I. Red Spider Mite Control on Eggplants

We have observed severe infestations of red spider mites on eggplants in several locations in Florida this summer and fall. However, many plantings were found to be almost completely free of red spider mites. Apparently, success or failure in prevention of mite damage on eggplant or any other crop is associated with methods employed by the grower to control this pest.

It should be pointed out that spider mites multiply rapidly at higher temperatures. Infestations appear to be most critical during periods of hot, dry weather. Good red spider mite control is dependent upon early detection and prevention of buildup of large populations. By early detection, spider mites can be attacked when they are most vulnerable from the standpoint of age population numbers and amount of webbing. With time populations build up rapidly and webbing becomes so heavy that penetration with a good insecticide is almost impossible. The recommended insecticides listed on page 17 of Extension Circular 193G should be applied in a large volume of water (100 to 200 gallons/A) by a good, boom sprayer with adequate nozzles to get complete coverage on both surfaces of the leaf.

II. Looper Control in Vegetable Crops

Cabbage looper is still one of the most serious problems in all pest control facing the vegetable growers of Florida today. Many growers
report only poor to fair control with the use of parathion + toxaphene mixtures. More recently, the Bacillus preparations (Bacillus thuringiensis) have shown some degree of promise. In some cases, control has been improved by using a mixture of parathion-toxaphene + the bacterial preparation (trade names - Bietral and Thuricide). Even this has not solved the problems to the growers' general satisfaction.

Two developments in recent months might tend to help solve the problem of looper control. One is the approval of a new insecticide, methomyl (trade name - Lannate), for use on a number of vegetable crops. These include broccoli, Brussels sprouts, cabbage, cauliflower, sweet corn, lettuce and tomatoes. Growers are advised to check the label carefully.

The other development is the release of "Dipel," a Bacillus preparation reportedly more effective than strains used previously. From limited research work, which is available in Florida on this new strain of Bacillus, indications are that it is very promising. Dipel is manufactured by Abbott Laboratories and is to be marketed by a supply dealer in Florida.

Manufacturers of the old strains of Bacillus are reportedly working on improvement with their Bacillus preparations. They, too, are expected to introduce new and better preparations.

III. Solution Testing for Hydroponics

Some of the techniques used in the Intensity and Balance (I & B) method of soil testing have been applied to hydroponics with good success. Until recently, determination of the amount and sources of fertilizers for hydroponics has been on a hit and miss basis. This is no longer true with the use of I and B.

It is a simple procedure to determine total soluble salts in a hydroponic solution with a Solu-bridge. This gives a measure of the total amount of fertilizer salts in the solution. We have found that concentration can be stepped up to a higher level than was thought necessary in the past. An average concentration of 2,000 ppm is considered to be a safe mid-point for vegetable crops. The more salt tolerant crops like tomatoes can be raised to 2,500 ppm but for susceptible crops such as the strawberry, the solution should be maintained at about 1,500 ppm.

The solution can, also, be analyzed for determination of "balance" among some of the more important plant nutrients. This analysis can be used to correct deficiencies or toxicities very simply by adding or withholding the nutrients in question.

IV. Bromine Injury on Potatoes

Growers planning to fumigate for nematode control before planting potatoes should be cautioned to avoid fumigants containing bromine such as EDB. Reportedly, EDB has been used at Homestead on the marl soil without any injury resulting to the potato crop.
At Hastings, however, injury was observed in several potato fields last season and in one field the previous year. EDB fumigated plots were slow in emergence and yields were reduced significantly. EDB is labelled for potatoes and can be used legally. It is possible that potatoes in other areas of the state growing under different climatic and soil conditions may not be injured. Nevertheless, we feel growers should be warned of the potential dangers involved.

Materials that are approved for nematode control of potatoes and shown to be safe are D-D, Vidden D, Telone and Vorlex.

V. Market Potential for Additional Vegetable Crops in Florida

On too many occasions, new vegetable growers attempt to establish themselves in the business by producing the more common vegetables that are presently grown in abundant supply in Florida. This market is often glutted and competition for outlets is always keen.

We have often advised that growers look at other crops that might be produced and marketed at a profit. Those crops that are not produced in sufficient supply to meet the needs of Florida fall in this category. Examples of such crops are sweet potatoes, onions, broccoli, cauliflower, etc. Some of these were quite important crops in Florida in the past. Others have been tested adequately to assure us that they can be grown economically.

A second category is the "speciality crops." These are the many minor crops that are consumed by certain types of restaurants, processors, ethnic groups, etc. Some examples of the speciality crops are prepackaged, shelled table legumes and certain types and varieties of vegetables used by Chinese, Italian, Cuban and other ethnic groups. The marketing of these crops entails a search for the market outlet before production is undertaken. This is, also, true for the first category of groups discussed above. Growers should check market outlets to determine what is needed, when it is needed most and how it should be prepared for market.

Sincerely,

James Montelaro
Professor (Vegetable Crops Specialist)