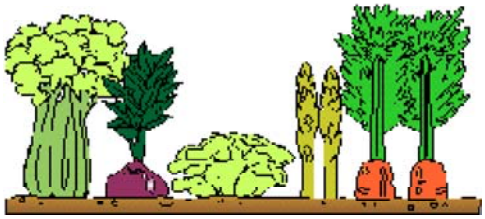

VEGETARIAN NEWSLETTER

A Vegetable Crops Extension Publication
Vegetarian 03-05
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University of Florida
Institute of Food and Agricultural Sciences
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Vegetarian Archive Vegetarian Index

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COMMERCIAL VEGETABLES

- Breaking the TYLCV Cycle -Lessons Learned
- Evaluation of Several Collard Varieties for Summer Production in North Florida 2003-02
- Evaluation of Cultural Practices for Summer Collard Production 2003-01

List of Extension Vegetable Crops Specialists

* * * * * * * UPCOMING EVENTS CALENDAR * * * * * * *

Various Extension Events in South Florida. Contact Gene McAvoy at 674-4092

116th Florida State Horticultural Society. Sheraton World Resort Hotel International Drive - Orlando, Fla. June 8-10, 2003. (**Press release**)

Methyl Bromide Alternatives Field Day. NFREC-Suwannee Valley, Live Oak, FL. May 8, 2003 - 9am-11am. For more information, contact Karen Hancock at 386-362-1725 or KHancock@ifas.ufl.edu.

Twilight Field Day. NFREC-Suwannee Valley, Live Oak, FL. May 29, 2003. For more information, contact Karen Hancock at 386-362-1725 or KHancock@ifas.ufl.edu .

CEU Day at Florida State Horticultural Society. - June 9, 2003, 7:30 am - 4:30 pm

71st Annual Meeting and Convention of the Florida Seed Association. Don CeSar Resort and Spa, St. Petersburg, FL. June 18-20, 2003. For more information, contact Jack Oswald at 850-482-8241and for Hotel Reservations, call the hotel at 727-360-1881. Also visit www.floridaseed.org .

49th Conference of the InterAmerican Society for Tropical Horticulture. Fortaleza, Brazil, Aug. 31- Sept. 5, 2003.

ISHS International Symposium on Protected Culture in a Mild-Winter Climate. Renaissance WorldGate Hotel - Kissimmee, Fla. March 23-27, 2004. Contact: Daniel Cantliffe at djc@mail.ifas.ufl.edu

BREAKING THE TYLCV CYCLE -LESSONS LEARNED

This season has been a prime example of what can happen when Tomato Yellow Leaf Curl Virus (TYLCV) infected tomato crops are not destroyed in a timely manner or crops are picked longer than normal. In the past, this issue has often focused on U-picks and/or poor end-of-season management, but these are not the only problems. Planted earlier and often picked later, grape tomatoes are essentially bridging the gap between the fall and spring crops in west central Florida. The little crop or host-free period we thought we had has been reduced or essentially lost by overwintering crops and the lack of a good killing freeze. Some growers thought this winter's temperatures were low enough to destroy the crop on their own but this was not always the case. These growers realized this when they started seeing regrowth in plants that were "frozen" but never herbicided or burned. This year, some "fall" grape tomatoes effectively served as a "winter nursery" for virus and silverleaf whitefly (SWF). The result was devastating for adjoining spring tomato fields, with virus percentages between 50 and almost 100% in some blocks! Unfortunately, the domino effect begins, with the "circle of influence" widening as the season progresses. Growers are urged to not let their guard down and at the same time, consider their neighbors. When picking crops such as cherry and grape tomatoes where the harvest interval is shortened and thus the choice of chemicals may be fewer, at least consider applications of an oil. Especially, if virus is present to help reduce adult populations for the sake of your own surrounding fields as well as your neighbors. Although whitefly numbers this spring have not been as high as in some seasons in the past, apparently many were "dirty" coming in from virus infected fields, thus increasing primary infection or transmission. Although chemical applications for control of adult SWF early in the season in fields treated with Admire or Platinum has typically not been recommended, growers who know they are close to old, virus laden fields may see a benefit from an adulticide. If you are in this situation, at least choose materials in different chemical classes from Admire and Platinum to minimize resistance problems. Growers have also been heard questioning the value of an IPM scouting program if they are having to spray for whitefly twice weekly anyway. Keep in mind that your scout is looking at other pests in addition to SWF. Remember in the past when spraying for SWF increased, problems with other pests sometimes increased and the pest spectrum changed as levels of beneficials and predators were reduced. One of the benefits of scouting is improvement in the timing of sprays and thus increased efficacy. Another benefit is being part of a network so that you know what's going on in other parts of your production area. Additional information on breaking the cycle can be found in the 2002 Tomato Institute Proceedings available online at the SWFREC website at http://www.imok.ufl.edu/veghort/docs/tom_inst_2002_091202.pdf .

Fig. 1. Typical symptoms of TYLCV.

Fig. 2. SWF adult. (Credit: Scott Bauer, USDA)

(P.R. Gilreath, Manatee County - Vegetarian 03-05)

EVALUATION OF SEVERAL COLLARD VARIETIES FOR SUMMER PRODUCTION IN NORTH FLORIDA 2003-02

This observational trial was conducted to evaluate eight collard varieties for their production potential during the late spring and early summer period. Collard production in North Florida normally ends in the spring due to high temperatures and begins again in the early fall, leaving the summer period of June – September without production. Market demands are still good through the summer months if the right varieties and production practices could be used to provide good quality collards.

Material and Methods

Observational plots were established in a Lakeland fine sand at the North Florida Research and Education Center – Suwannee Valley, near Live Oak, FL. Plots were established after fertilizing the soil with 500 lbs/A of 13-4-13 (N-P_2O_5-K_2O). The soil was bedded, pressed, and fumigated prior to covering with black polyethylene mulch. Drip tape (Roberts RoDrip®) was applied to the bed center in a

1-inch deep groove in the bed top as the mulch was laid. The black plastic mulch was painted white using a CO_2 propellant sprayer. The paint was a mixture of white latex paint and water (1:5 mixture). The white paint was used to reduce the bed temperature to benefit the collard crop during the high temperatures of May-July. A white-on-black plastic mulch could also be used if available.

Collard transplants of eight varieties (Table 1) were planted in single plots on May 15, 2002. Two rows per bed were planted with plant spacing of 12 inches in each row. Each plot was planted with 28 transplants. Harvests were made on June 14, and July 25. Harvests were conducted by removing individual leaves and stems of marketable size. Total harvested collard weight per plot was taken at each harvest. In addition, on June 14, each variety sample was processed at a commercial fresh cut location. The final marketable cut collard yield per plot was measured and recorded. The grower also gave a texture rating of 1-10 for each plot, with 1 = too tender and 10 = best crisp texture.

Results and Discussion

In general, the collard varieties grew well during the spring season. Top Bunch (Fig. 1) produced 25 lbs/plot (Table 1) followed by Blue Max (21 lbs/plot) (Fig. 2), and Flash (20 lbs/plot) (Fig. 3). The variety, Vates, only produced 15 lbs/plot. After all samples were graded and evaluated at the processing facility, only Top Bunch and Blue Max retained over 20 lbs/plot of marketable yield. A texture rating was also given by the grower. These ratings were based on the acceptability as a cut green. If greens are too tender, a lower rating was given. Blue Max was given the highest rating in this test.

Fig 1. Top Bunch collard.

Fig 2. Blue Max collard.

Fig 3. Flash collard.

These plots were maintained during June and harvested again on July 25. Top yields over the mid summer period were found in Top Bunch and Blue Max. Poor summer yields were found in Vates and Morris Heading.Blue Max leaf structure was different than other cultivars in that it has a very small petiole. This results in large leaves and seemed to be an advantage in the early season. Leaf quality for the July 25 harvest of Blue Max was poor due to excessive toughness. The overall evaluation of the varieties for the observational study indicated Top Bunch was the best choice overall for late spring and summer production, but Flash also showed promise.

Table 1. Yield and quality of eight collard varieties produced during the late spring and summer of 2002 in North Florida.

Collard Varieties	June 14			July 25
	Yield (lbs/plot)		Texture Rating [x] (1-10)	Total Yield (lbs/plot)
	Total[z]	Marketable[y]		
Champion	18	16.0	6	15.0
Blue Max	21	20.8	10	20.0
Heavy Crop	17	16.8	7	16.5
Flash	20	18.5	7	17.5
Georgia	19	15.1	9	17.0
Top Bunch	25	21.7	8	23.0
Vates	15	13.1	9	11.0
Morris Heading	19	18.0	9	10.0

[z] Total yield was the weight of harvested leaves.
[y] Final marketable yield was weight of cut greens after commercial machine chopping.
[x] Texture rating was 1-10; 1 = too tender, 10 = best texture (crisp).

(B. Hochmuth, S. Stapleton, Multi Co. Ext. Agts., NFREC-SV, Ad. Townsend, Lake City, FL, S. Olson - Vegetarian 03-05)

EVALUATION OF CULTURAL PRACTICES FOR SUMMER COLLARD PRODUCTION 2003-01

The production of collards has been important to many growers in North Florida. Traditionally, collards have been produced during the fall, winter, and spring season due to the cool season nature of the crop. However, year round demand exists for collards, especially for new cut and bagged collards. This trial was conducted to evaluate various cultural practices for extending the collard season into the summer and early fall.

This trial evaluated three cultural practices:

1. un-mulched bed culture with drip irrigation (Fig. 1)
2. white-on-black mulched bed culture with drip irrigation (Fig. 1)
3. soilless lay-flat bag culture under an open shade structure (50% shade). (Fig. 2)

Field grown (bare root) Champion collard transplants were used in all plots. Transplants were established on May 24, 2002. Field plots were irrigated and fertigated via drip tape. The irrigation schedule was set to maintain a soil water tension of 8-12 centibars at a depth of 12 inches. The fertilizer program for the field plots included 500 lbs of 13-4-13 per acre incorporated into the bed prior to transplanting. The fertigation schedule was weekly at the rate of 2.0 lbs/A/day of nitrogen and potash beginning two weeks after transplanting. The shade house, soilless culture system was set to follow the typical recommendations used to produce greenhouse vegetable crops in perlite bag culture. The nutrient solution was set for 150 ppm of N and K during the entire season. The same plant spacings were used in all cultural systems. Plots were harvested on July 25. The marketable yield per plant in the three systems was:

1. un-mulched plots = 0.38 lbs/plant
2. mulched plots = 0.40 lbs/plant
3. shade house, soilless culture = 0.69 lbs/plant

The yield for the shade house, soilless culture plots (Fig. 3) was nearly twice the yield of both field systems. There was essentially no difference in the mulched or un-mulched systems. In addition, the shade house, soilless system could have been harvested one week earlier than the field plots. A drawback of the soilless system used (lay-flat bag culture) include the difficulty in keeping the plants upright during high winds. A different soilless system with a string support system may be necessary.

In summary, this trial indicates great potential for producing summer collards in North Florida by using an open shade structure and soilless production system. More research is needed to refine the cultural practices and economics of this practice.

Fig. 1. Mulched and un-mulched field bed culture after harvest.

Fig. 2. Soilless lay-flat bag culture under an open shade structure.

Fig. 3. Harvesting soilless lay-flat bag culture plots.

(B. Hochmuth, Multi Co. Ext. Agt, NFREC-SV - Vegetarian 03-05)

Extension Vegetable Crops Specialists

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John Duval Assistant Professor, strawberry	**Steven A. Sargent** Professor **and APRIL EDITOR**, postharvest
Chad Hutchinson Assistant Professor, vegetable production	**Eric Simonne** Assistant Professor, vegetable nutrition
Elizabeth M. Lamb Assistant Professor, production	**William M. Stall** Professor, weed control
Yuncong Li Assistant Professor, soils	**James M. Stephens** (retired) Professor, vegetable gardening
Donald N. Maynard Professor, varieties	**Charles S. Vavrina** Professor, transplants
Stephen M. Olson Professor, small farms	**James M. White** Associate Professor, organic farming
Mark A. Ritenour Assistant Professor, postharvest	

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