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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


II. COMMERCIAL VEGETABLES

A. Tomato Varieties for Florida.

Variety selection, often made several months before planting, is one of the most important management decisions made by the grower. Failure to select the most suitable variety or varieties may lead to loss of yield or market acceptability.

The following characteristics should be considered in selection of tomato varieties for use in Florida:

*Yield - The variety selected should have the potential to produce crops at least equivalent to varieties already grown. The average yield in Florida is currently about 1200 25-pound cartons per acre. The potential yield of varieties in use should be much higher than average.

*Disease Resistance - Varieties selected for use in Florida must have resistance to Fusarium wilt, race 1 and race 2; Verticillium wilt (race 1); gray leaf spot; and some tolerance to bacterial soft rot. Available resistance to other diseases may be important in certain situations.

*Horticultural Quality - Plant habit, stem type and fruit size, shape, color, smoothness and resistance to defects should all be considered in variety selection.

*Adaptability - Successful tomato varieties must perform well under the range of environmental conditions usually encountered in the district or on the individual farm.

*Market Acceptability - The tomato produced must have characteristics acceptable to the packer, shipper, wholesaler, retailer and consumer. Included among these qualities are pack out, fruit shape, ripening ability, firmness and flavor.

CURRENT VARIETY SITUATION

Many tomato varieties are grown commercially in Florida but only a few represent most of the acreages. 'Agriset 761' was grown on 41% of the acreage in Florida in the 1993-94 season - a dramatic increase from about 29% in the previous season. 'Agriset 761' was grown on about 62% of the acreage in southwest, about 40% of the acreage in west central Florida, and was the predominant variety in north Florida. The acreage planted with 'Sunny' declined to about 18% of the total after having been the leading variety in the state for many years, often with about 80% of the acreage. However, 'Sunny' was still grown on almost 80% of the acreage on the east coast. 'Solar Set' continued as the third most important Florida-grown variety with about 9% of the acreage. 'Solar Set' was most popular in west central Florida, but was grown in all
production areas - the only variety with that distinction. 'Solar Set' continued to be an important factor in the north Florida fall crop.

'Bonita' was grown on about 7% of the statewide acreage, however, virtually all of the plantings were in Dade County where it represented more than 50% of the acreage there.

'Sunbeam' was planted on about 5% of the statewide acreage with the greatest concentration - about 10% of the acreage - in west central Florida.

'BHN 26' was grown on about 4% of the Florida acreage representing about 9% of the southwest Florida acreage.

'Merced' with about 3% of the state's acreage and 7% of the southwest Florida acreage and 'Cobia' with about 2% of the state's acreage and 20% of the Dade County acreage are the only other varieties of importance in the 1993-94 season. However, many other varieties were grown on limited or experimental acreages.

### TOMATO VARIETY TRIAL RESULTS

Summary results listing the five highest yielding and five largest fruited varieties from trials at the Gulf Coast Research and Education Center, Bradenton; a commercial farm in Delray Beach; Ft. Pierce Agricultural Research & Education Center; and North Florida Research & Education Center, Quincy, for the Spring 1993 season are shown in Table 1. High total yields and large fruit size were produced by 'Passion' at Bradenton; 'Merced', XPH 10005, PSX 853389, and 'Olympic' at Delray Beach; 'Olympic', 'Merced', Fla. 7430, and 'Agriset 761' at Ft. Pierce; and 'Mountain Spring' at Quincy. 'Bonita' produced high yields at three and 'Merced' at two locations. Large fruit size was produced by 'Merced' in four locations and by 'Agriset 761', 'Olympic', 'Passion', and XPH 10005 in two locations.

It is important to note that the same entries were not included in all of the trials.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Yield (ctn/acre)</th>
<th>Large Fruit Size (oz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradenton (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fla. 7375</td>
<td>2558</td>
<td>Passion</td>
</tr>
<tr>
<td>Fla. 7424</td>
<td>2612</td>
<td>Olympic</td>
</tr>
<tr>
<td>Passion</td>
<td>2594</td>
<td>6.8</td>
</tr>
<tr>
<td>Bonita</td>
<td>2591</td>
<td>Merced</td>
</tr>
<tr>
<td>Fla. 7430</td>
<td>2558*</td>
<td>FMX 171</td>
</tr>
<tr>
<td>Delray Beach (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merced</td>
<td>2247</td>
<td>PSX 853389</td>
</tr>
<tr>
<td>XPH 10005</td>
<td>2177</td>
<td>Merced</td>
</tr>
<tr>
<td>PSX 853389</td>
<td>2136</td>
<td>Tango</td>
</tr>
<tr>
<td>Cobia</td>
<td>2053</td>
<td>Olympic</td>
</tr>
<tr>
<td>Olympic</td>
<td>2030</td>
<td>XPH 10005</td>
</tr>
<tr>
<td>Ft. Pierce (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic</td>
<td>2077</td>
<td>Olympic</td>
</tr>
<tr>
<td>Merced</td>
<td>1947</td>
<td>Merced</td>
</tr>
<tr>
<td>Bonita</td>
<td>1925</td>
<td>Agriset 761</td>
</tr>
<tr>
<td>Fla. 7430</td>
<td>1900</td>
<td>Fla. 7430</td>
</tr>
<tr>
<td>Agriset 761</td>
<td>1864*</td>
<td>Solar Set</td>
</tr>
<tr>
<td>Quincy (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monte Verde</td>
<td>2664</td>
<td>Passion</td>
</tr>
<tr>
<td>Bonita</td>
<td>2605</td>
<td>Mountain Spring</td>
</tr>
<tr>
<td>PSX 877491</td>
<td>2600</td>
<td>Merced</td>
</tr>
<tr>
<td>Mountain Spring</td>
<td>2562</td>
<td>Agriset 761</td>
</tr>
<tr>
<td>Sunbeam</td>
<td>2528*</td>
<td>XPH 10005</td>
</tr>
</tbody>
</table>

14 additional entries had yields similar to those of Fla. 2558.
8 additional entries had fruit weight similar to that of FMX 171.
Statistical interpretation of data not available.
Five additional entries had yields similar to those of 'Agriset 761'.
Seven additional entries had fruit weight similar to 'Solar Set'.
18 additional entries had yields similar to those of 'Sunbeam'.
Five additional entries had fruit weight similar to that of XPH 10005.
Seed Sources:

Agrisales: Agriset 761
Asgrow: Solar Set, Sunbeam, XPH 10005
Ferry-Morse: FM 171, Monte Verde
Harris Moran: HMX 2822
Petoseed: Olympic, Passion, PSX 877491
Rogers NK: Bonita, Cobia, Merced, Mountain Spring, Tango
University of Florida: Fla. 7249B, Fla. 7375, Fla. 7430

Summary results listing outstanding entries in order from trials at the Gulf Coast Research & Education Center, Bradenton and North Florida Research & Education Center, Quincy for the Fall 1993 season are shown in Table 2. High yields and large fruit size were produced by 'Merced' at Quincy. The highest yields were produced by 'Agriset 761' at both locations. 'Passion' produced the largest fruit size at both locations.

Table 2. Summary of University of Florida tomato variety trial results. Fall 1993.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Yield (ctn/acre)</th>
<th>Large Fruit Size (oz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradenton (2)</td>
<td>Agriset 761 1513</td>
<td>Passion 5.6</td>
</tr>
<tr>
<td></td>
<td>Solar Set 1459</td>
<td>HMX 2822 5.5</td>
</tr>
<tr>
<td></td>
<td>Sunmaster 1445</td>
<td>XPH 10005 5.4</td>
</tr>
<tr>
<td></td>
<td>XPH 10005 1404</td>
<td>Mountain Fresh 5.2</td>
</tr>
<tr>
<td></td>
<td>Solimar 1379*</td>
<td>FMX 174 5.1*</td>
</tr>
<tr>
<td>Quincy (3)</td>
<td>Agriset 761 1485</td>
<td>Passion 6.3</td>
</tr>
<tr>
<td></td>
<td>Fla. 7375 1424</td>
<td>Tango 6.2</td>
</tr>
<tr>
<td></td>
<td>Colonial 1394</td>
<td>PSR 810790 6.1</td>
</tr>
<tr>
<td></td>
<td>Fla. 7249B 1323</td>
<td>Merced 6.0</td>
</tr>
<tr>
<td></td>
<td>Merced 1320*</td>
<td>Mountain Spring 5.9*</td>
</tr>
</tbody>
</table>

14 additional entries had yields similar to those of 'Solimar'.
10 additional entries had fruit weight similar to that of FMX 174.
12 additional entries had yields similar to those of 'Merced'.
Nine additional entries had fruit weight similar to that of 'Mountain Spring'.

Seed Sources:

Agrisales: Agriset 761
Asgrow: Solar Set, Solimar, XPH 10005
Ferry-Morse: FMX 174, Mountain Fresh
Harris Moran: HMX 2822
Petoseed: Colonial, Passion, Sunmaster, PSR 810790
Rogers NK: Merced, Mountain Spring, Tango
University of Florida: Fla. 7249B, Fla. 7375

For spring and fall 1993 combined, high yields and/or large fruit size were achieved by 'Merced' eight times, 'Agriset 761' and 'Passion' five times, 'Olympic' and XPH 10005 four times, and 'Bonita', Fla. 7430, and 'Mountain Spring' three times each.

It should be noted that in some of these trials, there were little or no significant differences among the entries. This indicates that there are a large number of varieties that produce large yields and have large fruit size which are available to growers. In some instances, other factors may dictate the selection process.

TOMATO VARIETIES FOR COMMERCIAL PRODUCTION

The varieties listed have performed well in University of Florida trials conducted in various locations. Those varieties designated as FOR TRIAL should be evaluated in trial plantings before large-scale production is attempted.
Agriset 761 (Agrisales). An early midseason, determinate, jointed hybrid. Fruit are deep globe and green shouldered. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), Alternaria stem canker, gray leaf spot.

Bonita (Rogers NK). A midseason, jointless hybrid. Fruit are globe-shaped and green-shouldered. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), gray leaf spot.

Heatwave (Petoseed). An early, large, jointed, uniform-green fruited hybrid. Determinate. Fruit is set under high temperatures (90-96°F day/74-78° night). For late summer or fall plantings. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), Alternaria stem canker, gray leaf spot.

Merced (Rogers NK). Early, deep-globe shaped, green-shouldered fruit are produced on determinate vines. Jointed hybrid. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), gray leaf spot, tobacco mosaic virus. FOR TRIAL.

Olympic (Petoseed). A mid-season determinate, jointed hybrid. Fruit are deep oblate with green shoulders. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), Alternaria stem canker, and gray leaf spot.

Solar Set (Asgrow). An early, green-shouldered, large-fruited, jointed hybrid. Determinate. Fruit set under high temperatures (92°F day/72° night) is superior to most other commercial cultivars. Resistant: Fusarium wilt (race 1 and 2), Verticillium wilt (race 1) and gray leaf spot.

Sunbeam (Asgrow). Early mid-season, deep-globe shaped fruit are produced on determinate vines. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and race 2), gray leaf spot, Alternaria. FOR TRIAL.

Sunny (Asgrow). A midseason, jointed, determinate, hybrid. Fruit are large, flat-globular in shape, and are green-shouldered. Resistant: Verticillium wilt (race 1), Fusarium wilt (race 1 and 2), Alternaria stem canker, gray leaf spot.

REFERENCES


(Maynard Vegetarian 94-06)


In a previous Vegetarian article (October, 1993), I summarized some research on strawberry fertigation conducted at the Dover AREC by Earl Albregts and myself. The results showed that our recommendations for N and K fertilization could be reduced from the 1.0 lb per acre per day to 0.75 lb per acre per day. These proposed changes were field tested in the Gainesville area during the 1993-94 season on two farms. Gary Brinen and I monitored the plants for petiole nitrate-nitrogen and K concentrations and for whole-leaf N and K concentrations. Both growers were long-time strawberry growers but were new to drip fertigation.

We started monitoring the crop as it began to produce fruit in January. Rowcovers were used on both farms for frost protection with one farm supplementing protection with sprinkler irrigation.
At farm A, about 70 lb per acre of N and K were incorporated in the beds before mulching. A small amount of N, but no K was applied at farm B. Both growers started injecting N and K in early January about 2 1/2 months after planting. Both growers started out at 0.5 lb per acre per day of N and K injecting either once or twice per week.

Petiole-sap and whole-leaf tissue analyses (Table 1) showed that the plants were adequately fertilized at 0.5 lb N and K per acre per day for most of the season. At Farm A, the injection rate was increased to 0.7 lb N and K per acre per day in April, but the grower felt there was not much response even though the petiole-sap nitrate-N concentration increased. Both growers realized excellent crops with grower A commenting his crop was the best he has ever had. Results of the tests confirm that reducing strawberry N and K injection rates from 1.0 lb per acre per day to 0.75 lb per acre per day would not sacrifice yield.

<table>
<thead>
<tr>
<th>Sampling date</th>
<th>Measured</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO₃-N</td>
<td>K</td>
</tr>
<tr>
<td>A 2 Feb</td>
<td>340</td>
<td>2700</td>
</tr>
<tr>
<td>22 Feb</td>
<td>430</td>
<td>3800</td>
</tr>
<tr>
<td>17 Mar</td>
<td>430</td>
<td>2500</td>
</tr>
<tr>
<td>7 Apr</td>
<td>380</td>
<td>3300</td>
</tr>
<tr>
<td>21 Apr</td>
<td>500</td>
<td>2500</td>
</tr>
<tr>
<td>B 2 Feb</td>
<td>360</td>
<td>2300</td>
</tr>
<tr>
<td>22 Feb</td>
<td>880</td>
<td>4800</td>
</tr>
<tr>
<td>17 Mar</td>
<td>480</td>
<td>3200</td>
</tr>
<tr>
<td>21 Apr</td>
<td>560</td>
<td>2800</td>
</tr>
</tbody>
</table>

(Hochmuth, Vegetarian 94-06)
Tomato Institute Program
Ritz Carlton, Naples
September 7, 1994

Morning Session
Moderator - Stephen Brown, Lee County Agricultural Agent

09:00 Introductory Remarks - Dr. Calvin Arnold (SWFREC, Immokalee)

09:10 Alternatives to methyl bromide for nematode control - J. Noling (CREC, Lake Alfred)

09:30 Nutsedge and soil-borne pathogen control with alternatives to methyl bromide - J. Gilreath, J.P. Jones, and A. Overman (GCREC, Bradenton)

09:50 An economic analysis of a ban on methyl bromide in the FL tomato industry - J. Van Sickle and Tom Spreen (Food & Resource Economics, Gainesville)

10:10 Methyl bromide: the Montreal protocol and the clean air act - Bill Hayes (Consultant)

10:30 Yield losses in tomato due to foliar diseases and the benefits of protective fungicides - K. Pernezny, L. Datnoff (EREC, Belle Glade), and T. Mueller (Collier Farms)

10:50 Biological control of Fusarium crown and root rot - L. Datnoff (EREC, Belle Glade), S. Nemec (USDA-ARS, Orlando), K. Pernezny (EREC, Belle Glade)

11:10 Potato late blight epidemic of 1993 and 1994 ... short term problem or long term constraint on production - P. Weingartner (AREC, Hastings)

11:30 Tomato yellow leaf curl & Admire as a virus deterrent - J. Polston (GCREC, Bradenton)

11:50 LUNCH

Afternoon Program
Moderator - Ben Castro, Gadsden County Agricultural Agent

1:30 Hand labor tasks in tomato production as affected by the Worker Protection Standard - M. Lamberts (Dade County), K. Shuler (Palm Beach County), P. Gilreath (Manatee County), S. Swanson (Collier County)

1:50 Whitefly population, geminivirus incidence, and Admire efficacy in spring '94 - S. Swanson (Collier County) and P. Stansly (SWFREC, Immokalee)

2:10 Potassium source and rate for polyethylene mulched tomatoes - S. Locascio (Hort. Sci., Gainesville), S. Olson (NFREC, Quincy), G. Hochmuth (Hort. Sci., Gainesville), R. Hochmuth (SVAREC, Live Oak), and A. Csizinsky (GCREC, Bradenton)

2:30 Automatic transplanting of Florida tomatoes - L. Shaw (Ag. Engineering, Gainesville)

2:50 Tomato transplant depth; Can it influence yields? - C. Vavrina, (SWFREC, Immokalee)

3:10 The early history of the tomato in FL: implications for the present and future - Andrew Smith (Author of the Tomato in America)

3:30 The ESL tomato; Present status and future prospects - J. Scott (GCREC, Bradenton), R. Volin (Rogers Seed), R. Heisey (Asgrow Seed), M. Barineau (PetoSeed)

4:10 The California perspective on the ESL tomato - Fred Williamson (President, Andrew & Williamson Sales Co., San Diego, CA)

4:30 Adjourn
III. VEGETABLE GARDENING

A. 1995 Youth Garden Grants are Available.

The National Gardening Association (NGA) has announced that applications for the 12th annual Youth Garden Grants are available. NGA, a member-supported non-profit organization based in Burlington, Vermont, will award 300 grants nationwide consisting of tools, seeds, plants and garden products to winning applicants, for use during the 1995 growing season.

Programs involving at least 15 children between the ages of 3-18 years are eligible, with consideration given for educational, social, or environmental programming; sustainability; community support; strong leadership; need, and innovation. In 1994, 200 schools, youth groups and community organizations from across the United States each received more than $500 worth of materials and products contributed by participating companies from the lawn and garden industry. Florida gardeners have received some of these grants in the past, mostly in schoolyard situations. Gardening teaches youngsters about environmental stewardship, food production, problem solving and teamwork, while also developing pride, self-esteem and delight in feeding and beautifying the community. Besides, it can be fun! Once children become involved, they are really interested in caring for plants which they have started themselves.

To receive an application, write: Garden Grants Dept. PS, National Gardening Association, 180 Flynn Ave., Burlington, VT 05401. Please include the following information: name, school or organization, address and phone number. Deadline for completed applications is November 15, 1994. (FAX: (802) 863-5962)

(Stephens, Vegetarian 94-06)