Vegetarian 87-3

March 17, 1987

Contents

I. NOTES OF INTEREST
   A. Vegetable Crops Calendar
   B. New Publications
   C. Gulf Coast REC Field Day

II. COMMERCIAL VEGETABLES
   A. Phosphorus sources and placement for watermelons.
   B. Specialty Vegetable Opportunities.

III. PESTICIDE UPDATE
   A. Changes in vegetable disease control fungicides.
   B. Restrictions on Flooding Fields after Fusilade Applications.
   C. Horticultural Weed Tour

IV. VEGETABLE GARDENING
   A. 1987 Florida State Fair Horticulture Contest for 4-H/FFA.

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I. NOTES OF INTEREST

A. Vegetable crops calendar


May 5, 1987. Cucumber/Squash Variety Demonstration at AREC Leesburg, 4:00 pm - 7:30 pm. (Contact G. W. Elmstrom).


May 7, 1987. Field Day-Polk County Mined Lands Research/Demonstration Project, Bartow, Florida. (Contact Jim Stricker, Polk County Extension Office).

May 20, 1987. Field Day-IFAS Gulf Coast Agric Research Center, Bradenton. (Contact Dr. Will Waters).


B. New Publications

Staked Tomato Variety Trial Results - Fall 1986. Immokalee SWFREC Research Report IMM 87-2 by P. H. Everett and K. A. Armbrester.

Pepper Variety Trial Results - Fall 1986. Immokalee SWFREC Research Report IMM 87-1 by P. H. Everett and K. A. Armbrester.


Cir 104-P, Vegetable Gardening Guide, has been revised (new format). Authors are: J. M. Stephens, R. A. Dunn, G. Kidder, D. Short, and G. W. Simone. (For copy, contact Chic Hinton, IFAS Publications).

C. Gulf Coast Research and Education Center to hold Vegetable Field Day.

Dr. W. E. Waters has announced that the Gulf Coast Research and Education Center in Bradenton, Florida, in conjunction with the Florida Cooperative Extension Service, has scheduled a Vegetable Field Day on Wednesday, May 20, 1987.

The program will include presentations on vegetable research involving nutrition, trickle irrigation, water management, weed control, pest management, variety trials, nematode management, an update on tomato breeding, bacterial population studies on resistant tomatoes, control of bacterial spot of tomato, and tomato disease control.
The program will start at 8:45 AM with registration and a box lunch. A tour of the Center will be held in the afternoon.

The Center is located approximately one mile west of I-75 off State Road 70 at Caruso Road.

II. COMMERCIAL VEGETABLES

A. Phosphorus sources and placement for watermelons.

Previous work showed that watermelon yields were reduced when diammonium phosphate (DAP) was used as the sole phosphorus (P) source especially when used at high rates. Reduced copper availability from the increased pH in the DAP band was suspected as a possible cause of reduced yields. This work was done on acid sandy soils testing low in water soluble P. All fertilizer was applied in a banded fashion.

Adverse effects of DAP on other commodities are rarely documented and actually most literature extols the advantages of DAP as a relatively inexpensive and high-analysis source of both nitrogen and P.

To test further the effects of DAP on watermelons, we conducted an experiment at Gainesville in 1986.

In addition to comparing DAP to normal and triple superphosphate, we explored various techniques of placement of P. The plan was to determine if diluting the "DAP effect" by broadcasting or by separating the micronutrients from the DAP band would circumvent any potential problem.

Phosphorous (P₂O₅) was applied at 160 pounds per acre on a soil that tested "medium" for P. Placement treatments were as in Table 1.

Results showed no effect of treatments on yield of watermelon. There were no differences among the P fertilizer sources used in this study. These results indicated that, on soils testing medium or above, where small amounts of fertilizer P are needed, there is no difference among P sources. Micronutrient placement treatments did not significantly differ.

Placement of P for watermelons in this study did not matter. The latter conclusion is interesting from the soil testing point of view since the soil used in this study tested "medium" in P. Yields from several plots receiving no additional P did not differ from similar plots receiving the recommended rate of P. It seems that the current soil test calibration for watermelons is set too high.

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Table 1. Treatments used in P source and placement experiment, 1986.

<table>
<thead>
<tr>
<th>Treatment no.</th>
<th>P Source 1</th>
<th>Location 2</th>
<th>Placement</th>
<th>Micronutrient Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NSP</td>
<td>Trench</td>
<td>Band</td>
<td>Separate</td>
</tr>
<tr>
<td>2</td>
<td>NSP</td>
<td>Trench</td>
<td>Band</td>
<td>Mix</td>
</tr>
<tr>
<td>3</td>
<td>NSP</td>
<td>Trench</td>
<td>Broadcast</td>
<td>Mix</td>
</tr>
<tr>
<td>4</td>
<td>NSP</td>
<td>Flat</td>
<td>Band</td>
<td>Separate</td>
</tr>
<tr>
<td>5</td>
<td>NSP</td>
<td>Flat</td>
<td>Band</td>
<td>Mix</td>
</tr>
<tr>
<td>6</td>
<td>NSP</td>
<td>Flat</td>
<td>Broadcast</td>
<td>Mix</td>
</tr>
<tr>
<td>7</td>
<td>TSP</td>
<td>Trench</td>
<td>Band</td>
<td>Separate</td>
</tr>
<tr>
<td>8</td>
<td>TSP</td>
<td>Trench</td>
<td>Band</td>
<td>Mix</td>
</tr>
<tr>
<td>9</td>
<td>TSP</td>
<td>Trench</td>
<td>Broadcast</td>
<td>Mix</td>
</tr>
<tr>
<td>10</td>
<td>TSP</td>
<td>Flat</td>
<td>Band</td>
<td>Separate</td>
</tr>
</tbody>
</table>
TSP = triple super phosphate; NSP = normal super phosphate.

Trench = Fertilizer applied in bottom of 20 cm trench which is a very common grower practice, Flat = placed on level ground.

Micronutrients were either mixed with the N-P-K materials or separated by banding the micronutrients in a separate band from the N-P-K materials.

(Hochmuth, Hanlon Veg. 87-03)

B. Specialty Vegetable Opportunities.

Male representatives of upper-income households and consumers in the west are more likely to have tried or heard of specialty vegetables and herbs than other segments of the population according to the 1987 Fresh Trends survey conducted for Vance Research. The results of the survey were published recently in The Packer Focus.

Alfalfa or bean sprouts, snowpeas, pearl onions, parsnips, leeks, miniature vegetables, napa cabbage, shallots, and kohlrabi were the most familiar of the 20 specialty vegetables included in the survey. On the other hand, a low proportion of the respondents were familiar with rapini, radicchio, chayote, jicama, and tomatillo. Surprisingly, there was a higher general awareness of fresh herbs than there was of the specialty vegetables. Cilantro (Coriandrum sativum L.), also called Chinese parsley, was the only herb having a low level of recognition.

As might be expected, garlic, parsley, chive, mint, sage, and oregano had been tried most commonly by the respondents.

<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Have tried it</th>
<th>Are aware of it</th>
<th>Are not aware of it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgian endive</td>
<td>8</td>
<td>36</td>
<td>55</td>
</tr>
<tr>
<td>Bok choy</td>
<td>18</td>
<td>35</td>
<td>47</td>
</tr>
<tr>
<td>Celeriac</td>
<td>8</td>
<td>37</td>
<td>55</td>
</tr>
<tr>
<td>Chayote</td>
<td>4</td>
<td>20</td>
<td>75</td>
</tr>
<tr>
<td>Daikon</td>
<td>23</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td>Jerusalem artichoke</td>
<td>16</td>
<td>39</td>
<td>45</td>
</tr>
<tr>
<td>Jicama</td>
<td>12</td>
<td>17</td>
<td>71</td>
</tr>
<tr>
<td>Kohlrabi</td>
<td>26</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>Leek</td>
<td>38</td>
<td>48</td>
<td>15</td>
</tr>
<tr>
<td>Miniature vegetables</td>
<td>34</td>
<td>31</td>
<td>35</td>
</tr>
<tr>
<td>Napa</td>
<td>33</td>
<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Parsley root</td>
<td>9</td>
<td>43</td>
<td>48</td>
</tr>
</tbody>
</table>
Parsnip 45  
Pearl onion 61  
Radicchio 2  
Rapini 1  
Shallot 32  
Snowpea 58  
Sprouts 71  
Tomatillo 6  

<table>
<thead>
<tr>
<th>Herb</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anise</td>
<td>23</td>
<td>57</td>
<td>20</td>
</tr>
<tr>
<td>Basil</td>
<td>54</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>Chive</td>
<td>70</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>Cilantro</td>
<td>11</td>
<td>32</td>
<td>57</td>
</tr>
<tr>
<td>Dill</td>
<td>66</td>
<td>29</td>
<td>6</td>
</tr>
<tr>
<td>Garlic</td>
<td>85</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Ginger</td>
<td>38</td>
<td>53</td>
<td>9</td>
</tr>
<tr>
<td>Horseradish</td>
<td>36</td>
<td>53</td>
<td>12</td>
</tr>
<tr>
<td>Marjoram</td>
<td>31</td>
<td>52</td>
<td>17</td>
</tr>
<tr>
<td>Mint</td>
<td>64</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Oregano</td>
<td>58</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Parsley</td>
<td>85</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Rosemary</td>
<td>45</td>
<td>48</td>
<td>7</td>
</tr>
<tr>
<td>Sage</td>
<td>57</td>
<td>38</td>
<td>5</td>
</tr>
<tr>
<td>Tarragon</td>
<td>34</td>
<td>53</td>
<td>13</td>
</tr>
<tr>
<td>Thyme</td>
<td>48</td>
<td>45</td>
<td>2</td>
</tr>
</tbody>
</table>

What conclusions can be drawn from these data that might influence growers' decisions on production of specialty vegetables? The pessimist might respond that the market is too small to affect production decisions. On the other hand, the optimist might see a huge untapped market. As usual, the real answer probably lies somewhere between the two extremes.

For many specialty vegetables, there is a low level of recognition. Increased awareness will certainly lead to more interest and higher sales. The food service industry, newspapers, and popular magazines have done much to popularize specialty vegetables. For example, in a period of about a month last fall, radicchio was served to me at a southwest Florida restaurant and two or three popular magazine articles on this new crop were noted.

There is a market, although limited, for these crops. Production and variety information has been developed for some of them—leek, miniature vegetables, radicchio, shallot, and snowpea—at the Gulf Coast Research and Education Center. As always, growers are advised to establish markets before extensive plantings are made.

(Maynard, Veg. 87-03)

III. PESTICIDE UPDATE

A. Changes in vegetable disease control fungicides.

Fungicide Label Revisions

1. Dyrene 50% WP

Use of Dyrene on bulb and dry onions to control Botrytis Blast or Purple Blotch has been deleted. Use of Dyrene on green onion or garlic is not recommended in Florida.
2. Topsin M 70% WP
For use on Cucurbits (Cucumbers, Melons, Pumpkins, and Summer and Winter Squash) for control of Anthracnose, Gummy Stem Blight, Powdery Mildew, and Corynespora Target Spot. Use 0.25-0.5 lb/acre for ground application or 0.5 lb/acre for aerial application. Initiate sprays when plants first begin to run and repeat on a 7-14 day schedule as needed. Use a 7-day schedule for control of Target Spot.

New Fungicides
1. Benlate 50 DF
This is a new formulation of Benlate 50% WP that is being marketed as a dispersible granule. This formulation has an identical label to Benlate 50 WP but offers better solubility and suspension properties over the old formulation.

2. Bravo C/M--80.7% WP
This is a combination fungicide/bactericide from Fermenta Plant Protection Co. that combines chlorothalonil (Bravo, 27.0%), copper oxychloride (48.3%), and maneb (5.4%) for broad spectrum disease control. Product is cleared for use on tomatoes to control Bacterial Spot, Bacterial Speck, Early Blight, Late Blight, Leaf Mold, Gray Leaf Spot, Septoria Spot, Alternaria Fruit Rot, Gray Mold, Soil Rot, and Anthracnose. Rates range from 2-3 lb/3-4 day schedule or 4-6 lb/week. There is a 5-day limitation between last spray and harvest. See label for other restrictions.

3. Champion Flowable--37.5%
This is a flowable formulation of cupric hydroxide manufactured by Agtrol Chemical Products in Houston, Texas. This product is being distributed within Florida and directly competes with the Kocide 606 product. The labels for the two products are essentially identical as is the amount of active ingredient.

4. Manpower--37.6% Flowable
This is another product issued by Agtrol Chemicals of Texas. This is a convenience combination bactericide/fungicide for use on certain vegetables only. Active ingredients include cupric hydroxide (18.4%) plus maneb with zinc salt (19.2%). The product is cleared for use on beans to control Bacterial Blight, Rust, and Downy Mildew; on celery for control of Early, Late, and Bacterial Blights; on peppers for control of Bacterial Spot, Anthracnose, and Cerospora Leaf Spot; and on tomato for control of Early Blight, Late Blight, Bacterial Blight, Bacterial Speck, and Anthracnose. The amount of cupric hydroxide is comparable to that of Kocide 606. However, use of Manpower as a substitute for another brand of copper plus a maneb + zinc product for spot/speck control on tomato will deliver less maneb + zinc fungicide per acre.

5. Rovral--50% WP Section 18 Special Exemption.
The State of Florida has issued a Section 18 Special Exemption for the use of Rovral on carrots (including mini sweet carrots) to control Alternaria leaf blight. This exemption is good through June 15, 1987 only.

Rovral should be applied as a foliar spray in a minimum of 10 gal./acre and may be applied up to the day of harvest. The rate is 1-2 lb. product/acre on a 7-14 day schedule. Use Rovral as one part of a complete disease control program. Apply at first sign of disease and follow with additional sprays as needed. Only three sprays of Rovral can be applied per crop. Shorten spray interval and use the high rate for severe disease conditions. Note that only garlic, leafy vegetables, dry bulb onions, or peanuts can be rotated onto this land after carrot harvest. One year after Rovral use,
root crops, cereal grains, soybeans, and tomatoes can be grown on this land.

(Gary Simone, Plant Pathology, Veg. 87-03)

B. Restrictions on Flooding Fields after Fusilade Applications.

A mailgram from Donald Stubs, Head Emergency Response and Minor Use Section, EPA to Doyle Connor, Commissioner, Department of Agriculture and Consumer Services stated that subsequent to the specific exemptions for lettuce, exp 7/31/87, celery exp 7/31/87 and carrots 7/31/87 a review of the environmental fate effects of these uses was completed. That review indicates that under flooded conditions, fluazifop free acid is expected to be highly mobile. A waiting period before flooding of greater than 30 days is advisable, 45-60 days is preferable. This may allow ample time for fluazifop to degrade under aerobic conditions before flooding. In Palm Beach and Hendry counties, there are sensitive high yield aquifers capable of serving municipal areas with drinking water. The time of flooding would be most critical in these two counties.

In light of this finding the following restriction was applied to the fluazifop exemptions: Withhold field flooding for a minimum of 45-60 days following application of fusilade. In Palm Beach and Hendry counties that have high yield aquifers, a 60-day interval must be observed.

(Stall, Veg. 87-03)

C. Horticultural Weed Tour

The Horticultural Weed Tour will be held April 28 and 29, 1987. The tour will start at the Gulf Coast Research and Education Center-Bradenton at 10:00 AM Tuesday, April 28. The tour will then move to Belle Glade for a get-together Tuesday evening and a tour of the Palm Beach area Wednesday April 29.

For more information contact Dr. Jim Gilreath, GCREC, Bradenton or Dr. Joan Dusky, EREC Belle Glade.

(Stall, Veg. 87-03)

IV. VEGETABLE GARDENING

A. 1987 Florida State Fair Horticulture Contest for 4-H/FFA.

The 1987 Horticulture Judging and Identification Contest was held at the State Fairgrounds, Tampa, in the Livestock Pavilion, Saturday, February 14, 1987. Extension specialists Bob Black and Jim Stephens conducted the contest. The section on fruit crops was omitted this time due to scheduling conflicts.

The identification portion of the contest included 30 ornamental plant specimens and 30 vegetable specimens. Contestants had a list of 45 items in each of both categories from which to study, but had to identify only 30 in each group.

There were two classes for judging, one ornamental (marigolds) and one vegetable (potatoes). Each class was composed of 4 plates or plants.

About 40 teams of 3 to 4 members competed in the FFA division. Placings in the FFA division may be obtained from Mr. Danny Bartlett, State FFA Program Specialist, Department of Education, Knott Building, Tallahassee, FL 32301. For FFA contestants, this event at the state fair is a warm-up exercise for the state events in the three areas of Horticulture: (1) Citrus Identification Contest at
Winter Haven (usually in February); (2) The State Ornamental Horticulture Contest at the Central Florida Fair, Orlando (usually in the first week of March), and the State Vegetable Judging and Identification Contest, scheduled for April 24, 1987, at Gainesville.

In the 4-H division, which was conducted simultaneously with FFA, there were 42 individuals participating (10 teams and 4 individuals). Here are the results. The first 5 teams and the contest's highest scoring 4-H'er received trophies from the Florida State Fair.

High Individual Scorer: Ann Eberly (Leon Co.) Score: 68 out of 70 points.


6th Place 4-H Team: Leon County #2. Score: 159/210.


10th Place 4-H Team: Gilchrist County. Score 105/210.

Individuals (Highest Scoring): 1st, Ann Eberly (68/70); 2nd (tie), Laura Harrelson and Sean York (65.75/70); 4th, Donna Liedl (64.35/70); and 5th, Eric Hernandez (64.35/70).

Congratulations are in order for all these participants and winners. May you all continue to study and learn more about horticulture as you prepare now for State 4-H Congress and the state finals.

(Stephens Veg. 87-03)
Prepared by Extension Vegetable Crops Specialists

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