FINAL AIR MONITORING PLAN FOR BUTTE COUNTY STUDY: MCPA DRIFT

A cooperative project involving the California Department of Food and Agriculture (CDFA) and the Agricultural Commissioners of Butte and Yuba counties.

I. OBJECTIVE

To determine the presence (quantitative) or absence of MCPA in selected areas and differentiate whether any MCPA detected is a direct result of aerial movement from an application site or a result of post application revolitalization.

II. MONITORING PLAN

The study in Butte county will involve the following:

a. Determination of ambient MCPA and tracer concentrations on a daily basis at Ord Bend Farms and Honcut School.

b. Chamber studies of pistachio seedlings exposed to ambient levels of MCPA utilizing filtered and non-filtered air at the Ord Bend Farms.

c. Vector studies of MCPA and tracer concentration gradient from an application field to a sensitive area: both Honcut and Ord Bend Farms.

The cooperative MCPA monitoring plan summarized above will be under the overall supervision of Ronald J. Oshima, Environmental Hazards Assessment

Program (EHAP) and will involve cooperation from the Agricultural Commissioners' staffs. Key personnel participating from EHAP-CDFA are listed below, along with their responsibilities:

Tom Mischke

Responsible for the selection of sampling methodology, preparation of sampling mediums, and all aspects of the chemical analysis of collected samples. Phone (916) 322-2395 or ATSS 492-2395.

Lee Neher

Responsible for study design, all technical aspects used in sampling, supervision over the collection, storage, and transport of samples, and dissemination of progress and final reports. Phone (714) 787-4684 or ATSS 651-4684.

Chris Walby

Responsible for maintaining liaison within CDFA and between EHAP and the county Agricultural Commissioners' staffs. She will also be responsible for implementation of all technical aspects of the vector studies portion of the overall monitoring program, including site inspection, performing the actual sampling, collection and delivery of samples to Sacramento labs. Phone (916) 322-2395 or ATSS 492-2395.

Ingrid Carmean

Responsible for implementation of all technical aspects of the daily air monitoring at Ord Bend Farms and Honcut along with the exposure chamber studies at Ord Bend Farms. Phone (916) 322-2395 or ATSS 492-2395.

During the period of this study, Pesticide Use Enforcement Program will assist with monitoring the use of the selected tracer element in all aerial applications of MCPA within the designated five (5) mile radius of both Honcut and Ord Bend Farms. Roy Rutz will be the contact person for Pesticide

Use Enforcement. Phone (916) 445-6983 or ATSS 485-6983.

It is understood that the county Agricultural Commissioners' staffs will assist in locating sampler sites, establishing communication and the cooperation of property owners involved, provide a county map showing areas planted in rice during previous years, and provide access to pesticide use reports covering the study time period.

Further, the Agricultural Commissioners of both counties will implement new regulations stipulating that all aerial applications of MCPA within a five (5) mile radius of the town of Honcut and within a five (5) mile radius of Ord Bend Farms must contain a chemical tracer to be furnished by the Environmental Hazards Assessment Program (EHAP).

SAMPLING METHODS

Sampling and chemical analysis will be limited to determination of:

1. The amount of MCPA collected on both filter and resin medium from each designated site. This will be accomplished by using a hi-volume sampler to draw a known amount of air through a 4" diameter glass fiber filter followed by a bed of XAD-2 resin for a specified length of time.
2. The amount of tracer collected on a filter medium from each designated site. This will be accomplished by drawing a known amount of air through an 8" x 10" glass fiber filter for a specified length of time.

IMPLEMENTATION TIMETABLE

1. 21 May, 1980 to 1 June, 1980 -
   a. Potential vector locations will be established for later drift studies at both Honcut and Ord Bend Farms.

b. A location will be selected on the Ord Bend Farms for placement of the two exposure chambers. The actual chambers will be set up and pistachio seedlings brought in.

2. 21 May, 1980 to 15 August, 1980 -

a. Daily, 24-hour air sampling to determine levels of MCPA and tracer will take place at both Ord Bend Farms and Honcut. Initially, soil samples will also be taken prior to the actual use of the tracer to verify the absence of tracer material in the soil make-up at both locations.

b. One hi-volume sampler will run during a period of heavy spraying in the immediate vicinity of the application fields near Honcut. This will establish the ratio of MCPA to tracer material.

c. Six hi-volume samplers will be operated for eight hours on a maximum of 10 application or post application days. The samplers will be located two (2) per each section of the Ord Bend Farms pistachio orchard and will determine levels of MCPA and tracer.

3. 1 June, 1980 to 15 August, 1980 -

a. Four separate drift studies will be performed, two near Honcut, and two near Ord Bend Farms. Each of these four studies will involve five sampling points distributed from the application field to the respective sensitive area. The gradient of MCPA and tracer concentration will be established along the sampling vector line, for the period during aerial application and for one hour post application.

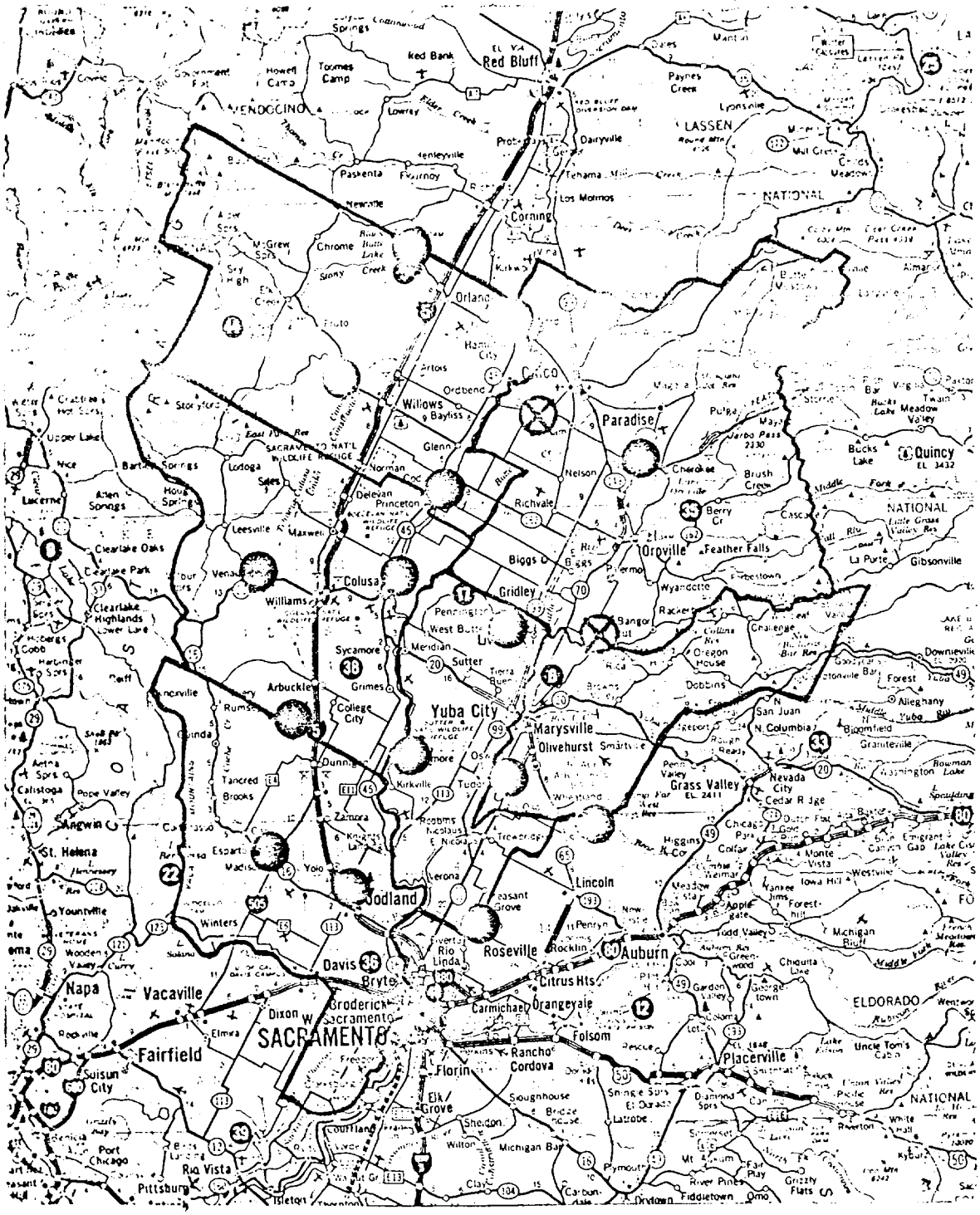
b. Two separate drift studies will be performed at locations selected by the Butte County Agricultural Commissioner. For these two studies only, no drift retardant will be used and five sampling points will be selected along a downwind vector to determine levels of both MCPA and tracer.

c. An exculsion study consisting of filtered and unfiltered teflon chambers each covering 10 seedling pistachio trees, will be conducted on the Ord Bend Farms. Blowers will operate 24-hours a day to deliver positive pressure, constant air exchange to each chamber.

Upon completion of the monitoring period (2 August, 1980) instruments, equipment, and documentation of MCPA applications will be collected by EHAP personnel.

A draft final report will be submitted to each Agricultural Commissioner involved for review at the earlist possible date after the chemical analyses are completed.

Dated - July 15, 1980



SAMPLE LOCATION MAP

MCPA Air Basin Study

● = 16 Sampler Locations

⊗ = Ord Bend & Honcut Samplers

MCPA Study-Sampling With Hi-Vols

Pre-sampling:

1. Pick up filter and resin canister for study. Sign the Chain of Custody Records and record the date. Use ball point pen only!

2. For each sampling site you will need:

    1@ Hi-Vol with flow controller
    1@ Resin canister holding plate with top ring and wing nuts
    3@ Rubber gaskets
    1@ Coarse mesh stainless steel screen
    1@ Screen support
    1@ Timer
    1@ Glass fiber filter
    1@ Resin canister

Sampling:

1. Place resin canister holding plate on Hi-Vol. Firmly fasten down the four wing nuts.

2. Remove the top ring and wing nuts from the holding plate.

3. Carefully center a gasket on the plate between the three rods.

4. Remove and save teflon film and rubber bands from resin canister. If site is to be sprayed do not leave the teflon with sampler.

5. Center the resin canister on the gasket.

6. Carefully center a second gasket on the top lip of the resin canister.

7. Place a support wire on the gasket.

8. Place the coarse screen on the gasket and over the support wire.

9. Place a glass fiber filter on the screen. The number goes down.

10. Carefully center the third gasket on the filter.

11. Place the top ring on the resin canister.

12. Turn sampler on.

13. Tighten the three wing nuts on the resin canister to seal the screen, canister and filter to the holding plate.

14. If a timer is used, turn sampler off and set timer.

Post-sampling:

1. Turn sampler off.
2. Carefully remove top ring from canister.
3. Remove and fold filter in half with collection side inward.
4. Remove screen, screen support and top gaskets from resin canister.
5. Remove resin canister from holding plate.
6. Place folded filter in resin canister.
7. Cover ends of canister with teflon and seal with rubber bands.
8. Fill out Chain of Custody Record.
9. Use coarse screen for next sample but replace gaskets if they are flattened or have been exposed to direct spray. If they have been exposed to direct spray discard them. Support screen used on samples that were sprayed directly should be cleaned. Return these to the lab.
10. Transport samples using cooler and dry ice. Keep samples out of sunlight and frozen.

General Notes:

- Never run sampler without a filter.
- Do not pour resin down sampler into motor.
- Do not use filters which have been torn, folded or cracked in the collection area.

Dated - May 19, 1980

Tracer Study: Sampling

Pre-sampling

1. Pick up filters for study. Sign Chain of Custody Record and record date. Use ball point pen only! Be sure you have the proper filter. The tracer study filters are 8" x 10" glass fiber filters.

2. Make sure the filter envelope has sufficient aluminum foil in it to wrap filter after sampling.

Sampling

1. Remove rectangular filter hold-down frame from sampler. Make sure sampler is off.

2. Place filter on sampler screen numbered side down. Touch filter only at edges.

3. Replace hold-down frame and tighten the four wing-nuts firmly.

4. Turn sampler on.

Post-sampling

1. Turn sampler off.

2. Remove filter hold-down frame.

3. Carefully fold filter in half so that the collection surface is on the inside.

4. Seal the filter in aluminum foil and place it back inside folder. Place folder inside envelope.

5. Fill out information on Chain of Custody Record.

General Notes

- Never run the sampler without a filter on it.

- Do not use filters which have been torn, folded or cracked in the collection area.

Dated - May 19, 1980