Department of Pesticide Regulation
Environmental Monitoring and Pest Management
1220 N Street, Room A-149
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PROTOCOL TO MONITOR AIR CONCENTRATIONS OF METHYL BROMIDE FROM COMMODITY FUMIGATIONS

I. Introduction

Recent toxicology data reviewed by the department indicates that the current margin of safety for methyl bromide may be inadequate. Therefore, monitoring studies are needed to determine amounts in the air and to develop appropriate mitigation measures for commodity fumigations. If necessary, the department will use a computer simulation model to evaluate alternative regulatory strategies. This pilot study will collect information that may be used in the process to validate the model.

II. Objective

To collect information that may be used as part of a data set to validate a computer model. This model will be used as one method to evaluate possible regulatory strategies for commodity fumigations with methyl bromide.

III. Personnel

This study will be conducted by the Environmental Hazards Assesment Program (EHAP) under the general directions of Dr. Kean S. Goh, Acting Program Supervisor. Key personnel are listed below:

Project Leader: Randy Segawa
Senior Staff Scientist: Bruce Johnson
Study Design/Data Analysis: Terri Barry
Field Sampling: Carissa Gana and Dave Kim
Laboratory Liaison/Quality Assurance: Nancy Miller
Chemical Analysis: Paul Lee
Agency and Public Contact: Madeline Ames

Questions regarding this study should be directed to Madeline Ames, 916-654-1141.

IV. Sampling Plan

Specific study parameters such as sampler locations and sampling periods will be tailored to the specific site monitored. General guidelines are given in the attached document.

Air will be sampled with SKC® personal sampling pumps using activated charcoal tubes. The SKC® pumps will be calibrated to draw 11 liters of

air during the run-time. After collecting the samples, the tubes will be capped, labelled with a sample number and placed on dry ice for shipment.

V. Chemical Analysis

Chemical analysis will be performed by the California Department of Food and Agriculture laboratory in the Environmental Monitoring Section. The methyl bromide samples will be extracted with ethyl acetate and then analyzed by gas chromotography with an electron capture detector. To assure analytical integrity, method validation, matrix spikes and blanks will be used as quality control procedures.

VI. Data Analysis

Actual monitoring results will be compared to those predicted by the computer model.