



Vegetable Crops Department

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Each year many excellent papers are presented in the Vegetable Crops Section at the annual meeting of the Florida State Horticultural Society. Everyone connected with the vegetable industry of the state of Florida should attend. It is not only a question of listening to reports on recent research and other developments, but joining in with the group for fellowship and to make contact with people of similar interests.

For those who did not attend, we have selected those papers which we feel contain information of immediate interest and possibly are ready for limited field trials. Since it is not practical to review all of the papers on vegetables presented at last October's meeting, everyone is urged to get a copy of the Proceedings which will be available in a bound volume within the near future.

1. Fertilizer for Okra.

In a series of four experiments on requirements of okra for nitrogen, phosphorus and potassium at Plant City, Dr. Sutton found that "in all cases a fertilizer ratio of 1-1.3-1.3 (N-P₂O₅-K₂O) resulted in the highest yield of marketable okra." A 1-1.3-1.3 ratio fertilizer is almost identical to the ratio suggested in Extension Circular 225 for okra grown on sands, rocklands, and marls of Florida. The grade suggested in the Circular for okra is 6-8-8 (1-1.25-1.25 ratio).

2. Watermelon Response to Copper.

In a series of experiments on watermelons at such locations as Gainesville, Immokalee, Leesburg, Live Oak and Westville (Holmes county), Drs. Locascio, Fiskell, Everett and Crall demonstrated quite conclusively that watermelons respond to copper fertilization. At Live Oak, one season there

was no response to copper, but there was a significant response to a material containing not only copper but the other minor elements as well. Wherever they obtained a response to copper alone they also obtained a significant response to the material containing all of the minor elements including copper.

Copper deficiency is apt to occur on any soil (especially newly cleared land) that has not been fertilized sufficiently with copper. The older soils may not need additional copper for watermelons as they may have considerable copper accumulated in them over the years from applications of this element in fertilizer and fungicides.

Some of these same authors reported additional information of interest on copper. Last season they observed a significant interaction of copper with phosphorus in watermelons. That is to say that the addition of one of these elements without the other resulted in no significant yield increases. However, when both were added simultaneously, yield increases were highly significant. For example, addition of 105 pounds of phosphorus per acre and no copper resulted in a yield of 7.4 tons. Similarly, when 4 pounds of copper per acre were supplied without phosphorus, yield was only 9.8 tons. When both, phosphorus (105 lbs./acre) and copper (4lbs./acre) were added, a yield of 30.9 tons per acre of watermelons was obtained.

A word of caution!!! A grower must understand when and where copper may be needed so that he will not use copper indiscriminately. Copper may be deficient on relatively new land, or on old land never receiving sizeable amounts of copper in fertilizer or fungicides. Relatively more copper is needed as phosphorus rates increase. Growers should also remember that treated sewage materials may contain goodly amounts of copper. Growers anticipating use of copper in sprays (for control of bacterial spot) may eliminate copper or at least reduce the amount used in fertilizer.

3. Plastic Mulch for Vegetables.

Dr. Bryan reported on work at the Quincy Station where a number of vegetable crops were grown with various types of plastic mulches. His results may answer some of the questions asked by growers and home gardeners:

"When compared to no-mulch treatments, clear mulch was associated with higher yields of watermelons, sweet potatoes, cucumbers, and okra; black mulch with higher yields of cantaloupes, cabbage, broccoli, and lettuce; aluminum painted black mulch with higher yields of summer squash and sweet potatoes; and smoke gray mulch was not as effective as other types tested. In another year the high yields of sweet potatoes were obtained with white on black mulch. Pole beans and Southern peas did not respond favorably to plastic mulch. Earliness and quality of several other crops, however, were improved with black and clear."

At the present time black plastic is used extensively on strawberries and on limited acreage of tomatoes and other vegetables. Clear plastic gives a "greenhouse effect," warming the soil significantly. This added warmth

encourages good growth of crops in cold weather but also encourages weed growth. Clear plastics cannot be used without complete soil sterilization or good herbicides.

4. Nematode Control on Onions.

Onions can become a crop of economic importance in Florida. In the past, research work in Florida has entailed such areas as curing, varieties, fertilizer, dates of planting, spacing, etc. Dr. Rhoades reported on nematode control work conducted at Sanford, Florida:

"Nematocidal experiments in the field on Leon fine sand with D-D applied at either 20 or 30 gallons per acre, zinophos at 4 pounds per acre, and zinophos-thimet at 2 pounds per acre of each chemical, significantly increased yields of green onions in soils heavily infested with sting and stubby-root nematodes but not in the presence of light infestations."

D-D is the only material approved for use on onions at the present time.

5. Bud Nematode Control on Strawberry.

A disorder of strawberry characterized by plants that are severely stunted with leaves that are deformed and crinkled was diagnosed as bud nematodes. It is quite widespread over Florida, probably causing significant reductions in yields every year. Dr. Locascio and co-authors reported results of studies on methods for controlling this plant parasite.

The most effective treatment was found to be a 10-minute dip of strawberry plants in a 300 ppm solution of zinophos. The most satisfactory time for treatment was just before transplanting.

Zinophos is NOT YET LABELLED for use on strawberry. In the meantime, the only suggestion that can be made is for spraying plants in the field with parathion which, at best, gives only partial control. Approval for use on zinophos is expected in the near future.

6. Variety and Spacing Effects on Cabbage Yields.


A number of research studies are directed toward mechanical harvest of vegetables to replace hand labor and cabbage is one of the crops receiving considerable attention. Research work that already has been reported which related directly or indirectly to cabbage includes such studies as size of seed, depth of planting of seed, hybrid variety yields on once-over harvest, field testing of a once-over harvester, etc.

Mr. Halsey and co-authors reported results of a study at three locations on the effect of variety and spacing on yield of cabbage. Cabbage hybrids FM-9, King Cole and Market Topper, and the open-pollinated variety Badger Market were grown at spacings of 9, 12 and 15 inches in the row at Gainesville, Hastings and Belle Glade.

They found that the hybrid varieties in general outyield the standard open-pollinated variety. Increase in spacing resulted in increase in cabbage heads. The 15-inch spacing produced cabbage heads averaging 1.99 lbs. each at Gainesville, 2.42 each at Hastings and 3.54 lbs. each at Belle Glade.

In order to obtain heads of desirable size it is necessary for the grower not only to select the right variety, but the proper spacing for the area also. Growers will find that size of head is affected by growing conditions. Any given spacing producing desirable size heads one year, may produce heads that are too small under adverse conditions and heads that are too large under good growing conditions.

Sincerely,


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