



*Vegetable Crops Department*

## VEGETARIAN

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### I. Sidedressing Watermelons

In the last issue of the *Vegetarian*, combinations of ammonium nitrate and potassium nitrate were suggested as good sidedressing materials for watermelons. This was not meant to exclude the many other materials available for this purpose and which can be used to good advantage.

Included are such materials as nitrate of soda-potash, sulfate of potash, muriate of potash, calcium nitrate, sodium nitrate, certain liquid mixtures, etc. Growers should understand the factors involved which affect selection of the material for sidedressing. Factors such as pH, calcium and sodium levels, soluble salt levels, amounts of nitrogen and potassium in the soil, stage of plant development, plant condition, temperature, etc., should be considered. Certain changes in one or two of the above factors might tend to make one or a combination of the materials listed more or less beneficial than others. Selection of the right source is just as important as amount of nutrients and timing of sidedressings.

### II. Potato Seed-Piece Treatment

Almost without fail each season potato growers somewhere in Florida experience problems associated with emergence of seedlings. In many cases

stands are reduced, subsequent disease problems are intensified and finally yield and grade are often reduced significantly. The relatively new Potato Seed Regulation of the Florida Department of Agriculture has done much in recent years to alleviate the above problem.

However, more needs to be done. Some very promising research work on seed-piece treatment, now in its second year at Hastings, offers excellent promise. Dr. Weingartner has made some interesting observations in his studies. First, he noted that treatment of seed pieces in all cases resulted in earlier emergence of plants than in untreated plots. (NOTE - Earlier emergence did not necessarily result in better stands or increased yields.) Secondly, he observed significant benefits from seed-piece treatment when poor quality potato seed was used or where environmental conditions were not good for seedling emergence.

The four materials tested were Polyram, Manzate 200, Dithane M-45 and Captan. All four performed very well. The added insurance against seed-piece decay, which can be gained at a nominal cost by the use of the materials listed, makes potato seed-piece treatment a worthwhile practice for potato growers in Florida.

### III. Fertilizer Salt Injury to Germinating Crops

The writer recently observed a newly-seeded vegetable field where a very small quantity of soluble fertilizer was placed in contact with the seed in the drill. The only spot in the whole field where germination was satisfactory was where the distributor was cut-off for a short distance in the middle of the field. The land had already been adequately supplied with fertilizer applied broadcast and disked into the soil. The additional "in the drill" fertilizer could offer very little benefit and, as expected, could result in severe injury to seedlings.

Fertilizer salt applications in the seed drill, above the seed drill, directly below the seed drill, or too close to the sides of the drill are definitely not recommended. The only exception to this is the possible use of not more than one-hundred pounds of superphosphate in the drill. This material has a low salt index and can be beneficial when soil phosphorus is not available for one reason or another. One thing to remember is that young seedlings can be injured at much lower salt levels than the same plants at a more advanced stage of growth.

### IV. Improved Seedling Development Techniques

To enumerate the many hazards that seeds and seedlings are subjected to in the field would require considerable space in newsletters. Growers recognize the importance of getting a good, uniform stand of a vegetable crop off to a fast start. Much research effort now is being directed to the solution of this problem. Such things as seed sizing and precision seeding have been discussed in past newsletters. Seed pre-conditioning, seed tapes, pelleted seed, etc., are other methods being tested commercially. Two rather recent developments in this area that Florida vegetable growers should look into are:

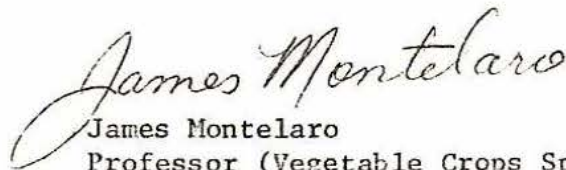
(a) "Plug-Mix" Seeding Method

Starting with an idea three years ago, Mr. N. C. Hayslip has evolved a technique which shows great promise for planting small seeded crops. Basically, the plug-mix approach is a direct seeding method whereby seed is placed in a matrix of carrying media, slow-release nutrients and water. A predetermined amount of the mixture is plugged into a slight depression in the soil and lightly compressed. With careful irrigation and other practices to reduce salt injury, temperature injury, etc., the plug-mix method is capable of producing uniform, vigorous stands of certain vegetable crops. (NOTE - Mechanization of plug-mix application will certainly make the technique even more worthwhile in the future.)

(b) Containerized Transplant Production

There has been a significant increase in the amount of research and development work being done on the production of containerized vegetable transplants. Some of this work is being done by manufacturers of various types of plant containers, private companies and grower groups. Considerable acreage of trellised tomatoes grown on full-bed plastic cover this season was started with containerized transplants. Interest is, also, developing rapidly among growers of other vegetable crops. It will be interesting over the next few years to watch developments in use of direct seeding and transplants and to see which of the two methods becomes the accepted practice.

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