Vegetarian 86-05
May 19, 1986

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I. NOTES OF INTEREST

A. New Publications


B. Vegetable Crops Calendar


June 4, 1986. Watermelon Field Day 1:30 pm - 5:00 pm, AREC Leesburg, C. W. Elmstrom.


II. COMMERCIAL VEGETABLES

A. Blossom-end Rot Problems

This spring has been windy and dry in Florida. Vegetable Growers in Florida are beginning to see blossom-end rot problems develop in their fields.

Blossom-end rot of tomato, pepper, and watermelon first becomes apparent as a water-soaked lesion or series of lesions on the blossom-end of the fruit. This can happen at anytime during fruit enlargement and maturation. The tissue breakdown usually develops rapidly, eventually becoming sunken, dark, and leathery. Blossom-end rot is a calcium deficiency disorder. We can, however, see the disorder in soils with optimum to high available calcium.

The reason for this is several fold.

A low Ca content in the fruit, causing blossom-end rot may not be a result of insufficient soil Ca but rather a problem of distribution in the plant. Calcium transport in the plant is relatively slow and primarily in water in the xylem. Transpiration then becomes a prime mover of xylem water and Ca.

Shortage of water or an irregular water supply results in reduced Ca translocation, especially into fruit. Fruit have low transpiration rates but a high Ca demand.

When water is supplied to drought stressed plants, water in the plant moves primarily to leaf tissue and not to fruit and can result in Ca deficiency in fruits. In contrast, withholding water has little effect on Mg and almost no effect on K influx into the fruit.

Where blossom-end rot is starting to become a problem in fruiting vegetables, there are 2 basic control measures that can be suggested:

1. Before planting crops, make sure soil pH is adequate. Follow soil test recommendations for good liming practices. This is one of the most important factors for assuring calcium availability to plants. Following soil test recommendations for preplant application rates of potassium will help avoid the possibility of interference of calcium uptake by excessive potassium in the soil.

2. Maintain a uniform soil moisture content. In times of severe drought, as this year, irrigate more often with less water per irrigation. This will eliminate the flooding-wilting cycle and help maximize the amount of calcium reaching...
the fruit. Since calcium moves primarily in the water stream in the plant we can help maximize calcium transport to all plant parts by making sure our plants are not water-stressed.

3. Since calcium moves primarily in the xylem and does not re-translocate easily by phloem, it is difficult to correct fruit problems by foliar sprays.

(Stall, Hochmuth Veg. 86-05)

B. Predicting time of harvest for vegetable crops

Vegetable growers often ask the question, "When do you think my crop will be ready to harvest?" There are several reasons why this question is important and deserves an accurate reply:

- the market may be going up and the grower wants to take advantage of the situation
- the market may be poor and the grower may wish to delay harvest for as long as possible
- growers are always anxious to get the crop harvested to avoid freezes, rains or hail which might damage or destroy the crop or impede harvest operations
- like all of us, growers wish to receive their rewards for their investment and labor

For the fruiting vegetables, days from pollination provide a fairly accurate determination of harvest time. Weather, of course, has a great effect on growth and can markedly advance or restrict maturity of crops. Nonetheless, the times listed in the following table will provide a useful approximation that can be used to advise growers.

<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Time to Market Maturity (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bean</td>
<td>7-10</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>18-23</td>
</tr>
<tr>
<td>Cucumber, pickling (3/4-1-1/8 in.</td>
<td>4-5</td>
</tr>
<tr>
<td>in diameter)</td>
<td></td>
</tr>
<tr>
<td>Cucumber, slicing</td>
<td>15-18</td>
</tr>
<tr>
<td>Eggplant (2/3 maximum size)</td>
<td>25-40</td>
</tr>
<tr>
<td>Muskmelon</td>
<td>42-46</td>
</tr>
<tr>
<td>Okra</td>
<td>4-6</td>
</tr>
<tr>
<td>Pepper, green (about maximum size)</td>
<td>45-55</td>
</tr>
<tr>
<td>Pepper, red</td>
<td>60-70</td>
</tr>
<tr>
<td>Summer Squash, crookneck(^1)</td>
<td>6-7</td>
</tr>
<tr>
<td>Summer Squash, straightneck(^2)</td>
<td>5-6</td>
</tr>
<tr>
<td>Summer Squash, zucchini</td>
<td>3-4</td>
</tr>
<tr>
<td>Squash, winter, acorn</td>
<td>55-60</td>
</tr>
<tr>
<td>Tomato, mature green</td>
<td>35-45</td>
</tr>
<tr>
<td>Tomato, red ripe</td>
<td>40-50</td>
</tr>
<tr>
<td>Watermelon, large</td>
<td>50-60</td>
</tr>
<tr>
<td>Tomato, Cherry</td>
<td>35-40</td>
</tr>
<tr>
<td>Watermelon, icebox</td>
<td>28-32</td>
</tr>
</tbody>
</table>

\(^1\)From 50% silking.

\(^2\)For a weight of 1/4 to 1/2 lb.

(Maynard Veg. 86-05)
C. What's National Agricultural Plastics Association (NAPA) all about?

"One of the significant recent developments in horticulture has been the use of plastic films for crop production."

Dr. George A. Marlowe, Jr.
First President of NAPA
October, 1960

This was the opening statement in the first Proceedings of the National Horticultural Plastics Conference. While it was written more than 25 years ago, the thought is still true today. Developments in the plastics industry have continued at a rapid pace and have changed many practices in agricultural production. Fifty-five industry and university scientists met at that first congress in Lexington, Kentucky to discuss the "future of plastic products for horticulture." The name of the association was later changed to the National Agricultural Plastics Association to reflect the wide scope and activity of members and congresses. The NAPA has grown substantially in the last 25 years so that we now have more than 500 members.

The availability of plastic products specifically for agricultural uses has changed the way we grow and package our food. Plastic-covered greenhouses have largely replaced the glass structures of the past. Plastic mulch has become a common sight on farms and trickle irrigation is used on thousands of acres of crop land. Plastic wraps have allowed longer storage of perishable foods and better, fresher-looking produce. These technologies and others were developed and nurtured by members of the NAPA. The NAPA Congress has always been a place for the people who dream to meet the people who make things happen.

The primary activity of the NAPA today is to sponsor this national congress and industry exhibition. Current research, practical observations, product reports, and demonstrations are presented at the congress. The Proceedings of each congress documents these reports for the future. New Products are often unveiled at the NAPA congress. This allows people familiar with the uses of agricultural products to interact with designers and manufacturers on the applicability of their new products. In addition, educators, advisors, and consultants learn about new products and technologies that have recently been introduced into the market.

The University of Illinois is hosting the 19th Congress of the National Agricultural Plastics Association. We hope you can join us in Peoria for what looks to be an exciting and educational event. This year's conference has many research reports on all phases of plastic use for agriculture. These include row covers, trickle irrigation, hydroponics, mulches, nursery production, greenhouse structures and covers, and new innovations in plastics. I am sure everyone would find something of benefit at this meeting.

We are actively seeking commercial sustaining members and commercial exhibitors for the Peoria meeting. NAPA needs your support. If you know of anyone interested in sustaining membership and exhibiting at Peoria please call George J. Hochmuth, Vegetable Crops Dept, Gainesville.

(Hochmuth, Veg 86-05)
III. VEGETABLE GARDENING

A. Growing tomatoes the "Wade Ellis Way"

As a Florida home gardener, you should always be on the alert for new and better ways for growing your vegetables. Gardeners learn from gardeners, so here is a tomato growing technique which I learned from Mr. Wade Ellis, a very successful gardener in Duval county. We'll call it the Wade Ellis way to grow tomatoes.

Using his special technique of planting on a specially prepared mound of cow manure, Mr. Ellis has consistently grown plants that produced almost unbelievable yields of quality tomatoes. It is not unusual to find on his plants 40 to 60 tomato fruits ranging in size from small (just forming) to large, mature greens close to one pound each. He relies on varieties which are proven for his area. His best results have been with 'Floradade' and 'Duke'. The former is a readily available variety most gardeners can purchase, while 'Duke' is grown mostly in commercial fields and is not as easy to find for planting in gardens. The simple technique involves building a mound of soil over a pile of cow manure. Here is the step-by-step procedure to follow:

(1) Select the spot or row in your garden to be planted with tomatoes, and prepare as usual. Lime the soil if a soil-test indicates a need for it, and treat for nematodes if necessary.

(2) On the properly prepared soil begin construction of your mound (hill) by placing a double-layer of newspaper flat on the soil surface. The paper temporarily curtails the leaching loss of nutrients and moisture from the root zone.

(3) Place a shovelful (about one gallon) of rotted cow manure on the center of the newspaper.

(4) Make a depression in the center of the manure heap, using your fist or a trowel, almost down to the level of the newspaper.

(5) Place one and one-half cups of common, dry fertilizer in the central depression. An analysis in the range of 6-6-6 to 10-10-10 will suffice. Do not mix the fertilizer with the manure.

(6) Using a hoe or rake, pull the soil from around the edges of the newspaper up over the manure until a mound is formed 3 to 4 inches above the manure pile. Again, do not mix the soil, manure, and fertilizer.

(7) Now, dig a planting hole on top of the mound just deep and large enough to accommodate the tomato root-ball. Place the plant roots in the hole, add water, then firm the soil around the stem. Important - keep roots at least one inch above the fertilizer. Make a slight saucer-shaped depression around the base of the stem to hold water until it soaks into the soil.

(8) To support the plant use a tomato-cage, or insert two or three sturdy 4 to 6 foot tomato stakes around each mound. Tie the plant to these supports with cord as the plant grows. Staking is especially necessary with this method since most of the root growth is in the above-ground mound, thus leaving the plant vulnerable to wind blowing.

(9) Water and care for the plant as usual. With the 'Floradade' variety it is not necessary to prune the plants.

(10) If yellowing or browning of the leaf edges occurs, this indicates you placed the plants too close to the fertilizer. Pull out the plant and reset at the edge of the mound rather than on top of the mound. Note: Although Mr. Ellis always uses cow manure, other forms of rich organic matter such as compost might be substituted for the cow manure.

(Stephens Veg. 86-05)
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