REVISED (8/13/2007)

Environmental Analysis for the Proposed Revision to the Pesticide Commitment of the 1994 Ozone SIP for the Ventura County Nonattainment Area

ARB received a number of public comments after the May 7, 2007 release of staff's proposed revision to the Pesticide Commitment of the 1994 Ozone SIP for the Ventura County Nonattainment Area (Ventura). In response to these comments, ARB staff revised the originally proposed SIP revision. The revised proposal is set forth in Appendix H (revised on 8/13/2007) to the Proposed State Strategy for California's SIP for the Federal 8-hour Ozone and PM2.5 Standards (State Strategy).

When the proposed State Strategy was released on May 7, 2007, the potential environmental impacts of the State Strategy were analyzed by ARB staff. The analysis is contained in Appendix E to the State Strategy. Among other things, Appendix E includes an environmental analysis of DPR's 2008 pesticide element of the State Strategy, as well as an analysis of ARB staff's originally proposed SIP revision for Ventura.

ARB staff has now prepared a new environmental analysis for the newly proposed revisions to the Pesticide Commitment of the 1994 Ozone SIP for Ventura. The new analysis is set forth below. Comments received on this new analysis will be summarized and responded to as provided in ARB regulations (title 17, California Code of Regulations, section 60007). Although this is a new analysis for the revised proposal, the analysis also summarizes and responds to comments raising significant environmental issues that are contained in comment letter dated June 12, 2007 and submitted by the Center for Race, Poverty & the Environment (CRPE). CPRE's June 12, 2007 letter asserts that staff's environmental analysis on the originally proposed SIP revision is inadequate for various reasons. Although CPRE's letter is directed to the original proposal, many of CPRE's comments are relevant to the revised as well as the original proposal. Staff therefore believes it is appropriate to respond to these comments in order to provide full public disclosure of potential environmental impacts.

Potential Air Quality Impacts on Ozone Formation

Methyl bromide and methyl isothiocyanate-generating fumigants comprise approximately 50 percent of the pesticide VOC inventory in Ventura. These two fumigants have very low photochemical reactivity, indicating that they do not appreciably contribute to ozone formation. The remaining fumigants used in Ventura have greater photochemical reactivity and do contribute to ozone formation. This means that the proposed SIP revision will result in emissions in 2008 of an additional 0.65 tpd of ROG that will make some contribution to ozone formation.

Preliminary photochemical modeling indicates that Ventura County will need to be reclassified as a serious nonattainment area for the 8-hour ozone standard, which will result in a June 2013 attainment date. Based on the preliminary photochemical modeling, it is apparent that ozone formation in Ventura responds to both NOx and ROG reductions. Consequently, the proposed revision may have a significant adverse impact on air quality in the short term as it may slow down slightly the improvement in ozone levels as compared to fully achieving the pesticide emission reductions in the 1994 Ozone SIP. However, the revised proposal phases out the substitution rapidly over four years and so is structured to ensure that the substitution will not interfere with Ventura's ability to attain the 8-hour ozone standard by the deadline for "serious" nonattainment areas.

Potential Toxic Impacts

Four fumigants accounted for 87% of the pesticide VOC emissions in the Ventura nonattainment area during 2004: 1,3-dichloropropene, chloropicrin, methyl bromide, and metam-sodium. Emissions of these fumigants would be the most impacted by this SIP revision. DPR anticipates a negligible health risk from toxic exposure to the fumigant levels under all of the emission scenarios described in this SIP revision. Complementary regulatory requirements and oversight by three regulatory agencies provide a comprehensive system for protecting people from toxic exposure to fumigants. The U.S. Environmental Protection Agency specifies nationwide restrictions through label requirements. Fumigant labels specify legally binding instructions and restrictions pertaining to storage, disposal, first aid, air concentration limits, methods of application, worker protection, and environmental protection.

In addition to the label requirements, DPR develops and implements more stringent statewide requirements. DPR's statewide requirements for methyl bromide and 1,3-dichloropropene include buffer zones, air concentration or use limits, application method restrictions, and worker protection provisions (Title 3, California Code of Regulations, Sections 6450, 6450.1, 6450.2, 6450.3; DPR 2002). As described below, DPR is in the process of assessing the risk and developing mitigation measures for chloropicrin and metam-sodium. All four fumigants are "restricted materials" in California. As restricted materials, they require a permit issued by the county agricultural commissioner prior to use and can only be applied under the supervision of a certified applicator. State law requires county agricultural commissioners to evaluate local conditions prior to issuing restricted materials permits. Based on his evaluation of local conditions, the Ventura County agricultural commissioner includes additional restrictions on the permits for chloropicrin and metam-sodium. These permit conditions include buffer zones, tarpaulins for chloropicrin applications, and sprinkler systems for metam-sodium to be used in the event odors are detected (Ventura County Agricultural Commissioner).

The statewide requirements described above are the result of DPR's comprehensive risk assessment and risk management process. This process includes a toxicological and exposure evaluation, and mitigation as toxic air contaminants. DPR has completed risk assessments for 1,3-dichloropropene, methyl bromide and metam-sodium (as the methyl isothiocyanate breakdown product) (DPR 1997; Lim 2002; Rubin 2002). The risk assessment for chloropicrin is in progress. As part of the risk management process, DPR has identified acceptable exposure levels for 1,3-dichloropropene, methyl bromide, and methyl isothiocyanate-generating pesticides, based on the toxicology evaluation in the risk assessment. As described above, DPR has implemented statewide requirements for 1,3-dichloropropene and methyl bromide. DPR has proposed mitigation measures for methyl isothiocyanate-generating pesticides and plans to implement regulatory requirements later in 2007 (DPR 2007). The statewide requirements for these fumigants are designed to meet the acceptable exposure levels. The Ventura nonattainment area is one of the highest use counties for fumigants, and is an area that DPR closely evaluates. As part of its efforts to evaluate the effectiveness of the statewide regulatory requirements, the ARB (at the request of DPR) conducted monitoring in Ventura during 2005 and 2006. Results of the monitoring show that air concentrations of 1,3-dichloropropene and methyl bromide are acceptable (Table 1). The Office of Environmental Health Hazard Assessment (OEHHA) recommended a lower acceptable concentration for methyl bromide and the measured concentrations also meet these levels. Air concentrations should be lower than shown here once DPR's VOC regulations are implemented, under all of the emission scenarios described in this SIP revision.

Table 1. Methyl bromide and 1,3-dichloropropene air monitoring in Ventura during 8-week summer peak use season.

	Measured Concentration (ppb)		Acceptable Concentration (ppb)	
	2005	2006	DPR	OEHHA
Methyl bromide				
Average of 5 sites	0.24	0.64	9.00	1.00
Highest site	0.39	0.88	9.00	1.00
1,3-dichloropropene				
Average of 5 sites	0.90	0.45	26.00	
Highest site	2.33	0.84	26.00	

Potential Impacts on Ozone Depletion

Methyl bromide is an ozone depleting substance, and its production and importation are regulated under the Clean Air Act. Under the proposal, it is estimated that 0.6 tons per day more methyl bromide would be allowed from field fumigation in Ventura in 2008 than would be allowed under the 1994 Plan. Though methyl bromide is an ozone depleting substance, this revision will not have a significant adverse impact on the ozone layer. Ozone depletion is not a

localized effect, and the additional methyl bromide permitted in Ventura County under the revision is negligible, approximately 0.0003 percent of the worldwide methyl bromide emissions. Also, it is likely that if the proposal were not adopted, additional methyl bromide emissions prohibited in Ventura would be allocated elsewhere in the country.

The cumulative impact of methyl bromide emission on ozone depletion is addressed by the Montreal Protocol, which is implemented in the United States by U.S. EPA under Title VI of the federal Clean Air Act. U.S. EPA limits the total amount of methyl bromide consumed in the United States. The U.S. EPA has steadily decreased the amount of methyl bromide allowed as alternatives become available.

Potential Impacts on Global Climate Change

Methyl Bromide has a Global Warming Potential (GWP) of 5**,** which is five times the global warming potential of carbon dioxide but approximately one-fifth of the GWP of methane. Methyl bromide (CH3Br) has an atmospheric lifetime of approximately 0.7 year. The proposed addition of less than 0.5 tpd methyl bromide, to be eliminated by 2012, is too small to have a significant adverse impact on climate change.

Other Environmental Impacts

Except for the impacts discussed above, staff has not identified any other significant environmental impacts that would result from the proposed SIP revision.

Project Alternatives

ARB staff evaluated the following alternatives to the proposed SIP revision.

Alternative 1 – No Project

CEQA documents typically contain an evaluation of the “no project” alternate. In this case, the “no project” alternative means that the ARB would not adopt the SIP revision and that an additional 1.3 tpd of pesticide emission reductions would occur in Ventura from implementation of DPR’s pesticide regulations. As discussed in Appendix H, staff is not recommending this alternative because it would have serious adverse economic impacts on agriculture in Ventura. Staff believes that avoiding these agricultural impacts outweighs the slight negative impact on ozone air quality discussed above.

Alternative 2 – Substitute ROG reductions of less than 1.3 tpd

Instead of providing ROG reductions of 1.3 tpd, ARB could provide lesser supplemental reductions of 1.0 tpd of ROG starting in 2008 with a phase down into 2012. This would make up part of the shortfall from DPR's 2008 pesticide regulation. In order to mitigate the remaining 0.3 tpd of ROG, farmers would have to take agricultural fields out of production or use fewer pesticides, which would result in a loss in yield and farmland. Staff is not recommending this alternative because of the greater economic impacts associated with reduced productions or yield.

Alternative 3 – Substitute ROG reductions of 1.3 tpd with no gradual phase-down prior to 2012

This alternative would provide the same immediate relief from the potential economic impacts of reduced production or yield, but would continue that relief indefinitely compared to staff proposal. Research is currently underway to improve application methods. Within one to two years, advanced application methods could reduce ROG emissions from pesticides and provide the necessary reductions for Ventura's ozone attainment in 2012. Nevertheless, staff is not recommending this alternative because it does not ensure that the significant adverse impact on air quality in the short term is fully mitigated by 2012.

Alternative 4 – Substitute ROG reductions of 1.9 tpd

This alternative would provide ROG substitution of 1.9 tpd, which is the maximum amount of surplus ROG reductions that exists from ARB's on-road motor vehicle program. Some persons who commented believe that 1.9 tpd for ROG substitution is necessary to fully mitigate the impacts on agriculture of DPR's proposed pesticide regulation. These persons believe that DPR's proposed estimate of a 1.3 tpd shortfall is too low because of their estimates of the recent growth in fumigated acreage.

Staff is not recommending this alternative because DPR estimates that a 1.3 tpd substitution is sufficient to meet the 1994 SIP obligation.

Feasible Mitigation Measures

As described above, the proposed SIP revision may have a significant short-term adverse impact on air quality, since it may slightly slow down improvement in ozone levels in Ventura. The previous section describes the alternatives to the proposed SIP revision that were evaluated by staff, and explains that staff was not able to identify any feasible alternatives that would substantially reduce the potential adverse impacts of the SIP revision while at the same time achieving its benefits.

Staff also evaluated measures to mitigate the air quality impacts of the proposed SIP revision. Staff was unable to identify any feasible mitigation measures that would substantially reduce these impacts, while at the same time achieving the benefits of the SIP revision. However, it should be noted that the proposed SIP revision does incorporate mitigation measures that were not part of the original proposal released for public comment on May 7, 2007. The original proposal was to substitute 1.0 tpd of surplus ROG emission reductions in Ventura for 1.0 tons of pesticide emissions. This was a long-term substitution with no termination date and no phase-out schedule. Staff's revised proposal incorporates a phase-out schedule and a 2012 termination date in order to mitigate the air quality impacts of the SIP revision. The effect of the provisions on air quality is described in detail in Appendix H.

Cumulative Impacts

Staff has also considered the potential cumulative impacts of the proposed SIP revision. With respect to air quality, evaluating cumulative impacts essentially means that the impact of an extra 1.3 tons of ROG emissions must be considered in combination with other sources of ROG emissions in the Ventura County Nonattainment Area. The nature of the photochemical modeling done for Ventura County analyzes the cumulative impacts of all know ROG emission on ozone formation. Consequently, staff did a cumulative analysis when determining the effect of the proposed SIP revision on ozone formation and attainment in Ventura.

Summaries and Responses to Significant Environmental Issues

Following are summaries and ARB staff's responses to the environmental issues raised in the June 12, 2007 comment letter submitted by the Center for Race, Poverty & the Environment (CRPE).

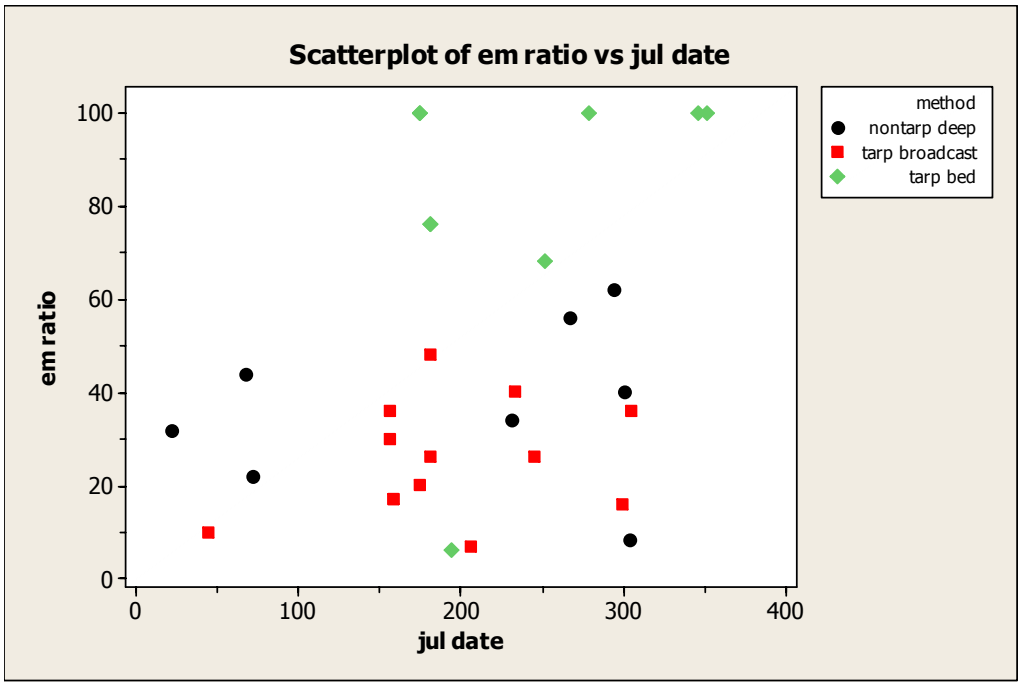
Comment in Section II, page 4: "…the AMAFs are based on unrepresentative field fumigation studies conducted in other states under cool soil conditions, which do not provide an accurate estimate of emissions from California fumigations conducted at high temperatures in the Central Valley during the peak ozone season from May to October. Studies conducted under worst-case scenarios have been excluded from the group of studies on which the regulation is based."

Response: We have included in this analysis those studies that have been reviewed and accepted as sufficient quality to provide reliable results. The studies were conducted at a variety of locations under a variety of meteorological conditions and over the entire year. The variety of locations, application methods, and meteorological conditions are varied in large part due to the

diverse nature of agriculture in California. The current set of studies used in this analysis is the database available.

We agree in concept that temperature is important. However, DPR's work with methyl bromide applications throughout the year found that winter applications can show high flux, high emissions, and high air concentrations. In fact, analysis of the relationship between Julian date of the application (as a surrogate for temperature) and the percentage of emissions (emission ratio) for monitored applications shows no significant relationship between emissions and day of application. A measurable temperature effect should be clearly discernable by a regression analysis. Thus, a simple, clear relationship between temperature and flux is not supported by the DPR methyl bromide database. More likely many factors act together and, thus, the more global approach that DPR has taken to estimating the AMAF's is more appropriate.

A plot of the methyl bromide emission ratios is shown below. Note the complete lack of trend for the tarp broadcast data. In particular, the February 13, 1997 application has an emission ratio of 9.8%. This could be argued to support the low temperature, low flux theory. However, the July 25, 1998 application shows an emission ratio of 6.8%. It is also clear the tarp bed application method shows a high emission ratio no matter when the application is made. In fact, the tarp bed applications in December show a 100% emission ratio, similar to those applications made in June and October. The methyl bromide database is the largest available and likely reflects trends in flux and emission ratios for other fumigants.



Comment: The memorandum from Susan Kegley to Brent Newell, dated June 12, 2007, recommends "Base emission estimates on all available studies with valid experimental procedures that are relevant to the currently allowable applications methods."

The memorandum provides four examples of unrepresentative and excluded studies. "For example, the chloropicrin fumigation that was conducted in Washington State was done on a night that the air temperature actually dropped below freezing. It is very likely that the low emission rate observed for this fumigation had nothing to do with the application method and everything to do with the fact that the air temperature was nine degrees below freezing."

Response: This comment inaccurately reports the study results and does not mention that the 33.8% emissions shown in the Washington results is similar to the 36.5% emissions shown in the Florida results. The temperature during the day when the application was actually made was 57 degrees F. The temperature on the night immediately following the application was 46 degrees F. The night air temperatures during the majority of the study were above 37 degrees F and the maximum night temperature was 57 degrees F. The average night air temperature was 40 degrees F. The average day air temperature was 48 degrees F. When "…*air temperature was nine degrees below freezing…,"* this event occurred 2 weeks following the application during the second to last sampling interval. By that sampling interval the majority of the 34% of applied mass lost was already measured. The 33.8% emissions shown in Washington results are similar to 36.5% emissions shown in the Florida results. These were both broadcast tarp applications. The air temperatures during the Florida study were 15 to 20 degrees F warmer yet the mass loss results are similar to the Washington study. Thus, the commenter's views are not supported by the data.

Comment: "None of the chloropicrin studies were conducted in California… Soil type is one of the factors that controls the amount of fumigant released from the soil during a fumigation..."

Response: It is true that none of the chloropicrin studies were conducted in California. We agree in concept that soil type is among many factors that has an effect on emissions. In fact, the Arizona studies were conducted on sandy soil that in concept could result in a higher loss than most soils in California. However, we will reiterate that DPR has taken a global approach to estimating the AMAF's for several reasons including the lack of studies to quantify what are essentially small scale refinements of the AMAF's and the fact that when the AMAF's are used to estimate the total VOCs the scale is very large. There is no practical way to incorporate soil type into the estimates.

Comment : "In contrast, industry studies with glaring experimental errors were accepted for use in the emission estimates. For example, the soil study used to estimate emissions from "standard sprinkler" applications of metam sodium, had

samplers placed nearly perpendicular to the wind direction, thus ensuring the maximum concentrations could not be measured."

Response: No studies with "*glaring experimental errors*" were used in the AMAF development. It is true that the standard sprinkler study, and also the standard shank study, had a sampler layout that was not optimal. The sampler layout was an attempt to capture the predominant wind direction. However, studies conducted over several days typically have no true predominant wind direction. It should be noted that both studies were done according to Good Laboratory Practices and were submitted, accepted, and used to characterize off-site exposure by the U.S. Environmental Protection Agency (U.S. EPA) in their Metam Sodium Risk Assessment. Thus, both U.S. EPA and DPR have reviewed these studies. Further, the layout of the samplers in both those studies actually caused very high emission estimates to be obtained for some sampling intervals due to inherent shortcomings of the computer model. As a result, the emissions estimated from those studies may be overestimated, not underestimated as the commenter suggests.

Comment: "Studies like this should be discarded in preference to studies with valid experimental procedures such as the ARB/DPR study conducted in 1993 where the experiment was done correctly and captures the representative emissions from a worst-case scenario application. In the current emission estimate, this ARB study is not used."

Response: The 1993 ARB/DPR study is not used for several reasons:

1) The study was not designed to estimate flux:
   a) Only four samplers were used, one on each side of the field for an 84 acre field. This is not sufficient to characterize the flux.
   b) Only summarized weather data was available, no on-site weather data was reported.
   c) The sampling intervals span sunrise and sunset. In order to accurately estimate emissions, the sampling periods must separate the day and night periods.

2) There are significant events that cast doubt on the reported air concentrations:
   a) Samples from sampling periods 3 and 4 were left in an ice chest over the weekend in air temperatures over 100 degrees F. No dry ice was left in the ice chest by the time the samples were retrieved. Therefore, those samples are not valid.
   b) The west sample from sampling period 5 was left by mistake in the freezer for 10 weeks and then analyzed. The storage stability over 10 weeks was not evaluated.

Comment in Section II, page 4: …"natural variability in flux rates (the rate at which the fumigant escapes from the soil) is large, thus a single study – or even several studies – will not provide an accurate estimate of actual emissions."

The memorandum from Susan Kegley to Brent Newell, dated June 12, 2007, recommends "Use high-end emission estimates from these studies to estimate VOC emissions during the summer ozone season."

Response: We agree that the variability in flux rates (emissions) between applications is large. For fumigants and application methods with multiple studies, the standard deviations of the emissions are approximately 50%. DPR has chosen to use the average flux rates to estimate emissions for three reasons. First, the emission inventory represents the aggregate emissions from all agricultural and structural pesticide applications within a region over several months. The average flux rates represent the most accurate estimate of aggregate emissions. Second, all pesticide applications included in DPR's inventory represent their most accurate and consistent estimate of emissions, for both the base year and subsequent years. Using a consistent method to estimate emissions is essential for making relative comparisons and determining compliance with the SIP commitments. Using the most accurate estimates for some applications and high-end estimates for other applications would skew the inventory and make relative comparisons unreliable. Third, even if high-end emission estimates were to be used, they would affect both current emissions and emissions for the 1991 base year. Estimates of the 1991 base year emissions are generally more uncertain than current emissions. Therefore, it would probably be appropriate to apply a larger uncertainty factor to the 1991 base year than current emissions, and the emission reductions achieved would be larger than currently estimated using the average flux rates.

Comment: The memorandum from Susan Kegley to Brent Newell, dated June 12, 2007, recommends "Determine 4-hour and 8-hour averages and use them to estimate peak ozone-forming emissions."

Response: Data is not available for all but a few pesticides to determine 4-hour or 8-hour peak emissions. Using a consistent method to estimate emissions is essential for making relative comparisons and determining compliance with the SIP commitments. Using peak emissions for some, but not all applications would skew the inventory and make relative comparisons unreliable.

Comment in Section II, page 4: "DPR has not presented any evidence supporting its estimates of historical fumigant application methods, nor has it made public the details of the process by which this information was obtained."

Response: DPR provided a detailed explanation of its method for determining the frequency of use of historical fumigant application methods in its memorandum

from Barry, Spurlock, and Segawa to Sanders, dated April 6, 2007. The explanation from this memorandum is excerpted here.

In California, all agricultural and commercial pesticide applications must be reported. County agricultural commissioners and DPR compile these PURs into a database. The PUR database includes the identity of the product applied, the amount applied, location, date, crop/site treated, and other information. DPR uses the pounds of product applied recorded in the PUR database to calculate the VOC emissions for each pesticide application included in the pesticide VOC emission inventory. The PUR database contains general information about the application method (i.e. air, ground, or other), but it does not indicate the specific application method. Therefore, another adjustment is needed to account for the use of each fumigant application method.

In general, different crops use different fumigant application methods. Roush (2006) found that the different nonattainment areas have different crops responsible for the majority of pesticide VOC emissions. Therefore, each nonattainment area should have a different set of adjustment factors to characterize the use of fumigant application methods. While the application method depends on the crop to be planted, other factors such as soil type, cost, and equipment availability also influence the choice of application method. For example, strawberries always use a shallow application method. However, the tarp broadcast and tarp bed application methods are both commonly used for strawberries, and these application methods have different emissions. Therefore, the type of crop is an unreliable surrogate to identify the fumigant application method in some cases.

DPR proposes to use a variety of methods to estimate the use of each of the fumigant application methods (method use fraction). The method for 1,3-D is the most accurate. As required under DPR's 1,3-D management plan, the registrants maintain records of the specific application method for all 1,3-D applications. Johnson (2006) describes the May–October method use fractions, based on the registrants' data.

Lawson (2006) provides a survey of metam-sodium practices by several dozen growers and applicators in certain areas of the state. This survey includes a compilation of the application methods. The survey includes specific information for three nonattainment areas, as well as the top ten counties. DPR uses the percentage breakdown described in Lawson (2006) on the use of the various metam-sodium applications for the San Joaquin Valley, Southeast Desert, and Ventura nonattainment areas. DPR uses the breakdown for the top ten counties described in Lawson (2006) as a surrogate for the Sacramento Metro nonattainment area, and Ventura as a surrogate for the South Coast nonattainment area.

Similar to the approach described by Stangellhini (2006a, 2006b; Appendix 1), DPR uses information from the PURs to estimate the May–October method use fractions for methyl bromide and chloropicrin based on the following assumptions:

- For 1990/91 methyl bromide and chloropicrin applications, all row, vegetable, and nursery crops (except strawberries) were fumigated using a shallow injection broadcast method with a high permeability tarpaulin or no tarpaulin.
- For 1990/91 methyl bromide and chloropicrin applications, one-half of the strawberry applications were conducted with a shallow injection broadcast method and a high permeability tarpaulin, and one-half of the strawberry applications were conducted with a shallow injection bed method and a high permeability tarpaulin.
- For 1990/91 methyl bromide and chloropicrin applications, all tree and vine crops were fumigated using a deep injection method with a high permeability tarpaulin or no tarpaulin.

Comment in Section III.A., page 8: "it is inconceivable for the Environmental Impact Analysis to assert that an increase in toxic fumigant use will have no impact on the environment."

Comment in Section III.A.1., page 8: "Substantial evidence shows that neither DPR regulations nor EPA labeling requirements adequately prevent acute or chronic health impacts."

Comment: The memorandum from Anne Katten to Brent Newell and Susan Kegley, dated June 6, 2007, states that for methyl bromide "OEHHA has recommended that regulations should be designed to reduce sub-chronic exposure of the general public and adjust workers below 1 ppb and 2 ppb respectively to prevent neurobehavioral effects, while DPR's current regulations are only designed to control exposures to 9 ppb for the general public and 16 ppb for fumigation workers."

Response: These comments are addressed in the section of this Environmental Analysis entitled "Potential Toxic Impacts."

Comment in Section III.A.2, page 9: "Substantial evidence demonstrates that fumigants cause acute chronic impacts to human health and to threatened and endangered species." "These fumigants also may inflict substantial harm on the California red-legged frog, which is found in Ventura County and listed endangered under the federal Endangered Species Act."

Response: Pesticide use restrictions implemented under a court injunction and order specifically address red-legged frog populations. On October 20, 2006, the U.S. District Court for the Northern District of California imposed no-use buffer zones around California red–legged frog upland and aquatic habitats for certain pesticides. This injunction and order will remain in effect for 66 pesticides (including the fumigants 1,3-dichloropropene and metam-sodium) until the U.S. Environmental Protection Agency goes through formal consultation with the Fish and Wildlife Service on each of the 66 pesticides, and the Fish and Wildlife

Service issues a Biological Opinion including a “not likely to adversely affect” statement for the pesticides. Under the injunction and order, no-use buffer zones of 60 feet for ground applications and 200 feet for aerial applications apply from the edge of California red-legged frog habitats, including habitats in Ventura County.

Specifically for Ventura County, California Red-legged frogs occur in three Critical Habitat units: Ventura 1 – Matilija Creek, Ventura 2 – San Antonio Creek, and Ventura 3 – Piru Creek as designated by the U.S. Fish & Wildlife Service in 2006. Additional habitat is found within one Non-critical Habitat Section near the southeast corner of the county. During 2001 – 2005, there was no reported use of 1,3-dichloropropene, chloropicrin, metam-sodium, or methyl bromide within a one mile of any of the habitats, well outside the 60-foot or 200-ft buffers required under the court order. DPR’s evaluation, in consultation with California Department of Fish and Game, indicates that non-target wildlife exposure to these fumigants in Ventura.

References

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