

## PHEROMONE DISPENSER FORMULATIONS FOR USE IN GYPSY MOTH MANAGEMENT PROGRAMS

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### ABSTRACT

The sex attractant pheromone, disparlure, is utilized in several aspects of gypsy moth (*Lymantria dispar* L.) management programs. These include detection of new infestations, assessment of population levels of existing infestations, and disruption of mating communication in control efforts. Each of these applications requires the development of an effective and commercially feasible dispensing system. In 1989 efforts were undertaken to biologically and chemically evaluate 11 different controlled-release pheromone dispensers from 7 commercial firms for use in the detection traps deployed by the Animal and Plant Health Inspection Service. In addition, results were obtained on dose/response in 3 population levels using a new PVC dispenser containing 1 ng to 10 mg of disparlure. A new ARS dispenser was found to be equal to the preferred commercial dispenser for detection. A 1 µg PVC dispenser was selected for additional study in monitoring established populations.

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## DEVELOPMENT OF A PHEROMONE-BAITED TRAP TO MONITOR GYPSY MOTH POPULATIONS

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### ABSTRACT

The standard milk carton trap baited with 500 µg of (+) disparlure has worked very well in detecting populations of gypsy moth in regions where it is just becoming established. However, it has not been useful in New England or anywhere within the area generally infested by gypsy moth. In such areas, the traps fill up with males even in populations of extremely low density. Repeated sampling of such traps during the flight season is neither practical nor advisable. We have explored several strategies for modifying the trap to reduce the number of males captured. These are: 1) baiting the trap with racemic disparlure, 2) baiting with a low release rate (+) disparlure dispenser and 3) modifying the trap so that it is difficult for males to get into. We have explored whether traps based on any of these modifications would be correlated with other estimates of local population density (egg mass counts or pupal counts under burlap). Other experiments and behavioral observations have aimed at elucidating the factors which influence trap catch.