

**PROTOCOL FOR MONITORING THE  
GYPSY MOTH ERADICATION PROJECT, 1987**

**I. OBJECTIVE**

To monitor the environmental levels of the pesticide used for the Gypsy Moth Eradication Project.

**II. PERSONNEL**

Monitoring of the spray program will be conducted by the California Department of Food and Agriculture's (CDFA) Environmental Hazards Assessment Program (EHAP). This monitoring program will be under the overall supervision of Don Weaver. Other key EHAP personnel are listed below.

**Randy Segawa** - Supervision of all aspects of the Gypsy Moth monitoring program.

**Mary Brown** - Responsible for the dissemination of monitoring results, and liaison for other agencies, public and media.

ALL QUESTIONS CONCERNING THIS PROGRAM SHOULD BE DIRECTED TO MARY BROWN AT 916-324-8916 OR ATSS 454-8916.

**III. MONITORING PLAN**

Monitoring will take place in Los Angeles County, and will be initiated at the same time as the treatment program in mid-March. Samples of air, soil, foliage and water will be collected and analyzed for diflubenzuron (Dimilin) to estimate the variation of pesticide concentrations.

A maximum of two residential properties will be monitored. Samples will be collected at each of the monitored properties according to the

following timetable. In addition, background samples will be collected prior to the start of the treatment program.

1. Air - day before each application, during application, immediately after application, and the day after application.
2. Soil - once per week for eight weeks.
3. Foliage - once per week for eight weeks.
4. Water - samples will be collected from pools and/or ponds immediately after treatment.

#### IV. SAMPLING METHODS

A. Air (32 samples) - Two replicate air samples will be collected with high volume air samplers at each property. The samplers will be calibrated at 1000 liters per minute, and use XAD-2 as the trapping medium. All background and post-application sampling periods will be three hours in duration; the application sampling period will coincide with the time of application to the property.

B. Soil (36 samples) - At each property, two replicate samples will be collected from the top 2.5 centimeters. Each sample will be comprised of approximately 500 grams of soil collected at random from each quadrant beneath treated trees.

C. Foliage (36 samples) - At each property, two replicate leaf samples will be collected and analyzed for dislodgable residue. Each sample will be comprised of approximately 30 leaves, collected at random from each quadrant of several trees.

D. Water (10 samples) - Two replicate samples will be collected in glass containers.

**V. SAMPLE STORAGE AND SECURITY**

All sampling media and containers will be prepared and prenumbered at the CDFA Meadowview Operations Center. Each container will be shipped to the sampling sites with an accompanying chain of custody record. The chain of custody will be filled out by all persons handling the sample. This form will also be used to record sampling data and the results of the chemical analysis. After collection, all samples will be immediately cooled with wet or dry ice, and kept refrigerated or frozen until analysis.

**VI. CHEMICAL ANALYSIS AND QUALITY CONTROL**

The chemical analysis will be performed by the CDFA Chemistry Laboratory Services, and other laboratories as necessary. All samples will be analyzed for diflubenzuron, with the following quality control measures:

**A. Methods Development**

1. Blank-Matrix Spikes - 5 replicate at each of 2 levels
2. Standards - 5 replicate injections

**B. Continuing Quality Control**

1. Solvent Spikes - 1 per extraction set
2. Solvent Blank Analyses - 1 per extraction set
3. Blank-Matrix Spikes - 1 per extraction set
4. Replicate Extract Injections - 5 replicate injections for 2% of samples
5. Split Matrix Samples - 5% of actual samples

Contact EHAP for further explanation of analytical methods and quality control.