

SUMMARY OF THE BLACKMO 88 SPRAY EXPERIMENT

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ABSTRACT

The Blackmo 88 spray trial experiment was conducted for two primary purposes: To quantify the effects of local micrometeorological processes, in and near the canopy, on the deposition patterns of aerially applied BT in a mature oak forest; To generate a data set containing simultaneous measurements of spray deposition and detailed micrometeorology, in a canopy of known structure, that could be used to verify the FSCBG spray deposition and penetration model in oak forests.

The experiment was a cooperative venture between the Pesticides Research Lab at Penn State, the forest meteorology research project at UCONN, APHIS and the FPM AIPM project. The sampling and measurement of spray deposition patterns were conducted by the Penn State Lab personnel and the micrometeorology measurements were conducted by the UCONN personnel. Eighteen single swath runs were made with an APHIS ag-truck when the spray deposition and canopy penetration and the micrometeorological conditions were monitored.

The experiment was conducted in a fully leafed, 20 m tall, oak forest in the Black Moshannon State Forest near State College, PA. Canopy photographs during the 1988 experiment were used to calculate the leaf area density at that time. Then, during the following summer (1979) extensive follow-up measurements of vertical leaf area profiles were made. Data and preliminary results from the experiment are given in four other papers in this meeting. Verification analyses of the FSCBG model are now being conducted. The results of this experiment have led to plans for a similar follow-up experiment in the spring of 1990 shortly after leaf bud break, during the gypsy moth first instar. This second experiment will be aimed at determining the conditions necessary to deliver spray materials to the early spring understory vegetation.

GYPSY MOTH MANAGEMENT PROGRAM FOR MODERATELY SIZED URBAN PARKS AND OTHER WOODED PUBLIC LANDS

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ABSTRACT

Specialized gypsy moth (*Lymantria dispar* L.) management programs were developed for moderately sized, high-valued forested public lands. Intensive egg mass sampling, monitoring of aerial applications, and modified treatment thresholds were employed, and multiple applications of *Bacillus thuringiensis* (B.t.) were used where appropriate. The programs were implemented on five Maryland county parks and the Beltsville Agriculture Research Center. Larval mortality averaged 69, 86, and 93% under one B.t., two B.t., and diflubenzuron (Dimilin™) applications, respectively. No noticeable defoliation occurred in blocks treated with diflubenzuron or 2 B.t. applications, and defoliation was noticeable on less than 4% of the acreage treated once with B.t. A computer-based decision support system is being developed to facilitate technology transfer.