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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


II. COMMERCIAL VEGETABLES

A. Evaluating the Impact of Transplanting Depth on Tomato Yield.

The following was presented at the 1994 Florida Tomato Institute in Naples, Florida on September 7:

This study was designed to analyze the effect of transplanting depth on fresh market staked tomato yield under subsurface seepage irrigation and polyethylene mulch culture in SW Florida.

Tomato yield (mature green) increased with increasing planting depth at first and third harvest, and in combined harvest total yield (Table 1). A 26% increase in 25 lb boxes of fruit was realized at first harvest by planting transplants to the first true leaf, when compared to just covering the root ball. With all harvests combined, plants transplanted to the first true leaf showed an 18% increase in total yield. Tomato transplants planted to the cotyledon leaf produced yields intermediate to the root ball and true leaf plantings.

When breaker and red fruit were included in the yield totals a similar pattern emerged (data not shown). Planting tomato transplants to the first true leaf resulted in significantly more 25 lb boxes of fruit at first harvest and in combined harvest total yield when compared to just covering the root ball. Planting transplants to the cotyledon leaves also resulted in larger total yield than root ball depth planting.

Extra-large fruit volume was increased at first harvest by deeper planting (Table 2). Extra-large fruit production was greater for deeper plantings at third harvest and in combined harvest total yield, but was not sufficiently great to result in significant yield increases. The volume of extra-large fruit, when expressed as a percentage of the total yield of fruit at either first or combined harvest, was similar across all treatments (79 - 81% at first harvest, 72 - 75% from combined harvests).

Average fruit weight was not affected by planting depth at any particular harvest, but was significantly greater when considered over all harvests. Practically speaking however, an increase in 0.2 of an ounce per fruit may not be of commercial value.

Greater yields from deeper transplant depth measured in the fall in SW Florida may be the result of improved temperature conditions for root growth. Deeper plantings may place tomato roots in a cooler environment with fewer radical temperature swings. White (1937) showed the optimum temperature for good root growth is 68-91°F. Root growth slows in temperatures of 95-104°F and practically ceases at temperatures greater than 104°F. This factor could be of considerable importance in late summer and early fall plantings grown under plastic mulch where soil temperatures often exceed 100°F (Vavrina, 1994). Other explanations for increased yields with deeper planting may
include earlier fertilizer and water acquisition, and reduced transplant shock from wind displacement. Additional roots sprouted along the main stem of the tomato may be of some importance. Research under drip irrigation in Quincy, FL showed similar results.

For further information on this trial please contact Charles Vavrina, SWFREC, PO Drawer 5127, Immokalee, FL 33934.

Table 1. Tomato Planting Depth Effect on Mature Green Fruit.

<table>
<thead>
<tr>
<th>Depth</th>
<th>First Harvest</th>
<th>Second</th>
<th>Third</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First True Leaf</td>
<td>679 a</td>
<td>336 a</td>
<td>888 a</td>
<td>1903 a</td>
</tr>
<tr>
<td>Cotyledon</td>
<td>603 ab</td>
<td>350 a</td>
<td>779 ab</td>
<td>1731 ab</td>
</tr>
<tr>
<td>Rootball</td>
<td>503 b</td>
<td>358 a</td>
<td>701 b</td>
<td>1562 b</td>
</tr>
</tbody>
</table>

(Vavrina, Vegetarian 94-10)
III. PESTICIDE UPDATE

A. Section 18 Exemption
Renewed for Cobra Applications to Fresh Market Tomato and Green Pepper Row Middles.

A Section 18 emergency exemption was approved for the use of Cobra Herbicide (lactofen) in fresh market tomato and green pepper row middles to control parthenium and nightshade. The exemption will remain in effect until September 1, 1995.

Cobra Herbicide may be applied pre- and/or post-transplant as a directed, shielded spray in a spray volume range of 20-50 gallons per acre.

A maximum of two ground applications will be allowed. The first application will be pretransplant, preemergence at a rate of 0.3 to 0.5 lb a.i./A (19 to 32 fl oz/A). The pretransplant application is to be made to row middles a minimum of 10 days before transplanting for both peppers and tomatoes.

The second application is post-transplanting. For the second application, tomatoes must be at least 16 inches tall. Peppers must be transplanted at least 45 days prior to a post-transplant treatment. Spray must be directed at the tomato and pepper row middles (away from the tomato and pepper plants with minimal contact to the plastic). Do not apply to dry areas of field. A 30 day PHI will be observed.

A maximum of 5000 acres of row middle green peppers and 10,000 acres of row middle tomatoes may be treated throughout Florida.

This is the third year this use has been requested under section 18 of FIFRA. In accordance with regulations governing section 18 of FIFRA, if a complete application for registration of a use which has been under a specific exemption for any three previous years has not been submitted, it shall be presumed that reasonable progress towards registration has not been met. EPA has reconsidered the 3-year standard set forth in the regulations and concluded that, although it is reasonable in most cases, it may be unrealistic for many IR-4 minor food uses due to the program’s limited resources and consequent backlog. Therefore, in evaluating progress towards registration, the agency will exercise its discretion in determining whether or not reasonable progress has been made on IR-4 minor food use. Generally, IR-4 minor food uses will be judged against a 5-year standard, as opposed to the 3-year standard for all other uses.

According to IR-4’s status report, analysis of tomato samples were to be completed by the end of May 1994. The projected due date for submission of a tolerance petition for the use of lactofen for green peppers and tomatoes is the first quarter of 1995, which is within the 5-year limit set forth for submitting a completed registration application. Based on this information, it appears that progress towards registration of this use has been adequate. However, if a tolerance petition has not been submitted by the first quarter of 1995, any future requests for this use must discuss in detail the progress towards registration made during the year and reasons for delay if the tolerance petition has not yet been submitted. EPA advises that it will only grant repeat section 18's in the absence of progress towards registration if unusual circumstances warrant it.

(Stall, Vegetarian 94-10)
IV. VEGETABLE GARDENING

A. Vegetable Gardening Survey - Palm Beach County.

My thanks to Gene Joyner, Extension Horticulture Agent in West Palm Beach, for sharing the results of a gardening survey he conducted during a routine public gardening meeting in 1992. Many of you agents find such information useful in preparing annual reports and planning programs for homeowners.

Table 1. Information about the respondents to the survey.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Age</th>
<th>Urban Housing</th>
<th>Rural Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>&lt;21 (1)</td>
<td>Condo (2)</td>
<td>Condo (1)</td>
</tr>
<tr>
<td>Female</td>
<td>21-30 (3)</td>
<td>House (26)</td>
<td>Lot (4)</td>
</tr>
<tr>
<td>Total</td>
<td>31-40 (8)</td>
<td>Apt. (2)</td>
<td>Acreage (4)</td>
</tr>
<tr>
<td></td>
<td>41-50 (9)</td>
<td>Mobile home (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51-60 (6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;60 (10)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gardening information

1. First time vegetable gardeners: (8).
2. Experienced vegetable gardeners: (23).
3. Ave. number of years out of last 5 with a garden: (3).
5. Most popular container vegetables: tomatoes, peppers, lettuce, herbs, (strawberries).
6. Approximate size of garden: 14 ft long x 10 ft wide (140 sq ft).
7. Number adding soil amendments: (26).
8. Frequency of amendments used: peat moss (20); animal manure (17); topsoil (16); sawdust (2); compost (4); vermiculite (2).
9. Number pre-treating soil for nematode control: (13).
10. Fertilizer usage: liquid (14); dry (13).
11. How garden is started: seeds (16); transplants purchased (15).
12. Vegetable seeds, in order of preference: tomatoes, peppers, radish, cucumber, herbs, beans, carrots, onions, lettuce, eggplant, okra, broccoli.
13. Vegetable transplants, in order of preference: tomato, pepper, herbs, onions, strawberries, parsley, cucumbers, okra, beans.

14. Irrigation: hand (22); sprinkler (18); drip (4).

15. Vegetable use: fresh (25); frozen (10); dried (1); can (0).

16. Number people eating the vegetables per family: two (70); three (8); four (3); six (2).

17. Number using Extension recipes: yes (2); no (24).

18. Number using printed Extension gardening info: yes (25); No (4).

19. Number attending Extension programs before: (28).

20. Estimated cost of your gardening items (averaged):
   - Seed ($13.71)
   - Weed control ($74.10)
   - Transplants ($18.60)
   - Fungicide ($17.90)
   - Soil amendment ($38.80)
   - Insecticide ($20.65)
   - Fertilizer ($22.90)
   - Nematode control ($12.20)
   - Watering ($96.50)

21. Average cost per garden: $85.05.

22. Was cost justified? Yes (20); No (7).

23. Number growing garden for fun: (17); for food (9).


25. Most frequently used insecticides mentioned: sevin (16), malathion (8), and Bt (4).

26. Most frequently used fungicides mentioned: captan (5), maneb (4), copper (4), combination (3).

(Stephens, Vegetarian 94-10)

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