September 6, 1977

Prepared by Extension Vegetable Crops Specialists

J. F. Kelly  
Chairman

James Montelaro  
Professor

J. M. Stephens  
Associate Professor

G. A. Marlowe, Jr.  
Professor

R. D. William  
Assistant Professor

TO: COUNTY EXTENSION DIRECTORS AND AGENTS (VEGETABLES AND HORTICULTURE) AND OTHERS INTERESTED IN VEGETABLE CROPS IN FLORIDA

FROM: R. D. William - Extension Vegetable Specialist

VEGETABLE NEWSLETTER 77-9

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I. NOTES OF INTEREST

A. Vegetarian Newsletter Mailing List Update

We are required by law to revise our mailing list annually. The Editorial Department sent postcards to each person on the mailing list in May, 1977. The postcards were to be returned if the person wished to continue receiving the Vegetarian Newsletter. However, because a few agents have indicated they are no longer receiving the newsletter, we ask that each County Extension Director please check with staff members who are primarily responsible for either commercial or home garden vegetable production to verify that they are receiving the newsletter. Send additional names of staff to our office.

(William)

II. COMMERCIAL VEGETABLE PRODUCTION

A. Magnetic Seed Treatment

Florida vegetable growers are repeatedly offered new methods of obtaining better yields. Often the products or services being offered have not been tested under controlled conditions. This past spring Dr. Dan Cantliffe, the Vegetable Crops Department Seed Physiologist, evaluated vegetable seeds which had been magnetically treated by a company which had made some rather startling claims about seed magnetization.

Seeds of sweet corn, summer squash and bush bean were treated (we were not permitted to observe the equipment or the process) three hours prior to planting. Untreated seed from the same lot were also planted. Both lots were subjected to germination tests.

Rate of emergence was not affected by treatment in any of the crops. In sweet corn, seedling root length and fresh weight were slightly higher in the treated seeds, but total dry weight was lower. In squash and beans, the root length and seedling weights were not affected by treatment. For all three crops, the yields were lower as a result of the magnetizing treatment. In corn, the difference was slight and due only to larger ears in the check plots. In beans, the checks yielded 17% more and in squash 31% more.

(Kelly)

B. Perennial Grass Control in Vegetables

Perennial grasses such as bermudagrass, torpedograss, johnsongrass, maidencane and others are serious weed pests in many vegetable production regions of Florida. Modern and intensive production practices used during the growing season and abandonment of fields during the fallow season tend to encourage the growth and distribution of these perennial weeds. The following information is intended to assist growers in perfecting their weed management system for year-round control of perennial grasses in vegetables.
The first step toward successful control of perennial grasses is prevention. Planting clean seed, transplants, or propagating materials and cleaning all cultivation or planting equipment when moving from one field to another will reduce the occurrence of new infestations. Also, when irrigation water is moved from the pump to the field in open ditches, growers should consider which weeds might be continually reinfesting the field. Remember, there are approximately 1.5 to 2.0 million bermudagrass seeds per pound; each seed being a potential source of reinfestation.

Because perennial grasses are anchored in the soil with thick or wiry rhizomes and many roots, most cultivation equipment simply cultivates around the perennial weed. A thorough plowing during a dry season will substantially reduce infestations of these perennial grasses by dessication of the vegetative plant. However, weed seeds may still be a source for reinfestation during the cropping season.

Historically, most herbicides registered for use in general vegetable production rarely controlled established perennial grasses and only a few prevented the germination and development of perennial grass seeds. One exception is the use of dalapon (Dowpon M) applied to fallow land prior to planting many vegetable crops. In this case, dalapon should be applied to actively growing foliage of the perennial grasses. Because dalapon is readily decomposed in the soil by microorganisms within 3 to 5 weeks, the chemical should be applied at least 2 months prior to planting most vegetable crops. Shorter waiting periods are registered for use in field, kidney, lima and snap beans and potatoes. However, slower degradation may be expected when soils are cold, dry, or contain little or no organic matter.

If residual quantities of dalapon or other herbicides are suspected of remaining in the soil at planting time, the grower is advised to collect several samples of soil from the treated fields and plant a few seeds of the intended crop. Always include a control sample obtained from a non-treated field having similar soil characteristics. If abnormal plants emerge from the previously treated soil samples, a residual quantity of herbicide may be present and the grower should delay planting to avoid injury to the entire crop.

Recently, a new herbicide named glyphosate (Roundup) has been registered for control of many perennial grasses and other perennial weeds. The chemical should be applied to actively growing weed foliage, either in a non-cropland situation or prior to emergence of barley, field or sweet corn, oats, sorghum, soybean, or wheat. However, growers who wish to plant other crops not listed on the label must presently wait one year after application. Where serious infestations of perennial grasses occur, major vegetable growers may wish to consider rotating their land with a series of agronomic crops in conjunction with glyphosate application.

When using pesticides or choosing an herbicide to suppress or control perennial grasses, read the entire label carefully. Specific information such as herbicide rates, application directions, limitations, and precautions are stated on each herbicide label.

In summary, growers are best advised to consider a year-round weed management program, whereby every potential source of perennial weed infestation should be eliminated and existing infestations should be reduced to manageable levels. To accomplish these goals, every management factor that either influences the growth and productivity of perennial grasses or shifts the competitive advantage toward the crops must be considered and implemented in the entire crop management system.
C. The Yield Potential of the Walter Tomato Variety

The Walter tomato variety is currently used for more than 90% of the commercial acreage in Florida. The yield potential of this variety is seldom realized because of the skewed market preference for large and extra large tomatoes. It may be of interest to take a close look at the number and size of fruits this excellent variety is capable of producing in relation to the quantity of fruit a grower actually sells.

In cooperation with Manatee County Extension Agent R. T. Montgomery, actual fruit counts were made on plants immediately after the final harvest. The total fruit produced per plant on the wide row, full bed mulch culture ranged from 100 to 143 with a mean of 120. The number of fruit harvested of marketable size ranged from 53 to 80 per plant with a mean of 68, which represented 57% of the total yield.

The size distribution of fruit remaining in the field exhibited a somewhat left-sided bell-shaped curve. Average size groups were as follows:

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Undersized</th>
<th>2 1/8 to</th>
<th>2 9/32 to</th>
<th>2 17/32 to</th>
<th>2 28/32 to</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left in field</td>
<td>22</td>
<td>7</td>
<td>15</td>
<td>4</td>
<td>4</td>
<td>52</td>
</tr>
<tr>
<td>Hauled to shed</td>
<td>--</td>
<td>10</td>
<td>17</td>
<td>31</td>
<td>10</td>
<td>68</td>
</tr>
<tr>
<td>Total number</td>
<td>22</td>
<td>17</td>
<td>32</td>
<td>35</td>
<td>14</td>
<td>120</td>
</tr>
<tr>
<td>Percent</td>
<td>18.3</td>
<td>14.1</td>
<td>26.7</td>
<td>29.2</td>
<td>11.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

An average of 68 fruit per plant was taken into the packing house for grading, sizing, and packing. Of this 57% hauled in, growers in the Manatee-Ruskin area frequently grade out 15% in the extra large category, 45% large, 25% medium sizes, and 15% small sizes.

Unless the market demand is quite strong, the smaller sizes are discarded. The largest sizes command the premium prices. In 1976, the largest sizes sold for approximately $6.00 per 30 lb. carton; whereas, the medium sizes sold for $4.80 and the smalls for $3.55.

The largest sizes represent about 67% of the packout and are worth about 20% more than the medium sizes. The greatest return, however, comes from only about 31% of the total potential (large, extra large) fruit produced.

In the Manatee-Ruskin area, growers set approximately 3,000 plants to the "net" acre. The net acre concept considers a row of plastic as 6 feet wide x 7,260 feet long. Actually the wide row spacings commit only 36% of the gross acre to the plant row, 52% to between bed spacing, and 12% to irrigation and drainage ditches. The wide row system evolved out of a need for more rapid drainage during heavy rains and greater maneuverability of equipment.
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One might wonder how the grower could get more of this potential yield to the consumer. The sale of tomatoes by weight would be a giant step forward. A great deal might be achieved by maximization of plant spacing either in the row and/or between rows. Another approach might be to modify the fruit sizing relationship in ways that would discourage the development of numbers of fruit in favor of fewer larger fruit. As tomato production increases in expenses and complexity, greater attention must be given to these cost-benefit relationships.

(Marlowe)

D. New Vegetable Crop Ventures

The question of what vegetables to grow for profit is asked often of extension agents working with these crops in Florida. It is asked by novices as well as veteran vegetable growers looking for new sources of income in their farming enterprises. The extension agent who has to answer such a question is "put on the spot." There is no simple answer. In the end, the question must be answered by the grower. All an extension agent can do is to advise and guide him so that an intelligent decision can be made.

If the question were "what vegetable crop can I grow," the answer would be simple. Florida produces about 25 "major" vegetables on large acreages. In addition, there are another 30 or 40 "minor" vegetables being produced on lesser acreages. There are but a few vegetable crops that cannot be grown to some extent in this state. The problem, therefore, is not so much lack of production resources and technology, but being able to find an acceptable market.

The best advice that can be given to a person considering a new vegetable production enterprise is not to plant anything until a suitable market outlet is found. There is no "set of rules" to guide a person in this task. It can be a frustrating undertaking and may require considerable time, travel, patience and determination.

Most growers, looking for new vegetable growing enterprises, think first of the more commonly produced vegetable crops which are marketed through conventional channels. Although a distinct possibility, this approach may not be the most rewarding for the grower looking for new crops to grow.

More often than not, "other crops" and "other marketing methods" may prove to be best. Other crops may include: (1) crops, such as sweet potatoes, onions, garlic, broccoli, cauliflower, etc., that are not produced in adequate supply within the state for local markets; (2) crops that are selected, grown or harvested in a special way for a special market. These may include red-ripe tomatoes, fresh shelled southern peas, lima beans and horticultural beans, seedless watermelons, etc.; and (3) exotic or novelty crops generally used in limited quantities for special culinary purposes or by certain ethnic groups. To illustrate but a few possibilities in this large group, consider such crops as Cuban sweet potatoes, Chinese mustard, snow peas, various types of pungent peppers, chives, dill, leeks, shallots, etc.
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As stated previously, "other" or alternate market methods may be the most rewarding to the vegetable grower looking for new crops to grow. This has been demonstrated over the years by some vegetable growers. A sizable number of vegetable growers operate profitably year after year with specialty crops and market.

The ingenuity demonstrated by some growers in searching out markets is nothing short of amazing. There are many individual success stories which cannot be divulged here. However, a discussion of a few of the more common alternate marketing methods are worthy of note. Many have succeeded in roadside and u-pick marketing operations. Others have found it profitable to produce specialty crops for local markets, supermarket chains, specialty food processors and certain ethnic groups.

Specialty crop production and marketing is not for everyone. However, it does offer considerable potential for some. Success or failure, as with any enterprise undertaken, depends on the initiative and good management of the individual grower.

(Montelaro)

III. VEGETABLE GARDENING

A. Timely Gardening Topics

Four timely topics on vegetable gardening are offered each month to assist Extension Agents in developing periodic (weekly) radio or newspaper shorts.

1. Spring Leftovers

Most vegetables planted in the spring garden are long gone by now. However, it is not uncommon to see growing in fine style such holdovers as bell peppers, hot peppers, eggplant, pumpkins, okra, and sweet potatoes. Perhaps due to the unusually cold winter followed by an exceptionally dry spring, there are some gardens around the state which have spring holdovers. Carrots are still there, along with cucumbers and summer squash. Such longevity is not common, for cucumbers and squash usually mature first fruits in 45 to 60 days, bear their last in about 90 days then succumb to disease, insects, environmental stress and neglect. To remain green and growing for over 5 months is noteworthy. Second and third plantings of southern peas are yielding right along in some of these gardens also.

2. Fall Gardens

September is to the Fall as March is to Spring, being in both cases the month to plant most vegetables in the garden. Many warm season vegetables can be planted in September, even in north Florida where winter arrives early. But one must hurry to get seeds in the ground in order to beat Jack Frost to the harvest. Most vegetables require at least 60 days to mature first fruits for picking in the fall, due to shorter cooler days which become progressively shorter as maturity of the vegetables approaches. The season for those warm season crops planted in September is necessarily short, even if harvest should begin in early November, for all but south Florida areas. However, many gardeners are able to extend the life of their garden vegetables by protecting them from early frosts and light freezes of short duration. Others bet on the occurrence of an unusually warm fall during which no real threat from cold comes until around Christmas.
Even for those who play the averages, several cool season vegetables offer much fall activity in the garden. Children can still have fun with radishes and the more experienced old timers in the family can continue in their efforts to master the art of growing good cauliflower. Cabbage, collards, lettuce, and all those cool season goodies take skill, but it is an art to grow those nice, big, snow white heads of cauliflower under Florida conditions. Of course, strawberries in Florida are started by setting plants in the garden in the fall months of September and October, certainly no later than mid-November. With all the cool-season vegetables that can and should be planted starting in September, fall gardening time in Florida can be a busy season.

3. Should You Use Nemagon?

Ridding the soil of those pesky nematodes has long been a worthwhile chore for most Florida vegetable gardeners. The buildup of these soil borne plant parasites eventually causes a general decline in the productivity of most all garden plots in the state. Thus, many thousands of gardeners have become familiar with DBCP soil fumigant, better known as Nemagon, Fumazone, or OXY-BBC. This liquid or granular material poured into the center of the plant bed prior to planting provides plant protection for at least a season.

Recent reports, however, have cast some doubt on the safety features of the chemical while being manufactured. Since there have never been any ill-effects resulting from its proper usage, gardeners are advised to continue to use it as long as supplies last. As usual, due care should be used to follow label directions and safety precautions. Other nematacides which can be used are Vapam, Fume V, Vidden D, D-D, Telone, EDB, and Vorlex.

4. Harvesting and Curing Herbs

The seeds, leaves, flowering tops, and sometimes the roots of herbs are used for flavoring purposes. The flavor, which is usually due to a volatile oil, is kept longer if the herb is harvested, cured, and stored properly.

The young tender leaves can be gathered and used fresh at any time during the season, but for winter use they should be harvested when the plants begin to flower. Leaves should be dried rapidly in a well-ventilated, darkened room. Dusty, gritty leaves need to be washed and drained first.

Tender-leaved herbs such as basil, costmary, tarragon, lemon balm, and the mints have a high moisture content, so must be dried rapidly away from the sunlight to keep their green color. Slow drying causes them to turn dark and moldy. The less succulent herbs, such as sage, rosemary, thyme, and summer savory can be partially dried in the sun without affecting their color.

Harvest seeds when mature, then thoroughly dry and cure in an airy room for several days. After curing, place them in the sunlight for a couple of days before storing. For storing all dried parts, use tight-closing containers such as jars, boxes, or cans. Either paint the jars or store them in a dark room to prevent bleaching of green leaves by sunlight.

(Stephens)
B. Know Your Vegetables - Ginger

Ginger, Zingiber officinale R., is a perennial plant, the underground rhizomes of which are used as a flavoring agent in cooking. It has been grown for centuries on the Caribbean Islands and in China where it is used locally for medicine and as well as in cooking. It is marketed in U.S. mostly in a powdered and candied state. Ginger was grown experimentally at Homestead and at Gainesville in 1944. It produced a heavy crop of rhizomes (roots) at Homestead; from each piece planted, thirty were produced. At Gainesville, it persisted for two years, coming up each spring with return of warm weather. Thus, it appears it can be grown throughout Florida in home gardens for home use.

Description

True ginger is often confused with close relatives grown as ornamentals in Florida. Plants of the genus Alpinia growing throughout the state are probably mistaken for ginger more than any other group. There is even a slight ginger aroma to the freshly cut rhizomes of the Alpinias, and the stalks and leaves are very similar to the true ginger when viewed from a short distance. Ginger can be easily distinguished by its shorter stalks. When grown in open sun, it grows poorly and develops brown-tipped leaves. Ginger has narrow leaf blades, yellow-green flowers with purple lips growing in dense spikes, and produces plump, strongly-aromatic rhizomes.

Culture

Location -- Ginger does best in partial to complete shade; in full sun, the leaves are brown-tipped and the plants grow poorly.

Soil -- Most good garden soils, including sands, if sufficiently supplied with nutrients and moisture, are adequate for growing ginger. On the rockland at Homestead, a special box for growing ginger was constructed. It was eight inches deep and contained a mixture of sand, clay, and cow manure.

Seed -- Ginger is started from rhizome (root) cuttings rather than seed. It seems best to cut the rhizomes into pieces 1 to 1½ inches long, each containing at least one eye. Cut the rhizome pieces a few days ahead of planting to allow the cut surfaces to dry, reducing chances of rotting.

Planting -- In a well-prepared bed, insert each piece and cover with about one inch of soil. Space them fifteen inches in the row and fifteen inches between the rows. Early in the spring is best time to plant.

(Stephens)