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Progress Report II

(Nov. 1, 1987 - Apr. 30, 1988)

Project No. C5-028

Project Title: Optimization of foliar-applied formulations for the control of tobacco whitefly (Bemisia tabaci) under field conditions.

A)

Activities:

Meeting with Thai investigator in Israel

DATE: Feb. 28, 1988- March 1, 1988.

PARTICIPANTS: Mr. A. Vattanatangum (TD), Dr. Dan Veierov (IL)  
Dr. M.J. Berlinger (IL), Mr. Y. Melamed (IL).

THEMES: The on-going projects in Israel and Thailand were discussed.

Special attention was paid to the technical work problems, such as methods of trapping and population measurements, and for summing up the trapping results of the first season of tomatoes in Thailand.



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B)

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Work undertaken in Israel

1. WATER-EMULSIONS.

- 1.1 Leaf penetration of two commercial preparations of chlorpyrifos, namely Dursan 4, Pyrinex and of fenpropathrin (Smash) were determined after runoff spray to tomato foliage under field conditions.
- 1.2 Factors affecting leaf penetration of the above mentioned emulsions were studied under semi-controlled laboratory conditions.
- 1.3 The relative toxicity of the inner and the on-leaf pyrethroid foliar deposits was initiated under laboratory conditions.
- 1.4 Rainfastness of the above mentioned formulations was determined after their application to tomato leaves as high-volume spray.
- 1.5 The effects of the addition of oils into water-based formulations on the foliar behavior of the pyrethroid was initiated.

2. OIL SOLUTIONS.

- 2.1 Characterization of several physical properties of oils commercially used as bases for insecticides adjuvants and diluents in Israel was performed.
- 2.2 The foliar decay of the water emulsion of Smash and of Pyrinex was studied after their application to tomato leaves as discrete drops.
- 2.3 The relative rainfastness of different oil solutions of technical chlorpyrifos and of fenpropathrin after their application to tomato and cotton foliage has been determined.

C)

Work undertaken in Thailand

Field activity in Thailand started in December 1987, following the visit of Mr. Y. Melamed (4-20 November 1987).

Since cotton is not usually grown in the dry season, the first experiment has been done in tomatoes.

A plot of tomatoes was sown and transplanted at Kampanget Farm. The plot was divided into two parts: one under regular insecticide regime and the other was kept insecticide-free for population studies.

Weekly counting of adults of tobacco whitefly was performed with the aid of yellow sticky traps set horizontally at the canopy height.

In addition, leaf samples were taken fortnightly from different parts of the plants and were subjected to parasite identification and counting.

Similar trial is expected to be carried out in cotton at the coming rainy season.