

VEGETARIAN

November 30, 1964

TO: ALL COUNTY AGENTS, ASSOCIATES AND ASSISTANTS

The Florida State Horticultural Society meeting held on November 4-6, was one of the best yet. Thirty-two papers were presented in the Vegetable Section. As many, or more, were presented in each of the other four sections. This annual meeting should be a must for anyone engaged in any phase of horticulture. This is especially true for County Agricultural Agents, who, in many instances, work with all phases of horticulture.

In this issue of the Vegetarian, we have chosen to review some of the papers presented in the Vegetable Section which we feel may have practical application to your problems now. All of the papers, including many excellent reports not reviewed here, will be published in the Society Proceedings due next spring. Get a copy for your library.

Sincerely,

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1. - Dr. V. L. Guzman of the Everglades Experiment Station presented an excellent paper on "Soil Temperature and Celery Seed Germination". He found that celery seed germination was stopped at a temperature of 100.5° F. Even though some seed germinated at 95° to 98° F., growth of seedlings was greatly reduced.

He concluded from this work that soil temperatures should be prevented from rising above 90° F. in celery seedbeds. Common practice is to shade celery seedbeds with cheesecloth during the hot months of the year. These same principles apply to many other vegetable crops started in hot weather in Florida.

2. - Dr. Guzman also reported on a study in which he compared a so-called "precision planter" versus a conventional planter now commonly in use. In general, he concluded that the conventional planter was as good or better than the precision type planter tested for two seasons.

The results of the second test were more nearly equal in yield and quality, indicating that refinements made in use of the precision planter are promising.

Labor shortage may, in the near future, force growers to use precision planters to a greater extent. There is every reason to believe that this type of planter can be improved considerably and should be in general use within the next few years.

3. - Dr. Phil Minges, Cornell University, in a report on "blotchy ripening" of tomatoes proposed that this disorder encompasses several abnormal conditions previously thought to be unrelated. He stated "that two internal expressions, namely abnormal "white tissue" and dead "brown tissue" are the basic symptoms and lead to a range of external expressions depending on the location of the white tissue in the pericarp wall". Graywall, according to his theory, is an expression of the same underlying factors causing surface blotchy ripening or internal white tissue.

He has been able to virtually eliminate the disorder in greenhouse nutritional studies. His work sheds considerable light on a baffling problem. It is an excellent start that may eventually lead to practical control.

4. - Dr. Paul Sutton, Strawberry Investigations Lab., reported on NPK fertilization of collards. He found that nitrogen levels had the most significant effect on increasing yields. Nitrogen intensified the green color of the leaves as well as improving quality in general. The responses to P and K were generally small.

5. - Doctors S. J. Locascio, P. H. Everett and J. G. A. Fiskell, working jointly in Gainesville and Immokalee, described copper deficiency in watermelon found on Leon fine sand at Gainesville. Copper deficiency caused a severe stunting and poor or no fruit set.

Addition of 3 pounds of CuEDTA (a chelated copper), 10 pounds Frit 503, or one-fourth of the nitrogen from Chicago Sludge controlled the problem. Chicago Sludge was found to contain significant amounts of copper.

6. - Fertilizer placement, use of organic nitrogen and time of applying plastic mulch was the subject of another paper presented by Dr. Locascio. In this study, he found no significant effect from organic over inorganic nitrogen. When fertilizer was applied broadcast, highest yields were obtained by applying plastic mulch at planting. Banded fertilizer produced the highest yield when the fertilizer application was split and the mulch was applied one month after planting. Yields were not affected by time of fertilizer and mulch application when one-half of the fertilizer was broadcast and one-half was banded.

7. - Dr. R. B. Workman, Potato Investigations Lab., discussed research on the control of the southern potato wireworm. This soil insect has developed resistance to some of the insecticides used in the past.

In field tests conducted for several years, he found that Diazinon, Di-Syston, Parathion and Thimet gave excellent control of the southern potato wireworm at Hastings when properly applied.

8. - The results of a very detailed study on compatibility of insecticides and fungicides on pepper were reported on by Dr. J. P. Jones and Dr. Eugene Kelsheimer of the Gulf Coast Station.

In general, captan increased and DDT decreased yields. Insecticides increased yields during the spring but did not influence yields during the fall.

Excellent aphid control was obtained with dimethoate, adequate control with diazinon and poor to no control with parathion or guthion.

DDT, in general, reduced foliage damage caused by lepidopterous larvae but certain combinations of DDT did not.

No foliage injury developed during either season. Certain combinations of tri-basic copper sulfate, parathion, diazinon and DDT caused some fruit injury.

9. - Dr. R. E. Stall presented two papers on work done at Fort Pierce on botrytis control in tomatoes. The first dealt with chemical control. He reported that dyrene and thiram were about equal in preventing gray mold of tomato caused by Botrytis. These two fungicides were effective against foliage, fruit rot and ghost spot phases of the disease. Ferbam was less effective in controlling these phases. Captan effectively prevented the ghost spot phase, but not foliage lesions or fruit rot. Dichlone was most effective against fruit rot.

10. - In a second paper, Dr. Stall and associates described the effect of calcium and phosphorus on the incidence of botrytis in tomatoes. He reported that liming acid sandy soils with dolomite or hydrated lime reduced the incidence of gray mold, caused by Botrytis, on tomato. The amount of disease decreased as tomato leaf calcium content increased and leaf phosphorus content decreased. The least disease incidence was on plants with high calcium and low phosphorus contents and the most disease was on plants with low calcium and high phosphorus contents.

The balance between calcium and phosphorus was found to be important, since plants with higher levels of both calcium and phosphorus had similar disease incidence as plants with lower levels of both calcium and phosphorus. Soil pH and vine vigor were found to not be primary factors in disease development.

11. - Dr. R. S. Cox, Crop Production Consultant, Lake Worth, Florida, presented a paper entitled, "Shoulder Pox, A New Disease on Tomato Fruit". The disease, according to his report, caused a multi-million dollar loss to the vine-ripe tomato industry during the 1963-64 season. Symptoms initiate on shoulders of fruit as a superficial russet that may, through tissue collapse, develop into a definite sunken lesion. The disease predominates on mature, exposed fruit that has been subjected to extended periods of low temperature and free moisture. The disease did not develop in observed fields where oil-emulsion insecticides and maneb-copper combination sprays were discontinued during the described weather conditions.