

Summary of Assembly Bill 1807/3219

PESTICIDE AIR MONITORING RESULTS

Conducted by the
California Air Resources Board
1986-1995

By

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EXECUTIVE SUMMARY
of Report EH 95-10 Entitled
"Summary of Assembly Bill 1807/3219
Pesticide Air Monitoring Results
Conducted by the
California Air Resources Board
1986 to 1995"

Environmental Hazards Assessment Program
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Division of Enforcement, Environmental Monitoring, and Data
Management

PURPOSE

This document summarizes all the pesticide air monitoring data that have been collected and published in reports by the California Air Resources Board (ARB) from 1986 to 1995. This document does not include subsequent monitoring conducted by DPR. The monitoring conducted under 1807 provides data to initially assess the hazards of the pesticides monitored.

BACKGROUND

As required by California's air toxics law (Assembly Bill 1807),¹ the Department of Pesticide Regulation (DPR) uses pesticide monitoring data from ARB, information from any prior monitoring studies, and

¹California's air toxics law, Assembly Bill 1807 (Chapter 1047, Statutes of 1983, and amended by Assembly Bill 3219, Chapter 1380, Statutes of 1984), defines California's air toxics program (Health and Safety Code Sections 39650 *et seq.*, Food and Agriculture Code Sections 14021 *et seq.*).



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toxicological data on health effects to determine whether certain pesticides pose a potential threat to public health and should be identified as toxic air contaminants (TACs). To ensure that those pesticides of most concern are evaluated first, the air toxics law requires that the following criteria be used for prioritizing compounds: risk of harm to public health, amount of pesticide used (based on use reports and sales records), manner of usage in California, and persistence in the atmosphere. DPR has developed a list of pesticides that are candidates for evaluation using these mandated criteria. DPR selects pesticides from this list and asks ARB to conduct air monitoring. DPR then conducts preliminary reviews of ARB data to determine if a potential public health concern exists and whether immediate action is needed to reduce public exposure. This is followed by a comprehensive risk assessment prepared by DPR in consultation with the Office of Environmental Health Hazard Assessment. If a pesticide is identified as a TAC, DPR will evaluate current public exposure and any need for changes in the way the pesticide is used to reduce public exposure.²

In addition to Assembly Bill 1807, there are other regulatory authorities which allow DPR to move quickly if the health hazard warrants it. If high levels of a pesticide are detected in air and the Director of DPR determines that these levels present an unacceptable risk, the Director may use his/her authority to immediately suspend or modify use of the pesticide. (See "Conclusions" below.)

STUDY METHODS

ARB measures outdoor concentrations of pesticides in the air at DPR's request. For each pesticide being evaluated, concentrations are measured in the ambient community air and in the air near an

²The statutes do not specify any required activities for pesticides identified as TACs pursuant to Food and Agriculture Code Section 14021 (b) .

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application. In general, the monitoring is done in a county of high use, during the season of peak use. After DPR asks ARB to monitor for a particular pesticide, DPR staff notifies the county agricultural commissioner. After this initial contact, ARB staff contacts the county agricultural commissioner's office to receive specific information on the location and timing of anticipated applications, as well as names of applicators or growers likely to be using the particular pesticide.

For ambient measurements, monitoring is done at three to five sites (*e.g.*, at schools) near agricultural areas expected to receive applications of the pesticide being monitored. Samples of 24 hours in duration are collected four days per week for about four weeks. Samples are also collected at urban background sites away from pesticide applications.

In addition, application-site monitoring (*e.g.*, sampling before and after application) is also done for 72 hours around a field during and after an application of the pesticide. Prior to this application-site monitoring, ARB staff contacts applicators or growers to request access to their land to monitor near an upcoming application of the pesticide. Following the monitoring, results are given to DPR, Office of Environmental Health Hazard Assessment, the county agricultural commissioner, the county air pollution control officer, and the applicator or grower (in the case of application-site monitoring).

RESULTS

From 1986 to 1995, ARB has conducted ambient air monitoring for 20 pesticides and 5 primary pesticide degradation products in 10 counties. Values are reported as the maximum positive detections for each chemical. These values range from 0.001 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$ or 0.102 parts per trillion) for methyl parathion in Sutter County to 161 $\mu\text{g}/\text{m}^3$ (35 parts per billion) for

1,3-dichloropropene in Merced County. Application-site monitoring for 17 pesticides and 4 primary pesticide degradation products was conducted in 12 counties from 1986 to 1995. The values range from $0.09 \mu\text{g}/\text{m}^3$ (0.01 parts per billion) for a monocrotophos application to cotton in Fresno County to $3,493 \mu\text{g}/\text{m}^3$ (900 parts per billion) for a methyl bromide application to strawberries in Monterey County.

CONCLUSIONS

Data received from ARB are reviewed immediately by DPR; DPR uses this preliminary review to determine if these levels may pose significant risk. The majority of pesticides for which ARB has conducted ambient or application-site air monitoring have been detected at levels subsequently determined not to pose an immediate risk to human health by this preliminary DPR review. When the air concentrations are high and the Director determines that they present an immediate and unacceptable risk, the Director may immediately suspend or modify use of the pesticide.

It is important to remember that a chemical does not need to follow the lengthy Assembly Bill 1807 process for DPR to determine that it presents a threat to public health at levels found in air. There are two recent examples. (1) In 1990 during air monitoring for the TAC candidate 1,3-dichloropropene (also known as 1,3-D or Telone®), a widely used soil fumigant, ARB found air concentrations determined by DPR to pose a significant risk to human health. DPR immediately notified the county agricultural commissioners of this finding and recommended that all permits be suspended. No permits were issued until limited reintroduction occurred in 1995. This limited use was reinstated under strictly controlled conditions that are protective of worker and public health. (2) Another example is metam-sodium, although it was not originally part of the Assembly Bill 1807 process. Applied to moist soil, metam-sodium degrades rapidly to methyl isothiocyanate (MITC), which is the pesticidal active agent, and several minor breakdown products including hydrogen sulfide and

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carbon disulfide. In 1993 residents in Contra Costa County living near fields treated with metam-sodium reported odor, eye and nose irritation, headache, nausea, and sore throats. In response to these problems and at DPR's urging, chemical companies amended all agricultural use metam-sodium labels on pesticide products. Users are required to comply with the instructions for safe handling and use in the Technical Information Bulletin (TIB) which was developed by chemical companies and DPR. The TIB instructions are now part of the registered label in California; therefore, following these instructions is required by law. California is the only state which requires that TIB instructions be part of the registered label for metam-sodium. In response to residents' concerns, ARB conducted monitoring in Contra Costa County and ARB and DPR conducted monitoring in Kern County to obtain air data for MITC emissions. In 1994 the agricultural uses of metam-sodium and MITC were designated as California Restricted Materials.³

This action was based on monitoring data developed during the summer of 1993 by DPR.⁴ The data showed that levels of MITC capable of causing eye irritation were detectable outside the boundaries of treated fields under certain application and weather conditions. DPR also developed suggested permit conditions, including using buffer zones, which county agricultural commissioners require agricultural production users to follow. DPR continues to evaluate the success of the permit conditions in minimizing exposure.

³Title 3, California Code of Regulations, Section 6400.

⁴Wofford, P., K.P. Bennett, J. Hernandez and P. Lee. 1994. Air Monitoring for Methyl Isothiocyanate During a Sprinkler Application for Metam-Sodium. Report Number EH 94-02. California Department of Pesticide Regulation, Sacramento, California

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Other laws and regulations may impact the status of a pesticide in the Assembly Bill 1807 review process. Pesticides may be canceled or have their uses severely restricted by the U.S. Environmental Protection Agency, or may be withdrawn from use by the registrant. In these cases, there is no further evaluation of the pesticide as a TAC. Examples of pesticides in this category are maneb, ethylene dibromide, ethylene dichloride, carbon tetrachloride, captafol, and monocrotophos. Use of maneb has been severely reduced, and all uses of the other pesticides have been canceled; therefore, there will be no further evaluation of these pesticides as TACs. Two other pesticides, molinate and DEF (s,s,s-tributyl phosphorothioate), are still in the Assembly Bill 1807 evaluation process; however, levels found in air led DPR to conclude that they posed a significant risk to human health. This determination led DPR to establish mitigation measures, including buffer zones, to reduce human exposures until the Assembly Bill 1807 evaluation of molinate and DEF has concluded.



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DISCLAIMER

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I. BACKGROUND

Legislation passed in 1983 and 1984 established a regulatory framework for the identification and control of toxic air contaminants. Assembly Bills 1807 and 3219, referred to collectively as AB 1807, mandate that the Department of Pesticide Regulation (Food & Agr. Code, § 14021 et seq.) and the Air Resources Board (Health and Saf. Code, § 39650 et seq.) declare and regulate toxic air contaminants "...which may pose a present or potential hazard to human health". The Air Resources Board (ARB) is responsible for regulating toxic air contaminants in their industrial applications. The Department of Pesticide Regulation (DPR) has jurisdiction over the regulation of the use of pesticides in the production of food, fiber, forest products, ornamental horticulture, and for other uses that include structure, home, and landscape maintenance.

Pursuant to the requirements of AB 1807, DPR may request ARB to monitor concentrations of pesticides in the ambient community air. DPR may also request ARB to monitor near applications if adequate data are not available. In making these requests, DPR outlines the physical characteristics of pesticides, describes use patterns, and includes monitoring recommendations that pinpoint commodities, counties, and seasons where highest use occurs.

The resulting monitoring data is used with data from prior air monitoring studies and toxicological data on health effects to determine if any pesticide is a potential threat to human health and should be declared a toxic air contaminant. If a pesticide is identified as a toxic air contaminant, DPR determines the need for and degree of control measures to reduce public exposure. Control measures may include label amendments, applicator training, restrictions on use patterns or locations, changes in

application procedures, cancellation of registration, and reclassification as a restricted material. The use of a restricted material is governed by regulations which prescribe the time when and the conditions under which use or possession may occur so that there is no danger or hazard to public health, the environment, animals, or crops.

II. THE MONITORING PROGRAM

ARB coordinates all sampling for both ambient and application monitoring through the local county agricultural commissioner's Office and the local air quality management district or air pollution control district. For application monitoring, monitoring sites are arranged through the cooperation of applicators, growers or owners. Ambient monitoring sites are selected through the cooperation of private companies or government agencies. All monitoring activities are done according to protocols based on guidelines developed by ARB.

A. Monitoring Equipment

Monitoring consists of passing measured quantities of ambient air through a Teflon® or glass fiber filter and/or adsorbent. The adsorbent is typically charcoal or XAD resin and is housed inside Teflon® or glass tubes. The adsorbent tubes generally consist of a primary and secondary section or two separate tubes connected in series. This is done to check for breakthrough of the absorbed pesticide from the primary resin trap to the secondary resin trap. The samplers are designed to operate continuously and are arranged in a "train" design. Each sampling train consists of the resin tubes covered by a shield for protection against sunlight, a rain cover, flow meter with valve, a train support, and an AC- or DC- powered vacuum pump.

The tubes are prepared for use by breaking off each sealed glass end with immediate insertion into the Teflon® filter fitting. The sample pumps are started and the flow of air through the flow meter is adjusted for the desired measured flow of air. At the end of each sampling period, the stop date and time are recorded. The filters and/or tubes are removed from the sample train, sealed, and then labeled for identification. The filters and/or tubes are stored in iced containers (with wet or dry ice, depending on the stability of the pesticide) until delivered to a laboratory for analysis.

B. Ambient Air Monitoring

Ambient monitoring for a pesticide is conducted in a county of high use during a season of peak use. Three to five monitoring sites are located near agricultural areas expected to receive applications of the pesticide. For security purposes, the air samplers at these sites are usually located atop public buildings such as schools, fire stations, or local government facilities. Duplicate samples are collected at a minimum of three different sites. One of the monitoring sites is an urban background site located away from any expected applications. The background sample represents a low probability of finding the pesticide. If significant levels of the pesticide are detected, this may indicate a high probability of public exposure. In general, samples for ambient air monitoring are collected over 24-hour periods, four samples per week for four weeks.

C. Application Monitoring

Samplers for application monitoring are generally placed on each side of the field at a distance of about 15 to 20 meters from the edge of the field. Duplicate samples collected downwind at the sampling site are expected to receive the highest concentrations. A meteorological station is placed on-site to record wind speed and direction data. In some cases, temperature and humidity data

are also recorded.

The sampling schedule for application monitoring is as follows:

- A minimum 1-hour background sample within 24 hours prior to application.
- A combined sample consisting of sampling during and 1 hour after application.
- A 2-hour sample from 1 to 3 hours after application.
- A 4-hour sample from 3 to 7 hours after application.
- An 8-hour sample from 7 to 15 hours after application.
- A 9-hour sample from 15 to 24 hours after application.
- Two consecutive 24-hour samples starting at the end of the 9-hour sample.

III. AMBIENT AND APPLICATION MONITORING RESULTS

Pesticide concentrations are reported in units of micrograms or nanograms of pesticide per cubic meter of air ($\mu\text{g}/\text{m}^3$ or ng/m^3) and parts per billion or trillion (ppb or ppt). The conversion from units of $\mu\text{g}/\text{m}^3$ to ppb at standard temperature and pressure is calculated with the following equation:

$$\text{ppb} = \mu\text{g}/\text{m}^3 \times (24.46/\text{pesticide molecular weight})$$

When necessary, minimum detection limits were calculated by dividing the amount of pesticide detected by the volume of air sampled in m^3 .

Ambient air monitoring for 20 pesticides and 5 primary pesticide degradation products was conducted in 10 counties from 1986 to 1995. The maximum positive detection for each pesticide or degradation product is listed in Table 1. These maxima ranged from 0.001 $\mu\text{g}/\text{m}^3$ (0.102 ppt) for methyl parathion in Sutter County to 161 $\mu\text{g}/\text{m}^3$ (35.5 ppb) for 1,3-dichloropropene in Merced County.

Application monitoring for 17 pesticides and 4 primary pesticide degradation products was conducted in 12 counties from 1986 to 1995. The results are summarized in Table 2. Maximum positive detections ranged from 0.09 $\mu\text{g}/\text{m}^3$ (0.01 ppb) for a monocrotophos application to cotton in Fresno County to 3493 $\mu\text{g}/\text{m}^3$ (900 ppb) for a methyl bromide application to strawberries in Monterey County.

Copies of the ARB documents summarized in this report are available upon request from:

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A. Azinphos-methyl

Azinphos-methyl (Guthion[®]) is a nonsystemic insecticide used to control sucking and chewing insects (aphids, mites, grasshoppers, armyworms, etc.) on a variety of fruits, field crops, vegetables, ornamentals, and nuts. In 1994, it was most widely used in California on almonds (192,739 pounds), pears (62,318 pounds), and walnuts (59,276 pounds). Azinphos-methyl is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from June 22 through July 16, 1987, at five sites in Kern County. The background site was located at the ARB air monitoring station in Bakersfield. Monitoring was scheduled to coincide with expected applications to almond orchards. The monitoring results are summarized in Table 3. Maximum positive detections ranged from 0.028 $\mu\text{g}/\text{m}^3$ (2.2 ppt) at the Shafter School District Office and Bakersfield background site to 0.11 $\mu\text{g}/\text{m}^3$ (8.4 ppt) at the Pond School site. Over 69 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.022 $\mu\text{g}/\text{m}^3$; 1.7 ppt for a 24-hour sample).

Application monitoring was conducted in July 1994 before, during, and for 72 hours after an application to a walnut orchard in Glenn County. Azinphos-methyl was aerially applied at the rate of 2 pounds of active ingredient per acre. The monitoring results are summarized in Tables 4a and 4b. Positive detections at each field sampling site occurred only during one sampling interval (during and one hour after application), and ranged from 0.69 $\mu\text{g}/\text{m}^3$ (0.05 ppb) to 1.7 $\mu\text{g}/\text{m}^3$ (0.13 ppb). Nearly 87 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.08 $\mu\text{g}/\text{m}^3$; 0.01 ppb for a 12-hour sample).

B. Benomyl

Benomyl (Benlate®) is a systemic foliar fungicide used to control a wide range of diseases in field crops, mushrooms, fruits, nuts, ornamentals, and turf. The greatest use in California in 1994 was on almonds (55,548 pounds). Benomyl is not regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from February 8 through March 3, 1988, at four sites in Kern County. The background site was located at the ARB air monitoring station

in Bakersfield. Monitoring was scheduled to coincide with applications to almond orchards. The results are summarized in Table 5. Maximum positive detections ranged from 0.05 $\mu\text{g}/\text{m}^3$ (4.2 ppt) at the Browning Road School site to 0.15 $\mu\text{g}/\text{m}^3$ (13 ppt) at the Bakersfield background site. Nearly 95 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.05 $\mu\text{g}/\text{m}^3$; 4.2 ppt for a 24-hour sample).

Application monitoring was conducted in February 1995 before, during, and for 72 hours after an application to an almond orchard in Kern County. Benomyl was applied by an airblast sprayer at the rate of 0.66 pounds of active ingredient per acre. The results are summarized in Tables 6a and 6b. All 32 samples analyzed had no detectable residues (minimum detection limit = 0.22 $\mu\text{g}/\text{m}^3$; 0.02 ppb for an 8-hour sample).

C. Bromoxynil

Bromoxynil (Buctril®) is a selective, contact herbicide used for post-emergence control of annual broad-leaved weeds in crops such as small grains (wheat, barley, oats), alfalfa, and garlic. In California, the greatest use in 1994 was on wheat (45,995 pounds). Bromoxynil is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from January 6 through February 2, 1988, at four sites in Imperial County. The background site was located at the El Centro Air Pollution Control District Office. Monitoring was conducted to coincide with anticipated applications for the control of certain broadleaf weeds. The results are summarized in Table 7. Maximum positive detections ranged from 0.02 $\mu\text{g}/\text{m}^3$ (2.2 ppt) at the Brawley Post Office site to 0.04 $\mu\text{g}/\text{m}^3$ (3.5 ppt) at the Calipatria Fire Department site. Of the total number of samples

analyzed, 88 percent had no detectable residues (minimum detection limit = $0.007 \mu\text{g}/\text{m}^3$; 0.618 ppt for a 24-hour sample).

Application monitoring was conducted in January 1995 before, during, and for 72 hours after an application to an onion field in Imperial County. Bromoxynil was applied by tractor at the rate of 0.25 pounds of active ingredient per acre. The results are summarized in Tables 8a and 8b. All 45 samples analyzed had no detectable residues (minimum detection limit = $0.11 \mu\text{g}/\text{m}^3$; 0.01 ppb for a 3.5-hour sample).

D. Captan/THPI (Tetrahydrophtalimide)

Captan (Orthocide®) is a fungicide used to control fungal diseases in a wide variety of crops. It is applied as a foliar spray, a preplant soil treatment, or as a seed treatment. In 1994, the greatest use in California was on almonds (336,134 pounds), prunes (76,680 pounds), and strawberries (61,497 pounds). The primary degradation product is THPI. Captan is regulated as a restricted material in California.

Ambient air monitoring for captan and THPI was conducted four days a week from May 11 through June 4, 1993, at three sites in Kern County. The background site was located at the ARB air monitoring station in Bakersfield. Monitoring was scheduled to coincide with expected applications to grape vineyards. The results are summarized in Tables 9a and 9b. All samples analyzed had no detectable residues of captan or THPI (captan minimum detection limit = $0.013 \mu\text{g}/\text{m}^3$; 1.1 ppt, THPI minimum detection limit = $0.026 \mu\text{g}/\text{m}^3$; 4.3 ppt for 24-hour samples).

Application monitoring for captan and THPI was conducted in May 1993 before, during, and for 72 hours after an application to a grape vineyard in Tulare County. Captan was applied by ground equipment at the rate of 3.9 pounds of active ingredient per

acre. The results are summarized in Tables 10a, 10b, 10c and 10d. Maximum positive detections for captan at each site ranged from 0.28 $\mu\text{g}/\text{m}^3$ (0.02 ppb) to 0.47 $\mu\text{g}/\text{m}^3$ (0.04 ppb). More than 95 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.013 $\mu\text{g}/\text{m}^3$; 1.1 ppt for a 24-hour sample). All samples analyzed for THPI had no detectable residues (minimum detection limit = 0.026 $\mu\text{g}/\text{m}^3$; 4.3 ppt for a 24-hour sample).

E. Carbofuran

Carbofuran (Furadan[®]) is an insecticide/acaricide/nematicide used to control soilborne and foliar insects in a variety of crops. In California, the greatest use in 1994 was on alfalfa (114,804 pounds), grapes (66,490 pounds), and rice (66,053 pounds). Carbofuran is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from February 14 through March 10, 1995, at five sites in Imperial County. The background site was located at the El Centro Air Pollution Control District Office. Monitoring was scheduled to coincide with expected application to alfalfa. The monitoring results are summarized in Table 11. Maximum positive detections ranged from 0.014 $\mu\text{g}/\text{m}^3$ (1.5 ppt) at the El Centro background site to 0.11 $\mu\text{g}/\text{m}^3$ (12.1 ppt) at the monitoring station in Brawley. More than 76 percent of the total number of sample analyzed had no detectable residues (minimum detection limit = 0.012 $\mu\text{g}/\text{m}^3$; 0.001 ppt for a 24-hour sample).

Application monitoring was conducted in March and April 1993 before, during, and for 72 hours after an application to an alfalfa field in Imperial County. Carbofuran was applied with a boom sprayer at the rate of 0.63 pounds of active ingredient per acre. The results are summarized in Tables 12a and 12b. Maximum

positive detections throughout the monitoring period ranged from 0.12 $\mu\text{g}/\text{m}^3$ (0.01 ppb) to 0.66 $\mu\text{g}/\text{m}^3$ (0.07 ppb). Of the total samples analyzed, 10 percent had no detectable residues (minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$; 0.005 ppb for a 24-hour sample).

F. Chloropicrin

Chloropicrin (Chlor-O-Pic®) is a tear gas used as a soil and commodity fumigant. It is also combined with other fumigants to act as a warning agent. The greatest use in California in 1994 was on strawberries (1,888,547 pounds). Chloropicrin is regulated as a restricted material in California.

Ambient air monitoring for chloropicrin was conducted four days a week from August 26 through September 18, 1986, at three sites in Monterey County. Monitoring was scheduled to coincide with anticipated applications to control nematodes in strawberry fields. The background site was located at Peninsula Hospital in Monterey. The results are summarized in Table 13. Maximum positive detections ranged from 0.38 $\mu\text{g}/\text{m}^3$ (57.2 ppt) at the Elkhorn School site to 4.6 $\mu\text{g}/\text{m}^3$ (681 ppt) at the Aromas School site. More than 78 percent of the total samples analyzed had no detectable residues (minimum detection limit = 0.087 $\mu\text{g}/\text{m}^3$; 0.013 ppb for a 4-hour sample).

Application monitoring was conducted in September 1986 before, during, and for four days after an application to strawberry fields in Monterey County. Chloropicrin was injected into the soil at the rate of 95 pounds of active ingredient per acre. The results are summarized in Table 14. Maximum positive detections at each site ranged from 4.9 $\mu\text{g}/\text{m}^3$ (0.73 ppb) to 160 $\mu\text{g}/\text{m}^3$ (23.8 ppb). Approximately 17 percent of the total samples analyzed had no detectable residues (minimum detection limit = 0.087 $\mu\text{g}/\text{m}^3$; 0.013 ppb for a 4-hour sample).

G. Chlorothalonil

Chlorothalonil (Bravo[®], Daconil 2787[®]) is used to control fungal diseases in a wide variety of crops. In 1994, the greatest use in California was on tomatoes (205,971 pounds), celery (83,480 pounds), and onions (80,652 pounds). Chlorothalonil is not regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from January 8 through February 2, 1990, at three sites in Ventura County. The background site was located at the Ventura Air Pollution Control District Office. Monitoring was scheduled to coincide with expected applications to celery. The results are summarized in Table 15. The maximum positive and second highest positive detections were 0.005 $\mu\text{g}/\text{m}^3$ (0.46 ppt) and 0.004 $\mu\text{g}/\text{m}^3$ (0.40 ppt), respectively, at the Camarillo Animal Control Shelter site. Nearly 96 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.004 $\mu\text{g}/\text{m}^3$; 0.0004 ppb for a 24-hour sample).

Application monitoring was conducted during February 1992 before, during, and for 72 hours after an application to a celery field in Ventura County. Chlorothalonil was aerially applied at the rate of 1 pound of active ingredient per acre. The results are summarized in Tables 16a and 16b. Maximum positive detections at each site ranged from 0.034 $\mu\text{g}/\text{m}^3$ (0.003 ppb) to 0.158 $\mu\text{g}/\text{m}^3$ (0.014 ppb). Twenty-five percent of the total number of samples analyzed had no detectable pesticide residues (minimum detection limit = 0.004 $\mu\text{g}/\text{m}^3$; 0.0004 ppb for a 4-hour sample).

H. DEF (S,S,S-tributyl phosphorotrithioate)

DEF (Folex[®]) is a plant growth regulator primarily used as a harvest aid to defoliate cotton. In 1994, over 913,668 pounds were used in California on cotton. DEF is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from August 31 through November 4, 1987, at four sites in Fresno County. The background sites were located at the ARB air monitoring stations in Fresno and Bakersfield. Monitoring was scheduled to coincide with expected cotton defoliation activities. The results are summarized in Table 17. Maximum positive detections ranged from 0.005 $\mu\text{g}/\text{m}^3$ (0.4 ppt) at the Fresno background site to 0.33 $\mu\text{g}/\text{m}^3$ (26.0 ppt) at the West Side Field Station site. Twenty-two percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.001 $\mu\text{g}/\text{m}^3$; 0.08 ppt) for a 24-hour sample.

I. 1,3-Dichloropropene

1,3-Dichloropropene (Telone®) is a pre-plant soil fumigant used to control nematodes and soilborne insects. In California, the greatest use in 1994 was on research commodities.

1,3-Dichloropropene is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from April 2 through May 4, 1990, at four sites in Merced County. The background site was located at the Merced Air Pollution Control District Office. Monitoring was scheduled to coincide with expected soil fumigations for sugar beets and sweet potatoes. The results are summarized in Table 18. Maximum positive detections ranged from 3.2 $\mu\text{g}/\text{m}^3$ (0.70 ppb) at the Merced background site to 160.7 $\mu\text{g}/\text{m}^3$ (35.4 ppb) at the Hilmar Jr. High School site. Over 35 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.1 $\mu\text{g}/\text{m}^3$; 0.02 ppb for a 24-hour sample).

J. Ethyl parathion

Ethyl parathion (Bladan®) is a non-systemic insecticide used to control sucking and chewing insects in a wide variety of crops.

It is also used to control nematodes in beets and ornamentals. Ethyl parathion is no longer registered for use in California. It was listed as a toxic air contaminant on October 7, 1993.

Ambient air monitoring was conducted January 7 through 29, 1986, in Fresno County, January 28 through February 12, 1986, in Kern County, and September 29 through October 24, 1986, in Imperial County. The background sites were located at the ARB air monitoring stations in Fresno and Bakersfield, and the El Centro Air pollution Control District Office. The minimum detection limit for all analyses was $0.01 \mu\text{g}/\text{m}^3$ (0.84 ppt) for a 24-hour sample. The results for Fresno County are summarized in Table 19. Maximum positive detections ranged from $0.02 \mu\text{g}/\text{m}^3$ (1.70 ppt) at the Fresno background site to $0.82 \mu\text{g}/\text{m}^3$ (69.09 ppt) at the Kearny Field Station in Parlier. More than 40 percent of the total samples analyzed had no detectable residues. The results for Kern County are summarized in Table 20. Maximum positive detections ranged from $0.01 \mu\text{g}/\text{m}^3$ (1.29 ppt) at the city works building in Delano to $0.09 \mu\text{g}/\text{m}^3$ (7.34 ppt) at the city hall in McFarland. More than 76 percent of the total samples analyzed had no detectable residues. The results for Imperial County are summarized in Table 21. Maximum positive detections ranged from $0.01 \mu\text{g}/\text{m}^3$ (1.2 ppt) at the background site in El Centro to $0.14 \mu\text{g}/\text{m}^3$ (12.0 ppt) at the Calipatria Fire Department. Over 43 percent of the total samples analyzed had no detectable residues.

K. Mancozeb

Mancozeb (Dithane M-45®) is a foliar fungicide used to protect a wide variety of crops against diseases such as blight, rust, leaf spot, and downy mildew. In 1994, the greatest use in California was on grapes (131,712 pounds), potatoes (81,472 pounds), and tomatoes (63,144 pounds). Mancozeb is not regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from April 20 through May 7, 1993, at four sites in Kern County. The background site was located at the ARB air monitoring station in Bakersfield. The results are summarized in Table 22. All 57 samples analyzed had no detectable residues (minimum detection limit = $0.025 \mu\text{g}/\text{m}^3$; 0.002 ppb for a 24-hour sample).

Application monitoring was conducted in May 1993 before, during, and for 72 hours after application to a potato field in Kern County. Mancozeb was aerially applied at the rate of 1.6 pounds of active ingredient per acre. The results are summarized in Tables 23a and 23b. Maximum positive detections at each site ranged from $0.29 \mu\text{g}/\text{m}^3$ (0.02 ppb) to $1.81 \mu\text{g}/\text{m}^3$ (0.13 ppb). Approximately 46 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = $0.15 \mu\text{g}/\text{m}^3$; 0.01 ppb for a 4-hour sample).

L. Metam-sodium /MITC

Metam-sodium (Vapam®) is a soil fumigant used to control fungi, soil insects, weed seeds, nematodes, and bacteria. In 1994, the greatest use in California was on tomatoes (3,291,423 pounds) and carrots (2,161,054 pounds). It rapidly breaks down in water to MITC, which also has pesticidal activity. Metam-sodium and MITC are regulated as restricted materials in California.

Ambient air monitoring for MITC was conducted for a two-week period during July, 1993 at four sites in Kern County. The background site was located at the ARB air monitoring station in Bakersfield. Monitoring was scheduled to coincide with expected applications of metam-sodium in the vicinity. The results are summarized in Table 24. Maximum positive detections ranged from $2.2 \mu\text{g}/\text{m}^3$ (0.73 ppb) at the school district office site in Shafter to $18.0 \mu\text{g}/\text{m}^3$ (6.02 ppb) at the Vineland School site in Bakersfield. Over 12 percent of the total samples analyzed had

no detectable residues (minimum detection limit = 0.01 $\mu\text{g}/\text{m}^3$; 0.003 ppb for a 24-hour sample).

Application monitoring was conducted in March 1993 before, during, and for 72 hours after an application to tomato fields in Contra Costa County. Metam-sodium was applied by ground equipment at the rate of 57 pounds of active ingredient per acre. The results are summarized in Tables 25a and 25b. Maximum positive detections of MITC during application at each site ranged from 70.5 $\mu\text{g}/\text{m}^3$ (23.6 ppb) to 242 $\mu\text{g}/\text{m}^3$ (81.0 ppb). Over 12% of the total samples analyzed had no detectable residues (minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$; 0.006 ppb for a 12-hour sample). Application monitoring was also conducted in July, 1993 after an application to carrot fields in Kern County. Metam-sodium was applied by ground equipment at the rate of 155 pounds of active ingredient per acre. The results are summarized in Tables 26a and 26b. Maximum positive detections of MITC at each site ranged from 200 $\mu\text{g}/\text{m}^3$ (67.0 ppb) to 880 $\mu\text{g}/\text{m}^3$ (290 ppb). All of the samples analyzed had detectable residues (minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$; 0.006 ppb for a 12-hour sample).

Although the data described here were not collected due to a request for monitoring of metam-sodium under AB 1807, DPR has accepted these data and will use them in the AB 1807 process.

M. Methidathion/Methidaoxon

Methidathion (Supracide®) is a non-systemic insecticide/ acaricide used to control sucking and chewing insects for a wide variety of crops. The greatest use in California in 1994 was on almonds (107,060 pounds) and oranges (82,407 pounds). The primary degradation product is methidaoxon. Methidathion is regulated as a restricted material in California.

Ambient air monitoring for methidathion and methidaoxon was conducted four days a week from June 27 through July 25, 1991, at four sites in Tulare County. The background site was located at the ARB air monitoring station in Visalia. Monitoring was scheduled to coincide with anticipated applications to orange groves. The results are summarized in Tables 27a and 27b. Maximum positive detections of methidathion ranged from $0.07 \mu\text{g}/\text{m}^3$ (5.6 ppt) to $0.56 \mu\text{g}/\text{m}^3$ (45.3 ppt). More than 91 percent of the total samples analyzed had no detectable residues (minimum detection limit = $0.03 \mu\text{g}/\text{m}^3$; 0.002 ppb for a 24-hour sample). Maximum positive detections of methidaoxon were $0.092 \mu\text{g}/\text{m}^3$ (7.9 ppt) and $0.10 \mu\text{g}/\text{m}^3$ (8.5 ppt). Over 97 percent of the total samples analyzed had no detectable residues (minimum detection limit = $0.09 \mu\text{g}/\text{m}^3$; 0.008 ppb for a 24-hour sample).

Application monitoring for methidathion and methidaoxon was conducted in July 1991 before, during, and for 72 hours after an application to an orange grove in Tulare County. Methidathion was applied by ground equipment at the rate of 1.5 pounds of active ingredient per acre. The results are summarized in Tables 28a, 28b, 28c and 28d. Maximum positive methidathion detections at each site ranged from $0.28 \mu\text{g}/\text{m}^3$ (0.02 ppb) to $3.16 \mu\text{g}/\text{m}^3$ (0.25 ppb). Almost 48 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = $0.01 \mu\text{g}/\text{m}^3$; 0.81 ppt for a 24-hour sample). Maximum positive methidaoxon detections at each site ranged from $0.33 \mu\text{g}/\text{m}^3$ (0.028 ppb) to $0.36 \mu\text{g}/\text{m}^3$ (0.031 ppb). More than 76 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = $0.09 \mu\text{g}/\text{m}^3$; 0.008 ppb for a 24-hour sample).

N. Methomyl

Methomyl (Lannate®) is a systemic insecticide used to control a broad spectrum of insects for field crops, vegetables,

ornamentals, and certain fruit crops. In 1994, the greatest use in California was on lettuce (142,068 pounds) and alfalfa (92,398 pounds). Methomyl is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from August 3 through August 28, 1987, at 5 sites in Fresno County. The background site was located at the ARB air monitoring station in Fresno. Monitoring was scheduled to coincide with expected applications to grape vineyards and alfalfa. The results are summarized in Table 29. None of the 98 samples analyzed had detectable residues (minimum detection limit = $0.02 \mu\text{g}/\text{m}^3$; 0.003 ppb for a 24-hour sample).

Application monitoring was conducted in September 1989 before, during, and for 72 hours after an application to a lettuce field in Fresno County. Methomyl was applied by ground equipment at the rate of 0.5 pound of active ingredient per acre. The results are summarized in Tables 30a and 30b. All 20 samples analyzed had no detectable pesticide residues (minimum detection limit = $0.19 \mu\text{g}/\text{m}^3$; 0.03 ppb for a 9-hour sample).

O. Methyl bromide

Methyl bromide (Meth-O-Gas[®], Terr-O-Gas[®]) is a gaseous fumigant used in the soil and on a wide variety of commodities. In California, the greatest use in 1994 was on strawberries (4,134,633 pounds). Methyl bromide is regulated as a restricted material in California.

Ambient air monitoring was conducted four days a week from August 26 through September 18, 1986, at three sites in Monterey County. The background site was located at the Peninsula Hospital in Monterey. Monitoring was scheduled to coincide with expected applications to strawberry fields. The results are

summarized in Table 31. A maximum positive of $4.38 \mu\text{g}/\text{m}^3$ (1.13 ppb) was detected at the Aromas School site. Nearly 99 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = $4.27 \mu\text{g}/\text{m}^3$; 1.1 ppb for a 4-hour sample).

Application monitoring was conducted in September 1986 before, during, and for 4 days after an application to strawberry fields in Monterey County. Methyl bromide was injected into the soil at the rate of 194 pounds of active ingredient per acre. The results are summarized in Table 32. Maximum positive detections at each site ranged from $815 \mu\text{g}/\text{m}^3$ (210 ppb) to $3493 \mu\text{g}/\text{m}^3$ (900 ppb). More than 33 percent of the total number of samples analyzed had no positive residues (minimum detection limit = $4.3 \mu\text{g}/\text{m}^3$; 1.1 ppb for a 4-hour sample).

P. Methyl parathion/Methyl paraoxon

Methyl parathion (Penncap-M®) is a non-systemic insecticide/acaricide used to control sucking and chewing insects. In 1994, the greatest use in California was on peaches (28,217 pounds) and rice (23,503 pounds). The primary degradation product is methyl paraoxon. Methyl parathion is regulated as a restricted material in California.

Ambient air monitoring for methyl parathion and methyl paraoxon was conducted four days a week from May 12 through June 12, 1986, at four sites in Sutter and Colusa Counties. The background site was located at the U.C. Davis campus. Monitoring was scheduled to coincide with anticipated applications to rice for the control of tadpole shrimp. The results are summarized in Tables 33a and 33b. Maximum positive methyl parathion detections ranged from $0.72 \text{ ng}/\text{m}^3$ (0.067 ppt) at the Robbins School site in Sutter county to $25.7 \text{ ng}/\text{m}^3$ (2.39 ppt) at the Maxwell High School site in Colusa county. Over 58 percent of the total number of samples

analyzed had no detectable residues (minimum detection limit = 0.2 ng/m³; 0.02 ppt for a 24-hour sample). Maximum positive detections of methyl paraoxon in Colusa County ranged from 1.12 ng/m³ (0.11 ppt) at the Williams city hall to 4.95 ng/m³ (0.49 ppt) at Maxwell High School. More than 75 percent of the total number of samples analyzed had detectable residues (minimum detection limit = 0.5 ng/m³; 0.05 ppt for a 24-hour sample). There were no detectable residues in Sutter County samples.

Application monitoring was conducted in May 1989 before, during, and for 72 hours after an application to a rice field in Sutter County. Methyl parathion was aeriually applied at the rate of 1.5 pounds of active ingredient per acre. The results are summarized in Tables 34a and 34b. Maximum positive detections at each site ranged from 0.28 µg/m³ (25.8 ppt) to 0.51 µg/m³ (47.7 ppt). Over 83 percent of the total samples analyzed had no detectable residues (minimum detection limit = 0.009 µg/m³; 0.84 ppt for a 24-hour sample).

Q. Molinate

Molinate (Ordram®) is a selective, postemergence herbicide used primarily to control broad-leaved weeds in rice. In 1994, 1,540,143 pounds was used on rice in California. Molinate is regulated as a restricted material in California.

Ambient air monitoring was conducted during May 1992 at two sites in Colusa County. Monitoring was scheduled to coincide with applications to rice fields. The results are summarized in Table 33. Maximum positive detections ranged from 0.50 µg/m³ (0.06 ppb) at the Williams Fire Station site, to 1.17 µg/m³ (0.15 ppb) at the Maxwell Fire Station site. All of the samples analyzed had detectable residues (minimum detection limit = 0.0014 µg/m³; 0.18 ppt for a 24-hour sample).

Application monitoring was conducted in May 1992 before, during, and for 72 hours after an application to a rice field in Colusa County. Molinate was aerially applied at the rate of 5 pounds of active ingredient per acre. The results are summarized in Tables 36a and 36b. Maximum positive detections at each site ranged from $1.32 \mu\text{g}/\text{m}^3$ (0.17 ppb) to $22.6 \mu\text{g}/\text{m}^3$ (2.95 ppb). Over 16% of the total samples analyzed had no detectable residues (minimum detection limit = $0.0014 \mu\text{g}/\text{m}^3$; 0.18 ppt for a 24-hour sample).

R. Monocrotophos

Monocrotophos (Azodrin®) is a contact and systemic insecticide/acaricide used to control sucking, chewing, and boring insects on a wide variety of crops. It is no longer registered for use in California.

Ambient air monitoring for was conducted four days a week from May 12 through June 9, 1988, at 4 sites in Fresno County. The background site was located at the ARB air monitoring station in Fresno. Monitoring was scheduled to coincide with applications to cotton. The results are summarized in Table 35. None of the 118 samples analyzed had detectable residues (minimum detection limit = $0.005 \mu\text{g}/\text{m}^3$; 0.55 ppt for a 24-hour sample).

Application monitoring was conducted on June 14, 1988, before, during, and for 9 hours after an application to a cotton field in Fresno County. The results are summarized in Tables 38a and 38b. Maximum positive detections at each site were $0.073 \mu\text{g}/\text{m}^3$ (8.1 ppt) and $0.11 \mu\text{g}/\text{m}^3$ (12.0 ppt). Of the total samples analyzed, 20 percent had no detectable residues (minimum detection limit = $0.005 \mu\text{g}/\text{m}^3$; 0.55 ppt for a 2-hour sample).

S. Naled/Dichlorvos

Naled (Dibrom®) is a non-systemic insecticide/acaricide used on a wide variety of crops. In 1994, the greatest use in California was on cotton (746,722 pounds), grapes (21,374 pounds), and oranges (19,016 pounds). The primary degradation product is dichlorvos. Naled is not regulated as a restricted material in California.

Ambient air monitoring for naled and dichlorvos was conducted four days a week from May 9 through June 6, 1991, at four sites in Tulare County. The background site was located at the ARB air monitoring station in Visalia. Monitoring was scheduled to coincide with expected applications to orange groves. The results are summarized in Tables 39a and 39b. Maximum positive naled detections ranged from 0.06 $\mu\text{g}/\text{m}^3$ (3.8 ppt) at the Kaweah High School site to 0.077 $\mu\text{g}/\text{m}^3$ (4.9 ppt) at the background site in Visalia. More than 86 percent of the total samples analyzed had no detectable residues (minimum detection limit = 0.04 $\mu\text{g}/\text{m}^3$; 2.6 ppt for a 24-hour sample). Maximum positive detections of dichlorvos ranged from 0.024 $\mu\text{g}/\text{m}^3$ (2.7 ppt) at the Jefferson School site in Lindsay to 0.059 $\mu\text{g}/\text{m}^3$ (6.5 ppt) at Kaweah High School in Exeter. Over 86 percent of the total number of samples analyzed had detectable residues (minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$; 2.2 ppt for a 24-hour sample).

Application monitoring for naled and dichlorvos was conducted in June 1995 before, during, and for 72 hours after an application to an orange grove in Tulare County. Naled was applied by an air-blast sprayer at the rate of 0.9 pounds of active ingredient per acre. The results are summarized in Tables 40a, 40b, 40c, and 40d. Maximum positive naled detections at each site ranged from 0.45 $\mu\text{g}/\text{m}^3$ (0.07 ppb) to 6.30 $\mu\text{g}/\text{m}^3$ (0.405 ppb). Fifteen percent of the total samples analyzed had no detectable residues (minimum detection limit = 0.003 $\mu\text{g}/\text{m}^3$; 0.19 ppt for a 10-hour

sample). Maximum positive detections of dichlorvos at each site ranged from 0.40 $\mu\text{g}/\text{m}^3$ (44.3 ppt) to 0.99 $\mu\text{g}/\text{m}^3$ (109 ppt). Fifteen percent of the total number of samples analyzed had no detectable residues (minimum detection limit = 0.006 $\mu\text{g}/\text{m}^3$; 0.66 ppt for a 5-hour sample).

T. Paraquat

Paraquat (Gramoxone®) is a non-selective herbicide used to control broad-leaved weeds and grasses. It is also used as a pre-harvest defoliant for cotton and hops. The greatest use in California in 1994 was on cotton (337,050 pounds). Paraquat is regulated as a restricted material in California.

Ambient air monitoring for paraquat was conducted four days a week from August 31 through November 5, 1987, at four sites in Fresno County. Background sites were located at the ARB air monitoring stations in Fresno and Bakersfield. Monitoring was scheduled to coincide with applications to cotton. The results are summarized in Table 41. None of the 318 samples analyzed had detectable residues (minimum detection limit = 0.022 $\mu\text{g}/\text{m}^3$; 2.1 ppt for a 24-hour sample).

U. Sodium arsenite

Sodium arsenite (Chem Pels C®) is an inorganic arsenical with fungicidal properties. It is also used as a contact herbicide. Sodium arsenite is no longer registered for use in California.

Ambient air monitoring was conducted four days a week from February 17 through March 20, 1987, at four sites in the Lodi area of San Joaquin County. The background site was located at the Agricultural District Office in Lodi. Monitoring was scheduled to coincide with expected applications to Tokay grapes. The results are summarized in Table 42. Maximum positive detections ranged from 0.006 $\mu\text{g}/\text{m}^3$ (1.1 ppt) at the Lodi

background site to $0.076 \mu\text{g}/\text{m}^3$ (14.3 ppt) at the Victor Fire Station site. More than 63 percent of the total samples analyzed had no detectable residues (minimum detection limit = $0.001 \mu\text{g}/\text{m}^3$; 0.19 ppt for a 24-hour sample).

Application monitoring was conducted in March 1987 before, during, and for 2 hours after an application to a Tokay grape vineyard in the Lodi area of San Joaquin County. The results are summarized in Tables 43a and 43b. The only positive detections from the two samplers were $0.26 \mu\text{g}/\text{m}^3$ (0.049 ppb) and $0.25 \mu\text{g}/\text{m}^3$ (0.047 ppb). More than 33 percent of the total samples analyzed had no detectable residues (minimum detection limit = $0.03 \mu\text{g}/\text{m}^3$; 5.6 ppt for a 1-hour sample).

V. Ziram

Ziram (Ziram 76®) is a foliar fungicide used on a wide variety of crops to control such diseases as leaf spot, downy mildew, and rust. In California, the greatest use in 1994 was on almonds (768,110 pounds). Ziram is not regulated as a restricted material in California.

Application monitoring was conducted in March 1994 before, during, and for 72 hours after an application to an almond orchard in Butte County. Ziram was applied by an air-blast sprayer at the rate of 4.6 pounds of active ingredient per acre. The results are summarized in Tables 41a and 41b. Maximum positive detections at each site ranged from $0.146 \mu\text{g}/\text{m}^3$ (0.012 ppb) to $2.26 \mu\text{g}/\text{m}^3$ (0.181 ppb). More than 55 percent of the total number of samples analyzed had no detectable residues (minimum detection limit = $0.028 \mu\text{g}/\text{m}^3$; 2.24 ppt for a 12-hour sample).

Table 1. Summary of AB 1807 ambient air monitoring results. The approximate sampling schedule consisted of 24-hour samples taken over a four week period.

Pesticide	County	Sampling Dates	Maximum Positive		2 nd Highest Positive		MDL ^c ($\mu\text{g}/\text{m}^3$)	# Samples	# Above MDL
			$\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt			
Azinphos-methyl	Kern	6-7/87	0.11	8.4	0.076	5.9	0.022	170	52
Benomyl	Kern	2-3/88	0.15	13.0	0.06	5.1	0.05	78	4
Bromoxynil	Imperial	1-2/88	0.04	3.2	0.03	2.3	0.007	75	9
Captan/ THPI ^d	Kern	5-6/93	ND ^e	ND	ND	ND	0.013	70	0
Carbofuran	Imperial	2-3/95	0.11	12.1	0.084	9.3	0.012	82	19
Chloropicrin	Monterey	8-9/86	4.6	681	1.9	279	0.087	184	40
Chlorothalonil	Ventura	1-2/90	0.005	0.46	0.004	0.4	0.004	120	5
DEF ^f	Fresno	8-11/87	0.33	26.0	0.30	23.3	0.001	326	254
1,3-Dichloropropene	Merced	4-5/90	161	3548	72.4	0.016	0.10	99	64
Ethyl parathion ^g	Fresno	1/86	0.82	69.09	0.68	57.45	0.01	122	73
	Kern	1-2/86	0.09	7.34	0.07	6.04	0.01	80	19
	Imperial	9-10/86	0.14	12.0	0.09	7.6	0.01	81	46
Mancozeb	Kern	4-5/93	ND	ND	ND	ND	0.025	57	0
Methidathion/ Methidaoxon	Tulare	6-7/91	0.56	45.3	0.30	24.2	0.03	81	7
			0.10	8.5	0.092	7.9	0.09	81	2
Methomyl	Fresno	8/87	ND	ND	ND	ND	0.02	98	0
Methyl bromide	Monterey	8-9/86	4.38	1133	4.38	976	4.27	184	2
Methyl parathion/ Methyl paraoxon	Colusa	5-6/86	0.025	0.002	0.021	0.002	0.0002	98	67
			0.005	0.49	0.003	0.31	0.0005	98	40
	Sutter	5-6/86	0.001	0.102	0.001	0.102	0.0002	81	20
			ND	ND	ND	ND	0.0005	81	0
MITC	Kern	7/93	18	6021	17.0	5687	0.01	32	28
Molinate	Colusa	5/92	1.17	153	0.90	117	0.0014	10	10
Monocrotophos ^g	Fresno	5-6/88	ND	ND	ND	ND	0.005	118	0
Naled/ Dichlorvos	Tulare	5-6/91	0.077	4.9	0.065	4.2	0.04	80	11
			0.059	6.5	0.039	4.3	0.02	80	14
Paraquat	Fresno	8-11/87	ND	ND	ND	ND	0.022	318	0
Sodium arsenite ^g	San Joaquin	2-3/87	0.076	14.3	0.070	13.2	0.001	68	25

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit for a 24-hour sample

d - tetrahydroptalimide

e - not detected

f - S,S,S-tributyl phosphorotrithioate

g - no longer registered for use in California

Table 2. Summary of AB 1807 pesticide application monitoring results. Four air sampling stations surround the field whenever possible, and are sited approximately 20 yards from the edge of the field. The approximate sampling schedule for each station is: minimum 1-hour background sample within 24 hours prior to application, combined during and 1-hour after application (AA) sample, 2-hour sample 1 - 3 hours AA, 4-hour sample 3 - 7 hours AA, 8-hour sample 7 - 15 hours AA, 9-hour sample 15 - 24 hours AA, and 2 consecutive 24-hour AA samples.

Pesticide	County	Date of Applic	Applic Method	Crop	Rate ^a	Maximum Positive		MDL ^d ($\mu\text{g}/\text{m}^3$)	Sample ^e Time (hr)	# Samples	# Above MDL
						^b $\mu\text{g}/\text{m}^3$	ppb ^c				
Azinphos-methyl	Glenn	7/94	aerial	walnuts	4.0	1.7	0.13	0.08	12	46	6
Benomyl	Kern	2/95	ground	almonds	0.66	ND ^f	ND	0.22	8	32	0
Bromoxynil	Imperial	1/95	ground	onions	0.25	ND	ND	0.11	3.5	45	0
Captan/ THPI ^g	Tulare	5/93	ground	grapes	3.9	0.47	0.038	0.013	24	41	4
						ND	ND	0.026	24	41	0
Carbofuran	Imperial	3/93	ground	alfalfa	0.63	0.66	0.073	0.03	24	36	24
Chloropicrin	Monterey	9/86	ground	strawberries	95	160	23.8	0.087	4	96	80
Chlorothalonil	Ventura	2/92	aerial	celery	1.0	0.16	0.014	0.004	4	48	18
Mancozeb	Kern	5/93	aerial	potatoes	1.6	1.81	0.13	0.15	4	32	19
Methidathion/ Methdaoxon	Tulare	7/91	ground	oranges	1.5	3.16	0.25	0.03	24	21	11
						0.36	0.031	0.09	24	21	5
Methomyl	Fresno	9/89	ground	lettuce	0.5	ND	ND	0.19	9	20	0
Methyl bromide	Monterey	9/86	ground	strawberries	194	3493	900	4.3	4	96	53
Methyl parathion	Sutter	5/89	aerial	rice	1.5	0.51	0.048	0.009	24	18	13
MITC	Contra Costa	3/93	ground	tomatoes	57	242	81	0.02	12	24	21
	Kern	7/93	ground	carrots	155	880	290	0.02	12	36	36
Molinate	Colusa	5/92	aerial	rice	5.0	23	3.0	0.0014	24	37	31
Monocrotophos ^h	Fresno	6/88	ground	cotton	-- ⁱ	0.09	0.01	0.005	2	10	8
Naled/ Dichlorvos	Tulare	6/95	ground	oranges	0.90	6.30	0.405	0.003	10	40	34
						0.99	0.109	0.006	5	40	34
Sodium arsenite ^h	San Joaquin	3/87	ground	tokay grapes	--	0.26	0.049	0.03	1	3	2
Ziram	Butte	3/94	ground	almonds	4.6	2.26	0.18	0.028	12	38	17

a - pounds per acre

b - micrograms per cubic meter

c - parts per billion

d - minimum detection limit

e - MDL sample time

f - not detected, see the minimum detection limit

g - tetrahydrophthalimide

h - no longer registered for use in California

i - not available

Table 3. Summary of azinphos-methyl ambient air monitoring results in Kern County. Samples (24-hour) were taken over a four-week period from June 22 through July 16, 1987. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Pond School	0.11	8.4	0.06	4.6	22	11
McFarland						
Learning Center	0.053	4.1	0.04	3.0	30	10
Browning Road School	0.076	5.9	0.03	2.7	28	25
Wasco Fire Station	0.034	2.6	0.02	1.6	30	3
Shafter School District Office	0.028	2.2	ND ^d	ND	30	1
Bakersfield	0.028	2.2	ND	ND	30	2

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.022 μg/m³ (1.7 ppt) for a 24-hour sample

d - not detected

Table 4a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of azinphos-methyl. Samples were collected in Glenn County during July, 1994 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a			6	7	8	
			3	4	5				
East	ND ^b	1.5	ND	ND	ND	ND	ND	ND	1.5
West	ND	1.6	ND	ND	ND	ND	ND	ND	1.6
North - 1	ND	1.7	ND	ND	ND	ND	ND	ND	1.7
North - 2	ND	1.2	ND	ND	ND	ND	ND	ND	1.2
South - 1	ND	0.69	ND	ND	ND	ND	ND	ND	0.69
South - 2	ND	0.86	ND	ND	ND	ND	ND	ND	0.86
Maximum Positive	ND	1.7	ND	ND	ND	ND	ND	ND	1.7

- a - interval 1 = background on 7/28/94; interval 2 = during and 1 hour after application from 0600-0900 on 7/29/94; interval 3 = 7/29/94 from 0900-1030; interval 4 = 7/29/94 from 1030-1430; interval 5 = 7/29/94 from 1430-1930; interval 6 = 7/29-30/94 from 1930-0730; interval 7 = 7/30-31/94 from 0730-0730; interval 8 = 7/31-8/1/94 from 0730-0730
- b - not detected, minimum detection limit = 0.08 $\mu\text{g}/\text{m}^3$ (0.01 ppb) for a 12-hour sample

Table 4b. Summary of air monitoring results in parts per billion (ppb) after an application of azinphos-methyl. Samples were collected in Glenn County during July, 1994 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^b	0.11	ND	ND	ND	ND	ND	ND	0.11
West	ND	0.12	ND	ND	ND	ND	ND	ND	0.12
North - 1	ND	0.13	ND	ND	ND	ND	ND	ND	0.13
North - 2	ND	0.09	ND	ND	ND	ND	ND	ND	0.09
South - 1	ND	0.05	ND	ND	ND	ND	ND	ND	0.05
South - 2	ND	0.07	ND	ND	ND	ND	ND	ND	0.07
Maximum Positive	ND	0.13	ND	ND	ND	ND	ND	ND	0.13

- a - interval 1 = background on 7/28/94; interval 2 = during and 1 hour after application from 0600-0900 on 7/29/94; interval 3 = 7/29/94 from 0900-1030; interval 4 = 7/29/94 from 1030-1430; interval 5 = 7/29/94 from 1430-1930; interval 6 = 7/29-30/94 from 1930-0730; interval 7 = 7/30-31/94 from 0730-0730; interval 8 = 7/31-8/1/94 from 0730-0730
- b - not detected, minimum detection limit = 0.08 $\mu\text{g}/\text{m}^3$ (0.01 ppb) for a 12-hour sample

Table 5. Summary of benomyl ambient air monitoring results in Kern County. Samples (24-hour) were taken over a four-week period from February 8 through March 3, 1988. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Pond School	ND ^d	ND	ND	ND	13	0
McFarland						
Learning Center	ND	ND	ND	ND	13	0
Browning Road School	0.05	4.2	0.05	4.2	13	2
Wasco High School	0.06	5.1	ND	ND	13	1
Bakersfield	0.15	13	ND	ND	13	1

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.05 \mu\text{g}/\text{m}^3$ (4.2 ppt) for a 24-hour sample

d - not detected

Table 6a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of benomyl. Samples were collected in Kern County during February, 1995 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a		6	7	8		
	3	4	5						
East	ND ^b	ND	ND	ND	ND	ND	ND	ND	ND
Northeast	ND	ND	ND	ND	ND	ND	ND	ND	ND
Northwest	ND	ND	ND	ND	ND	ND	ND	ND	ND
South	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 2/15/95; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = $0.22 \mu\text{g}/\text{m}^3$ (0.02 ppb) for an 8-hour sample

Table 6b. Summary of air monitoring results in parts per billion (ppb) after an application of benomyl. Samples were collected in Kern County during February, 1995 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^b	ND							
Northeast	ND	ND	ND	ND	ND	ND	ND	ND	ND
Northwest	ND	ND	ND	ND	ND	ND	ND	ND	ND
South	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 2/15/95; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = 0.22 $\mu\text{g}/\text{m}^3$ (0.02 ppb) for an 8-hour sample

Table 7. Summary of bromoxynil ambient air monitoring results in Imperial County. Samples (24-hour) were taken over a four-week period from January 6 through February 2, 1988. The El Centro Air Pollution Control District Office was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Calipatria Fire Dept.	0.04	3.5	0.03	2.3	15	5
Brawley Post Office	0.02	2.2	0.01	1.0	15	4
Meadows Union School, Holtville	ND ^d	ND	ND	ND	15	0
Felipe & Ramon School, Heber	ND	ND	ND	ND	15	0
El Centro	ND	ND	ND	ND	15	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.007 μg/m³ (0.618 ppt) for a 24-hour sample

d - not detected

Table 8a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of bromoxynil. Samples were collected in Imperial County during January, 1995 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a									Maximum Positive	
	1	2	3	4	5	6	7	8	9		
East	ND ^b	ND	ND								
West	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
North	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 1/19/95; interval 2 = during and 1 hour after application on 1/19/95 from 1400-1730; interval 3 = 1/19/95 from 1730-2000; interval 4 = 1/19/95 from 2000-2330; interval 5 = 1/19-20/95 from 2330-0730; interval 6 = 1/20/95 from 0730-1400; interval 7 = 1/20/95 from 1400-2000; interval 8 = 1/20-21/1/94 from 2000-1430; interval 9 = 1/21-22/95 from 1430-1400
- b - not detected, minimum detection limit = $0.11 \mu\text{g}/\text{m}^3$ (0.01 ppb) for a 3.5-hour sample

Table 8b. Summary of air monitoring results in parts per billion (ppb) after an application of bromoxynil. Samples were collected in Imperial County during January, 1995 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a									Maximum Positive	
	1	2	3	4	5	6	7	8	9		
East	ND ^b	ND	ND								
West	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
North	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 1/19/95; interval 2 = during and 1 hour after application on 1/19/95 from 1400-1730; interval 3 = 1/19/95 from 1730-2000; interval 4 = 1/19/95 from 2000-2330; interval 5 = 1/19-20/95 from 2330-0730; interval 6 = 1/20/95 from 0730-1400; interval 7 = 1/20/95 from 1400-2000; interval 8 = 1/20-21/1/94 from 2000-1430; interval 9 = 1/21-22/95 from 1430-1400
- b - not detected, minimum detection limit = 0.11 $\mu\text{g}/\text{m}^3$ (0.01 ppb) for a 3.5-hour sample

Table 9a. Summary of captan ambient air monitoring results in Kern County. Samples (24-hour) were taken over a four-week period from May 11 through June 4, 1993. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Edison School	ND ^d	ND	ND	ND	21	0
Arvin High School	ND	ND	ND	ND	17	0
Mountain View School	ND	ND	ND	ND	18	0
Bakersfield	ND	ND	ND	ND	14	0

b - parts per trillion

c - minimum detection limit = 0.013 μg/m³ (1.1 ppt) for a 24-hour sample

d - not detected

Table 9b. Summary of tetrahydrophthalimide (THPI) ambient air monitoring results in Kern County. Samples (24-hour) were taken over a four-week period from May 11 through June 4, 1993. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Edison School	ND ^d	ND	ND	ND	21	0
Arvin High School	ND	ND	ND	ND	17	0
Mountain View School	ND	ND	ND	ND	18	0
Bakersfield	ND	ND	ND	ND	14	0

b - parts per trillion

c - minimum detection limit = 0.026 μg/m³ (4.3 ppt) for a 24-hour sample

d - not detected

Table 10a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of captan. Samples were collected in Tulare County during May, 1993 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a			6	7	8	
			3	4	5				
East	ND ^b	0.28	ND	ND	ND	ND	ND	ND	0.28
West	ND	0.47	ND	ND	ND	0.03	ND	ND	0.47
North	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	0.35	ND	ND	ND	ND	ND	ND	0.35
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	0.47	ND	ND	ND	0.03	ND	ND	0.47

a - interval 1 = background on 5/24/93; interval 2 = during application on 5/25/93 from 0500-0730; interval 3 = 5/25/93 from 0730-0930; interval 4 = 5/25/93 from 0930-1330; interval 5 = 5/25/93 from 1330-1800; interval 6 = 5/25-26/93 from 1800-0630; interval 7 = 5/26-27/94 from 0630-0630; interval 8 = 5/27-28/94 from 0630-0630

b - not detected, minimum detection limit = $0.013 \mu\text{g}/\text{m}^3$ (1.1 ppb) for a 24-hour sample

Table 10b. Summary of air monitoring results in parts per billion (ppb) after an application of captan. Samples were collected in Tulare County during May, 1993 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^b	0.02	ND	ND	ND	ND	ND	ND	0.02
West	ND	0.04	ND	ND	ND	0.002	ND	ND	0.04
North	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	0.03	ND	ND	ND	ND	ND	ND	0.03
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	0.04	0.03	ND	ND	0.002	ND	ND	0.04

- a - interval 1 = background on 5/24/93; interval 2 = during application on 5/25/93 from 0500-0730; interval 3 = 5/25/93 from 0730-0930; interval 4 = 5/25/93 from 0930-1330; interval 5 = 5/25/93 from 1330-1800; interval 6 = 5/25-26/93 from 1800-0630; interval 7 = 5/26-27/94 from 0630-0630; interval 8 = 5/27-28/94 from 0630-0630
- b - not detected, minimum detection limit = 0.013 $\mu\text{g}/\text{m}^3$ (1.1 ppb) for a 24-hour sample

Table 10c. Summary of air monitoring results for tetrahydrophthalimide (THPI) in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of captan. Samples were collected in Tulare County during May, 1993 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a			6	7	8	
			3	4	5				
East	ND ^b	ND	ND	ND	ND	ND	ND	ND	ND
West	ND	ND	ND	ND	ND	ND	ND	ND	ND
North	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 5/24/93; interval 2 = during application on 5/25/93 from 0500-0730; interval 3 = 5/25/93 from 0730-0930; interval 4 = 5/25/93 from 0930-1330; interval 5 = 5/25/93 from 1330-1800; interval 6 = 5/25-26/93 from 1800-0630; interval 7 = 5/26-27/94 from 0630-0630; interval 8 = 5/27-28/94 from 0630-0630
- b - not detected, minimum detection limit = $0.026 \mu\text{g}/\text{m}^3$ (4.3 ppt) for a 24-hour sample

Table 10d. Summary of air monitoring results for tetrahydrophthalimide (THPI) in parts per billion (ppb) after an application of captan. Samples were collected in Tulare County during May, 1993 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^b	ND							
West	ND	ND	ND	ND	ND	ND	ND	ND	ND
North	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background on 5/24/93; interval 2 = during application on 5/25/93 from 0500-0730; interval 3 = 5/25/93 from 0730-0930; interval 4 = 5/25/93 from 0930-1330; interval 5 = 5/25/93 from 1330-1800; interval 6 = 5/25-26/93 from 1800-0630; interval 7 = 5/26-27/94 from 0630-0630; interval 8 = 5/27-28/94 from 0630-0630
- b - not detected, minimum detection limit = 0.026 $\mu\text{g}/\text{m}^3$ (4.3 ppt) for a 24-hour sample

Table 11. Summary of carbofuran ambient air monitoring results in Imperial County. Samples (24-hour) were taken over a four-week period from February 14 through March 10, 1995. The El Centro Air Pollution Control District Office was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	$\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Calipatria Fire Dept.	0.031	3.4	ND ^d	ND	28	1
Monitoring Station, Brawley	0.11	12.1	0.084	9.3	12	9
Meadows Union School, Holtville	0.027	3.0	0.023	2.3	14	8
Felipe & Ramon School, Heber	ND	ND	ND	ND	14	0
El Centro	0.014	1.5	ND	ND	14	1

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.012 \mu\text{g}/\text{m}^3$ (0.001 ppt) for a 24-hour sample

d - not detected

Table 12a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of carbofuran. Samples were collected in Imperial County during March and April, 1993 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$							Maximum Positive
	1	2	Sampling Interval ^a				7	
			3	4	5	6		
East	ND ^b	0.66	0.15	0.27	0.15	0.21	0.12	0.66
West	ND	0.29	0.49	0.53	0.26	0.03	0.04	0.53
North - 1	ND	ND	0.34	0.55	0.21	0.07	0.06	0.55
North - 2	ND	ND	0.23	0.66	0.21	0.08	0.06	0.66
South	ND	ND	ND	ND	ND	0.11	0.05	0.11
Maximum Positive	ND	0.66	0.49	0.66	0.26	0.21	0.12	0.66

- a - interval 1 = background on 3/31/93; interval 2 = during application on 3/31/93 from 1000-1100; interval 3 = 3/31/93 from 1100-1400; interval 4 = 3/31/93 from 1400-1730; interval 5 = 3/31/93 from 1730-2100; interval 6 = 3/31-4/1/93 from 2100-0700; interval 7 = 4/1-2/93 from 0700-0600
- b - not detected, minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$ (0.005 ppb) for a 24-hour sample

Table 12b. Summary of air monitoring results in parts per billion (ppb) after an application of carbofuran. Samples were collected in Imperial County during March and April, 1993 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a							Maximum Positive
	1	2	3	4	5	6	7	
East	ND ^b	0.07	0.02	0.06	0.02	0.02	0.01	0.07
West	ND	0.03	0.05	0.06	0.03	0.003	0.004	0.06
North - 1	ND	ND	0.04	0.06	0.02	0.008	0.007	0.06
North - 2	ND	ND	0.02	0.07	0.02	0.009	0.007	0.07
South	ND	ND	ND	ND	ND	0.01	0.005	0.01
Maximum Positive	ND	0.07	0.05	0.07	0.03	0.02	0.01	0.07

- a - interval 1 = background on 3/31/93; interval 2 = during application on 3/31/93 from 1000-1100; interval 3 = 3/31/93 from 1100-1400; interval 4 = 3/31/93 from 1400-1730; interval 5 = 3/31/93 from 1730-2100; interval 6 = 3/31-4/1/93 from 2100-0700; interval 7 = 4/1-2/93 from 0700-0600
- b - not detected, minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$ (0.005 ppb) for a 24-hour sample

Table 13. Summary of chloropicrin ambient air monitoring results in Monterey County. Samples (4-hour) were taken over a four-week period from August 26 through September 18, 1986. The Peninsula Hospital in Monterey was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Aromas School	4.6	681	1.9	279	48	26
Elkhorn School	0.38	57.2	0.15	22.5	46	4
Old Corral Flea Market, Prunedale	1.28	191	0.67	99.7	48	10
Monterey	ND ^d	ND	ND	ND	42	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.087 μg/m³ (0.013 ppb) for a 4-hour sample

d - not detected

Table 14. Summary of air monitoring results after an application of chloropicrin. Samples (4-hour) were collected in Monterey County during September, 1986 before, during, and for four days after application.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppb ^b	μg/m ³	ppb		
Northwest	4.92	0.73	7.4	1.1	22	12
Southeast ^d	61.1	9.1	54.9	8.1	38	36
Southeast ^e	160	23.8	23.5	3.4	36	32

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = 0.087 μg/m³ (0.013 ppb) for a 24-hour sample

d - 67 meters downwind from the edge of the field

e - 175 meters downwind from the edge of the field

Table 15. Summary of chlorothalonil ambient air monitoring results in Ventura County. Samples (24-hour) were taken over a four-week period from January 8 through February 2, 1990. The Ventura Air Pollution Control District Office was the background site.

Monitoring Site	Maximum Positive $\mu\text{g}/\text{m}^3$ ppt ^b		2 nd Highest Positive $\mu\text{g}/\text{m}^3$ ppt		# Samples	# Above MDL ^c
Camarillo Animal Control Shelter	0.005	0.46	0.004	0.40	30	5
Tierra Vista School, Oxnard	ND ^d	ND	ND	ND	30	0
Oxnard High School, Oxnard	ND	ND	ND	ND	30	0
Ventura	ND	ND	ND	ND	30	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.004 \mu\text{g}/\text{m}^3$ (0.0004 ppb)

d - not detected

Table 16a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of chlorothalonil. Samples were collected in Ventura County during February, 1992 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a						
			3	4	5	6	7	8	
1East - 1	ND ^b	0.158	0.122	0.098	0.026	0.043	0.051	0.034	0.158
1East - 2	ND	0.119	0.127	0.103	0.034	0.039	0.052	0.030	0.127
2East - 1	ND	0.030	0.058	0.046	0.013	0.016	0.018	0.012	0.058
2East - 2	ND	0.035	0.053	0.046	0.010	0.024	0.017	0.016	0.053
West - 1	ND	ND	ND	ND	0.034	0.023	0.010	0.016	0.034
West - 2	ND	ND	ND	ND	0.034	0.023	0.014	0.017	0.034
Maximum Positive	ND	0.158	0.127	0.098	0.034	0.043	0.052	0.034	0.158

- a - interval 1 = background on 2/18/92; interval 2 = during application on 2/20/92 from 1200-1315; interval 3 = 2/20/92 from 1315-1515; interval 4 = 2/20/92 from 1515-2015; interval 5 = 2/20-21/92 from 2015-0630; interval 6 = 2/21/92 from 0630-1315; interval 7 = 2/21-22/92 from 1315-1315; interval 8 = 2/22-23/92 from 1315-1315
- b - not detected, minimum detection limit = $0.004 \mu\text{g}/\text{m}^3$ (0.0004 ppb) for a 4-hour sample

Table 16b. Summary of air monitoring results in parts per billion (ppb) after an application of chlorothalonil. Samples were collected in Ventura County during February, 1992 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
1East - 1	ND ^b	0.014	0.011	0.009	0.002	0.004	0.005	0.003	0.014
1East - 2	ND	0.011	0.012	0.009	0.003	0.004	0.005	0.003	0.011
2East - 1	ND	0.003	0.005	0.004	0.001	0.001	0.002	0.001	0.005
2East - 2	ND	0.003	0.005	0.004	0.001	0.002	0.002	0.001	0.005
West - 1	ND	ND	ND	ND	0.003	0.002	0.001	0.001	0.003
West - 2	ND	ND	ND	ND	0.003	0.002	0.001	0.002	0.003
Maximum Positive	ND	0.014	0.014	0.009	0.003	0.004	0.005	0.003	0.014

- a - interval 1 = background on 2/18/92; interval 2 = during application on 2/20/92 from 1200-1315; interval 3 = 2/20/92 from 1315-1515; interval 4 = 2/20/92 from 1515-2015; interval 5 = 2/20-21/92 from 2015-0630; interval 6 = 2/21/92 from 0630-1315; interval 7 = 2/21-22/92 from 1315-1315; interval 8 = 2/22-23/92 from 1315-1315
- b - not detected, minimum detection limit = 0.004 $\mu\text{g}/\text{m}^3$ (0.0004 ppb) for a 4-hour sample

Table 17. Summary of DEF (S,S,S-tributyl phosphorotrithioate) ambient air monitoring results in Fresno County. Samples (24-hour) were taken over a four-week period from August 31 through November 4, 1987. The ARB air monitoring stations in Fresno and Bakersfield were the background sites.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Tranquility Fire Station	0.21	16.0	0.21	16.0	68	62
San Joaquin School	0.19	15.0	0.18	14.0	56	51
West Side Field Station	0.33	26.0	0.29	23.0	64	64
Huron Day Care Center	0.11	9.0	0.09	7.0	66	65
Fresno	0.005	0.4	0.004	0.3	40	8
Bakersfield	0.01	0.9	0.004	0.3	32	4

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.001 \mu\text{g}/\text{m}^3$ (0.08 ppt) for a 24-hour sample

Table 18. Summary of 1,3-dichloropropene ambient air monitoring results in Merced County. Samples (24-hour) were taken over a four-week period from April 2 through May 4, 1990. The Merced Air Pollution Control District Office was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppb ^b	μg/m ³	ppb		
El Nido Fire Department	16.9	3.7	9.0	2.0	20	12
Dol Palos Y Fire Department	33.3	7.3	4.9	1.2	20	13
Stevinson-Merquin School	138.6	30.5	67.2	14.8	19	16
Hilmar Jr. High School	160.7	35.4	72.4	15.9	20	14
Merced	3.2	0.70	1.2	0.3	20	9

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = 0.1 μg/m³ (0.02 ppb) for a 24-hour sample

Table 19. Summary of ethyl parathion ambient air monitoring results in Fresno County. Samples (24-hour) were taken from January 7 through 29, 1986. The ARB air monitoring station in Fresno was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	$\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Jefferson School, Sanger	0.19	16.05	0.01	8.24	13	7
Kearny Field Station, Parlier	0.82	69.09	0.68	57.45	31	22
Monte Vista School, Reedley	0.40	34.00	0.35	29.64	13	13
Community Health Center, Selma	0.27	22.91	0.26	21.64	13	8
Dinuba Water Pump Station ^d	0.37	31.09	0.28	24.00	13	13
Fresno	0.02	1.70	0.02	1.70	39	10

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.01 \mu\text{g}/\text{m}^3$ (0.84 ppt) for a 24-hour sample

d - located in Tulare county

Table 20. Summary of ethyl parathion ambient air monitoring results in Kern County. Samples (24-hour) were taken from January 28 through February 12, 1986. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Intermediate School, Earlimart ^d	0.06	5.04	0.05	4.16	6	2
City Works Bldg., Delano	0.01	1.29	0.01	1.24	21	2
City Hall, McFarland	0.09	7.34	0.07	6.04	7	5
North Kern Hospital, Wasco	0.07	5.69	0.02	1.98	8	4
School Dist. Office, Shafter	ND ^e	ND	ND	ND	8	0
Bakersfield	0.04	3.40	0.01	0.84	30	6

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.01 μg/m³ (0.84 ppt) for a 24-hour sample

d - located in Tulare county

e - not detected

Table 21. Summary of ethyl parathion ambient air monitoring results in Imperial County. Samples (24-hour) were taken over a four-week period from September 29 through October 24, 1986. The El Centro Air Pollution Control District Office was the background site.

Monitoring Site	<u>Maximum Positive</u>		<u>2nd Highest Positive</u>		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Rodriguez Jr. High School, Heber	0.09	7.6	0.08	6.4	14	9
Meadow Union School, Holtville	0.03	2.4	0.03	2.2	13	7
Swing School, Brawley	0.04	3.3	0.03	2.7	13	8
APCD Trailer, Brawley	0.03	2.9	0.02	2.1	14	12
Calipatria Fire Dept.	0.14	12.0	0.04	3.8	13	8
El Centro	0.01	1.2	0.01	0.82	14	2

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.01 \mu\text{g}/\text{m}^3$ (0.84 ppt) for a 24-hour sample

Table 22. Summary of mancozeb ambient air monitoring results in Kern County. Samples (24-hour) were taken over a four-week period from April 20 through May 7, 1993. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Vineland School, Bakersfield	ND ^d	ND	ND	ND	14	0
Lamont School, Lamont	ND	ND	ND	ND	15	0
Mountain View School, Lamont	ND	ND	ND	ND	4	0
Edison School, Bakersfield	ND	ND	ND	ND	16	0
Bakersfield	ND	ND	ND	ND	8	0

a - micrograms per cubic meter

b - parts per trillion. Although mancozeb is a particulate, ppt is used here for consistency

c - minimum detection limit = 0.0250 μg/m³ (0.002 ppb) for a 24-hour sample

d - not detected

Table 23a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of mancozeb. Samples were collected in Kern County during May, 1993 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^b	0.85	ND	0.83	0.17	ND	0.20	0.05	0.85
North	ND	ND	ND	0.29	ND	0.06	0.25	ND	0.29
South - 1	ND	1.33	ND	0.35	0.31	0.16	0.15	0.10	1.33
South - 2	ND	1.81	ND	ND	0.53	0.27	0.18	0.12	1.81
Maximum Positive	ND	1.81	ND	0.83	0.53	0.27	0.25	0.12	1.81

- a - interval 1 = background on 5/3/93; interval 2 = during application on 5/4/93 from 0800-0930; interval 3 = 5/4/93 from 0930-1130; interval 4 = 5/4/93 from 1130-1530; interval 5 = 5/4/93 from 1530-1900; interval 6 = 5/4-5/93 from 1900-0730; interval 7 = 5/5-6/93 from 0730-0730; interval 8 = 5/6-7/93 from 0730-0730
- b - not detected, minimum detection limit = $0.15 \mu\text{g}/\text{m}^3$ (0.01 ppb) for a 4-hour sample

Table 23b. Summary of air monitoring results in parts per billion (ppb) after an application of mancozeb. Samples were collected in Kern County during May, 1993 before, during and 72 hours after application.

ppb^a

Site	Sampling Interval ^b								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^c	0.06	ND	0.06	0.01	ND	0.01	0.003	0.06
North	ND	ND	ND	0.02	ND	0.004	0.02	ND	0.02
South - 1	ND	0.09	ND	0.02	0.02	0.01	0.01	0.01	0.09
South - 2	ND	0.13	ND	ND	0.04	0.02	0.01	0.01	0.13
Maximum Positive	ND	0.13	ND	0.06	0.04	0.02	0.02	0.01	0.13

a - although mancozeb is a particulate, ppb is used here for consistency

b - interval 1 = background on 5/3/93; interval 2 = during application on 5/4/93 from 0800-0930; interval 3 = 5/4/93 from 0930-1130; interval 4 = 5/4/93 from 1130-1530; interval 5 = 5/4/93 from 1530-1900; interval 6 = 5/4-5/93 from 1900-0730; interval 7 = 5/5-6/93 from 0730-0730; interval 8 = 5/6-7/93 from 0730-0730

c - not detected, minimum detection limit = 0.15 $\mu\text{g}/\text{m}^3$ (0.01 ppb) for a 4-hour sample

Table 24. Summary of MITC ambient air monitoring results in Kern County. Samples (24-hour) were taken over a two-week period in July, 1993. The ARB air monitoring station in Bakersfield was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppb ^b	$\mu\text{g}/\text{m}^3$	ppb		
Vineland School, Bakersfield	18.0	6.02	12.0	4.01	8	8
School District Office, Shafter	2.2	0.73	0.70	0.23	8	4
Mountain View School, Lamont	17.0	5.69	10.0	3.34	8	8
Bakersfield	6.0	2.01	5.8	1.94	8	8

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = $0.01 \mu\text{g}/\text{m}^3$ (0.003 ppb) for a 24-hour sample

Table 25a. Summary of air monitoring results for MITC in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of metam-sodium. Samples were collected in Contra Costa County during March, 1993 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
North	ND ^b	1.39	2.63	6.99	70.5	22.1	5.82	20.2	70.5
Southeast	ND	0.064	6.39	2.12	111	105	153	21.8	153
Southwest	ND	0.051	12.40	242	224	77.7	23.2	8.41	242
Maximum Positive	ND	1.39	12.40	242	224	105	153	21.8	242

- a - interval 1 = background on 3/8/93; interval 2 = 3/8/93 from 1230-1600; interval 3 = 3/8-9/93 from 1600-0600; interval 4 = 3/9/93 from 0600-1700; interval 5 = 3/9-10/93 from 1700-0630; interval 6 = 3/10/93 from 0630-1100; interval 7 = 3/10/93 from 1100-1700; interval 8 = 3/10-11/93 from 1700-0830
- b - not detected, minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$ (0.006 ppb) for a 12-hour sample

Table 25b. Summary of air monitoring results for MITC in parts per billion (ppb) after an application of metam-sodium. Samples were collected in Contra Costa County during March, 1993 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
North	ND ^b	0.465	0.880	2.34	23.6	7.39	1.95	6.76	23.6
Southeast	ND	0.021	2.14	0.709	37.1	35.1	51.2	7.29	51.2
Southwest	ND	0.017	4.15	81.0	74.9	26.0	7.76	2.81	81.0
Maximum Positive	ND	0.465	4.15	81.0	74.9	35.1	51.2	7.29	81.0

- a - interval 1 = background on 3/8/93; interval 2 = 3/8/93 from 1230-1600; interval 3 = 3/8-9/93 from 1600-0600; interval 4 = 3/9/93 from 0600-1700; interval 5 = 3/9-10/93 from 1700-0630; interval 6 = 3/10/93 from 0630-1100; interval 7 = 3/10/93 from 1100-1700; interval 8 = 3/10-11/93 from 1700-0830
- b - not detected, minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$ (0.006 ppb) for a 12-hour sample

Table 26a. Summary of air monitoring results for MITC in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of metam-sodium. Samples were collected in Kern County during July, 1993 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a									Maximum Positive
	1	2	3	4	5	6	7	8	9	
North	3.2	2.3	26.0	3.9	70.0	800	90.0	51.0	210	800
East	3.2	1.5	4.7	2.4	5.8	100	9.0	120	200	200
South	2.6	6.5	26.0	26	26.0	250	8.1	8.6	430	430
West	3.6	2.3	580	120	1.2	200	94.0	1.2	880	880
Maximum Positive	3.6	6.5	580	120	70.0	800	94.0	120	880	880

- a - interval 1 = background on 7/27/93; interval 2 = 7/27/93 from 1215-1830; interval 3 = 7/27-28/93 from 1830-0630; interval 4 = 7/28/93 from 0630-1200; interval 5 = 7/28/93 from 1200-1730; interval 6 = 7/28-29/93 from 1730-0700; interval 7 = 7/29/93 from 0700-1300; interval 8 = 7/29/93 from 1300-1800; interval 9 = 7/29-30/93 from 1800-0700
- b - not detected, minimum detection limit = $0.02 \mu\text{g}/\text{m}^3$ (0.006 ppb) for a 12-hour sample

Table 26b. Summary of air monitoring results for MITC in parts per billion (ppb) after an application of metam-sodium. Samples were collected in Kern County during July, 1993 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a									Maximum Positive
	1	2	3	4	5	6	7	8	9	
North	1.1	0.77	8.7	1.3	23.0	270	30.0	17.0	70.0	270
East	1.1	0.50	1.6	0.80	1.9	33.0	3.0	40.0	67.0	67.0
South	0.87	2.2	8.7	8.7	8.7	84.0	2.7	2.9	140	140
West	1.2	0.77	190	40.0	0.40	67.0	31.0	0.40	290	290
Maximum Positive	1.2	2.2	190	40.0	23.0	270	31.0	40.0	290	290

- a - interval 1 = background on 7/27/93; interval 2 = 7/27/93 from 1215-1830; interval 3 = 7/27-28/93 from 1830-0630; interval 4 = 7/28/93 from 0630-1200; interval 5 = 7/28/93 from 1200-1730; interval 6 = 7/28-29/93 from 1730-0700; interval 7 = 7/29/93 from 0700-1300; interval 8 = 7/29/93 from 1300-1800; interval 9 = 7/29-30/93 from 1800-0700
- b - not detected, minimum detection limit = 0.02 $\mu\text{g}/\text{m}^3$ (0.006 ppb) for a 12-hour sample

Table 27a. Summary of methidathion ambient air monitoring results in Tulare County. Samples (24-hour) were taken over a four-week period from June 27 through July 25, 1991. The ARB air monitoring station in Visalia was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Sunnyside Union School, Strathmore	ND ^d	ND	ND	ND	17	0
Jefferson School, Lindsay	0.56	45.3	0.30	24.2	17	6
Exeter Union High School, Exeter	0.07	5.6	ND	ND	15	1
U.C. Field Station, Exeter	ND	ND	ND	ND	15	0
Visalia	ND	ND	ND	ND	17	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$ (0.002 ppb) for a 24-hour sample

d - not detected

Table 27b. Summary of methidaoxon ambient air monitoring results in Tulare County. Samples (24-hour) were taken over a four-week period from June 27 through July 25, 1991. The ARB air monitoring station in Visalia was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Sunnyside Union School, Strathmore	0.092	7.9	ND ^d	ND	17	1
Jefferson School, Lindsay	0.10	8.5	ND	ND	17	1
Exeter Union High School, Exeter	ND	ND	ND	ND	15	0
U.C. Field Station, Exeter	ND	ND	ND	ND	15	0
Visalia	ND	ND	ND	ND	17	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.09 μg/m³ (0.008 ppb) for a 24-hour sample

d - not detected

Table 28a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of methidathion. Samples were collected in Tulare County during July, 1991 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$							Maximum Positive
	1	2	Sampling Interval ^a			6	7	
	3	4	5	6	7			
North	ND ^b	0.33	0.86	1.40	0.82	3.16	0.46	3.16
Southwest - 1	ND	ND	ND	ND	1.25	0.60	0.30	1.25
Southwest - 2	ND	ND	ND	ND	0.28	0.10	ND	0.28
Maximum Positive	ND	0.33	0.86	1.40	1.25	3.16	0.46	3.16

- a - interval 1 = background on 7/10/91; interval 2 = during application on 7/10-11/91 from 2330-0900; interval 3 = 7/11/91 from 0900-1100; interval 4 = 7/11/91 from 1100-1500; interval 5 = 7/11/91 from 1500-2130; interval 6 = 7/11-12/91 from 2130-0730; interval 7 = 7/12-13/91 from 0730-0730;
- b - not detected, minimum detection limit = $0.03 \mu\text{g}/\text{m}^3$ (0.002 ppb) for a 24-hour sample

Table 28b. Summary of air monitoring results in parts per billion (ppb) after an application of methidathion. Samples were collected in Tulare County during July, 1991 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a							Maximum Positive
	1	2	3	4	5	6	7	
North	ND ^b	0.03	0.07	0.11	0.07	0.25	0.04	0.25
Southwest - 1	ND	ND	ND	ND	0.10	0.05	0.02	0.10
Southwest - 2	ND	ND	ND	ND	0.02	0.01	ND	0.02
Maximum Positive	ND	0.03	0.07	0.11	0.10	0.25	0.04	0.25

- a - interval 1 = background on 7/10/91; interval 2 = during application on 7/10-11/91 from 2330-0900; interval 3 = 7/11/91 from 0900-1100; interval 4 = 7/11/91 from 1100-1500; interval 5 = 7/11/91 from 1500-2130; interval 6 = 7/11-12/91 from 2130-0730; interval 7 = 7/12-13/91 from 0730-0730;
- b - not detected, minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$ (0.002 ppb) for a 24-hour sample

Table 28c. Summary of air monitoring results for methidaoxon in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of methidathion. Samples were collected in Tulare County during July, 1991 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$							Maximum Positive
	1	2	Sampling Interval ^a			6	7	
			3	4	5			
North	ND ^b	ND	ND	ND	0.33	0.26	0.23	0.33
Southwest - 1	ND	ND	ND	ND	0.36	ND	0.19	0.36
Southwest - 2	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	0.36	0.26	0.23	0.36

- a - interval 1 = background on 7/10/91; interval 2 = during application on 7/10-11/91 from 2330-0900; interval 3 = 7/11/91 from 0900-1100; interval 4 = 7/11/91 from 1100-1500; interval 5 = 7/11/91 from 1500-2130; interval 6 = 7/11-12/91 from 2130-0730; interval 7 = 7/12-13/91 from 0730-0730;
- b - not detected, minimum detection limit = $0.09 \mu\text{g}/\text{m}^3$ (0.008 ppb) for a 24-hour sample

Table 28d. Summary of air monitoring results for methidaoxon in parts per billion (ppb) after an application of methidathion. Samples were collected in Tulare County during July, 1991 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a							Maximum Positive
	1	2	3	4	5	6	7	
North	ND ^b	ND	ND	ND	0.028	0.022	0.02	0.028
Southwest - 1	ND	ND	ND	ND	0.031	ND	0.02	0.031
Southwest - 2	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	0.031	0.022	0.02	0.031

- a - interval 1 = background on 7/10/91; interval 2 = during application on 7/10-11/91 from 2330-0900; interval 3 = 7/11/91 from 0900-1100; interval 4 = 7/11/91 from 1100-1500; interval 5 = 7/11/91 from 1500-2130; interval 6 = 7/11-12/91 from 2130-0730; interval 7 = 7/12-13/91 from 0730-0730;
- b - not detected, minimum detection limit = 0.09 $\mu\text{g}/\text{m}^3$ (0.008 ppb) for a 24-hour sample

Table 29. Summary of methomyl ambient air monitoring results in Fresno County. Samples (24-hour) were taken over a four-week period from August 3 through August 28, 1987. The ARB air monitoring station in Fresno was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Community Health Center, Selma	ND ^d	ND	ND	ND	14	0
Kearny Field Station, Parlier	ND	ND	ND	ND	14	0
District School Office, Parlier	ND	ND	ND	ND	14	0
Maintenance Yard, San Joaquin	ND	ND	ND	ND	14	0
High School Gym, Tranquility	ND	ND	ND	ND	14	0
Fresno	ND	ND	ND	ND	14	0

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.02 \mu\text{g}/\text{m}^3$ (0.003 ppb) for a 24-hour sample

d - not detected

Table 30a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of methomyl. Samples were collected in Fresno County during September, 1989 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
North	ND ^b	ND							
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

- a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = $0.19 \mu\text{g}/\text{m}^3$ (0.03 ppb) for a 9-hour sample

Table 30b. Summary of air monitoring results in parts per billion (ppb) after an application of methomyl. Samples were collected in Fresno County during September, 1989 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
North	ND ^b	ND							
South - 1	ND	ND	ND	ND	ND	ND	ND	ND	ND
South - 2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Positive	ND	ND	ND	ND	ND	ND	ND	ND	ND

a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application

b - not detected, minimum detection limit = 0.19 $\mu\text{g}/\text{m}^3$ (0.03 ppb) for a 9-hour sample

Table 31. Summary of methyl bromide ambient air monitoring results in Monterey County. Samples (4-hour) were taken over a four-week period from August 26 through September 18, 1986. The Peninsula Hospital in Monterey was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	$\mu\text{g}/\text{m}^3$	ppb ^b	$\mu\text{g}/\text{m}^3$	ppb		
Aromas School	4.38	1.13	4.38	1.13	48	2
Elkhorn School	ND ^d	ND	ND	ND	46	0
Old Corral Flea Market, Prunedale	ND	ND	ND	ND	48	0
Monterey	ND	ND	ND	ND	42	0

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = $4.3 \mu\text{g}/\text{m}^3$ (1.1 ppb) for a 4-hour sample

d - not detected

Table 32. Summary of air monitoring results after an application of methyl bromide. Samples (4-hour) were collected in Monterey County during September, 1986 before, during, and for four days after application.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppb ^b	$\mu\text{g}/\text{m}^3$	ppb		
Northwest	815	210	202	52	22	8
Southeast ^d	3493	900	1087	280	38	25
Southeast ^e	2057	530	427	110	36	20

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = $4.27 \mu\text{g}/\text{m}^3$ (1.1 ppb) for a 4-hour sample

d - 67 meters downwind from the edge of the field

e - 175 meters downwind from the edge of the field

Table 33a. Summary of methyl parathion ambient air monitoring results in Colusa and Sutter Counties. Samples (24-hour) were taken over a four-week period from May 12 through June 12, 1986. The U.C. Davis campus was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	ng/m ³	ppt ^b	ng/m ³	ppt		
Sutter County						
High School, Trowbridge	1.10	0.102	1.04	0.097	44	10
Robbins School, Trowbridge	0.72	0.067	0.49	0.046	37	10
Colusa County						
Maxwell High School	25.7	2.39	21.5	2.00	60	42
City Hall, Williams	21.7	2.02	5.56	0.517	38	25
U.C. Davis	ND ^d	ND	ND	ND	32	1

a - nanograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.2 ng/m³ (0.02 ppt) for a 24-hour sample

d - not detected

Table 33b. Summary of methyl paroxon ambient air monitoring results in Colusa and Sutter Counties. Samples (24-hour) were taken over a four-week period from May 12 through June 12, 1986. The U.C. Davis campus was the background site.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a ng/m ³	ppt ^b	ng/m ³	ppt		
Sutter County						
High School, Trowbridge	ND ^d	ND	ND	ND	44	0
Robbins School, Trowbridge	ND	ND	ND	ND	37	0
Colusa County						
Maxwell High School	4.95	0.49	3.1	0.31	60	25
City Hall, Williams	1.12	0.11	0.97	0.097	38	15
U.C. Davis	ND	ND	ND	ND	32	0

a - nanograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.5 ng/m³ (0.05 ppt) for a 24-hour sample

d - not detected

Table 34a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of methyl parathion. Samples were collected in Sutter County during May, 1989 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a					8	
			3	4	5	6	7		
North	ND ^b	0.51	0.16	0.12	0.31	0.07	0.04	0.03	0.51
South	ND	0.19	0.20	0.28	0.10	ND	ND	0.03	0.28
South ^c	ND	ND	NS ^d	NS	NS	NS	NS	NS	ND
Maximum Positive	ND	0.51	0.20	0.28	0.31	0.07	0.04	0.03	0.51

- a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = $0.009 \mu\text{g}/\text{m}^3$ (0.84 ppt) for a 24-hour sample
- c - 250 yards from edge of field
- d - no sample

Table 34b. Summary of air monitoring results in parts per trillion (ppt) after an application of methyl parathion. Samples were collected in Sutter County during May, 1989 before, during and for 72 hours after application.

Site	ppt								Maximum Positive
	1	2	Sampling Interval ^a			6	7	8	
			3	4	5				
North	ND ^b	47.7	15.0	11.2	29.1	6.5	4.0	2.5	47.7
South	ND	17.7	18.5	25.8	9.25	ND	ND	2.7	25.8
South ^c	ND	ND	NS ^d	NS	NS	NS	NS	NS	ND
Maximum Positive	ND	47.7	18.5	25.8	29.1	6.5	4.0	2.7	47.7

a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application

b - not detected, minimum detection limit = 0.009 $\mu\text{g}/\text{m}^3$ (0.84 ppt) for a 24-hour sample

c - 250 yards from edge of field

d - no sample

Table 35. Summary of molybdenum ambient air monitoring results in Colusa County. Samples (24-hour) were taken from May 20 through 29, 1992.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	$\mu\text{g}/\text{m}^3$	ppb ^b	$\mu\text{g}/\text{m}^3$	ppb		
Maxwell Fire Station	1.17	0.15	0.90	0.12	5	5
Williams Fire Station	0.50	0.06	0.48	0.06	5	5

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = $0.0014 \mu\text{g}/\text{m}^3$ (0.18 ppt) for a 24-hour sample

Table 36a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of molinate. Samples were collected in Colusa County during May, 1992 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a											Maximum Positive
	1	2	3	4	5	6	7	8	9	10	11	
North - 1	ND ^b	9.17	11.3	22.6	10.1	8.62	2.42	0.35	1.50	0.12	3.28	22.6
North - 2	NS ^c	ND	ND	ND	0.59	0.30	NS	0.45	NS	1.32	NS	1.32
South - 1	1.65	2.48	0.37	3.97	2.65	2.02	3.41	6.77	6.41	5.98	6.27	6.77
South - 2	ND	0.45	0.27	ND	0.57	0.86	NS	2.62	NS	3.24	NS	3.24
Maximum Positive	1.65	9.17	11.3	22.6	10.1	8.62	3.41	6.77	6.41	5.98	6.27	22.6

- a - interval 1 = background on 5/18/92; interval 2 = during application on 5/18/92 from 1100-1330; interval 3 = 5/18/92 from 1330-1530; interval 4 = 5/18/92 from 1530-1800; interval 5 = 5/18-19/92 from 1800-0600; interval 6 = 5/19-20/92 from 0600-0600; interval 7 = 5/19-20/92 from 1800-0600; interval 8 = 5/20-21/92 from 0600-0600; interval 9 = 5/20-21/92 from 1800-0600; interval 10 = 5/21-22/92 from 0600-0900; interval 11 = 5/21-22/92 from 1800-0900
- b - not detected, minimum detection limit = 0.0014 $\mu\text{g}/\text{m}^3$ (0.18 ppt) for a 24-hour sample
- c - no sample

Table 36b. Summary of air monitoring results in parts per billion (ppb) after an application of molinate. Samples were collected in Colusa County during May, 1992 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a											Maximum Positive
	1	2	3	4	5	6	7	8	9	10	11	
North - 1	ND ^b	1.20	1.47	2.95	1.32	1.12	0.32	0.04	0.19	0.01	0.43	2.95
North - 2	NS ^c	ND	ND	ND	0.08	0.04	NS	0.06	NS	0.17	NS	0.17
South - 1	0.21	0.32	0.05	0.52	0.35	0.26	0.44	0.88	0.84	0.78	0.82	0.88
South - 2	ND	0.06	0.03	ND	0.07	0.11	NS	0.34	NS	0.42	NS	0.42
Maximum Positive	0.21	1.20	1.47	2.95	1.32	1.12	0.44	0.88	0.84	0.78	0.82	2.95

- a - interval 1 = background on 5/18/92; interval 2 = during application on 5/18/92 from 1100-1330; interval 3 = 5/18/92 from 1330-1530; interval 4 = 5/18/92 from 1530-1800; interval 5 = 5/18-19/92 from 1800-0600; interval 6 = 5/19-20/92 from 0600-0600; interval 7 = 5/19-20/92 from 1800-0600; interval 8 = 5/20-21/92 from 0600-0600; interval 9 = 5/20-21/92 from 1800-0600; interval 10 = 5/21-22/92 from 0600-0900; interval 11 = 5/21-22/92 from 1800-0900
- b - not detected, minimum detection limit = 0.0014 $\mu\text{g}/\text{m}^3$ (0.18 ppt) for a 24-hour sample
- c - no sample

Table 37. Summary of monocrotophos ambient air monitoring results in Fresno County. Samples (24-hour) were taken from May 12 through June 9, 1988. The background site was located at the ARB air monitoring station in Fresno.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppb ^b	μg/m ³	ppb		
Tranquility Fire Station	ND ^b	ND	ND	ND	30	0
San Joaquin School	ND	ND	ND	ND	26	0
Field Station, Five Points	ND	ND	ND	ND	30	0
Day Care Center, Huron	ND	ND	ND	ND	24	0
Fresno	ND	ND	ND	ND	8	0

a - micrograms per cubic meter

b - parts per billion

c - minimum detection limit = 0.005 μg/m³ (0.55 ppt)

d - not detected

Table 38a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of monocrotophos. Samples were collected in Fresno County on June 14, 1988 before, during, and for 9 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a						Maximum Positive
	1	2	3	4	5	6	
Sampler A	ND ^b	0.032	0.11	0.006	ND	0.013	0.11
Sampler B	ND	0.026	0.073	0.006	ND	0.009	0.073
Maximum Positive	ND	0.032	0.11	0.006	ND	0.013	0.11

- a - interval 1 = background; interval 2 = during application from 1140-1310; interval 3 = from 1315-1445; interval 4 = from 1450-1620 interval 5 = from 1630-1800; interval 6 = from 1805-2200
- b - not detected, minimum detection limit = $0.005 \mu\text{g}/\text{m}^3$ (0.55 ppt) for a 2-hour sample

Table 38b. Summary of air monitoring results in parts per trillion (ppt) after an application of monocrotophos. Samples were collected in Fresno County on June 14, 1988 before, during, and for 9 hours after application.

ppt

Site	Sampling Interval ^a						Maximum Positive
	1	2	3	4	5	6	
Sampler A	ND ^b	3.6	12.0	0.69	ND	1.5	12.0
Sampler B	ND	2.9	8.1	0.71	ND	1.0	8.1
Maximum Positive	ND	3.6	12.0	0.71	ND	1.5	12.0

- a - interval 1 = background; interval 2 = during application from 1140-1310; interval 3 = from 1315-1445; interval 4 = from 1450-1620 interval 5 = from 1630-1800; interval 6 = from 1805-2200
- b - not detected, minimum detection limit = 0.005 $\mu\text{g}/\text{m}^3$ (0.55 ppt) for a 2-hour sample

Table 39a. Summary of naled ambient air monitoring results in Tulare County. Samples (24-hour) were taken from May 9 through June 6, 1991. The background site was located at the ARB air monitoring station in Visalia.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a µg/m ³	ppt ^b	µg/m ³	ppt		
Sunnyside Union School, Strathmore	0.065	4.2	0.057	3.7	16	2
Jefferson School, Lindsay	0.062	4.0	0.050	3.2	16	2
Kaweah High School, Exeter	0.06	3.8	0.052	3.3	16	5
U.C. Field Station, Exeter	ND ^d	ND	ND	ND	16	0
Visalia	0.077	4.9	0.06	3.8	16	2

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = 0.04 µg/m³ (2.6 ppt) for a 24-hour sample

d - not detected

Table 39b. Summary of dichlorvos ambient air monitoring results in Tulare County. Samples (24-hour) were taken from May 9 through June 6, 1991. The background site was located at the ARB air monitoring station in Visalia.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
Sunnyside Union School, Strathmore	0.050	5.5	0.029	3.2	16	3
Jefferson School, Lindsay	0.024	2.7	0.024	2.7	16	4
Kaweah High School, Exeter	0.059	6.5	0.039	4.3	16	4
U.C. Field Station, Exeter	ND ^d	ND	ND	ND	16	0
Visalia	0.026	2.9	0.026	2.9	16	3

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.02 \mu\text{g}/\text{m}^3$ (2.2 ppt) for a 24-hour sample

d - not detected

Table 40a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of naled. Samples were collected in Tulare County during June, 1995 before, during, and for 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a			6	7	8	
			3	4	5				
East - 1	ND ^b	3.21	0.34	0.18	0.05	0.11	0.16	0.02	3.21
East - 2	ND	2.93	0.44	0.17	0.03	0.11	0.17	0.02	2.93
West	ND	1.23	0.09	0.01	ND	0.86	0.95	0.14	1.23
North	ND	6.30	0.85	0.13	0.03	2.16	2.08	0.25	6.30
South	ND	0.04	0.07	0.14	0.05	0.45	1.04	0.09	0.45
Maximum Positive	ND	6.30	0.85	0.18	0.05	2.16	2.08	0.25	6.30

- a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = $0.003 \mu\text{g}/\text{m}^3$ (0.19 ppt) for a 10-hour sample

Table 40b. Summary of air monitoring results in parts per billion (ppb) after an application of naled. Samples were collected in Tulare County during June, 1995 before, during, and for 72 hours after application.

ppb

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East - 1	ND ^b	0.21	0.02	0.01	0.003	0.01	0.01	0.001	0.21
East - 2	ND	0.19	0.03	0.01	0.001	0.01	0.01	0.001	0.19
West	ND	0.08	0.006	0.001	ND	0.05	0.06	0.009	0.08
North	ND	0.405	0.05	0.01	0.002	0.14	0.13	0.02	0.405
South	ND	0.002	0.004	0.01	0.003	0.03	0.07	0.005	0.07
Maximum Positive	ND	0.405	0.006	0.01	0.003	0.14	0.13	0.02	0.405

- a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = 0.003 $\mu\text{g}/\text{m}^3$ (0.19 ppt) for a 10-hour sample

Table 40c. Summary of air monitoring results for dichlorvos in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of naled. Samples were collected in Tulare County during June, 1995 before, during, and for 72 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East - 1	ND ^b	0.42	0.09	0.06	0.02	0.06	0.09	0.01	0.42
East - 2	ND	0.40	0.11	0.06	ND	0.06	0.09	0.01	0.40
West	ND	0.13	ND	ND	ND	0.32	0.94	0.11	0.94
North	ND	0.51	0.14	0.04	ND	0.82	0.99	0.23	0.99
South	ND	ND	ND	0.04	0.02	0.25	0.85	0.09	0.85
Maximum Positive	ND	0.51	0.14	0.06	0.02	0.82	0.99	0.23	0.99

- a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
- b - not detected, minimum detection limit = $0.006 \mu\text{g}/\text{m}^3$ (0.66 ppt) for a 5-hour sample

Table 40d. Summary of air monitoring results for dichlorvos in parts per trillion (ppt) after an application of naled. Samples were collected in Tulare County during June, 1995 before, during, and for 72 hours after application.

ppt

Site	Sampling Interval ^a								Maximum Positive
	1	2	3	4	5	6	7	8	
East - 1	ND ^b	46.5	9.96	6.64	2.21	6.64	9.96	1.11	46.5
East - 2	ND	44.3	12.2	6.64	ND	6.64	9.96	1.11	44.3
West	ND	14.4	ND	ND	ND	35.4	104	12.2	104
North	ND	56.4	15.5	4.43	ND	90.8	109	25.5	109
South	ND	ND	ND	4.43	2.21	27.7	94.1	9.96	94.1
Maximum Positive	ND	56.4	15.5	6.64	2.21	90.8	109	25.5	109

a - interval 1 = background; interval 2 = during application; interval 3 = 1 to 3 hours after application; interval 4 = 3 to 7 hours after application; interval 5 = 7 to 15 hours after application; interval 6 = 15 to 24 hours after application; interval 7 = 24 to 48 hours after application; interval 8 = 48 to 72 hours after application
 b - not detected, minimum detection limit = 0.006 $\mu\text{g}/\text{m}^3$ (0.66 ppt) for a 5-hour sample

Table 41. Summary of paraquat ambient air monitoring results in Fresno County. Samples (24-hour) were taken over a four-week period from August 31 through November 5, 1987. The background sites were located at the ARB air monitoring stations in Fresno and Bakersfield.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a μg/m ³	ppt ^b	μg/m ³	ppt		
Tranquility Fire Station	ND ^d	ND	ND	ND	68	0
San Joaquin School	ND	ND	ND	ND	56	0
Field Station, Five Points	ND	ND	ND	ND	66	0
Day Care Center, Huron	ND	ND	ND	ND	62	0
Fresno	ND	ND	ND	ND	38	0
Bakersfield	ND	ND	ND	ND	28	0

a - micrograms per cubic meter

b - parts per trillion. Although paraquat is a particulate, ppt is used here for consistency

c - minimum detection limit = 0.022 μg/m³ (2.1 ppt) for a 24-hour sample

d - not detected

Table 42. Summary of sodium arsenite ambient air monitoring results in the Lodi area of San Joaquin County. Samples (24-hour) were taken over a four-week period February 17 through March 20, 1987. The background site was located at the Agricultural District Office in Lodi.

Monitoring Site	Maximum Positive		2 nd Highest Positive		# Samples	# Above MDL ^c
	^a $\mu\text{g}/\text{m}^3$	ppt ^b	$\mu\text{g}/\text{m}^3$	ppt		
County Rd. Fire Station	0.054	10.2	0.005	0.94	14	6
Micke Grove Park Museum	0.016	3.0	0.012	2.2	14	5
Victor Fire Station	0.076	14.3	0.071	13.2	13	6
Victor School	0.070	13.2	0.006	1.1	13	5
Lodi	0.006	1.1	0.003	0.56	14	3

a - micrograms per cubic meter

b - parts per trillion

c - minimum detection limit = $0.001 \mu\text{g}/\text{m}^3$ (0.19 ppt) for a 24-hour sample

Table 43a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of sodium arsenite. Samples were collected in San Joaquin County during March, 1987 before, during and for 2 hours after application.

$\mu\text{g}/\text{m}^3$

Site	Sampling Interval ^a			Maximum Positive
	1	2	3	
Sampler A	0.26	NA ^b	ND ^c	0.26
Sampler B	0.25	NA	ND	0.25
Maximum Positive	0.26	NA	ND	0.26

a - interval 1 = during application from 0650-1250; interval 2 = from 1300-1400; interval 3 = from 1400-1500

b - not analyzed

c - not detected, minimum detection limit = $0.03 \mu\text{g}/\text{m}^3$ (5.6 ppt) for a 1-hour sample

Table 43b. Summary of air monitoring results in parts per billion (ppb) after an application of sodium arsenite. Samples were collected in San Joaquin County during March, 1987 before, during, and 2 hours after application.

ppb

Site	Sampling Interval ^a			Maximum Positive
	1	2	3	
Sampler A	0.049	NA ^b	ND ^c	0.049
Sampler B	0.047	NA	ND	0.047
Maximum Positive	0.049	NA	ND	0.049

- a - interval 1 = during application from 0650-1250; interval 2 = from 1300-1400; interval 3 = from 1400-1500
- b - not analyzed
- c - not detected, minimum detection limit = 0.03 $\mu\text{g}/\text{m}^3$ (5.6 ppt) for a 1-hour sample

Table 44a. Summary of air monitoring results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) after an application of ziram. Samples were collected in Butte County during March 1994 before, during, and 72 hours after application.

Site	$\mu\text{g}/\text{m}^3$								Maximum Positive
	1	2	Sampling Interval ^a					8	
			3	4	5	6	7		
East	ND ^b	1.69	ND	ND	ND	0.072	NS ^c	ND	1.69
West	ND	0.146	ND	ND	ND	0.051	0.037	ND	0.146
North	ND	2.26	0.478	0.299	0.029	0.077	0.031	0.015	2.26
South - 1	ND	0.40	ND	ND	ND	0.047	0.038	ND	0.47
South - 2	ND	0.40	ND	ND	ND	NS	0.025	ND	0.40
Maximum Positive	ND	2.26	0.478	0.299	0.029	0.077	0.038	0.015	2.26

- a - interval 1 = background on 3/27-28/94; interval 2 = during application on 3/28/94 from 0700-1130; interval 3 = 3/28/94 from 1130-1530; interval 4 = 3/28/94 from 1530-1830; interval 5 = 3/28-29/94 from 1830-0700; interval 6 = 3/29/94 from 0700-1730; interval 7 = 3/29-30/94 from 1730-0700; interval 8 = 3/30-31/94 from 0700-0700
- b - not detected, minimum detection limit = $0.028 \mu\text{g}/\text{m}^3$ (2.24 ppt) for a 12-hour sample
- c - no sample

Table 44b. Summary of air monitoring results in parts per billion (ppb) after an application of ziram. Samples were collected in Butte County during March 1994 before, during, and 72 hours after application.

ppb^a

Site	Sampling Interval ^b								Maximum Positive
	1	2	3	4	5	6	7	8	
East	ND ^c	0.135	ND	ND	ND	0.006	NS ^d	ND	0.135
West	ND	0.012	ND	ND	ND	0.004	0.003	ND	0.012
North	ND	0.181	0.038	0.024	0.002	0.006	0.002	0.001	0.181
South - 1	ND	0.032	ND	ND	ND	0.004	0.003	ND	0.032
South - 2	ND	0.032	ND	ND	ND	NS	0.002	ND	0.032
Maximum Positive	ND	0.181	0.038	0.024	0.002	0.006	0.003	0.001	0.181

a - although ziram is a particulate, ppb is used here for consistency
b - interval 1 = background on 3/27-28/94; interval 2 = during application on 3/28/94 from 0700-1130; interval 3 = 3/28/94 from 1130-1530; interval 4 = 3/28/94 from 1530-1830; interval 5 = 3/28-29/94 from 1830-0700; interval 6 = 3/29/94 from 0700-1730; interval 7 = 3/29-30/94 from 1730-0700; interval 8 = 3/30-31/94 from 0700-0700
c - not detected, minimum detection limit = 0.028 $\mu\text{g}/\text{m}^3$ (2.24 ppt) for a 12-hour sample
d - no sample