FLORIDA AGRICULTURAL EXTENSION SERVICE
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Vegetable Crops Department

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TO: COUNTY AGRICULTURAL AGENTS

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1. Cover Crops and Fumigation Interactions.

Dr. Harlan Rhoades of the Central Florida Experiment Station at Sanford recently completed a three-year study of soil fumigant-crop effects on subsequent nematode populations and vegetable crop yields. The study was summarized in the July, 1968 issue of the Plant Disease Reporter. The results are presented in the following table:

Effect of cover crop and soil fumigation on return of the stubby-root nematode and yield of cabbage and sweet corn.

Cover Crop and soil treatment (gal/acre)	(First Crop) Cabbage yield (50-lb bags/acre)			Nematode population following cabbage[a]			(Second crop) Sweet corn yield (crates/acre)		
	1965	1966	1967	1965	1966	1967	1965	1966	1967
Sesbania									
DD, 25	794	751	823	1670	3060	1070	290	154	225
EDB, 6	765	744	773	1736	2233	1057	301	153	242
DBCP, 2	840	694	801	232	284	186	332	285	255
Check[b]	880	527	590	974	710	378	311	158	202
LSD .05	N. S.	86	146				N. S.	57	36
LSD .01		120	204					80	51
Crotalaria									
DD, 25	806	806	708	331	2625	935	332	153	224
EDB, 6	744	774	655	714	1570	1020	290	174	246
DBCP, 2	829	689	681	2	5	80	342	307	262
Check	726	731	607	175	581	347	306	254	201
LSD .05	N. S.	N. S.	N. S.				N. S.	66	N. S.
LSD .01								93	

[a]Number of stubby-root nematodes per pint of soil. [b]In 1966 and 1967 sting nematodes built up in check plots following sesbania, causing a further reduction in crop yield.

The above table warrants close study. Dr. Rhoades in his report explained the salient points:

"In all cases the stubby-root nematode returned to far higher populations on the cabbage following soil fumigation in plots treated with DD and EDB than with DBCP. Check plots were intermediate in this respect. Re-establishment of this nematode occurred at a slower rate following the cover crop of crotalaria than for sesbania. A combination of crotalaria and fumigation with DBCP gave excellent control of this nematode during the experimental period.

"There were no significant increases in cabbage yield for soil fumigation following crotalaria, but following sesbania which built up populations of sting (Belonolaimus longicaudatus) and other plant nematodes, there was a significant increase for all fumigant treatments in both 1966 and 1967. Sweet corn growth was more vigorous and yields were the highest in every year where DBCP had been applied for the previous cabbage crop (Table 1). This was especially true in 1966 when the highest populations of the stubby-root nematode were re-established on the cabbage.

"From the results obtained in these experiments, DBCP is apparently far more residual in its action than DD or EDB and, where growth of crops susceptible to stubby-root nematodes is contemplated, this could be an important factor to be considered."

Crotalaria spectabilis has been recognized as an excellent cover crop on nematode-infested soil for many years. However, it has almost disappeared from the scene because of the fact that crotalaria seeds are toxic to animals. It is almost impossible for growers to find seed for planting it as a cover crop now.

DBCP (Nemagon and Fumazone) is not labeled for use on all vegetable crops. Check the label before using it on any crop.

2. Wash Water for Tomatoes.

Growers washing tomatoes in the field to remove sand and packinghouse operators recirculating wash water for tomatoes are apt to increase problems from bacterial soft rot. This was demonstrated in a study by Dr. R. H. Segall of the United States Department of Agriculture in Orlando. He observed that washing mature-green tomatoes in the field increased the incidence of bacterial soft rot. However, washing did not increase the incidence of alternaria on fruit.

Dr. Segall attributes increased decay of field-washed fruits to the high bacterial population introduced into the field washer throughout the day, primarily from tomatoes infected with the organism. The chlorine-containing compounds have been used successfully to reduce bacterial populations in wash water. Three in common use are chlorine, sodium hypochlorite, and calcium hypochlorite. Use these according to label instructions and be sure to add more to the wash water from time to time to maintain the required concentration of chlorine.

Packinghouse supervisors can use this information to their benefit if recirculated wash water is used in the packinghouse operations. Here, too, wash water can be a main source for contamination with bacterial soft rot.

3. Statistics on Florida Vegetables.

Florida probably has some of the best statistics and other related information in the nation on commercial vegetables. They include reports giving information on acreage, production, value and areas, etc., crop plantings, acreage-marketing guides, shipments, prices and demand, development of crops in progress, costs and returns, and many others. County agents, production managers, supply people and others working within the vegetable industry could benefit immensely from the information available in these reports.

The reports are not for wholesale distribution to all citizens. They are intended for those who produce vegetables or in some way service the industry.

The names of the reports and where they may be obtained are as follows:

I. Florida Crop and Livestock Reporting Service
122 Woodard Street, Orlando, Florida 32803

A. Florida Agricultural Statistics, Vegetable Summary (annually)

B. Florida Weather and Crop News (weekly)

C. Florida Vegetables

1. Potato Acreage and Production (monthly)

2. Celery Acreage and Production (in season)

3. Pole Beans, Dade County Acreage Planted, etc. (weekly, in season)

4. Acreage and Indicated Production (periodic)

II. Market News Section, Florida Department of Agriculture
Post Office Box 20273, Orlando, Florida 32814

A. Florida Produce Guidelines (weekly, in season)

III. Department of Agricultural Economics, IFAS,
University of Florida, Gainesville, Florida 32601
(Also available from county agents.)

A. Costs and Returns from Vegetable Crops in Florida (annually)

IV. Department of Vegetable Crops, IFAS,
University of Florida, Gainesville, Florida 32601

A. Acreage-Marketing Guide—Florida Vegetables (annually)

These are some of the more important reports available. There are a number of periodic bulletins and reports issued from time to time by government agencies serving Florida. Among these is the Minimum Temperature Summary Report prepared by the Federal-State Frost Warning Service in Lakeland. It is an excellent reference for the vegetable industry.

4. Effects of Copper on Cabbage Black Speck.

Black speck, sometimes referred to as "pepper spot" is a disease of winter cabbage in Florida which causes serious loss in transit and storage. The disease, as the name implies, appears as numerous, black specks on the inner leaves of the cabbage head. Black speck seems to intensify on the cabbage heads when held under refrigeration. Exact causes for this disorder have not been determined, but research at Sanford and Belle Glade, Florida, and in other states has pointed out some factors associated with it.

Until now, no pathogenic organisms have been found associated with the problem. Some cabbage varieties and hybrids are more susceptible to the disease than others. The disease is often accentuated by certain soil factors, weather, and foliar sprays.

Researchers Strandberg, Forbes and Darby at Sanford and Berger at Belle Glade have investigated this cabbage disease rather intensively in Florida. In addition to noting varietal differences in susceptibility, they observed that the application of copper by foliar sprays caused a significant intensification of the disease.

Until further information is developed on black speck of cabbage, growers are advised to go easy on the use of copper in fertilizers or in any spray materials. Soils with high copper contents should be avoided when possible, or limed heavily (to pH 7.0) to reduce soluble copper content. Growers might also check with their seedmen to obtain resistant varieties and hybrids for small trial plantings. Field performance of the more resistant lines has not been adequately determined as yet.

Sincerely,

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