April, 1982

Prepared by Extension Vegetable Crops Specialists

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TO: VEGETABLE AND HORTICULTURE AGENTS
AND COUNTY EXTENSION DIRECTORS

FROM: W. M. Stall, Extension Vegetable Specialist

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VEGETARIAN NEWSLETTER 82-4

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NOTE: Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors.
I. NOTES OF INTEREST

A. Vegetable Crops Calendar

April 28: Immokalee ARC Field Day (see Announcement and Program under B)

April 29: Belle Glade AREC Field Day, 10:00 AM

May 4: Leesburg ARC Cucurbit Variety Trial Demonstration (see Announcement under D)

May 4 - 5: Central and Southern Weed Tour (see Announcement and Program under C)

May 27: Fertilizer and Lime Conference, Orlando, 9:15 AM

September 16: Tomato Institute, Marco Island

(Maynard and Stall)

B. Program for the Vegetable Field Day at Immokalee Agricultural Research Center

The Agricultural Research Center at Immokalee, Florida has scheduled a Vegetable Field Day on Wednesday, April 28, 1982 at 1:00 PM. The faculty and staff extend you a cordial invitation to attend this program which is outlined below.

Reggie Brown, Collier County Extension Director - Moderator

PM

1:00 Assembly and Registration

1:15 Dr. P. H. Everett - Welcome

1:20 Dr. W. E. Waters - Introduction and Overview of the Research Programs at AREC-Bradenton, ARC-Dover and ARC-Immokalee
1:30 Dr. Jim Davidson - The Future of IFAS Vegetable Research Programs

1:45 Reports on Current Research:

Dr. J. P. Jones - Bacterial leaf spot disease of tomato and pepper
Dr. J. W. Scott - New thrusts of IFAS tomato breeding program
Dr. D. J. Schuster - Insect control for vegetable crops
Dr. J. M. Crall - Watermelon breeding and variety development
Dr. R. Subramanya - Pepper breeding and variety development
Dr. P. H. Everett - Vegetable nutrition and culture

3:15 Tour of Vegetable Research Plots

(C. Sherman)

C. Central and South Florida Weed Tour

Dr. Joan Dusky, AREC Belle Glade, and Dr. Jim Gilreath, AREC Bradenton have announced the first Central and South Florida weed tour. The tour will start May 4 at the Bradenton AREC and finish at the Ft. Lauderdale AREC in the afternoon of May 5. Herbicide trials in vegetables, ornamentals, rice and aquatics will be toured.

All travel from location to location will be conducted as that during the Deep South Weed Tour.

This should be an outstanding program, and an important field day for industry cooperator and weed programs in Florida. Please pass this information along to interested individuals in your area.

Drs Dusky and Gilreath would like to have an idea of attendance (especially for fish fry) before the tour. If anyone plans to attend or has any questions please contact them directly.

Joan A. Dusky, Weed Scientist
AREC - Belle Glade, FL 33430
(305) 996-3062 (office)

Jim Gilreath, Weed Scientist
AREC - Bradenton, FL 33508
(813) 755-1568 (office)
PROGRAM
May 4th
9:30  Registration AREC - Bradenton, FL (coffee and donuts served)
9:45  Introductory Remarks
10:00 Tour Weed Control Plots (cabbage, tomatoes, cauliflower and cucumbers)
12:30 Break and Travel to Belle Glade (Lunch En Route)
  6:00 Catfish Fry AREC - Belle Glade
May 5th
  8:30 Meet at A. Duda & Sons Farm, Belle Glade
     Introductory Remarks
  8:45 Tour Weed Control Plots (carrots, celery, lettuce and radishes)
 10:30 Travel to Seminole Sugar Farms (20 miles) and Tour Rice Weed Control Plots
 12:00 Break and Travel to Ft. Lauderdale (Lunch En Route)
  2:30 Tour Aquatic Weed Control Plots and Aquatic Research Center
  4:30 Break
     (Stall)

D. Cucurbit Variety Demonstration

William H. Bodnaruk, Jr., Extension Agent, Lake County has announced the Second Annual Cucurbit (cucumber, squash, cantaloupe) Variety Demonstration in conjunction with Dr. Gary Elmstrom, ARC Leesburg.

The demonstration will be held at 6:00 PM, May 4, 1982, at the Leesburg ARC Farm. A bar-b-que dinner will be served after the viewing of the plots. If you or anyone else plans to attend, please let Bill know by April 26.
     (Stall)
D. New Publications

1. Vegetable Gardening, Extension Circular 104-0, by J. M. Stephens is available from the Vegetable Crops Department, University of Florida, Gainesville, FL 32611.


4. Grass Growth Regulator Study, Bradenton AREC Research Report GC 1982-4, by J. P. Gilreath is available from the Bradenton AREC, 5007 60th St., East, Bradenton, FL 33508.

(Maynard)

II. PESTICIDE UPDATE

A. Removal of Vernam 7E Label for Sweet Potatoes

Stauffer Chemical Company is removing sweet potatoes from the Vernam 7E label according to a letter recently received. Although the compound is still federally registered, unexplained injuries on certain sweet potato varieties has caused the removal from the label for the present time.

(Stall)

B. Changes in Roundup Label

Monsanto Agricultural Products Company have recently expanded the Roundup label on vegetable crops. Now included on the label are: Asparagus, artichoke (Jerusalem), beans (all), beet greens, beets, (red and sugar), broccoli, cabbage, carrot, cauliflower, chicory, corn (all), horseradish, kale, lentils, lettuce, mustard greens, okra, onion, peas (all), potatoes (Irish and sweet), radish, soybeans, spinach. Be sure to read the label for additional details.

(Stall)
III. COMMERCIAL VEGETABLE PRODUCTION

A. Agricultural Water Use and Public Opinion

In a decade of rainfall deficits and continual population increase, public opinion is focusing a critical eye on all uses of Florida fresh water resources. The facts show that the agricultural sector is the biggest user in all but the most urban water districts, and that crop irrigation is the dominant portion.

Water use by source studies appear more and more frequently in the media. A typical report is the St. Johns River Water Management District Survey for 1979, Technical Report No. 10, which shows the following:

<table>
<thead>
<tr>
<th>Source</th>
<th>mgd*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>967.0</td>
<td>51.9</td>
</tr>
<tr>
<td>Livestock</td>
<td>15.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>982.2</td>
<td>52.8</td>
</tr>
<tr>
<td>Public</td>
<td>257.3</td>
<td>13.8</td>
</tr>
<tr>
<td>Heat Pump</td>
<td>185.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Industrial</td>
<td>163.4</td>
<td>8.8</td>
</tr>
<tr>
<td>Thermo-electric</td>
<td>154.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Domestic</td>
<td>109.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Institution</td>
<td>9.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>1861.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Mgd - million gallons per day

The personal use of water is rather well documented, too. It is generally accepted that the average Floridian now uses about 240 gallons of fresh water per day, as shown in Table 1. Even if you don't own a swimming pool your neighbor's pool uses part of your state resource.


<table>
<thead>
<tr>
<th>A. Indoor Use</th>
<th>B. Outdoor Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flushing Toilets</td>
<td>Irrigation: lawn</td>
</tr>
<tr>
<td>Bathing</td>
<td>shrubbery</td>
</tr>
<tr>
<td>Laundry</td>
<td>Swimming pool</td>
</tr>
<tr>
<td>Drinking, cooking</td>
<td>Washing car</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>32 gal.</td>
<td>70 gal.</td>
</tr>
<tr>
<td>21 gal.</td>
<td>varies</td>
</tr>
<tr>
<td>14 gal.</td>
<td>varies</td>
</tr>
<tr>
<td>2 gal.</td>
<td>varies</td>
</tr>
<tr>
<td>69 gal.</td>
<td></td>
</tr>
</tbody>
</table>
This 240 gallon use level per day equals the water needs of approximately 5 mature orange trees on a warm dry day. Domestic consumption can be reduced with more water saving devices and a determined and enlightened public. The results could be significant, although the actual amount saved may be small compared to agricultural water use.

The agricultural sector should be prepared to defend their use of such a large piece of fresh water pie. We should be ready to show that most conservation minded farmers are using water efficiently, reducing run-off, transporting water from source to field in pipes rather than open ditches, and supplying crop water needs carefully. We should be prepared to show that conservation measures are attractive to farmers on a cost-benefit basis, too.

We don't know how much water is lost to deep percolation. This is very unfortunate. If we knew, we could also say with conviction just how much of the water pumped is lost in evaporation, transpiration, run-off, crop use and how much is returned to the aquifer. We should be able to say aha! aha! Most of the agricultural water is not consumed, only borrowed.

Another approach of value could deal with water use efficiency and delivery system efficiency. For example seep irrigation is considered to be approximately 35% efficient, sprinkler 70% and drip about 90%. Table 2 shows how Florida average vegetable yields could relate to water pumpage in Southwest Florida with the three irrigation systems based on a zero rainfall year.


<table>
<thead>
<tr>
<th>Vegetable Crop</th>
<th>Fla. Ave. Yield Hundred weight/A</th>
<th>Gallons of Water/Pound of Product</th>
<th>Seep</th>
<th>Sprinkler</th>
<th>Drip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomatoes</td>
<td>283</td>
<td>49.9</td>
<td>25.9</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>90</td>
<td>141.8</td>
<td>72.3</td>
<td>57.3</td>
<td></td>
</tr>
<tr>
<td>Pepper</td>
<td>103</td>
<td>94.8</td>
<td>50.1</td>
<td>42.1</td>
<td></td>
</tr>
<tr>
<td>Celery</td>
<td>404</td>
<td>24.2</td>
<td>12.8</td>
<td>10.7</td>
<td></td>
</tr>
<tr>
<td>Watermelon</td>
<td>185</td>
<td>50.0</td>
<td>26.4</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Cucumber</td>
<td>129</td>
<td>54.7</td>
<td>31.5</td>
<td>23.2</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>28</td>
<td>222.8</td>
<td>107.0</td>
<td>96.8</td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td>190</td>
<td>NA</td>
<td>134.3</td>
<td>107.1</td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>241</td>
<td>33.8</td>
<td>12.4</td>
<td>15.8</td>
<td></td>
</tr>
</tbody>
</table>

NA - Not used for strawberries. Pumpage includes irrigation for field preparation, crop production, crop protection exclusive of frost prevention.
A tomato grower with yields of 1600-25 lb cartons (400 cwt/A) pumps approximately the same amount of water as the 1100 carton grower but requires only 35.3 gallons of water per pound of fruit. A record yield of 2800-30 lb cartons used only 5.65 gallons of water per pound of fruit in Manatee area.

Drip irrigation is probably the system of the future because of its obvious efficiency. The technology for sandy soil production needs refinement, and serious effort by IFAS researchers is underway. Frost protection with low volume semi-sprinkler methods will probably replace the traditional sprinkler systems.

Vegetable growers should be commended for the water saving practices they have already adapted. Research and support industries need to further the technology for even more efficiency. Extension should help to demonstrate these new technologies and help to create a positive public image of how vegetable growers are and continuing to be wise stewards of this vital resource.

(Marlowe)

IV. HOME VEGETABLE GARDENING

A. Know Your Minor Vegetables - Common Names

The following is a list of the vegetables which appear in the February 1982 issue of "Know Your Minor Vegetables", by J. M. Stephens. The list contains other common names frequently or infrequently used synonymously with the more commonly used names for these vegetables.

The list is not all-inclusive, for many minor (and all of the major) vegetables have not yet appeared in the publication.

Please keep in mind that common names have no authoritative basis of nomenclature. Much confused, over-lapping, and inaccurate usage of names quite often occurs as a result of regionalized vernacular.

The scientific nomenclature (botanical names) appears throughout the text of the publication "Know Your Minor Vegetables" and in a special article of the Vegetarian, Vol. 12-80.
Common Names of Vegetables Appearing in
Know Your Minor Vegetables, VCER 17-1982
J. M. Stephens

(A)
Acelga trepadora
(see Malabar spinach)
Aja (see Cushcush)
Aklekengi (see Husk tomato)
Alligator pear (see Chayote)
Alverja (see Pigeon pea)
Amaranth (page 2)
Angelica (page 74)
Anise (page 34)
Anise, sweet
(see Florence fennel)
Archangel (see Angelica)
Arheur (see Pigeon pea)
Arrowroot (page 25)
Arrugula (see Roquette)
Artichoke, French (see Globe)
Artichoke, globe (page 2)
Artichoke, green
(see Artichoke, globe)
Artichoke, Jerusalem (page 2)
Artichoke, sunflower
(see Jerusalem)
Asparagus (page 3)

(B)
Balsam apple (see Momordica)
Balsam pear (see Momordica)
Bamboo (page 25)
Bean, asparagus (page 31)
Bean, Aztec
(see Scarlet Runner)
Bean, bec (see Broad)
Bean, Black Turtle Soup
(see Page 5)
Bean, Bonavist (see Hyacinth)
Bean, Brazilian broad
(see Bean, Jack)
Bean, broad (page 52)
Bean, budo (see Mung)
Bean, Chickasaw lima
(see Bean, Jack)
Bean, Chinese flowering
(see Hyacinth)
Bean, Chinese long (see
Asparagus bean)
Bean, Coffee (see Bean, Jack)
Bean, cold (see Broad)
Bean, Conquerer (see Bean,
scarlet runner)
Bean, Cranberry (page 5)
Bean, Dry (page 5)
Bean, Egyptian (see Hyacinth)
Bean, Ensiform (see Bean, Jack)
Bean, fava (see Broad)
Bean, field (see Broad & Dry)
Bean, fire (see Bean, scarlet
runner)
Bean, Garbanzo (page 10)
Bean, Goa (page 6)
Bean, Go-Ta-Ki (see Sword bean)
Bean, Great Northern (page 5)
Bean, green gram (see Mung)
Bean, Guinea (see Cucuzzi)
Bean, gungo (see Pigeon pea)
Bean, horse (see Broad & Jack)
Bean, hyacinth (page 26)
Bean, Jack (page 4)
Bean, Jacobs Cattle (page 5)
Bean, Kidney (page 5)
Bean, lablab (see Hyacinth)
Bean, look dou (see Mung)
Bean, Lutou (see Mung)
Bean, Mammoth (see Bean, scarlet
runner)
Bean, mash (see Mung)
Bean, mole (see Sword bean)
Bean, moyashimame (see Mung)
Bean, multiflora (see scarlet
runner)
Bean, Mung (page 26)
Bean, Navy (page 5)
Bean, Oorud (see Mung)
Bean, Overlook (see Sword bean)
Bean, pea (see Garbanzo bean)
Bean, Pearson (see Sword bean)
Bean, Peru (see Asparagus)
Bean, Pharao (see Hyacinth)
Bean, Pigeon (see Broad)
Bean, Princess (see Goa bean)
Bean, Raba de burro (see Sword)
Bean, Red Giant (see Bean, scarlet
runner)
Bean, Scarlet Emperor (see Bean,
scarlet runner)
Bean, scarlet runner (page 4)
Bean, Shink (see Hyacinth)
Bean, silkworm (see Broad)
Bean, Snake (see Asparagus)
Bean, Soldier (page 5)
Bean sprouts (page 59)
Bean, sword (page 5)
Bean, Tasmania (see Cucuzzi)
Bean, Val (see Hyacinth)
Bean, Watanpa (see Bean, Jack
Bean, White Marrow (page 5)
Bean, willow-leaf lima
unbeleafable (page 82)
Bean, Windsor (see Broad)
Bean, Winged (see Goan bean)
Bean, Yam (see Jicama)
Bean, Yard long
(see Asparagus)
Bean, Yellow Eye (page 5)
Beet, leaf (see Swiss chard)
Beet, spinach (see
Swiss chard)
Ben tree, (see Horseradish
tree)
Billers, (see Watercress)
Bilure, (see Watercress)
Bladder cherry (see Husk
tomato)
Bonifato (page 88)
Borecole (see Kale)
Bretana (see Malabar
spinach)
Broccoli (page 77)
Broccoli, raab (page 53)
Brussel sprouts (page 36)
Burr cucumber (see Gherkin)

Cabbage, turnip-rooted (see Rutabaga)
Cabbage, wild (see Upland Cress)
Cabbage, won bok (see Chinese)
Calabash (see Cucuzzi and Bottle
gourd)
Calabaza (page 62)
Calabrese (see Broccoli)
Calaluni (see Amaranth)
Capegooseberry (see Husk tomato)
Capers (page 73)
Cara doce (see Cushcush)
Cardoon (page 6)
Cassabully (see Upland cress)
Cassava (page 27)
Ceci (see Garbanzo)
Celeriac (page 30)
Celery, Knob (see Celeriac)
Celery, root (see Celeriac)
Celery, turnip rooted (see
Celeriac)
Celery, water (page 69)
Celtuce (page 40)
Chard (see Swiss)
Chayya (page 64)
Chaykeken (see Chaya)
Chayote (page 7)
Ch' iao t' ou (see Rakkyo)
Chibol (see Welsh onion)
Chickpea (see Garbanzo bean)
Chinese lanterns (see Husk
tomato)
Chives (page 8)
Choco (see Chayote)
Choke (see Chayote)
Chou oleifere (see Rape)
Christophine (see Chayote)
Chufa (page 40)
Gibol (see Shallot)
Giboule (see Welsh onion)
Citron (page 28)
Coakun (see Pokeweed)
Coatil (see Horseradish tree)
Cocoyam (page 8)
Collard (page 65)
Colpa (see Rape)
Colsa (see Rape)
Corn salad (page 9)
Creasy salad (see Upland cress)
Cress, Belleisle (see Upland
cress)
Cress, Brown (see Watercress)
Cress, dryland (see Upland)
Cress, garden (see Upland)
Cress, land (see Upland)
Cress, rib (see Watercress)
Cress, upland (page 49)
Cress, water (page 50)
Cucumber, Armenian (page 86)
Cucumber, Chinese (see Momordica)
Cucumber, Japanese (see Armenian)
Cucuzzi (page 41)
Cushcush (page 55)

Dasheen (page 30)
Dewplant (see Ice plant)
Dhal (see Pigeon pea)
Diamond plant (see Ice plant)
Dill (page 41)

Earth nut (see Peanut)
Edible rush (see Chufa)
Eggplant, white (page 54)
Eker (see Watercress)

Fatweed (see Purslane)
Fennel, sweet (see Florence fennel)
Fetticus (see Corn salad, also Fennel)
Fig marigold (see Ice plant)
Finocchio (see Florence fennel)
Five-fingers (see Ginseng)
Florence fennel (page 9)
Frost plant (see Ice plant)

Garget (see Pokeweed)
Garlic (page 10)
Gherkin, West Indian (page 11)
Ginger (page 42)
Ginseng (page 24)
Girasole (see Artichoke Jerusalem)
Goober (see Peanut)
Gourd, ash (see Wax gourd)
Gourd, bottle (page 83, see Cucuzzi)

Gourd, club (see Armenian cucumber)
Gourd, dishcloth (see Luffa)
Gourd, gooseberry (see Gherkin)
Gourd, Italian edible (see Cucuzzi)
Gourd, Luffa (page 11)
Gourd, Melon (see Waxgourd)
Gourd, Okeechobee (page 12)
Gourd, Snake (see Armenian cucumber)
Gourd, Sponge (see Luffa)
Gourd, Tallow (see Wax gourd)
Gourd, Trumpet (see bottle)
Gourd, Wax (page 12)
Gourd, White (see Wax gourd)
Gourd, White flowered (see Cucuzzi and bottle gourd)
Gram, Bengal (see Garbanzo)
Gram, Common (see Garbanzo)
Gram, Indian (see Garbanzo)
Gram, Red (see Pigeon pea)
Grandul (see Pigeon pea)
Grass (see Asparagus)
Ground almond (see Chufa)
Ground cherry (see Husk tomato)
Ground nut (see peanut)
Gui (see Malabar spinach)

Halmyrides (see Kale, Sea)
Holyghost plant (see Angelica)
Hon-matai (see Water chestnut)
Hon-toi-moi (see Amaranth)
Horseradish (page 12)
Horseradish tree (page 75)
Horse's hoof (see Water chestnut)

Ice plant (page 60)
Inkberry (see Pokeweed)

Jicama (page 13)
Jojoba (page 54)
Kai choy (see Chinese cabbage)
Kale (page 31)
Kale, Sea (page 46)
Kangkong (page 63)
KiKi chay (see Chaya)
Kohlrabi (page 13)
Kuro-kurvaï (see water chestnut)
Kweilin matai (see water chestnut)

La-kwa (see Momordica)
Lamb’s lettuce (see Corn salad)
Leek (page 14)
Leek, wild (see Rakkyo)
Lentils (page 33)
Lettuce, asparagus (see Celtuce)
Lettuce, celery (see Celtuce)
Lettuce, cos (see Romaine)
Lettuce, stem (see Celtuce)
Libato (see Malabar spinach)
Long tails (see Watercress)
Lovage (page 82)
Lovage, scottish (see Lovage)
Love-ache (see Lovage)
Love-parsley (see Lovage)

Malanga (see Cocoyam)
Mandioca (see Cassava)
Mango squash (see Chayote)
Manihot (see Cassava)
Manioc (see Cassava)
Maona (see Cushcush)
Mapuey (see Cushcush)
Martynia (page 43)
Masterwort (see Angelica)
Matai (see Water chestnut)
Melon, bitter (see Momordica)
Melon, Casaba (page 14)
Melon, Chinese preserving (see Waxgourd)
Melon, Crenshaw (see Casaba)
Melon, preserving (see Citron)
Melon, Santa Claus (see Casaba)
Melon, snake (see Armenian cucumber)
Melon, stock (see Citron)
Melon, succe (see Cucuzzi)
Melon, winter (see Waxgourd)

Mid-day flowers (see Ice plant)
Mirliton (see Chayote)
Momordica (page 28)
Mushroom (page 76)
Mustard collards (page 14)
Mustard, Italian (see Broccoli Raab)

Name (see Cushcush)
Nightshade, American (see Pokeweed)
Nightshade, Malabar (see Malabar spinach)
Ninsin (see Ginseng)
Nutgrass, yellow (see Chufa)
Nut, rush (see Chufa)
Nut, tiger (see Chufa)
Nut, Zulu (see Chufa)

Okra, California (see Luffa)
Okra, Chinese (see Luffa)
Okra, running (see Luffa)
Onion, Egyptian (see Tree)
Onion, multiplier (see Potato onion)
Onion, perennial (see Tree)
Onion, potato (page 87)
Onion, top (see Tree)
Onion, tree (page 48)
Onion, Welsh (page 70)
Orach (page 87)
Oyster plant (see Salsify)

Palmetto palm (see Cabbage, swamp)
Palm salad (see Cabbage, swamp)
Parsley, sea (see Lovage)
Pea, congo (see Pigeon pea)
Pea, edible podded (see Snow)
Pea, gram (see Garbanzo)
Pea, Gunds (see Pigeon pea)
Pea, no-eye (see Pigeon pea)
Pea, pigeon (page 15)
Pea, Porto Rico (see Pigeon pea)
Pea, saya-endo (see Snow)
Pea, snow (page 32)
Pea, sugar (see Snow)
Pea, Sugar Snap (page 67)
Peanuts (page 44)
Pepper, chili (page 72)
Pepper, datil (page 15)
Pepper, paprika (page 29)
Pepper, pimiento (page 34)
Pepper, white (see Roquette)
Pepineca (see Chayote)
Pimiento (see Waterchesnut)
Pie plant (see Rhubarb)
Pigeon berry (see Pokeweeds)
Pitki (see Waterchestnut)
Pocan bush (see Pokeweeds)
Pokeweeds (page 15)
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B. Gardening in Bags

Vegetable gardeners who have a problem soil, where nothing seems to
grow well, or who might for any number of reasons need to grow gar­
den vegetables above ground rather than in the soil, should consider
the bag culture technique. Growing tomatoes and other vegetables in
polyethylene bags has been described in various issues (March 1980,
November 1981 and March 1982) of the American Vegetable Grower, by
professor emeritus Ray Sheldrake.

The method has been used primarily in the greenhouse culture of
tomatoes, but was also suggested for use with other vegetables as a
display garden around a roadside market parking lot. It is further
suggested here that this unique way of growing vegetables be con­
sidered for planting around patios, pools, formal gardens, on decks,
porches, window-sills, roofs and over marginal soils.

The bag system described by Dr. Sheldrake utilized bags made from
black polyethylene plastic which were 4 mil thick, 40 inches long, 14
to 16 inches wide, at least 6 inches deep, and from 2 to 2.5 cubic
feet capacity. He also reported the use of larger bags, from 4 to 6
cubic feet. Although not precisely the same, ordinary garbage and
trash bags might be suggested as a type most homeowners would find
available.

One of the main advantages of the bags is the sterile growing mix
with which they are filled as compared to garden soil. A variety of
commercially available potting soil mixes may be used, such as Metro
Mix, Redi-Earth, Peat Lite mix, or Pro-Mix, or the gardener may choose
to mix his own soil substitute such as a peat-vermiculite mix.

The usual suggested procedure for starting the plant growing se­
quence is as follows. Fill the bags with the dry mix (do not wet or
soak). Place the bags flat on a sheet of polyethylene to provide a
clean, dry, disease-free surface beneath. Space the bags properly,
depending on the desired effect of the plants to be grown. Tomatoes
need about 4 square feet per plant, so bags are spaced so that the
ends are slightly apart. Space bags close enough together in rows to
achieve 18 to 20 inches from bag center to bag center. It is sugges­
ted that the bags be paired (2 per row) with a walk space between the
next two adjacent rows, should more be needed.

Cut holes 4 to 5 inches round in the topside of the bag for
setting the plants. Knock the plant out of its transplant container
and plant it at least as deep or an inch deeper than it was in the
container. Cut a few slits in the bottom of each bag, an inch or two above the ground, to allow excess water drain out if necessary.

Water the plant at setting, but do not soak the bag-mix. A starter solution is suggested for tomatoes which could be the same solution that is used for growing the plants. Dr. Sheldrake used a 9-45-15 at 1/2 pounds per 5 gallons, one quart applied once before and once again right after setting. Tomato plants may be tied and staked in a fashion similar to ordinary culture.

The best technique for watering and feeding is to use a constant drip system. However, with only a few plants to care for, a home gardener could apply the liquid fertilizer by hand. In either case, a soluble fertilizer such as 20-10-20 or 20-20-20 may be used at about 1 pound per 100 gallons. Add one to two cupfuls of liquid feed daily during the first few weeks of growth. Then, as the tomato fruit start to swell, increase this to one quart per plant per day.

Bags have been used successfully by Dr. Sheldrake and others with crops other than tomato. Some of these are pepper, (bell and banana) eggplant, lettuce, parsley, celery, onions, carrots, beets, radishes, potatoes, sweet potatoes, and squash.

For those corps like beets requiring direct seeding, cut large "windows" and leave strips across the middle to hold the sides together. Sow the seeds and thin to proper stand.

The idea of the bags for vegetable growing may appear novel, yet it is a practical, tested method offering several advantages: a well textured soil substitute with excellent water and nutrient holding capabilities, a sterile, pest-free medium with no weeds; a mulch covering to keep out weeds, hold moisture and nutrients, and to absorb heat. The system is attractive, and with two tomato plants per bag, it could yield 30 or more pounds per bag. The bags should last two years, and two crops per year is suggested. That translates to 120 pounds of tomatoes per bag, for a value somewhere around $75 - $100. The system bears trying.

(Stephens)
C. Dates Set for Master Gardener Programs

Leon County will finish training their Master Gardeners the last week in April. David Marshall, Extension Agent coordinating the program will then have 33 Master Gardeners to assist him in home horticulture programs.

The In-Service Training for Agents interested in the Master Gardener Program has been rescheduled; the new dates are September 15, 16, 17, 1982. Please make note of this change.

The training will involve a scenario of training given to Master Gardeners. This, I hope, will better acquaint agents with the material used during training. The feeling of the Master Gardener Steering Committee was that this would relieve some of the need for the specialist to always participate in the initial training.

Dates have been finalized for the Advanced Master Gardener Training. Mark your calendar for August 4 & 5, 1982.

Some of the subjects to be included on the program are, insect identification (hands-on) and landscape techniques. I will have more information on this program next month.

(McDonald)

D. 4-H State Horticultural Contest & FFA Vegetable Contest

July is just around the corner and now is the time to begin preparing for the State 4-H Horticultural and Judging Contest. The event will be held on Tuesday, July 27, at 4-H Congress in Gainesville.

A 4 member team from each county may enter in this event. The contest involves identification of fruits, vegetables, and ornamental plants as well as judging 2 classes of products in each commodity area. Judging is done on a consumer quality basis. The first place team will then be eligible for competition at the national meeting which will be held in Niagara Fall, New York.

4-H horticulture events are increasing throughout the State, with many counties participating in vegetable gardening contest. Participation in this event is an excellent way to continue to stimulate
4-Hers' interest in horticulture. Training materials are available on a loan basis to counties in preparing teams. There are 2 4-H publications which will assist you, they are: 4-H Horticulture Identification & Judging Contest, Vol. 1, Fruits & Vegetables & Vol. 2, Flowers, Foliage & Ornamentals. Volume 2 should be available to counties by the end of April.

The State FFA Vegetable Identification & Judging Contest will be held at the University of Florida on Friday, April 30. Participants are responsible for identification of kinds and varieties of vegetables, insects, diseases, weeds and seeds and for judging 4 classes of vegetables.

For further information on either of these events, contact Ann McDonald at (904) 392-2134.

Please help to encourage interest and participation in these programs.

(McDonald)