Vegetarian 86-04

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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


B. Vegetable Crops Calendar


May 8, 1986. Cucumber/Squash Variety Demonstration 4:00 pm - 8:00 pm, AREC Leesburg, G. W. Elmstrom.


June 4, 1986. Watermelon Field Day 1:30 pm - 5:00 pm, AREC Leesburg, G. W. Elmstrom.


II. COMMERCIAL VEGETABLES

A. Leek Varieties for Florida.

Commercial production of leeks (Allium ameloปราซัม, Porrum Group) is quite limited in Florida at the present time. However, it appears that there is potential for more production based on consumer interest. The Packer's recent profile of fresh produce consumers showed that, of 30 specialty crops, 42% of the respondents had tried leeks, and another 46% indicated that they had heard of them.

Leeks are considered to be a major vegetable crop in Europe rather than a specialty crop as they are in the United States. For example, the leek crop in the United Kingdom in 1985 was 45,000 metric tons and had an approximate value exceeding $26 million.

Leeks, a long-season crop, are grown for their swollen, but not bulbed, leaf base, the edible portion being the shank which extends from the stem plate to the first leaf. A white shank is required for the market so blanching with soil or straw, for polyethylene-mulched crops, is required. Leeks are not as pungent as onions, and are prized for their delicate flavor. The crop can be direct seeded or established from transplants. They are very tolerant of cold and a succession of plantings should provide a continuous supply from late fall through mid-spring in central Florida.

Seeds of ten leek varieties were individually planted in No. 001A Todd planter flat cells (1/2 in.) containing a peat-lite mix on September 9, 1985. The transplants were grown in an unheated fiberglass house. A liquid 20-20-20 fertilizer was applied twice during the transplant production period.

The land was prepared in September 1985 by incorporation of 0.5-2.0-1.0 lb N-P₂O₅-K₂O per 100 linear bed feet (15f). The superphosphate used as the phosphate source contained 80 lb/ton minor elements as 503 oxide. Additional fertilizer was applied in a single band in the bed center at 2.5-0.5-P₂O₅-K₂O per 100 lbf. The white polyethylene covered beds were spaced on 4.5 ft. centers with irrigation ditches every 7 beds.

The leek transplants were set in holes punched in the plastic on December 2, 1985. In-row spacing
was 4 in. and the 2 rows on the bed were 15 in. apart. The 8-ft. long plots had 48 plants, and were replicated 3 times. The only culture during the growth period was one hand-hoeing of the row middles. No pesticides were applied since there was no indication of need. The leeks in this trial were not blanched, but commercial growers should blanch polyethylene-mulched leeks with straw to insure the production of white shanks.

The leeks were harvested on March 7, 1986 by lifting with a spading fork. Leaves were trimmed to 12 in. from the stem plate. Measurements were taken on the number and weight of trimmed leeks per plot, shank length and shank diameter. Observations were made on leaf color, leaf arrangement, and incidence of bulb enlargement.

Weather during the experimental period did not deviate greatly from the 30-year average. December was a bit cooler than normal, and December and February were slightly drier than normal whereas January was somewhat wetter than normal.

Leek yields ranged from 1850 (HMX 4970) to 2600 (Tivi) pounds per 1000 lbf. Of the ten varieties included in the trial, only yields of 'Tivi' were significantly higher than 'Carina' and 'HMX 4970'. Most of the varieties had intermediate yields that were not different from the highest or lowest yielding varieties.

Trimmed weight of individual leeks ranged from 5.0 oz (HMX 4970) to 7.2 oz (Electra). 'Verina' and 'Tivi' were among the largest whereas 'Acadia' produced small plants. As with yields, most varieties produced intermediate-sized plants.

Shank length is one of the most important characteristics in leeks. 'King Richard' produced 5 in. long shanks whereas those of 'Empire' and 'Acadia' were only 2.2 and 2.1 in. long, respectively. Intermediate length shanks of other varieties ranged from 2.5 in. to 3.7 in. Shank diameter was quite uniform among varieties, ranging from 1.1 to 1.3 in. As expected from the foregoing, 'King Richard' had the highest L:D ratio.

Most of the varieties evaluated had typical blue leaves. Exceptions were 'Tivi' and 'King Richard' which had green leaves and 'Verina' which had yellow-green leaves. It is interesting to note that under the conditions of this trial, the green-leaved varieties generally tended to be higher yielding than the blue-leaved varieties.

Leek leaves typically have an equitant arrangement, i.e. leaves are overlapping in two ranks. When fully expressed the leaves will be flat in a fan-like arrangement. This should be considered an advantage to facilitate bunching.

Some varieties in this trial deviated from the fully equitant arrangement; 'Varina,' 'Electra,' and 'Carina' were medium flat, whereas 'Catalina,' 'Winter Giant,' and 'Empire' were thick flat.

Observations were made on the tendency of these varieties to bulb. Any deviations from a parallel shank were noted, however slight. In most varieties there was a 1/16 to 1/8 in. expansion just above the stem plate. Only 'Verina' and 'King Richard' showed no expansion, whereas 70% of the 'Electra' and 'Catalina' plants were expanded at the stem plate. It should be stressed that all of these leeks would be acceptable on the market, and would not be discriminated against on the basis of bulbing.

Leeks are a long-season crop. In this trial, 54 days were required from seeding to transplant and 88 days elapsed between transplanting and harvest. Production time might be somewhat shorter for fall and spring than for mid-winter. The yield potential with 2 rows per bed on 4.5 ft. centers is high - 19,500
lb per 7500 lbf.

As with other vegetables, growers should establish a market before planting. From this evaluation, growers could consider trial plantings of the following leek varieties:

**Catalina (Sluis & Groot).** Medium-length shank, blue leaves, thick-flat leaf arrangement.

**Electra (Harris Moran).** Long shanks, green leaves, flat leaf arrangement.

**Tivi (Harris Moran).** Medium to long shanks, green leaves, flat leaf arrangement.

**Verina (Sluis & Groot).** Medium to long shanks, yellow-green leaves, medium-flat leaf arrangement.

For more information, request GCREC Research Report 1986-5 from the author.

(D. Maynard, Veg. 86-04)

B. WHERE... eating more, is better!

Americans' pursuit of good health, trim bodies and long lives is turning the nation into a nutritional battlefield. Old dogmas and new theories are under attack. Doctors, consumers, politicians and food handlers are all vying for control of the diet. This war over diet affects what ends up on Americans' dinner plates and in their bodies – and feeds a multibillion-dollar industry of weight-loss clinics and diet products along with a $3 billion vitamin-and-mineral trade; enter, the fresh vegetable industry.

This recent surge of consumer interest in diet, health, and fitness has increased the demand for vegetables, and the industry has responded by expanding acreage and increasing output. Over the past 12 years, per-capita consumption has increased about 5 percent with some items as really big gainers –

broccoli and cauliflower. Broccoli consumption jumped 160 percent in 1983 and cauliflower saw a 130 percent rise. Preliminary data for 1984 indicate that per-capita use of both increased another 11 percent. Demand for vegetables is expected to continue increasing for the remainder of this decade.

Historically, California is the prime producer of broccoli and cauliflower. Since the mid-1970's broccoli has been adopted in many Southeastern states as an alternative crop; cauliflower is produced less frequently.

American tastes and preferences are important factors affecting vegetable consumption. Consumer attitudes often are changed by the results of medical, economic and social research. Consumers demand more than just food, though. They also want convenience, prestige and consistency of quality. The bottom line is that diets are changing and consumers are eating more fresh vegetables.

On a recent trip to the New York market (Hunts Point), I queried a number of brokers and fresh produce handlers as to whether they normally handled fresh products from Florida, and too frequently the reply was "NOT IF I CAN GET IT SOMEPLACE ELSE". With an apparent abundance of imported fresh products, ranging from Chile apples to Holland tomatoes, the basic complaint seemed to be that there is a difference between what the Florida grower wants to ship and the receiver wants to obtain for merchandising – aren't we giving him what he wants?

With increased consumption of fresh vegetables, Florida's capability to produce at a time when our main competitors are imports, and our ability for expansion of production limited by available markets, perhaps a closer scrutiny...
of what's being produced and shipped is in order.

(Gull, Veg. 86-04)

III. PESTICIDE UPDATE

A. Supplemental Label for Ambush 2E on Chinese Cabbage (Tight-heading varieties only).

Ambush 2E now has a supplemental label for use on tight-headed Chinese cabbage for control of cabbage looper, imported cabbage worm, diamondback moth, and in the suppression of cabbage aphid.

The label states the use rate of 0.05 to 0.1 lbs a.i./A may be applied every 5-10 days as needed by air or ground. Not more than 1.0 lb a.i. per acre per season may be applied and a one day PHI is to be observed.

(Stall Veg. 86-04)

B. Section 18 for Fusilade 2000 for use on carrots.

I have been informed by Dan Botts, FFVA, that effective April 4, the US EPA has granted an emergency-use (Section 18) label for the use of Fusilade 2000 for the control of goosegrass, crabgrass, bermudagrass, foxtail, and panicum sp. on 8400 acres of carrots.

Two applications of 0.19 lb a.i./A may be made by ground application. A 30 day PHI is to be observed with a 60 day crop rotation for grass crops. The Section 18 will expire August 15, 1986. Before application, have the supplemental label in your possession and read it thoroughly.

(Stall Veg. 86-04)

C. Chinese vegetable tolerance groupings.

Dr. Charles Meister, IR-4 Southern Region Coordinator, responded to my questions on the new tolerance groupings and its meaning to Chinese vegetable labels with the following letter. He agreed that it be published here.

In response to IR-4 efforts, EPA has grouped Chinese broccoli with broccoli and tight-headed varieties of Chinese cabbage with cabbage for pesticide tolerance purposes (Federal Register Notice CFR 180.1 (h)).

This means that a pesticide tolerance established for broccoli is established for Chinese broccoli (Guilin, etc.) and a pesticide tolerance established for cabbage is established for tightly-headed varieties of Chinese cabbage.

In order to obtain legal uses, pesticide registrants must add crops to product labels. This is being done gradually, and last February tight-headed varieties of Chinese cabbage were added to the insecticide labels: Dylox 80 SP, Guthion 50 WP, Monitor 4, and Metasystox R (also Ambush, see Pesticide Update A).

More pesticide registrants may add tight-headed varieties of cabbage and Chinese broccoli to their cabbage and broccoli labels if they are alerted to the need and are provided with field performance and phytotoxicity data.

The IR-4 project in Florida is working with IFAS researchers and growers to expand pesticide labels.

Contact Dr. Charles W. Meister (904) 392-1979 for more information.
I have copies of the Federal Register Notice CFR 180.1 (h) and the labels mentioned. If you need them, give me a call.

(Stall Veg. 86-04)

D. Photodegradation of Paraquat on Plastic Mulch.

Dr. J. P. Gilreath of the Gulf Coast Research and Education Center in Bradenton has been conducting some interesting research on the photodegradation of paraquat on plastic mulch. This information has some very practical implications for growers.

In Florida, 2 weeks or longer pass after application of plastic mulch before transplanting operations begin, during which time weeds can make significant growth. Many growers broadcast spray a preplant application of paraquat to both the mulched beds and the uncovered row middles to kill emerged weeds. Transplanting is sometimes done 24 hours or less following paraquat application.

This study was initiated because paraquat-like injury has been observed on tomato and other crops in Florida when transplanting was followed by rainfall or heavy dew with wind, causing contact of plant foliage with the polyethylene mulch. Generally, this has been observed when transplanting and rainfall occur within 3 days after paraquat application.

In this study, paraquat (1 lb./A) was applied to white and black polyethylene mulch in the field on 32 ft. long single row plots (30 in. bed width). Duplicate studies were conducted with paraquat applications on 24 October and 10 November 1984. Duplicate squares (1 ft²) were then cut from the plots at 0, 2, 4, 8, 24, 30, 48, 72, 96, 120 and 144 hours after paraquat application. One set was held for quantitative analysis and the other used for a bioassay. The plastic squares were rinsed with distilled water to remove the residual paraquat. Shoots of six-week old 'Duke' tomato plants were then dipped into this rinsate for 15 seconds and held in a greenhouse for 7 days at which time they were evaluated for vigor by comparison with untreated plants.

Results indicated no difference due to mulch color. Substantial injury was observed from 0 to 96 hours after application with 50% or more crop loss anticipated until 120 hours (5 days) after application. Paraquat residue from plastic 0 to 48 hours following application reduced vigor to a point where if the plants survived, a marketable crop was not expected. From 120 hours on, plant vigor was acceptable with very little crop loss expected.

Quantitative analysis indicated 60% of the applied paraquat was recovered immediately after application (275 ppm). The greatest decrease in concentration occurred in the first 24 hours, dropping about 50%. Correlation of concentration and vigor indicates that apparently concentrations below about 30 ppm of eluted paraquat are not particularly injurious to 6-week old tomato plants (120 hours).

Thus, growers who broadcast spray paraquat preplant at a rate of 1 lb./A in mulched production situations should delay planting 5 days after application to lessen the chance of herbicide injury. Applications of greater than 1 lb./A would likely require a waiting period longer than 5 days. Early indications from continuing studies indicate an even longer waiting period would be required in January and shorter in August.

Dr. Phyllis R. Gilreath (Veg. 86-04)
Extension Agent - Vegetables
Manatee Co. Extension Service
III. VEGETABLE GARDENING

A. 'Suncoast' - new home garden tomato.

Florida home gardeners will be growing a new tomato cultivar which was released in 1985 by plant breeder Jay Scott primarily for their enjoyment. It goes by the name 'Suncoast' which derives from the location of its origination, the Gulf Coast Research and Education Center at Bradenton, Florida.

Over the years an abundance of Florida-bred cultivars have been grown successfully by Florida and out-of-state gardeners. Primarily, these have been hand-me-downs from a research program aimed largely at large-scale production. Most of these are the large, red-fruited varieties such as 'Walter', 'Floradade', 'Floradel', 'Manalucie', and 'Floramerica'. Recently, of course, small-fruited varieties best for container-culture were released for the home production trade.

Not since 'Floramerica', which won an All-America award in 1974 and has been grown widely in gardens across the country, has a variety showed so much promise as 'Suncoast' for Florida home gardeners. Previously released varieties have been good, offering disease resistance, fruit-size, and productivity. So what more can 'Suncoast' offer? All of the above plus exemplary fruit quality highlighted by excellent taste and extraordinary deep red interior/exterior color.

The release circular, Agricultural Experiment Stations S-322, entitled "Suncoast A Large-fruited Home Garden Tomato" was printed September 1985 and has just recently reached Extension offices. It fully describes the history and characteristics of this new variety which resulted from the breeding program of Dr. Jay Scott, Vegetable Crops professor located at Bradenton. The following summarizes the information in the release circular.

Type - open-pollinated, determinate plant producing large red fruits in about 75 days from transplanting.

Origin - Parentage included Florida breeding lines crossed with lines from University of California and Purdue. Of particular note is the 'Purdue Crimson' which contributed the crimson gene for the deep red color.

Fruit characteristics
Shape - globe to slightly flattened globe.
Color - green when immature, with light green shoulders, turning to deep red on maturity.
Firmness - adequate for good shelf-life.
Taste - sweet, with enough acid for good "tomato-like" taste.
Vitamins A and C - comparable to other varieties.

Vine characteristics
Type - determinate.
Length - 3 to 4 feet high when staked.
Shape - leaves more erect than for most varieties.

Resistance
1. Fusarium wilt races 1 and 2
2. Verticillium wilt
3. Gray leafspot

Tolerances
1. Soft rot
2. Blossom-end rot
3. Cracking - concentric and radial
4. Graywall
5. Blotchy ripening
6. Fruit pox and gold fleck

Growing 'Suncoast' - This new variety should become quite popular in gardens in Florida and elsewhere. It should be recommended by Florida
Cooperative Extension Service for statewide production in home gardens, large containers, and market gardens for local sales.

It should be grown in a similar manner and during the same periods of the year as for other varieties, primarily fall and spring. It is suitable for ground, cage, or stake culture without pruning. Pruning tends to remove vine cover exposing fruits to possible sunburn. Tomato fruit size and earliness are good without pruning.

Seeds and Plants - seeds have been distributed for seed production through The Florida Foundation Seed Producers, Inc. P.O. Box 309, Greenwood, FL 32443. Hopefully, by 1987 seeds and plants will be available to gardeners and Extension personnel for trials direct from garden retail seed outlets (stores and catalogs). As with any new variety, some period of time is required for seed supply and demand to reach equilibrium. Right now (spring of 1986) advise anyone wanting a few seeds for trial to purchase them from the only retail outlet I know offering seeds: Tomato Growers Supply Co. P.O. Box 2237 Fort Myers, FL 33902

(Stephens Veg. 86-04)

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