



*Vegetable Crops Department*  
**VEGETARIAN**

July 18, 1966

TO: COUNTY AGENTS, ASSOCIATES AND ASSISTANTS

NO: 74

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1. Short Courses for Vegetable Growers.

Vegetable Production is rapidly developing into a highly technical, complex science entailing such basic fields as economics, management, soils chemistry, plant pathology, nematology, entomology, plant physiology, etc. To be successful today's vegetable grower must have a working knowledge of these subjects.

At first glance, it may appear that these subjects are too complicated and encompass too wide an area for anyone to understand except the technically trained person. This is not true. We have found that vegetable growers not only welcome this type of information, but are very receptive to it provided it is presented in a way that they can understand.

In one county, vegetable specialists worked with the agent to present five weekly, two-hour lectures on soils chemistry. The aim was not to give the "how" but the "why" of fertilizing vegetable crops properly. The average attendance was 72 per lecture with the majority of the group being farmers.

County agents are continuously increasing their technical proficiency in vegetable production. We believe we will be seeing more and more effort put into technical "short courses" for growers in the near future. County agents are still encouraged to emphasize grower meetings, clinics, and field days to present practical, production information for teaching identification of insects, diseases, nematodes and nutritional disorders and for review of new research. Technical short courses for growers, we believe, should be an extension or addition to these programs.

## 2. New Bell Pepper Variety.

The Florida Agricultural Experiment Stations released a new bell pepper variety in April of this year. It was named Yolo Y. As the name implies it is a selection from Yolo Wonder. Dr. A. A. Cook, developer of Yolo Y reports that this variety is resistant to potato y virus and tobacco mosaic virus.

The horticultural characteristics of Yolo Y are similar to Yolo Wonder - a variety widely grown for several years by pepper producers in Florida.

A limited quantity of seed was released to commercial seed producers in the spring of 1966 by the Florida Foundation Seed Producers, Inc., Gainesville, Florida. It is possible that some seed will be available to growers for the 1966-67 season.

A circular describing Yolo Y is available from the county agricultural agent's office. Ask for Experiment Stations Circular S-175 dated April, 1966.

## 3. Effect of Freezing Temperature on Seed Potatoes.

Freezing temperatures may or may not injure potato tubers to be used for seed. This is the conclusion drawn from a joint study conducted by research workers in three northeastern states.

They subjected potato tubers to the following temperature treatments:

- (1) 40°F continuously (check)
- (2) 30°F for 1 day (cooling)
- (3) 30°F for 10 days (cooling)
- (4) 25°F for 1 day (supercooled without freezing to initiate ice crystal)

After treatment at these temperatures all potatoes were stored at 50°F for two weeks.

Their results showed that emergence, tuber growth time, total yields and U.S. No. 1 yields were lower from seed pieces subjected to 25°F than in the check only when seed pieces had freezing symptoms. Low temperatures (30°F and 25°F) did not reduce quality of potato tubers for seed purposes when no freezing symptoms appeared in the tubers.

This information can be of benefit to Florida growers. Potatoes should be protected from freezing temperatures at all times. If subjected to freezing temperatures, avoid handling until the tubers have warmed to temperatures above the freezing point. Potatoes should be kept at a temperature of about 50°F for 10 to 14 days prior to planting to better conditions than for quick emergence and



growth. Growers should check each lot for freezing injury symptoms which show up as external sunken crater-like areas and internal darkening and necrosis. Such tubers will germinate and grow but reduced yield may be expected.

#### 4. Sidedressing Staked Tomatoes.

A common practice used in sidedressing staked tomatoes is to apply a balanced fertilizer (containing N-P-K) each time at 7-to 10-day intervals. The need and possible benefits of continual application of phosphorus are questionable.

In a study conducted at Immokolee, preliminary results indicate that the excessive amounts of phosphorus now used may not be necessary. In this study, staked tomatoes were sidedressed every 5 days for 13 weeks with 2 rates each of 4 different sources of fertilizer. Rates, sources, and yields obtained are given in the following table.

Treatment No.	Grade & Source (1)	Pounds/Acre (2)	Total Yield (3)
		N-P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O	
1a	13-0-44	178-160-492	957
b	13-0-44	275-160-824	1094
2a	15-0-14	178-160-251	991
b	15-0-14	275-160-342	978
3a	15-0-50	178-160-492	922
b	15-0-50	275-160-824	996
4a	4-8-8	178-356-356	885
b	4-8-8	275-550-550	1028

- (1) Sources 13-0-44 (potassium nitrate)  
 15-0-14 (nitrate of soda potash)  
 15-0-50 (nitrate of soda potash + potassium sulfate)  
 4-8-8 (commercial fertilizer - 30% organic)
- (2) Includes 2,000 lbs. of 4-8-8 plus side fertilizer
- (3) Total Marketable yield (60-lb. boxes).

Although not yet statistically analyzed, it can be seen from the data presented that treatment 1b produced among the highest yields even though only 160 lbs. of P<sub>2</sub>O<sub>5</sub> were used. Treatment 4a was lowest in yield even though high in P<sub>2</sub>O<sub>5</sub>. Apparently N and K<sub>2</sub>O were too low. Treatment 4b produced good yield which may be attributed to high levels of N and K<sub>2</sub>O.

If adequate phosphorus is available in the soil, additional phosphorus may be beneficial as a sidedress only during prolonged periods of cold weather. Then it should be applied to the active root zone as phosphorus does not move over an inch or two in the soil.

## 5. Short Items of Interest.

### (1) Copper Deficiency on Watermelons.

Again this year, research conducted in various locations from Immokalee to Chipley, Florida demonstrated a response from watermelons to copper. This is especially true of new acid flatwoods soils. The response to organic nitrogen observed in south Florida several years ago is now known to be a response to the copper found in treated sewage sludge.

It is suggested that about 4 pounds of copper per acre be applied together with the other required minor elements in fertilizer for watermelons to be planted on new, acid, flatwood soils. On other new soils lesser amounts of copper may be beneficial, also. Warning--do not use excessive amounts of copper. Too much can be harmful.

### (2) Spray Tank Mixtures

Another year of research has again shown that it is unwise to add chemicals to the spray tank indiscriminately. In some cases effectiveness of one or more of the pesticides was reduced.

Based on the work conducted at Leesburg on watermelons and elsewhere on other crops, it is suggested that growers eliminate the soluble fertilizers from pesticide sprays. A good rule of thumb is--"Don't add anything to the spray mixture that is not absolutely necessary." Nutritional sprays of minor elements or calcium might best be applied in a separate operation rather than combining with pesticides.

### (3) Liming Close to Planting Time.

For the second year in a row research has demonstrated that lime may be applied close to or at planting time to watermelons with good results. In an emergency or under special circumstances this method of timing lime applications may be used. However, the time-honored method of applying lime well in advance of planting is still to be recommended under average conditions.

### (4) New Tomato Bulletin.

A new bulletin (No. 710) entitled "Tomato Production on the Sandy Soils of South Florida" was released by the Florida Agricultural Experiment Stations. This bulletin was written by the staff of the Gulf Coast Station at Bradenton but it draws on the research and experience of all staff members working on tomatoes throughout south Florida.

This bulletin will be available in your county agricultural agent's office soon. Also check Extension Circular 98C entitled, Tomato Production Guide, and all other University of Florida publications on tomatoes for the most recent recommendations for fertilization and pest control.

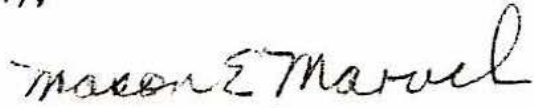
(5) Acreage-Marketing Guide Due Out Soon.

The Vegetable Acreage-Marketing Guide for the 1966-67 season is being prepared now and will be ready for release within the near future. Growers and others interested in commercial vegetable production should study this report carefully and use the information in it as an aid in making sound plans for the coming season.

Sincerely,



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