

PROTOCOL TO SURVEY MOLINATE AND THIOBENCARB  
CONCENTRATIONS IN SOIL CORES

I. INTRODUCTION

This study will examine soil cores from fields where Molinate (Ordram<sup>®</sup>) and Thiobencarb (Bolero<sup>®</sup>) have been applied. Molinate and thiobencarb are two herbicides used solely for the production of rice. Certain factors such as direct application to flooded soil and water management practices may increase the likelihood of movement through soil. This study is the second phase of a two phase project investigating the possibility of ground water contamination by these rice herbicides. The first phase surveyed well water in rice production areas for molinate and thiobencarb.

II. OBJECTIVE

To determine the vertical distribution of molinate and thiobencarb in different soil types.

III. PERSONNEL

This study will be conducted by the California Department of Food and Agriculture (CDFA), Environmental Hazards Assessment Program (EHAP) under the overall supervision of Don Weaver. Other personnel have responsibilities in the following area:

- John Troiano: study design and data analysis
- Randy Segawa: field sampling and laboratory liaison

- Mary Brown: liaison to other agencies and the public

ALL QUESTIONS ABOUT THE STUDY SHOULD BE DIRECTED TO MARY BROWN AT  
(916) 324-8916, ATSS 454-8916.

#### IV. SAMPLING PLAN

Soil samples will be collected from a maximum of three fields. Fields will be selected using the following criteria: pesticide application history, soil type, and if possible, location near a positive well from Phase I. One core will be drilled from surface to ground water at each field. Samples will be collected in 6-inch segments using EHAP's mobile drill.

#### V. ANALYTICAL METHODS AND QUALITY CONTROL

Samples will be analyzed for the parent compounds and sulfoxide breakdown products. Dichloromethane will be used to extract the pesticide, and the extracts analyzed by gas chromatography and/or high pressure liquid chromatography.

The quality control program will include the standard EHAP intralaboratory quality control measures. The interlaboratory quality control measures will consist of the following analyses by the primary lab and alternate lab.

1. Split analysis of reference sample - 5 analyses by each lab of a reference soil sample.
2. Split analysis of extracts - 5% of all samples or 20% of all positive samples, whichever is less.
3. Split analysis of standard solution.

VI. STUDY TIMETABLE

Field Work	-	November 1 - November 29, 1985
Sample Preparation	-	November 29 - January 3, 1986
Chemical Analysis	-	January 3 - February 28, 1986
Data Analysis	-	February 28 - April 25, 1986
Report Preparation	-	April 25 - July 31, 1986

10/18/85