Vegetarian 92-5
May 18, 1992

Contents

I. NOTES OF INTEREST
   A. Vegetable Crops Calendar.

II. COMMERCIAL VEGETABLES

III. PESTICIDE UPDATE
   A. Status of Herbicide Tolerance Establishment through IR-4.

IV. VEGETABLE GARDENING
   A. 4H Horticulture ID: Vegetables Slide Set.

Note: Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors. The purpose of trade names in this publication is solely for the purpose of providing information and does not necessarily constitute a recommendation of the product.
I. NOTES OF INTEREST

A. Vegetable Crops Calendar.

May 28, 1992. Organic Gardening Research and Education Park - Open House and Tour Day. 1:00 - 4:00 PM. Fifield Hall, UF, Gainesville (contact Jim Stephens).

II. COMMERCIAL VEGETABLES


In the spring of 1990, Florida's forty-seven vegetable transplant production houses were surveyed to assess various aspects of the industry. Thirty-four production houses responded to the detailed survey developed and distributed by Charles S. Vavrina, Extension Vegetable Horticulturist, and William R. Summerhill, Evaluation Specialist, Institute of Food and Agricultural Sciences, University of Florida.

Over 1.15 billion vegetable transplants (Table 1) were grown in Florida during the 1989-1990 season (July-May). Nine companies produced greater than 92% of the transplants (>1,019,427,000): Classic Plants, CollierGro, Johnny Johnson Greenhouses, LaBelle Plant World, Plants of Ruskin, Redi-Plants, Speedling, Inc. (2), and The Plant Farm. Of the transplants produced by these nine companies, 46% were tomatoes, 29% pepper, 10% cabbage and 6% were tobacco. The 25 smaller companies responding to the survey estimated a total production of 133,531,600 transplants: 40% in tomatoes, 22% in celery, 18% in pepper, and 14% in cabbage. The remaining production of all producers included: broccoli, cantaloupe, cauliflower, celery, collards, eggplant, lettuce, onion, squash, and watermelon.

Tomato, pepper and cabbage transplants represent the greatest volume (>83%) of plants marketed by both large and small producers in Florida. Additionally, these crops were grown by more producers in either category (large or small) than other crops.

The crops in Table 1 are ranked according to transplant volume produced by the major producers (note the similarity in total volume statistics). Smaller producers market more collards, onions, eggplant, and watermelon proportionally than do the major producers.

Most transplant operations also produced some "non-vegetable transplants" including: tobacco, ornamentals, annual plugs, foliage, citrus liners, and pine trees. Tobacco is the fourth largest volume grown transplant in Florida, but only 3 major houses and 1 minor house produce it.

Various factors make it difficult to estimate a dollar value for this industry including: bare root vs. containerized production, ebb and flow vs. overhead irrigated production, containerized cell size differences, cost per unit, etc... The greater volume of Florida transplants are containerized so based on a figure of $26.00 per thousand, Florida's vegetable transplant industry is worth about $30 million dollars.
Table I: 1990 Census of Vegetable Transplant Volume.

<table>
<thead>
<tr>
<th>Type</th>
<th>Major Producers</th>
<th>Minor Producers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>(466,105,000) (n=9)*</td>
<td>(53,333,800) (n=15)</td>
<td>(519,438,800)</td>
</tr>
<tr>
<td>Pepper</td>
<td>(299,270,000) (n=9)</td>
<td>(24,499,000) (n=13)</td>
<td>(323,769,000)</td>
</tr>
<tr>
<td>Cabbage</td>
<td>(99,036,000) (n=8)</td>
<td>(18,764,800) (n=11)</td>
<td>(117,800,800)</td>
</tr>
<tr>
<td>Tobacco</td>
<td>(57,950,000) (n=3)</td>
<td>(500,000) (n=1)</td>
<td>(58,450,000)</td>
</tr>
<tr>
<td>Celery</td>
<td>(25,034,000) (n=3)</td>
<td>(30,000) (n=1)</td>
<td>(55,034,000)</td>
</tr>
<tr>
<td>Watermelon</td>
<td>(22,318,000) (n=7)</td>
<td>(807,100) (n=7)</td>
<td>(23,125,100)</td>
</tr>
<tr>
<td>Broccoli</td>
<td>(16,896,000) (n=6)</td>
<td>(234,600) (n=8)</td>
<td>(17,130,600)</td>
</tr>
<tr>
<td>Onion</td>
<td>(9,957,000) (n=6)</td>
<td>(1,387,200) (n=6)</td>
<td>(11,344,200)</td>
</tr>
<tr>
<td>Lettuce</td>
<td>(6,127,000) (n=4)</td>
<td>(63,600) (n=6)</td>
<td>(6,190,600)</td>
</tr>
<tr>
<td>Eggplant</td>
<td>(5,129,000) (n=6)</td>
<td>(1,368,900) (n=9)</td>
<td>(6,497,900)</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>(4,295,000) (n=3)</td>
<td>(100,000) (n=1)</td>
<td>(4,395,000)</td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>(3,727,000) (n=5)</td>
<td>(9,600) (n=3)</td>
<td>(3,736,600)</td>
</tr>
<tr>
<td>Collard</td>
<td>(2,173,000) (n=4)</td>
<td>(2,237,900) (n=9)</td>
<td>(4,410,900)</td>
</tr>
<tr>
<td>Other</td>
<td>(1,156,000) (n=8)</td>
<td>(180,000) (n=2)</td>
<td>(1,336,000)</td>
</tr>
<tr>
<td>Squash</td>
<td>(254,000) (n=2)</td>
<td>(45,100) (n=6)</td>
<td>(299,100)</td>
</tr>
<tr>
<td>Total</td>
<td>(1,019,427,000)</td>
<td>(133,531,600)</td>
<td>(1,152,958,600)</td>
</tr>
</tbody>
</table>

\(*n = \) the number of respondents

(Vavrina, Vegetarian, 92-05)

III. PESTICIDE UPDATE

A. Status of Herbicide Tolerance Establishment through IR-4.

Charles Meister, IR-4 Southern Region Coordinator, presented an update on the tolerances for herbicide uses secured by the IR-4 project during the past three years to the IFAS Weed Workers in March of this year. Labels for all of the tolerances are not yet established but several are and others are pending. The tolerances secured are:

Clomazone/bell and non-bell pepper.

DCPA/all vegetables in the Brassica leafy vegetable group.

Fluazifop/endive (escarole), macadamia nut.

Glyphosate/asparagus, beet, Brassica leafy vegetable group, breadfruit, entire bulb vegetable group (onions, garlic etc) canistel, carrot, cherimoya, chicory, cocoa bean, date, genip, horseradish, jaboricaba, jackfruit, longan, lychee, mamay sapote, parsnip, passion fruit, persimmon, potato, radish, rutabaga, salsify, sapodilla, sapafo (black and white), soursop, sugar beet, sweet potato, tamarind, turnip, yam.

Metolachlor/cabbage, Chinese cabbage (tight heading varieties) cubanelle pepper, bell pepper.

Linuron/parsley.

Norflurazon/asparagus, avocado.

Oxyfluorfen/feijoa, horseradish, papaya, persimmon, taro.

Pendimethalin/garlic, lupin.

Prometryn/dill.

Sethoxydim/rhubarb, sweet potato.
Sodium Chlorate/dry beans group, southern pea.

2,4-D/raspberry.

Also the IR-4 Herbicide food use projects for 1992 in Florida and the Southern Region were listed. These include:

Clomazone/watermelon.

DCPA/dill, parsley.

Diuron/blueberry.

Glyphosate/prickly pear cactus.

Linuron/arracacha, cassava, tanier, yam.

Metolachlor/blackberry, bok choy, Chinese broccoli, collard, Chinese mustard, pigeon pea, watermelon.

Napropamide/chives, daikon, dill, leek, marjoram, mint, Chinese mustard, rosemary, summer savory, sweet potato, tarragon.

Oxyfluorfen/cabbage, calabaza, bell pepper.

Paraquat/calabaza, collard, eggplant, endive, head lettuce, okra, onion (green), perennial peanut, pigeon pea, summer squash, turnip greens, watermelon.

Pronamide/dandelion.

Quizalofop/pineapple.

Sethoxydim/cress (upland), daikon, marjoram, okra, rosemary, sage, tarragon.

Thiobencarb/broccoli, cabbage, carrot.

Trifluralin/dill.

Many of these protocols are for reregistration, but a number are to expand tolerances to very minor crops. If you have questions on the status of IR-4 projects, or if a herbicide is in the process of tolerance establishment with the IR-4 project, call Charles Meister, (904/392-1978)

(Stall, Vegetarian 92-05)

IV. VEGETABLE GARDENING

A. 4H Horticulture ID: Vegetables Slide Set.

The following slide set (128 Slides) will be available soon for you agents to use for training your 4H teams on vegetable identification. Sets will be available for purchase along with similar sets on fruits and ornamentals. Use them for any clientele, such as Master Gardeners and general groups. We’ll let you know the price and how to order as soon as slides are back from duplicating. A streamlined version (one slide per each vegetable) will be on CD ROM-Disk 5.
Artichoke, globe
Slide 1. Plant, buds
Slide 2. Plant, buds
Slide 3. Bud-cut open

Artichoke, Jerusalem
Slide 4. Tubers
Slide 5. Tuber, leaves

Asparagus
Slide 6. Fern, berries
Slide 7. Spears
Slide 8. Seeds

Bean, snap
Slide 9. Leaves, fruit, flowers
Slide 10. Fruit pods, seeds
Slide 11. Purple pods

Beans, lima
Slide 12. Plant, leaves, pods, flowers
Slide 13. Seeds
Slide 14. Pods, seeds

Beet
Slide 15. Plant, root, leaves
Slide 16. Seeds
Slide 17. Leaf

Broccoli
Slide 18. Flower head
Slide 19. Plant, heads
Slide 20. Seeds

Brussels sprouts
Slide 21. Stalk, leaves, bud
Slide 22. Buds
Slide 23. Stalk, buds

Cabbage
Slide 24. Seedlings (types)
Slide 26. Head (red)

Carrot
Slide 27. Root, leaves
Slide 28. Root types
Slide 29. Seeds

Cauliflower
Slide 30. Head (green)
Slide 31. Head (purple)
Slide 32. Head (tied)

Celery
Slide 33. Stalk
Slide 34. Seeds
Slide 35. Transplants

Chard, Swiss
Slide 36. Plant (green)
Slide 37. Leaf (red)
Slide 38. Root, leaves

Chayote
Slide 39. Fruit
Slide 40. Plant (vine)

Chinese cabbage
Slide 41. Head (round)
Slide 42. Plant (Bok Choy)
Slide 43. Plant (Michihili)

Chives
Slide 44. Leaves
Slide 45. Leaves, flower buds
Slide 46. Leaves, Flowers

Collard
Slide 47. Plant
Slide 48. Plant
Slide 49. Leaves

Cucumber
Slide 50. Leaves, fruit flower
Slide 51. Seeds
Slide 52. Fruit types

Eggplant
Slide 53. Plant, fruit, (black)
Slide 54. Seeds
Slide 55. Plant, fruit (white)

Endive
Slide 56. Plant
Slide 57. Plants (Endive/ Escarole)
Slide 58. Escarole

Garlic
Slide 59. Cloves
Slide 60. Tops
Slide 61. Plants

Kale
Slide 62. Plant
Slide 63. Flowering type
Slide 64. Seeds

Kohlrabi
Slide 65. Plant
Slide 66. Plant

Leek
Slide 67. Plant
Slide 68. Seeds

Lettuce
Slide 69. Head
Slide 70. Seed
Slide 71. Plant types

Muskmelon
Slide 72. Leaves, flowers stem
Slide 73. Melon (cut open)
Slide 74. Seeds

Mustard
Slide 75. Plant (broadleaf)
Slide 76. Broadleaf/curly
Slide 77. Leaves (curly)
<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Pages</th>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Okra</strong></td>
<td>Slide 78-80</td>
<td>Leaves, pods, flowers, seedlings, seeds.</td>
</tr>
<tr>
<td><strong>Onion</strong></td>
<td>Slide 81-83</td>
<td>Bulbs, tops, plant, seeds.</td>
</tr>
<tr>
<td><strong>Parsley</strong></td>
<td>Slide 84-86</td>
<td>Plant (broadleaf), root type, curly (on tomatoes).</td>
</tr>
<tr>
<td><strong>Parsnip</strong></td>
<td>Slide 87-89</td>
<td>Leaves, plant, root, seeds.</td>
</tr>
<tr>
<td><strong>Pea, English</strong></td>
<td>Slide 90-92</td>
<td>Pods, peas, plant.</td>
</tr>
<tr>
<td><strong>Pea, Southern</strong></td>
<td>Slide 93-94</td>
<td>Plant, pods, seeds, pods (Judging).</td>
</tr>
<tr>
<td><strong>Pepper</strong></td>
<td>Slide 95-97</td>
<td>Bell plant, pods, banana plant, seeds.</td>
</tr>
<tr>
<td><strong>Potato</strong></td>
<td>Slide 98-100</td>
<td>Tubers, leaves, stems, tubers.</td>
</tr>
<tr>
<td><strong>Potato, sweet</strong></td>
<td>Slide 101-103</td>
<td>Plant top, roots, boniata root.</td>
</tr>
<tr>
<td><strong>Radish</strong></td>
<td>Slide 104-106</td>
<td>Plant, roots (summer), root (winter), root (black).</td>
</tr>
<tr>
<td><strong>Rutabaga</strong></td>
<td>Slide 107-110</td>
<td>Plant, root, plant (others).</td>
</tr>
<tr>
<td><strong>Spinach</strong></td>
<td>Slide 109-111</td>
<td>Leaves (curly), leaves (smooth).</td>
</tr>
<tr>
<td><strong>Squash, Butternut</strong></td>
<td>Slide 112-113</td>
<td>Fruits, seeds.</td>
</tr>
<tr>
<td><strong>Squash, Zucchini</strong></td>
<td>Slide 114-116</td>
<td>Plant, fruits, seeds, fruits (yellow).</td>
</tr>
<tr>
<td><strong>Sweet Corn</strong></td>
<td>Slide 117-119</td>
<td>Plant, ears, cob, kernels.</td>
</tr>
<tr>
<td><strong>Tomato</strong></td>
<td>Slide 120-121</td>
<td>Plant with fruits, fruit (paste type), seeds.</td>
</tr>
<tr>
<td><strong>Turnip</strong></td>
<td>Slide 122-125</td>
<td>Leaves, plant, root, root, tops.</td>
</tr>
<tr>
<td><strong>Watermelon</strong></td>
<td>Slide 126-128</td>
<td>Leaves, melon (cut), fruits (Judging), seeds.</td>
</tr>
</tbody>
</table>

(Stephens, Vegetarian 92-05)
Prepared by Extension Vegetable Crops Specialists

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. D.J. Cantliffe</td>
<td>Chairman</td>
</tr>
<tr>
<td>Dr. G.J. Hochmuth</td>
<td>Assoc. Professor</td>
</tr>
<tr>
<td>Dr. D.N. Maynard</td>
<td>Professor</td>
</tr>
<tr>
<td>Dr. S.M. Olson</td>
<td>Assoc. Professor</td>
</tr>
<tr>
<td>Dr. S.A. Sargent</td>
<td>Asst. Professor</td>
</tr>
<tr>
<td>Dr. W.M. Stall</td>
<td>Professor &amp; Editor</td>
</tr>
<tr>
<td>Mr. J.M. Stephens</td>
<td>Professor</td>
</tr>
<tr>
<td>Dr. C. S. Vavrina</td>
<td>Asst. Professor</td>
</tr>
<tr>
<td>Dr. J.M. White</td>
<td>Assoc. Professor</td>
</tr>
</tbody>
</table>