VEGETARIAN NEWSLETTER

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TO: VEGETABLE AND HORTICULTURE AGENTS
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VEGETARIAN NEWSLETTER 82-9

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING
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NOTE: Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors.

The use 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. New Publications

(1) Cucurbit Variety Evaluation, Spring 1982, Research Report LBG 82-2 by G. W. Elmstrom is available from Leesburg ARC, P. O. Box 388, Leesburg, FL 32748.

(Maynard)

(2) Okra In Florida, A Small Farm Production Guide, Circular 492 has been released and sent to county extension offices. There are only approximately 300 copies remaining. Those counties that did not order this publication originally, may order single copies from me.

(Stall)

(3) Commercial Vegetable Varieties for Florida by G. A. Marlowe, Jr. is available from IFAS Publications, University of Florida, Gainesville, FL 32611.

(Maynard)

II. PESTICIDE UPDATE

A. Oryzalin (Surflan) Labeled for Weed Control in Transplanted Sweet Potatoes

Surflan A.S. and 75W has been labeled for use as an over-the-top spray to control certain annual grasses and broadleaf weeds in sweet potatoes.

It may be applied anytime after transplanting the sweet potatoes to crop emergence.

For a listing of weeds controlled and rates plus other precautions, consult the label.

(Stall)
B. Lexone Registered on Tomatoes

Lexone formulations (metribuzin) are now registered for post-emergence weed control in established tomatoes. Direct-seeded or transplant tomatoes must be in the 5 to 6 leaf stage or older and transplants recovered from transplant shock before treatment.

For rates and special precautions, consult the label.

(Stall)

III. COMMERCIAL VEGETABLE PRODUCTION

A. Planning In Weed Control Practices

Planning for cropping sequences in vegetable production is now started. Growers are taking into account the past history of fields for diseases and insects, relative environment, such as wet or dry, warm or cold pockets, pH and other factors. All too often herbicide history and weed types and density are overlooked.

The prevalence of certain weed species is one of the biggest problems in incomplete planning.

A case in point:

A grower in north Florida was selecting fields for the production of beans and cauliflower. The fields were similar in every aspect except one had a high population of nutsedge. The grower decided he couldn't control nutsedge anyway and that cauliflower was a higher value crop, therefore, he could afford to cultivate more often. He planted cauliflower on the nutsedge infested field. The grower decided wrong.

In preparing the field the grower put up raised beds a week before transplanting. The nutsedge had emerged so thick that he had to remake the beds before he could transplant.

The grower also did not consider the herbicides available for both crops. With cauliflower, he was stuck, for there is no herbicide labeled that will give adequate control of nutsedge. For beans, a different story emerges.
EPTC (Eptam) can give fair to good control of both yellow and purple nutsedge preplant. Metolachlor (Dual), which is now labeled, will also control yellow nutsedge. Bentazon (Basagran), now labeled on snap beans, will give postemergence yellow nutsedge control. Caution should be taken, however, that in some cases Basagran causes leaf burn.

A little better planning could have saved a lot of time and money.

Nutsedge is not the only weed that can cause problems. Grasses as well as broadleaf weeds are differentially controlled by many herbicides. To get a clearer picture of weed control consult VC-17, Control of Florida Weed Species.

A plan should also consider time of year of planting. Weed species problems shift due to the time of year. Cooler season plantings have different weed problems than warm weather plantings, even on the same field. In planning planting sequences the weed history of the field should be taken into account and planting should be planned when weeds can best be controlled by available herbicides.

(Stall)

B. Cost of Protecting Vegetables

Consumers, with few exceptions, demand blemish free, fresh vegetables with pleasing eye appeal. The exceptions are those who feel that a few blemishes and spots do not harm (and may enhance) food value. Somewhere between the "perfectionists" and the "natural food folks" lies truth; but the modern vegetable grower must try to meet the major market demands which are based on eye appeal.

Vegetable growers spend a great deal of time and money protecting their crops to insure this eye appeal. Consumers probably assume that firm, blemish free, colorful tomatoes, peppers and eggplant grow that way naturally. Most seldom consider the extensive protective program required to achieve that number one grade and condition, unless some poorly informed scare statements appear in the newspaper or on television.
We need to emphasize that American vegetables are among the most closely monitored, safest food bargains in the world. The pesticides used are all carefully restrained by law as to how much is safe to use, time limits between application and safe harvest, and even what other materials may be used with the pesticide in question.

Recent cost studies of Florida grown vegetables show that vegetable growers spend between 3.8 to 8.5% of their total production and marketing expenditures on pesticides. This does not include the cost of the application, labor used or machinery inventory costs. It is estimated that true costs of protection range between 12 and 15% of the total capital required to grow and market a crop.

We have been interested in pesticide use on tomatoes in Manatee-Hillsborough counties where integrated pest management has become an accepted practice. The following two tables show pesticide use by the more progressive farmers. Some growers use less, some more; but in all cases the emphasis is on best protection with least materials and cost.

The tomato seasons range between 100 to 120 days in this area. Plant protection begins soon after the seedlings are placed into the field and continues up to harvest at which time a very modified program continues. It may be noted that growers apply fungicides most often and usually in a 5 to 6 day interval.


<table>
<thead>
<tr>
<th>Pesticide Group</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
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<th>Jun</th>
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<td>4</td>
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<tr>
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<td>-</td>
<td>14</td>
</tr>
<tr>
<td>Fungicides</td>
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<td>5</td>
<td>5</td>
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<td>20</td>
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<td>1</td>
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<td>-</td>
<td>3</td>
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<tr>
<td>Fumigants*</td>
<td>1</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Nutr. Sprays**</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>-</td>
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*Not used on newly cleared land

**Not pesticide

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<th>Pesticide Group</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total</th>
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<td>Insecticides</td>
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<td>3</td>
<td>4</td>
<td>4</td>
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<td>14</td>
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<tr>
<td>Bactericides</td>
<td>-</td>
<td>3</td>
<td>4</td>
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<td>4</td>
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<td>17</td>
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<tr>
<td>Fungicides</td>
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<tr>
<td>Herbicides</td>
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<td>4</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Fumigants*</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Nutr. Sprays**</td>
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<td>4</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>11</td>
</tr>
</tbody>
</table>

*Not used on newly cleared land
**Not pesticide

Table 1 and 2 show the heavy emphasis on protection from bacterial and fungal diseases (bacterial leaf spot, blight, etc.) coinciding with the rainy months of each season. Nutrient sprays were included in the study although they are not pesticides. Growers feel that nutritional sprays are part of the total insurance program. Growers using the IPM program have reduced their insecticidal inputs 25 to 37%. The fungicide and bactericide materials use seems to be fairly constant.

Pesticide use has become a finely tuned part of modern vegetable production. This protection is an expensive but necessary, highly regulated, carefully monitored practice with a definite goal of producing high quality vegetables for the American consumer, hopefully at a profit to the growers.

(Marlowe)
IV. HOME VEGETABLE GARDENING

A. Know Your Minor Vegetables - Zucchini

Zucchini squash (Cucurbita pepo L.) has taken gigantic strides in recent years to overtake other types of summer squash in popularity as a fresh and cooked vegetable. It is found in almost every garden throughout Florida, and on salad bars everywhere as a sliced fresh delicacy. In Windsor, a small community in North Central Florida, an annual Zucchini festival someday may be the town's main claim to fame.

Zucchini is a type of squash, and is represented by several named varieties (cultivars). Fruits of this member of the Italian marrow squashes come most commonly in cylindrical shapes, but also in round and intermediate shapes. Fruit color varies from a green so dark as to be called black, to lighter shades of green both with and without stripes, all the way to tones of yellow. Many are highlighted with various degrees of speckling.

Cylindrical fruits range in average size from the 5 to 6 inch 'Caserta' to be the longer varieties such as 'Cocozella' which reaches 14-16 inches in length. Most varieties average 3 to 4 inches in diameter.

Gardeners like to see just how big their zucchinis will grow if left on the plant, and many have felt they must surely have a world's record with specimens in excess of 20 inches in length and 10 pounds in weight. Leaves of zucchini are quite large, with characteristically more notched (segmented) leaves than crookneck and straight neck squash. Zucchini leaves also are characterized by having light greenish-gray splotches and streaks on the leaf surface. These light markings are sometimes mistaken for a mildew problem.

Like other members of the summer squash group, the zucchini plant has the bush habit rather than the vining habit of the winter squashes. However, within the bush habit, there is a fairly wide range of variations in general plant character, primarily in density and arrangement of leaves.

Varieties may be classified as to bush habit, with a rating of (1) given to the open habit, where the leaves are more sprawling and less cluttered, and a rating of (5) for the most dense habit of upright, crowded leaves (closed). Five varieties rated in one test...
were: 'Burpee Hybrid' (1.0), 'Blackini' (2.0), 'Hyzelle' (4.0), 'Hyzini' (4.5), and 'Black Zucchini' (5.0). Other varieties of the more open habit are 'Ambassador', 'Blackjack', 'El Dorado', 'Grey', 'Ball's Zucchini', and 'Caserta' (semi-open).

Those most characteristic of the closed bush type are: 'Seneca Gourmet', 'Black Eagle', 'Blackee', 'Burpee Fordhook', 'Long White Vegetable Marrow', and 'Mexican Globe'.

**VARIETAL DESCRIPTIONS**

Of the many seed-company offerings for home gardeners, many zucchini varieties are hybrids (controlled crosses), and many are open pollinated. They may be grouped best for descriptive purposes according to fruit color.

**Very Dark (green-black)**
- 'Black Angus'
- 'Black Beauty'
- 'Black Eagle'
- 'Blackee'
- 'Blackini'
- 'Blackjack'
- 'Black Magic'
- 'Black Satin'
- 'Black Zucchini'
- 'Burpee's Fordhook'
- 'Castle Verde'

**Descriptive Comments**
- Poor Florida yields
- Poor to fair yields in Florida
- 7 inch, white flesh
- Only fair yields in Florida
- 3 1/2 x 8 inches, open bush
- High yields in Florida, open bush
- Fair Florida yields
- Dark, no flecking
- 6-8" straight fruit, closed bush
- Slightly curved, fair yields in Florida
- Good yielder in Florida

**Dark (dark-green)**
- 'Ambassador'
- 'Aristocrat'
- 'Ball's zucchini'
- 'Chefini'
- 'Dark Green Zucchini'
- 'Diplomat'
- 'Elini'
- 'Elite'
- 'Emperor'
- 'Greenzini'
- 'Hizini'

- Open bush, 7-8" long, good Florida yields
- AA winner, only fair in Florida
- Open bush
- Fair yielder in Florida, (AA winner)
- Lighter flecks
- 6-7 inches
- 7-8 inches
- Medium green, well-flecked
- Flecked with light green, early, high Florida yielder
- Highly speckled
- Fair yielding in Florida
- Closed bush habit, good yielder in Florida
<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Market King'</td>
<td>very dark green, 8&quot;, good Florida yields</td>
</tr>
<tr>
<td>'Onyx'</td>
<td>dark green with some speckling, high yielder</td>
</tr>
<tr>
<td>'Poseidon'</td>
<td>good Florida yielder</td>
</tr>
<tr>
<td>'President'</td>
<td>fair yielding in Florida</td>
</tr>
<tr>
<td>'Scallopini'</td>
<td>flat, scallop shaped, (AA winner)</td>
</tr>
<tr>
<td>'Senator'</td>
<td>excellent Florida yields</td>
</tr>
<tr>
<td>'Seneca Zucchini'</td>
<td>early, fair yielder, good PM resistance</td>
</tr>
<tr>
<td>'Seneca Gourmet'</td>
<td>dark green with flecks of lighter green</td>
</tr>
<tr>
<td>'Verdue'</td>
<td>closed bush, early</td>
</tr>
<tr>
<td>'Zucklong'</td>
<td>flecked with light green</td>
</tr>
</tbody>
</table>

**Dark-green stripes**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Casserta'</td>
<td>light green with darker green stripes (Cocozella type)</td>
</tr>
<tr>
<td>'Cocozelle'</td>
<td>open bush 6-8 inches</td>
</tr>
<tr>
<td>'Gourmet Globe'</td>
<td>round, almost globe shaped, open bush</td>
</tr>
<tr>
<td>'Green Cocozella'</td>
<td>long, to 1/6 inches at times</td>
</tr>
<tr>
<td>'Green Cocozella Striato'</td>
<td>light green and dark green striped</td>
</tr>
<tr>
<td>'Hyzelle'</td>
<td>closed bush type</td>
</tr>
</tbody>
</table>

**Medium-green**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Beautine'</td>
<td>compact bush, early</td>
</tr>
<tr>
<td>'Burpee Hybrid'</td>
<td>open bush, good yielding in Florida</td>
</tr>
<tr>
<td>'Clarita'</td>
<td>7 inch, light-green, female flowering</td>
</tr>
<tr>
<td>'Greenbay'</td>
<td>good yielder in Florida</td>
</tr>
<tr>
<td>'Storr's Green'</td>
<td>7 inch, speckled light-green</td>
</tr>
</tbody>
</table>

**Gray-green**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Caserta'</td>
<td>gray, slightly tapered</td>
</tr>
<tr>
<td>'Castlegrey'</td>
<td>gray, good Florida yielder</td>
</tr>
<tr>
<td>'Geni'</td>
<td>light green, very high yielder in Florida</td>
</tr>
<tr>
<td>'Genie'</td>
<td>good Florida yields</td>
</tr>
<tr>
<td>'Gray Green'</td>
<td>open bush</td>
</tr>
<tr>
<td>'Greyzini'</td>
<td>gray, good yielder in Florida good resistance to PM</td>
</tr>
<tr>
<td>'Long White Vegetable Marrow'</td>
<td>white, English type</td>
</tr>
<tr>
<td>'Mexican Globe'</td>
<td>globe shaped</td>
</tr>
</tbody>
</table>

Yellow
'El Dorado'
'Goldzini'
'Golden Zucchini'
'Gold rush'

Growing Tips

Zucchini is easy to grow throughout the state. It is a warm season vegetable, readily injured by frost and freezes. Plant in fall and spring in all areas of Florida, also in the winter in south Florida frost-unlikely areas.

Plant from seeds, but transplants may be used if in containers and roots are not disturbed. Space plants 24 inches apart (or closer if space is limited) on 36-48 inch wide beds. Four to six plants will feed an average size family at any one time. Hill planting is feasible.

Fertilize as for other garden vegetables, using about 4 pounds of 6-8-8 fertilizer per 100 sq. feet of row (30 linear feet).

Problems

Plants have both male and female flowers, a situation which requires insect (bees primarily) pollination. Poor bee activity results in female flowers dropping. Mid-summer growing conditions usually result in lower yields in Florida.

Insects attacking zucchini in some Florida gardens (not all) are leaf miners, aphids, cutworms, squash vine borers, squash bug, cucumber beetles, mole crickets, and fruit worms.

Diseases are downy mildew, powdery mildew, mosaic, and fruit rots. Main nematode injury comes from the root knot.

Crossing with other nearby varieties of squash happens readily. No harm is done, however, unless the seeds are saved and planted. Crossing will occur with straight neck, crook necks, vegetable spaghetti, pumpkins, and others.
Harvesting

Most fruits are ready about 40 to 50 days after seeding, depending on variety.

Uses

Use zucchini when young and tender, usually when 6 to 8 inches long and about 2 to 3 inches round. Some varieties may be edible even at the larger sizes. Keep them removed from the plant to encourage other fruits to form. Zucchini has a stronger, zangier taste than the milder summer crooks and straights. However, many like the taste of the cooked vegetable. Others who do not attempt to ameliorate the taste by mixing with other ingredients in the form of casseroles. A favorite form is as a fresh, raw product, either in a salad or as a party dip.

Its principle nutritional contributions are Vitamins A and C. Certainly zucchini is low in fats and calories.

(Stephens)