Vegetarian 91-1
January 11, 1991

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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


March 11-15, 1991. Horticultural Sciences Course HOS 5330 "Commercial Harvesting and Postharvest Handling of Horticultural Crops." Available for 1 graduate credit or 1 Continuing Education Unit. Contact Dr. Steve Sargent for more information (904) 392-7911).

II. COMMERCIAL VEGETABLES

A. Sustainable Vegetable Production.

There has been much written and discussed over recent years concerning the term Sustainable Agriculture. The term has become somewhat of a debatable buzzword meaning different things to different persons. The use of other terms, such as alternative agriculture, regenerative agriculture, low-in-put, renewable, and organic farming, synonymously for sustainable adds to the confusion. Many grower organizations and University program leaders are searching for a reasonable definition that accommodates all aspects of sustainability, including farm profitability. Most experts agree that the concept of sustainability is here to stay.

Sustainable agriculture concepts in the United States have largely grown out of agronomic programs. Many of the agronomic tenets apply to intensively produced horticultural crops, such as vegetables. However, there are other technologies that would be included in the basis for any sustainable vegetable production system. The following is a sampling of some technologies that would apply to vegetable production. Most of these might seem straight-forward to many of us. However, we need to constantly search for new ideas and for ways to adapt and refine existing technologies to new crops and different situations. These technologies are based on the requirements of a sustainable agriculture to produce increasing amounts of food to feed an increasing population, and to do that in a profitable manner with concern for resources and the environment.

Chemical inputs. Learn to rely on integrated crop management (ICM) strategies to minimize the use of crop chemicals including pesticides. The basic concepts of integrated pest management (IPM) are important components in ICM. Other factors involved in crop production are important here as well. These ideas are directed at providing the crop with the competitive edge:

1. Try not to over extend planting seasons into climatic conditions unfavorable to the crop.

2. Schedule irrigation and nutrient applications precisely so excesses are prevented.

3. Use production systems, such as plastic mulch or transplants that speed growth and reduce the time for exposure of crop to pests.

4. Use barriers, such as row covers, to insects.
5. Restrict movement of field workers and equipment from diseased fields to non-diseased areas.

6. Use irrigation systems, such as drip irrigation, to reduce wetting of leaves which can promote disease development.

7. Use recyclable or degradable plastic mulches.

8. Improve efficiency of weed control by judicious use of herbicides, mechanical cultivation, or planting methods (mulching).

9. Search for varieties resistant to stresses from diseases and insects.

Water and nutrient inputs.

1. Adopt the most efficient irrigation system for your area so that water can be conserved. Learn to use soil moisture indicators such as tensiometers to schedule irrigation.

2. Install water retention facilities to keep irrigation water on the farm.

3. Rely on calibrated soil-testing to predict fertilizer, manure, or compost needs for specific fields, even for specific spots in fields.

4. Apply nutrients in metered amounts to reduce the amount of fertilizer in the soil and subject to leaching or erosion losses.

5. Use drip irrigation or liquid fertilizer wheels to split-apply nutrients to plastic-mulched beds.

6. Use plastic mulch to protect fertilizer from leaching. Durable mulches can be multiple-cropped, thus reducing the cost on a crop basis.

7. Rely on plant tissue testing to help guide nutrient applications.

Farm management.

1. Try to avoid farming areas that are historical trouble-spots such as low areas, dry spots, etc. Rely instead on more intensive management of the more productive soils.

2. Install water and soil conservation systems such as those specified by the Soil Conservation Service. Rely on windbreaks, grassed water ways, etc. to minimize soil loss.

3. Rely on constant upkeep of machinery, especially sprayers, fertilizer applicators, and irrigation equipment so that inputs are not wasted.

4. Evaluate harvesting, packing, and cooling systems for techniques to optimize use of labor and energy and to reduce product losses.

5. Obtain as much up-to-date information as possible by reading and attending workshops by university extension and trained consultant personnel.

6. Incorporate computers in the farm management to better organize and coordinate farm operations.

7. Be observant and try to learn as much as possible about crop behavior from season to season so that adjustments in production practices can be made. Complete records are required here.

The above lists are not meant to be all inclusive; there are surely other components, maybe even better ones. However, the above suggestions are meant to illustrate that sustainable vegetable
production relies on research-based technologies. Sustainable vegetable production systems will need to be developed, refined, and installed even in times of budgetary constraints for the users and developers of the technologies. This will mean the growers will need to become more involved in supporting the research that will develop these sustainable systems.

Finally, we need to do more to educate our non-farming neighbors about our efforts to sustain production of high quality, safe food while protecting the environment in which we all live. Invite public officials, TV, radio personalities, etc. to the farm. Produce a video on your operation showing off how your operation is important to your community and to the nation’s safe food supply. These education techniques might sound time consuming and expensive, but they just might pay off.

(Hochmuth, Vegetarian 91-01)

B. 1991 Institute for Watermelons and other Cucurbits.

January 29, 1991
Marion County Extension Auditorium
2232 N.E. Jacksonville Rd.
Ocala, Florida

Lunch (provided) and Trade Show

8:00 AM Registration (free).

8:45 Introduction and Welcome - Dan Cantliffe, Vegetable Crops Dept., Gainesville, FL.

PROGRAM

AM: Melons, cucumbers, squash, pumpkins. Moderator: George Hochmuth, Vegetable Crops Dept., Gainesville, FL.

9:00 Cantaloupes and Specialty Melons Adapted to Florida - Gary Elmstrom, Central Florida Research and Education Center, Leesburg, FL.

9:20 Pumpkins and Calabasa - Opportunities for Florida Growers - Don Maynard, Gulf Coast Research and Education Center, Bradenton, FL.

9:40 Analysis of Bed-Width Options for Drip-Irrigated Cucurbits - Don Maynard, Gulf Coast Research and Education Center, Bradenton, FL.

10:00 Pollination Considerations for Cucurbits - Keys to Success - Dan Cantliffe, Vegetable Crops Dept., Gainesville, FL.

10:20 Management of Drip Irrigation for Cucurbits - Gary Clark, Gulf Coast Research and Education Center, Bradenton, FL.

10:40 Herbicide Situation for Cucurbit Crops in Florida - Bill Stall, Vegetable Crops Dept., Gainesville, FL.

11:00 Update on Silver Leaf and White Fly Control - Phil Stansly, Southwest Florida Research and Education Center, Immokalee, FL.
11:20 Current and Potential Virus Diseases Affecting Cucurbits in Florida - Susan Webb, Central Florida Research and Education Center, Leesburg, FL.

11:40 Uniform and Unified Boxing of Cucurbits - Steve Sargent, Vegetable Crops Dept., Gainesville, FL.

12:00 LUNCH (provided) and Visit Trade Show.

PM: Watermelons - Moderator: Bill Phillips, Marion County Cooperative Extension Service, Ocala, FL.

1:30 PM The IFAS Extension Soil Testing Laboratory - Ed Hanlon, Soil Science Dept., Gainesville, FL.


2:00 Degradable Mulches for Watermelons - Bob Hochmuth, Suwannee Valley Agricultural Research and Education Center, Live Oak, FL.

2:20 Stand Establishment Options for Watermelons - Steve Olson, North Florida Research and Education Center, Quincy, FL.

2:40 Effect of Transplant Age on Watermelon Yield - Charlie Vavrina, Southwest Florida Research and Education Center, Immokalee, FL.

3:00 Fumigation Options for Drip-Irrigated Cucurbits - Joe Noling, Citrus Research and Education Center, Lake Alfred, FL.

3:20 Update on Watermelon Diseases (Including Fruit Blotch) and the Bravo Situation - Tom Kucharek, Plant Pathology Dept., Gainesville, FL.

3:40 Postharvest Handling Considerations for Seedless Watermelons - Steve Sargent, Vegetable Crops Dept., Gainesville, FL.

4:00 The New National Watermelon Promotion Board - Karlyn Watson, National Watermelon Promotion Board, Orlando, FL.

4:15 Adjourn - Visit Trade Show.

5:00 Close.

(Hochmuth, Vegetarian 91-01)

C. Strawberry Field Day Program.

Agricultural Research & Education Center, 13138 Lewis Gallagher Road, Dover, Florida 33527-9664. February 13, 1991. Contact Person: Dr. Earl E. Albregts.

Moderator: Dr. D. N. Maynard, Vegetable Extension Specialist, GCREC-Bradenton.

Time, PM

1:15 Dr. W. E. Waters - Welcome and Introductory Comments.

1:20 Dr. E. R. Emino, Asst. Dean for Research - Update of IFAS Research Programs.

1:30 Dr. J. F. Price - Insect Management.

1:45 Dr. C. D. Stanley - Irrigation Research.
1:55 Dr. C. K. Chandler - Cultivar Development.

2:10 Dr. C. M. Howard - Strawberry Diseases.

2:20 Dr. E. E. Albregts - Nutrition and Culture.

2:30 COFFEE/BERRY BREAK

2:40 TOUR OF RESEARCH PLOTS

D. Broccoli Cultivar Trial
Results, Sanford 1990.

Broccoli is a minor crop in central Florida with an estimated 130 acres in production. Interest in broccoli has increased and a limited potential for small as well as large growers exists. The following information is a result of evaluating 24 varieties/breeding lines in the spring of 1990. Seedbeds were sown on January 22. Seedlings were transplanted to a Myakka fine sand on March 1. A randomized block design was used with a single-row plot 25' long by 2.5' wide, and 11 inch in-row spacing. Two duplicate trials, one on black plastic mulch and one on bare ground, were planted. There were three replications in each trial.

Due to dry conditions, overhead irrigation was used to bring the soil moisture to field capacity before bedding, applying fertilizer, and laying plastic.

For the plastic mulched beds, fertilizer was placed in a band in the center of the bed at 240 lb/A nitrogen, 40 lb/A phosphorus (P₂O₅), and 200 lb/A potassium (K₂O). Two rows were planted on each bed. For the bare beds, 30 lb/A of nitrogen, phosphorus, and potassium were broadcast and lightly incorporated. In addition, a total of 110 lb/A nitrogen, 30 lb/A phosphorus, and 100 lb/A potassium were sidedressed in two applications.

Rainfall from March 1-May 7 was 3.62 inches. Overhead irrigation was used 11 times, applying about 1/2 in each time.

Yields ranged from 511 to 0 crates/A in the non-mulched trial and from 363 to 0 crates/A on the black plastic mulched trial. Plant stands were lower in the mulched trial due to less survival at transplanting. Stands were lower in the mulched trials, even after resetting two times due to wilting and coming in contact with the hot plastic. The reduction in yield was mostly due to a reduction in plant stand, but there also was a reduction in the average head weight. Even though the yields and average head weight were lower on the plastic mulch, they were ready for harvest 3 days earlier.

Table 1 is a summary of 8 selected varieties. A more complete report may be obtained by requesting Research Report SAN 91-01, Broccoli Cultivar Trial, 1990.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Seed source</th>
<th>Non-mulched</th>
<th>Mulched</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seed source</td>
<td>crates/A</td>
<td>Head wt (lb)</td>
</tr>
<tr>
<td>AMX 15014</td>
<td>Amsa</td>
<td>511</td>
<td>0.93</td>
</tr>
<tr>
<td>PSX 50785</td>
<td>Petoseed</td>
<td>479</td>
<td>0.74</td>
</tr>
<tr>
<td>Brigadier</td>
<td>Abbott &amp; Cobb</td>
<td>372</td>
<td>0.58</td>
</tr>
<tr>
<td>Everest</td>
<td>Northrup King</td>
<td>369</td>
<td>0.57</td>
</tr>
<tr>
<td>FMX 94</td>
<td>Ferry Morse</td>
<td>362</td>
<td>0.68</td>
</tr>
<tr>
<td>Brigadier</td>
<td>Agway</td>
<td>337</td>
<td>0.61</td>
</tr>
<tr>
<td>Commander</td>
<td>Northrup King</td>
<td>326</td>
<td>0.56</td>
</tr>
<tr>
<td>Green Valiant</td>
<td>Northrup King</td>
<td>237</td>
<td>0.74</td>
</tr>
</tbody>
</table>

(White, Vegetarian 91-01)
III. PESTICIDE UPDATE

A. Poast Labelled on Bulb Vegetables.

Sethoxydim (Poast) has been labelled for the control of actively growing grass weeds in bulb vegetables. Bulb vegetables include all types of onions, both direct seeded or set including dry bulb, Spanish, sweet, and green or bunching types as well as garlic.

A general use rate of 1 pt per acre of Poast is recommended and up to 1 1/2 pts for certain volunteer cereals. An additive of a crop oil concentrate at 2 pts/acre is recommended. Up to 4 1/2 pts per acre may be applied per season with a pre harvest interval of 30 days to be observed. Read and follow all directions on the label.

(Stall, Vegetarian 91-01)

IV. VEGETABLE GARDENING

A. Herbs - a Gardening Renaissance.

While herbs of the culinary type have been on the gardening scene in Florida for many years, probably as long as vegetables have been grown, these "taste-enhancers" are more popular than ever with home gardeners. The same might be said for restaurants and the common marketplace. I believe the reason is related to the increased health consciousness of the American public. In traditional southern-style cooking, a popular method of seasoning vegetables was the liberal use of fatty meats, such as ham-hocks. The use of herbs allows a cook to season a meal naturally, without increasing the foods content of salt, calories, or the fearsome cholesterol.

I have been sensing this increased interest in herbs for some time now, but decided to write this brief article after reviewing the results of Stephen Brown's survey of 500 of southern California's top restaurants, reported in California Agriculture, Vol 45, No. 18 Jan. 1991.

The survey respondents (94%) indicated that the main purpose in using herbs was to enhance flavor. Others (74%) use herbs for aroma, while 68% garnish dishes with the herbs. Only 21% actually listed health benefits as a primary consideration, although I suspect this is a main motivator for gardeners to grow them.

Keep in mind that this survey was done in California, so the results might be a little different if done here in Florida. However, since these are food-dishes prepared, I suspect a lot of similarities in the individual herbs most popularly used in cooking.

Sweet basil was indicated by 79% of the responding restauranteurs as the most commonly used herb. I can add that basil is the most common herb I've observed growing in Florida gardens. The restaurant survey showed thyme and cilantro to be tied for second at 32%. The following table ranks the herbs in terms of common usage in the California survey, and provides some cultural information for these same herbs grown in Florida gardens.
Table 1. Most popular herbs for the Florida garden. 

<table>
<thead>
<tr>
<th>Herb</th>
<th>Use Rank (%)</th>
<th>Growth Cycle</th>
<th>Propagation</th>
<th>Part Used</th>
<th>Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basil</td>
<td>1 (79%)</td>
<td>annual</td>
<td>seed</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Thyme</td>
<td>2 (32%)</td>
<td>perennial</td>
<td>seed/cuttings</td>
<td>leaves/cuttings</td>
<td>as needed</td>
</tr>
<tr>
<td>Cilantro (Coriander)</td>
<td>3 (32%)</td>
<td>annual</td>
<td>seed</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Rosemary</td>
<td>4 (24%)</td>
<td>perennial</td>
<td>seed/cuttings</td>
<td>leaves</td>
<td>when ripe</td>
</tr>
<tr>
<td>Parsley</td>
<td>5 (22%)</td>
<td>biennial</td>
<td>seed</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Mint</td>
<td>6 (21%)</td>
<td>perennial</td>
<td>seed/cuttings</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Tarragon</td>
<td>7 (21%)</td>
<td>perennial</td>
<td>cuttings/dvision</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Dill</td>
<td>8 (15%)</td>
<td>annual</td>
<td>division</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Oregano</td>
<td>9 (14%)</td>
<td>perennial</td>
<td>division</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Chives</td>
<td>10 (9%)</td>
<td>perennial</td>
<td>cuttings/dvision</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Sage</td>
<td>11 (9%)</td>
<td>perennial</td>
<td>cuttings/dvision</td>
<td>leaves</td>
<td>as needed</td>
</tr>
<tr>
<td>Chervil</td>
<td>12 (5%)</td>
<td>annual</td>
<td>seed</td>
<td>leaves</td>
<td>as needed</td>
</tr>
</tbody>
</table>


All of these popular herbs may be grown seasonally in sufficient quantities for home use. Several more may be grown successfully, but are not used as often as the dozen mentioned.

Gardeners who may wish to expand their operation to produce for sale to restaurants or other markets should note other results of the California survey. The majority of the responding chefs (90%) believe that herb usage will continue to grow. A few restaurants (6%) grow their own herbs, while most (46%) get most of their herbs from local distributors. Although only 20% get fresh herbs direct from the grower now, when asked which source the restauranteurs prefer, most chose in favor of the grower, and only 26% wish to obtain their herbs through a purveyor. This preference presents a solid possibility for local growers to produce and sell to local users.

(Stephens, Vegetarian 91-01)

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