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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


October 27, 1988. Florida Pepper Institute: Southwest Florida Research and Education Center, Immokalee. (Contact D. N. Maynard).


The 1988 Florida Tomato Institute will be held Wednesday, September 7, 1988 at the Ritz-Carlton Hotel, Naples, Florida from 8:30 am to 3:30 pm.

The Tomato Institute, which is an IFAS sponsored educational program immediately precedes the joint Florida Tomato Committee/Florida Tomato Exchange Conference on September 8 and 9.

Hotel reservations may be made through the Florida Tomato Committee/Exchange, P. O. Box 140635, Orlando, Florida 32814-0635.

The program for the Tomato Institute is as follows:

1988 Florida Tomato Institute
Wednesday, September 7, 1988
Ritz-Carlton Hotel
Naples, Florida

W. M. Stall - Moderator

8:30 AM - Registration and Coffee

9:00 Welcome - D. J. Cantcliffe, Chairman, Vegetable Crops Dept., Gainesville.


Problems with Florida Produce at Terminal Markets: Perceived or Real? P. R. Gilreath, Manatee County Cooperative Extension Service, Palmetto.

Registration Options for Crop Protection Chemicals. D. Botts, Florida Fruit and Vegetable Assn., Orlando.

Questions

Lunch on your own.

S. M. Olson - Moderator


Questions.

Adjourn.

II. COMMERCIAL VEGETABLES

A. Crop Nutrient Requirement Concept.

Growers spend money on fertilizers because they have been shown that these products enhance crop productivity. Having decided to fertilize, the critical decision, then, becomes choices involving how much of which nutrient to purchase. A systems approach is the best approach to solving the above problem. By understanding the CROP NUTRIENT REQUIREMENT concept, growers will have a workable model to help with fertilizer-management decisions.

Definition. The crop nutrient requirement (CNR) is defined as the total amount of a nutrient which is needed to produce optimum plant response. Every crop has a CNR for each nutrient, the so-called 100% sufficiency level. The key to understanding the CNR concept is that the concept considers all nutritional sources, NOT just that supplied from fertilizer.

Oh No, An Equation. The dominant nutritional sources are the
soil and fertilizers. The following equation illustrates these two sources of nutrition and their relationship to the CNR:

\[
\text{CNR} = \text{nutrition supplied from the soil} + \text{nutrition from fertilizer.}
\]

The Calibrated Soil Test and CNR. There is no direct method to determine the amount of a nutrient supplied from the soil for soil-immobile nutrients such as P, and to a lesser extent K and Mg. However, a predictive, or preplant, soil test does provide an INDEX of the nutrition which may be supplied from the soil. This index from a soil test is of little value if the index is not related to positive crop response. The process of relating soil-test values, fertilizer additions, and positive crop response is called calibration. This calibration process is time-consuming; but without calibration, the soil test can not be interpreted or used as a reliable tool for fertilizer recommendations. In Florida, the Mehlich I or double acid extractant is the current solution used for calibrated soil testing. Researchers are exploring other soil extractants and the Extension Soil Testing Laboratory (ESTL) will continue to use the current extractant until a superior extractant is found. Other extractants, such as Bray P1 and P2, have not been calibrated for Florida soil conditions. Recommendations based upon uncalibrated soil testing must be considered to be questionable.

It is important to understand that a predictive soil test can be used to estimate the nutrition supplied from the soil. Then the amount of fertilizer can be adjusted to insure that the CNR is satisfied.

Appropriate Interpretations. If a predictive soil test is interpreted as "VERY LOW", then the CNR must be supplied mostly from fertilizer addition. In terms of probability, a soil testing in the very low range will produce less than 50% of the crop yield potential if no fertilizer is added. For most crop production, less than 50% of the crop potential is tantamount to crop failure, due to the simultaneous loss of quality and quantity. Conversely, if the soil test indicates a "HIGH" soil-nutrient" condition, the soil can supply 100% of the CNR and fertilizer need not be added. The CNR will be satisfied from nutrition already within the soil and response to added fertilizer is not expected.

Attainable Yields (MEY), NOT Maximum Yield. The Crop Nutrient Requirement concept works. Table 1 has been prepared to show that top yields are possible. Yields from fertilizer research and grower demonstrations have shown that IFAS recommendations, based upon soil testing, can produce competitive results. In terms of grower management, yields are near the upper range using the maximum economic yield approach to total farm management.
Table 1. Representative yields from IFAS fertilizer experiments compared to state averages by commodity for 1986.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>State average</th>
<th>IFAS yields</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>1,240</td>
<td>2,750</td>
<td>25-lb. ctn./acre</td>
</tr>
<tr>
<td>Pepper</td>
<td>585</td>
<td>1,540</td>
<td>25-lb. ctn./acre</td>
</tr>
<tr>
<td>Sweet corn</td>
<td>220</td>
<td>320</td>
<td>crates/acre</td>
</tr>
<tr>
<td>Watermelon</td>
<td>157</td>
<td>365</td>
<td>crates/acre</td>
</tr>
</tbody>
</table>

References:

(Hanlon, Hochmuth, Veg. 88-08)

B. Pumpkin Varieties for Florida.

Pumpkins are in great demand, mostly for decorative purposes, from mid-October until late November for the Halloween and Thanksgiving holidays. Only a few hundred acres of pumpkins are grown in Florida so that production is not nearly enough to meet demand. Accordingly, most of the pumpkins in the state are shipped in, primarily from the midwest. There is opportunity, therefore, for increased pumpkin production in Florida.

Variety evaluations were conducted on a commercial farm in Manatee County and at the Central Florida Research and Education Center - Leesburg in the 1987 season to identify varieties suitable for production in Florida. These are listed under size designations so growers can select varieties to meet market demands.

Giant - 25 to 80 lbs.
- Big Max - open pollinated
- Big Moon - open pollinated (PVP)

Large - 10 to 30 lbs.
- Connecticut Field - open pollinated
- Howden - open pollinated (PVP)
- Jackpot - hybrid

Medium - 5 to 10 lbs
- Autumn Gold - hybrid
- Young's Beauty - open pollinated

Small - 1 to 5 lbs.
- Baby Pam - open pollinated
- Little Lantern - open pollinated
- Miniature - < 1 lb.
- Munchkin - open pollinated
- Jack-Be-Little - open pollinated
- Sweetie Pie - open pollinated

Growers are advised that production of pumpkins in the summer and early fall requires stringent pest management practices, especially for foliar diseases. As with other vegetable crops, a market should be established before planting.

(Maynard, Veg. 88-08)
C. PREPRINT CARTONS - Image Enhancers.

"They're bold, striking, vivid, sophisticated, and maybe even shocking. Despite being just cartons, they've become a strategic part of shippers' marketing efforts". Looking for ways to attract attention, retailers and wholesalers are enthusiastic about the vivid preprinted cartons gaining shippers' favor. They believe bright and varied colors make more people look at product in the carton. Grower/shippers are vying for enhancement of their product with buyers but first, "you have to get their attention"; PREPRINTS are very effective attention getters. Compared to direct-printed cartons, preprinted cartons vividly accommodate complicated graphics and a larger number of colors, admittedly at more expensive costs.

On a recent trip to the New York/New Jersey receiving markets for Florida vegetables, a number of county extension faculty viewed arrival condition of our products in comparison with those produced at other locations. Although consensus was that Florida was competitive, it was readily recognized that there is substantial need for improvement of Florida vegetables. Can we afford a "classy carton" filled with "first rate" produce? Or, can we afford not to?

Preprinted cartons were originally aimed at retailers who liked the fancy boxes for store display. Now, wholesalers find preprinted cartons add class to terminal displays. However, the real attraction of preprints to the shipper is a means to differentiate their product, a way to stimulate buyer interest, not just an "eye catching" box.

Although Western and Florida citrus industries were among the first to utilize preprinted cartons, during the last three years more than 20 shippers of products such as strawberries, apples, onions, and yams (sweet potato) have started using these colorful cartons. According to Cheryl Benson, a sweet potato grower in Benson, NC, what they wanted to get across was "Consumer, look at me. I'm just not an ugly old potato. I'm really something that's good for you". The preprinted carton paid off tremendously. It gave the sweet potato publicity on its nutrition and it gave the company a substantial increase in business.

Vidalia sweet onions are a specialty crop and some growers are merchandising them in preprinted cartons. Growers feel they have a quality product and they want to project this image to the people by shipping in a special package.

Appearance is not the only advantage preprint cartons have. Because of construction differences, these cartons are also stronger than direct-print cartons. However, cost is still the big differential.

Another innovative carton soon to make its debut is the eight-sided box designed for cabbage. Packaging Corp. of America has just completed testing this new carton. Claimed advantages of this eight-sided box are that shape is more compatible with the shape of cabbages, it is stronger than conventional corrugated boxes, offers more protection to the product, stacks more efficiently in trucks and coolers, allows more ventilation holes so cooling takes half the time of wooden crates, and boxes are self-locking on both top and bottom and can be packed in either field or shed.

(Gull, Veg. 88-08)
III. PESTICIDE UPDATE

A. Chlorothalonil Labels on Chinese Broccoli and Tight Headed Chinese Cabbage.

Chlorothalonil products (Bravo 500, 720, 90G) have obtained supplemental labels for the control of Alternaria leaf spot and downy mildew on Chinese broccoli and tight headed Chinese cabbage. These labels were developed in response to IR-4 work obtained crop group tolerances and performance data generation by Ken Shuler.

Supplemental labels must be in possession of the user at the time of application.

(Stall, Veg. 88-08)

IV. VEGETABLE GARDENING

A. Horticulture Events at 1988 State 4-H Club Congress.

State 4-H Congress was held on the UF campus July 25-28, 1988. Two major horticulture competitive events were part of the week’s activities. These were the Plant Science Demonstrations and the Horticulture Judging and Identification Contest.

Winners of these two events, along with the state garden record winner, were recognized at the awards banquet on the last night of the convention.

Here are the winners in the various horticulture events for 1988:


Horticultural Identification and Judging. Marion County, members Claudia Craven, Danny Lane, Kim Charles, and Yogi Williams. High individual award: Kim Charles, Marion County. Coach was Bob Renner, Marion County 4-H Agent. Team wins trip to compete against other top state teams at National Junior Horticultural Association Convention, Chicago Hyatt Regency (Oak Brook) Oct. 28-31, 1988. Sponsored by Florida Fruit and Vegetable Association, Orlando.

The following are results of the two major competitive events in the horticulture area:
<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>County</th>
<th>Score</th>
<th>Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tycee Betts</td>
<td>Manatee</td>
<td>92.3</td>
<td>Cold Protection/Citrus</td>
</tr>
<tr>
<td>2</td>
<td>Leanne Barco and Edwin Rooks</td>
<td>Citrus</td>
<td>90.6</td>
<td>Grafting the Rose</td>
</tr>
<tr>
<td>3</td>
<td>Francine Huggins</td>
<td>Seminole</td>
<td>90.3</td>
<td>Natural Attractions</td>
</tr>
<tr>
<td>4</td>
<td>Lin Sperlanes/Jenni Stephens</td>
<td>St. Johns</td>
<td>89.3</td>
<td>Xeriscape</td>
</tr>
<tr>
<td>5</td>
<td>Danette Kosola</td>
<td>Orange</td>
<td>88.0</td>
<td>Tissue Culture</td>
</tr>
<tr>
<td>6</td>
<td>Amy Theus and Leslie Theus</td>
<td>Marion</td>
<td>88.0</td>
<td>Thorobred Trees</td>
</tr>
<tr>
<td>7</td>
<td>Dwayne and Belinda McQuillan</td>
<td>Highlands</td>
<td>85.6</td>
<td>Caladiums</td>
</tr>
<tr>
<td>8</td>
<td>Kevin Crowell</td>
<td>Polk</td>
<td>85.0</td>
<td>Hybridizing Plants</td>
</tr>
<tr>
<td>9</td>
<td>Jonathan Hill</td>
<td>Volusia</td>
<td>82.6</td>
<td>Orchids</td>
</tr>
<tr>
<td>10-T</td>
<td>Charlotte Riley</td>
<td>Washington</td>
<td>82.3</td>
<td>Watermelon Production</td>
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<tr>
<td>10-T</td>
<td>Dawn March</td>
<td>Broward</td>
<td>82.3</td>
<td>Tropical Trees Around World</td>
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<tr>
<td>12</td>
<td>Steve Forehand</td>
<td>Gulf</td>
<td>81.6</td>
<td>Propagation of Fruit Trees</td>
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<tr>
<td>13</td>
<td>Michael Lucas and Susan Lucas</td>
<td>Osceola</td>
<td>79.0</td>
<td>Fertilizer</td>
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<tr>
<td>14</td>
<td>Heather Anderson</td>
<td>Pinellas</td>
<td>77.3</td>
<td>Aquatic Gardening</td>
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<tr>
<td>15</td>
<td>James Watkins</td>
<td>Bradford</td>
<td>76.0</td>
<td>Summer Color for the Patio</td>
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<tr>
<td>16</td>
<td>Dan Thomas</td>
<td>Gilchrist</td>
<td>74.3</td>
<td>Air Layering</td>
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<tr>
<td>17</td>
<td>Amy Thompson</td>
<td>Jackson</td>
<td>73.3</td>
<td>Care of Our Soils</td>
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<tr>
<td>18</td>
<td>Mark Fooshee</td>
<td>Duval</td>
<td>70.6</td>
<td>Mounding Tomatoes</td>
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Judges: Susan Carr (VC); Leah Willis (FC); Chrisi Murphy (OH)
4-H Horticulture Identification and Judging-1988

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>County</th>
<th>Score</th>
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<tbody>
<tr>
<td>1</td>
<td>Kim Charles</td>
<td>Marion</td>
<td>867.75</td>
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<tr>
<td>2</td>
<td>Yogi Williams</td>
<td>Marion</td>
<td>854.25</td>
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<tr>
<td>3</td>
<td>Claudia Craven</td>
<td>Marion</td>
<td>839.00</td>
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<td>4</td>
<td>Danny Lane</td>
<td>Marion</td>
<td>806.50</td>
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<td>5</td>
<td>Cathy Thorson</td>
<td>Clay</td>
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<td>6</td>
<td>Nick Hernandez</td>
<td>Sarasota</td>
<td>725.50</td>
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<td>7</td>
<td>Melissa Kuhn</td>
<td>Clay</td>
<td>696.50</td>
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<td>8</td>
<td>Tara York</td>
<td>Sarasota</td>
<td>583.00</td>
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<td>9</td>
<td>Candy Barnes</td>
<td>Martin</td>
<td>563.00</td>
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<td>10</td>
<td>Jeremy Pugh</td>
<td>Clay</td>
<td>564.50</td>
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<tr>
<td>11</td>
<td>Sandi Schoonover</td>
<td>Clay</td>
<td>545.75</td>
</tr>
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<td>12</td>
<td>Jeff Cameron</td>
<td>Martin</td>
<td>506.00</td>
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<tr>
<td>13</td>
<td>Jennifer Huddleston</td>
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<td>440.25</td>
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<td>14</td>
<td>Tim Dandelski</td>
<td>Sarasota</td>
<td>440.00</td>
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<tr>
<td>15</td>
<td>Tracy Warner</td>
<td>Martin</td>
<td>406.75</td>
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Team Placing

<table>
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<th>Rank</th>
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<th>Score</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Marion</td>
<td>2,561.00</td>
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<tr>
<td>2</td>
<td>Clay</td>
<td>1,990.50</td>
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<tr>
<td>3</td>
<td>Sarasota</td>
<td>1,748.75</td>
</tr>
<tr>
<td>4</td>
<td>Martin</td>
<td>1,477.75</td>
</tr>
</tbody>
</table>

Congratulations to all these participants and winners for a job well done.

(Stephens, Veg. 88-08)

Prepared by Extension Vegetable Crops Specialists

Dr. D. J. Cantliffe
Chairman

Dr. S. M. Olson
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Dr. D. N. Maynard
Professor

Mr. J. M. Stephens
Professor

Dr. G. J. Hochmuth
Assistant Professor

Dr. D. D. Gull
Associate Professor

Dr. W. M. Stall
Professor