions apply only to dischargers causing or contributing to the exceedence of the water quality objective or loading capacity.” In the absence of such a limitation, the proposed approach would be punitive and irrational. (It also is important, of course, to retain the exclusion from the prohibitions for dischargers who are complying with waivers.)

Another key reason for the appropriateness of the chosen load allocation methodology is the Draft Staff Report’s confirmation that compliance is to be determined where flows are “coming into the Sacramento and Feather River from each subwatershed” (p. 88) and that “[t]he only data that would be necessary to assess compliance with the proposed load allocations would be diazinon and chlorpyrifos concentration data at the points of discharge to the Sacramento and Feather Rivers.” (p. 88-89). That is, compliance is not to be measured upstream in tributaries or at the edge of fields that drain into them. *See also* p. 124 (“Water quality monitoring will need to be conducted where tributary waters discharge into the Sacramento and Feather Rivers.”)

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<sup>1</sup> In its recalculation of diazinon criteria, CDFG excluded both the correct *Gammarus fasciatus* toxicity value (2000 ng/L) and a new acute toxicity value for *Gammarus pseudolimnaeus*. In contrast, EPA used both of these values in their recalculation of diazinon criteria. The reasons that CDFG provided for excluding both the *Gammarus* data points are: (1) they could not discern if the higher *G. fasciatus* value was accurate despite documentation to that effect from a senior scientist at the USGS Laboratory where the work was conducted; and (2) ASTM standards for the *G. pseudolimnaeus* test were not followed so the data were rejected. Neither of these points is sufficient to justify exclusion of the data. (It should also be noted that the acute *G. pseudolimnaeus* toxicity value of 16,820 ng/L was published in the peer-reviewed literature. (Hall, L. W. Jr. and R. D. Anderson. 2005. Acute toxicity of diazinon to the amphipod *Grammarus pseudolimnaeus*: Implications for water quality criteria development. Bulletin Environ. Contam. Toxicol. 74: 94-99).)

To avoid any future confusion on this issue, however, it would be helpful to make this point in the Basin Plan itself, just as the point about discharger responsibility is made. A logical place to do so would be in paragraph 3 of the revised “Pesticide Discharges from Nonpoint Sources, Control of Diazinon and Chloropyrifos Runoff into the Sacramento and Feather Rivers,” which appears at the top of page 51 of the Draft Staff Report.

Finally, there appear to be two aspects of the additivity formula discussed at pages 44 and 59 of the draft report that are inappropriate and should be revised.

First, as drafted the principal would be invoked whenever two related pesticides are present in a given water body. This is not logical. It should be invoked where more than one related pesticide has been found to be present in the same sample (either water or sediment). For example, as the plan is written, two samples taken 20 miles apart within the same water body would be evaluated for additive toxicity. This is obviously incorrect, as one cannot assume that these pesticides are co-occurring within the same spatial scale.

Second, the use of water quality objectives in the denominators should be reconsidered. These are inappropriate for this use because these values contain safety factors (final toxicity values are divided by 2). The denominators should be the actual LC50/EC50 values from toxicity tests for the specific pesticides and these acute values for different pesticides should be from similar taxa (*i.e.* fish, invertebrates or plants).

It is also incorrect to assume that additive toxicity exists if reported pesticide concentrations are well below established thresholds.

## CONCLUSION

MANA appreciates the opportunity to provide these comments, and looks forward to continuing to work cooperatively with the Central Valley Water Quality Control Board.

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