100
F636m
IRL
84-4

FORT PIERCE AREC RESEARCH REPORT FTP-1984-4

HUME LIBRARY
JAN 8 1985
I.F.A.S. - Univ. of Florida

UNIVERSITY OF FLORIDA
INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

AGRICULTURAL RESEARCH AND EDUCATION CENTER
FORT PIERCE, FLORIDA

VEGETABLE FIELD DAY
THURSDAY, NOVEMBER 29, 1984

P.J. STOFFELLA & B.J. WILLIAMS, EDITORS

PROGRAM

James Cummings, St. Lucie County Extension Director, moderator

AM

9:00-9:30: Assembly and Registration
Coffee and donuts, courtesy of Farm Credit Services

9:30: Dr. Peter J. Stoffella - Welcome

9:40: Dr. D. N. Maynard - Introduction to Vegetable Crop Research Programs.

10:00-11:30: Dr. J. W. Scott - Tomato Plant Breeding Program and Cultivar Update.

Dr. R. M. Sonoda - Vegetable Crop Diseases and Their Control.

Dr. W. M. Stall - Weed Control of Vegetable Crops.

Dr. K. L. Pohronezny - Integrated Pest Management Program in Vegetable Crops.

Dr. G. Hochmuth - Production and Marketing of Vegetables for a Farmer's Market.

Dr. P. J. Stoffella - Summary and Closing Remarks.

11:30-1:00PM: LUNCH, courtesy of Diamond R. Fertilizer Co.

1:00-3:30PM: Tour of research plots.

TOUR OF RESEARCH PLOTS

Block no.		Page
2C-South	Southern Pea Variety Trial- P.J. Stoffella	3
	Southern Pea Leafminer Trial- B. Bullock	4
	Black Bean Variety Trial- P.J. Stoffella	5
2C-North	Statewide Tomato Variety Trials J.W. Scott	6
3C-3E East	Southern Pea Defoliation Trial- B. Payne	7
	Sweet Corn Variety Trial- G. Hochmuth	8
	Snap Bean Variety Trial- K. Pohronezny	9
	Lorsban on Southern Blight of Tomato- R.M. Sonoda	10
	Screening pepper lines against *Phytophthora capsici*- R.M. Sonoda	11
3C-3E West	Bell Pepper Variety Trial- B.J. Williams	12
	Cabbage Variety Trial- W.M. Stall	13
	Summer Squash Variety Trials- R. Rohde	14
3C-3E West	Herbicide Trial on Spanish Onions P.J. Stoffella	15

SOUTHERN PEA VARIETY TRIAL

Block 2C-South - P. J. Stoffella and B. J. Williams

Purpose: To evaluate several commercial southern pea cultivars for yield and growth characteristics.

Experimental Design:

Randomized complete block design with four replications-four varieties.

Bed spacing: 7 feet on centers, 44" wide beds.

In-row plant spacing:	2" later thinned to 4";
Between-row plant spacing:	22"
Plot length:	15 feet with 1 foot border between plots; two replications per bed, two rows per bed.

Cultivar	Seed Source
Pinkeye Purplehull	C. T. Smith Co.
Texas Cream-40	C. T. Smith Co.
Knuckle Purplehull	C. T. Smith Co.
California Blackeye #5	Asgrow Seed Co.

Planting Data: August 8, 1984-Field limed with dolomite (½T/A)
August 30, 1984-Beds fertilized and mulched with strip-mulch plastic.
Sept. 18, 1984 -Field seeded.

Fertilizer: 102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip-mulch plastic.

Operation: Lodging will be subjectively evaluated prior to harvest. Ten linear feet will be harvested from each plot for seed yield and biological yield.

SOUTHERN PEA LEAF MINER TRIAL - 1984

Block 2C-South R.C. Bullock & R.L. Payne

Purpose - To evaluate influence that leafminer has on yield

Experimental Design - Randomized complete block with 6 replications.

Variety - California Blackeye #5

Bed Spacing - 7 feet on centers, 44 inch bed width, 2 rows of plants per bed.

In-row plant spacing - 2 inches

Between-row plant spacing - 22 inches

Plot length - 9 feet

Planting Data: August 8, 1984 - field limed with dolomite (½T/A)
August 30, 1984- beds fertilized and mulched with strip-mulch plastic.
September 18, 1984 - field seeded

Fertilizer: 102 lbs. N/A, 133 lbs. P_2O_5/A, 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip mulch plastic.

Operation: 6 plants/plot surveyed weekly to determine number of mines and location on foliage.

Spray Regime-

Disease control with Dithane M-45 to all plots.
Defoliator control with Sevin (carbaryl) during weeks 2-4, then with Bacillus thuringiensis from week 5 to end of test.
Leafminer control with Trigard (cyromazine) as follows:

Treatment		
A	full season	
B	up to flower bud initiation	(Dina's phase A)[z]
C	from flower bud to pod set	(Dina's phase B)
D	from pod set to pod fill	(Dina's phase C)
E	from pod fill to harvest	(Dina's phase D)
F	no leaf miner control	

Prior to harvest, determine plant condition: lodging, leaf retention, and pod dryness. Harvest 6 plants per plot for yield components: pods/plant, seeds/plant, seeds/pod, and seed size (g/100). Ten linear feet will be harvested from each plot for seed yield, biological yield, and harvest index.

[z] Dina, S.O. 1976. Effect of insecticidal application at different growth phases on insect damage and yield of cowpea. J. Econ. Entomol. 69(2): 186-8.

BLACK BEAN VARIETY TRIAL

Block 2C-South - P.J. Stoffella and B.J. Williams

Purpose: To evaluate several advanced black bean breeding lines and commercial cultivars for growth and yield characteristics under south Florida's environmental conditions.

Experimental Design:

Fifteen advanced black bean breeding lines and two standard commercial cultivars (Midnight and California Strain 39) are being evaluated.

Randomized complete block design with four replications.

Bed spacing: 7 foot on centers, 44" wide beds.

In-row plant spacing is 3"; plot length is 8 feet, with 2' border between plots.

Black beans were planted 2 rows per bed; 1 replication/bed.

Planting data:
August 8, 1984 - Field limed with dolomite (½T/A)
August 30, 1984- Beds fertilized and mulched using strip-mulch plastic.
Sept. 18, 1984 - Field seeded.
October 3, 1984- Re-seeded all plots due to poor germination of first planting.

Fertilizer:

(1.) 102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip mulch plastic.

Operation: There will be early and late season lodging ratings, stand counts, and plant habit ratings. Plots will be harvested for seed yield, biological yield, and seed size.

TOMATO VARIETY TRIAL - (Non-staked ground culture)

Block 2C-North - J.W. Scott and P.J. Stoffella

Purpose: To evaluate breeding lines and commercial cultivars for tomato yield, size, and quality.

Cultivar or breeding line	Seed Source
Duke	Petoseed Co.
7130	IFAS
Hayslip	IFAS
7136	IFAS
7132	IFAS
FTE-12	Petoseed Co.
7131	IFAS
Atlantic City	Ferry Morse Seed Co.
Horizon (7067)	IFAS
7133	IFAS
Independence	Abbott & Cobb Seed Co.
Sunny	Asgrow Seed Co.
PSX - 74180	Petoseed Co. (observation line)
PSX - 74482	Petoseed Co. (observation line)

Planting data: August 1, 1984 - seeded in trays
August 8, 1984 - field limed with dolomite (½ ton/A)
August 28, 1984- Beds mulched with full bed black plastic.
Sept. 5, 1984 - Transplanted to field

Bed spacing: 7' on centers

In-row plant spacing: 2'

Randomized complete block design with four replications.

Fertilizer:

(1) 27 lbs N/A, 109 lbs P_2O_5/A and 27 lbs K_2O/A was broadcast incorporated in 44" wide bands prior to mulching.

(2) 102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was split into 2 bands on each bed and bedded over.

SOUTHERN PEA DEFOLIATION TRIAL - 1984

Block 3C-3E east R.C. Bullock & R.L. Payne

Purpose - To evaluate influence of defoliation by bean leafroller on yield.

Experimental Design - Randomized complete block with 4 replications.

Variety - California Blackeye #5

Bed Spacing - 7 feet on centers, 44 inch bed width, 2 rows of plants per bed.

In-row plant spacing - 2 inches

Between-row plant spacing - 22 inches

Plot length - 10 feet

Planting Data: August 8, 1984 - field limed with dolomite (½T/A)
August 30, 1984- beds fertilized and mulched with strip-mulch plastic.
September 18, 1984 - field seeded full bed (replicates 1-3)
September 24, 1984 - field seeded short bed (replicate 4)

Fertilizer: 102 lbs. N/A, 133 lbs. P_2O_5/A, 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip mulch plastic.

Operation: 10 plants per plot surveyed weekly to determine number and location of eggs and larvae of leafroller on plants.

Spray Regime-
Disease control with Dithane M-45 to all plots.
Leafminer control with Trigard (cyromazine) to all plots.
Leafroller control with Sevin (carbaryl) as follows:

Treatment
A full screen
B up to flower bud initiation
C from flower bud to pod set
D from pod set to harvest
E no leafroller control

Prior to harvest, determine plant condition, lodging, leaf retention, and pod dryness. Harvest 10 plants per plot for yield components: pods/plant, seeds/plant, seeds/pod, and seed size (g/100). Ten linear feet will be harvested from each plot for seed yield, biological yield, and harvest index.

SWEET CORN VARIETY TRIAL

Block 3C-3E East - G. Hochmuth and P.J. Stoffella

Purpose: To examine several commercial sweet corn cultivars for yield characteristics.

Experimental Design:

Randomized complete block design with four replications-four varieties (2 yellow and 2 white corn cultivars).

Bed spacing: 7 feet on centers.

In row plant spacing: 4", between-row plant spacing is 20".

Plot length: 10 feet with 1 foot borders between varieties, two rows per bed.

Cultivar	Seed Source
Silver Queen	Asgrow Seed Co.
Silver Chief	Asgrow Seed Co.
Wintergreen	Asgrow Seed Co.
Merit	Asgrow Seed Co.

Planting data:

August 8, 1984 - Field limed with dolomite (½T/A)
August 30, 1984 -Beds fertilized and mulched with strip-mulch plastic.
October 4, 1984- Direct seeded in field.

Fertilizer:

(1) 102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip-mulch plastic.

(2) One sidedress application of 50 lbs. N/A, 25 lbs. P_2O_5/A, and 25 lbs. K_2O/A was banded onto each bed, ½ rate per row on October 29, 1984.

SNAP BEAN VARIETY TRIAL

Block 3C-3E East - K. Pohronezny and B.J. Williams

Purpose: To evaluate several commercial snap bean cultivars for yield characteristics.

Experimental Design:

Randomized complete block design with four replications-four varieties.

Bed spacing: 7 feet on centers, 44" wide beds.

In-row plant spacing: 2"

Between-row plant spacing: 21" average; two rows per bed, one replication per bed.

Plot length: 10 feet with 1 foot border between plots.

Variety	Seed Source
Sprite	Asgrow Seed Co.
Strike	Asgrow Seed Co.
Harvester	Asgrow Seed Co.
Bush Blue Lake	Northrup King Seed Co.

Planting Data:

August 8, 1984 - Field limed with dolomite (½T/A)

August 26, 1984 - Beds fertilized and mulched with strip mulch plastic.

October 4, 1984 - field seeded.

Fertilizer:

102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was banded in the center of each bed prior to mulching with strip mulch plastic.

LORSBAN ON SOUTHERN BLIGHT OF TOMATO

Block 3C-3E East - R. M. Sonoda

Purpose: To evaluate the effect of the insecticide Lorsban as a fungicide against southern blight of tomato caused by Sclerotium rolfsii.

Cultivar: Floradade

Experimental Design: Randomized complete block design with 4 replications; 5 plants/replicate; plants spaced 18" apart within rows.

List of Treatments

Plot 1	Control, no Lorsban
2	*Lorsban, ½ pt/100 gal
3	*Lorsban, 1 pt/100 gal

*100 ml/plant of the respective concentrations of Lorsban 4E applied at one week intervals.

Transplanting date: 10-4-84
First Lorsban treatment: 10-14-84

Operations: The incidence of southern blight (plant wilt, signs of the pathogen, etc.) will be made at weekly intervals. The incidence of disease and severity of disease between treated and untreated plots will be compared.

SCREENING PEPPER LINES AGAINST PHYTOPHTHORA CAPSICI

Block 3C-3E East - R. M. Sonoda

Purpose: To determine reaction of three pepper lines bred for resistance to Phytophthora capsici by Petoseed Co. to P. capsici isolated from diseased peppers in Florida.

Experimental Design: 4 accessions, 4 replicate plots, Each plot with subplots, untreated with P. capsici suspensions. 7 plants within each plot inoculated and 7 plants uninoculated.

Accessions:
EC - Early Cal Wonder-standard susceptible variety.
69 - PetoSeed Pepper line 15-1
90 - PetoSeed Pepper line 2258
336 - PetoSeed Pepper line CM 336-1

Operations: Disease incidence and severity over time will be compared.

BELL PEPPER VARIETY TRIAL

Block 3C-3E West - B.J. Williams and P.J. Stoffella

Purpose: To evaluate several commercial bell pepper cultivars for fruit yield, size, shape, and other yield characteristics.

Experimental Design:

Randomized complete block design with four replications-four varieties.

Bed spacing: 7 feet on centers

In row plant spacing: 12"

Between row plant spacing: 22", 2 rows per bed, 2 plants per hill

Plot length: 12 feet, 20 hills per plot.

Cultivar	Seed Source
Shamrock	Asgrow Seed Co.
Skipper	Asgrow Seed Co.
Early Calwonder	Asgrow Seed Co.
Yolo Wonder	Asgrow Seed Co.

Planting Data:

August 8, 1984 - Field limed with dolomite (½T/A)
August 13, 1984 -Seeded in trays.
August 28, 1984- Thinned seedlings to 2 plants/cell
September 25, 1984 - Beds fertilized and mulched with full bed plastic
October 2, 1984 - Seedlings transplanted to field, 2 plants per hill.

Fertilizer:

(1) 27 lbs. N/A, 109 lbs. P_2O_5/A, 27 lbs. K_2O/A was broadcast and incorporated in 44" wide bands prior to mulching.

(2) 102 lbs. N/A, 153 lbs. P_2O_5/A, and 255 lbs. K_2O/A was placed in the center of each bed and bedded over.

CABBAGE VARIETY TRIAL

Block 3C-3E West - W.M. Stall and P.J. Stoffella

Purpose: To evaluate four commercial cabbage cultivars for yield characteristics.

Experimental Design:

Randomized complete block design with four replications.

Bed spacing: 7 foot on centers

In row plant spacing: 12", single row per bed, 10 plants per plot.

Cultivar	Seed Source
Copenhagen Market 86	Asgrow Seed Co.
Rio Verde	Northrup King Seed Co.
Danish Ball Head	Northrup King Seed Co.
Yellow's Resistant Meteor (red cabbage)	Northrup King Seed Co.

Planting data:

August 8, 1984 - Field limed with dolomite (½T/A)
September 11, 1984 - Seeded in trays.
September 25, 1984 - Beds fertilized and mulched with full bed black plastic.
October 11, 1984 - Seedlings transplanted to field.

Fertilizer:

(1) 27 lbs. N/A, 109 lbs. P_2O_5/A, and 27 lbs. K_2O/A was broadcast and incorporated in 44" wide bands prior to mulching.

(2) 45 lbs. N/A, 45 lbs. P_2O_5/A and 45 lbs. K_2O/A was split into two bands on each bed and bedded over with plastic mulch.

SUMMER SQUASH VARIETY TRIAL

Block 3C-3E West - R. Rohde, P.J. Stoffella and B.J. Williams

Purpose: To evaluate commercial cultivars of green and yellow summer squash for fruit yield characteristics.

Experimental Design:

Randomized complete block design with four replications-two yellow summer squash varieties and two zucchini (green) varieties are being evaluated.

Bed spacing: 7 feet on centers

In row plant spacing: 18", one plant per hill, one row per bed.

Cultivar	Seed Source
Dixie	Asgrow Seed Co.
Lemondrop	Asgrow Seed Co.
Senator	Asgrow Seed Co.
Elite	J. Harris Seed Co.

Planting data:

August 8, 1984 - field limed with dolomite (½T/A)
September 26, 1984 - Beds fertilized and mulched with full bed black plastic.
October 4, 1984 - Seeded in field.
October 11, 1984 - Thinned to 1 plant/hill.

Fertilizer:

(1) 27 lbs. N/A, 109 lbs. P_2O_5/A, and 27 lbs. K_2O/A was broadcast and incorporated in 44" wide bands prior to mulching.

(2) 45 lbs. N/A, 45 lbs. P_2O_5/A, and 45 lbs. K_2O/A was split into 2 bands on each bed and bedded over with plastic mulch.

HERBICIDE TRIAL on SPANISH ONIONS-Fall 1984

Block 3C-3E West-P.J. Stoffella and B.J. Williams

Purpose: To evaluate the effects of pre-plant incorporated and post-emergence herbicides on weed control and yields of 'Texas Grano 502' onions.

Experimental Design:

Split block design with four replications.
Bed spacing: 7 feet on centers, 44" wide beds
In-row plant spacing: 1"; Between row plant spacing: 14", 2 rows per bed.
Plot length: 20 feet per pre-plant herbicide treatment. Each main plot is split (10' plots) into plus or minus post-emergence herbicide treatments.

Pre-plant herbicides	Chemical Co.
Paraquat	Chevron Chemical Co.
Goal	Rohm and Haas Co.
Roundup	Monsanto Co.

Post-emergence herbicide	
Goal	Rohm and Haas Co.

Controls

Non-weedy control
Weedy control

Planting data: August 8, 1984 - Field limed with dolomite (½ T/A)
October 4, 1984 -Beds made (containing no fertilizer)
November 14, 1984- Applied all pre-plant herbicide treatments
November 15, 1984 -Field seeded.

Fertilizer: 22 lbs. N/A, 90 lbs. P_2O_5/A, and 22 lbs. K_2O/A was banded on each side of the beds, approximately 6" from seed row on day of planting.

Sidedress applications will be applied at 3-4 week intervals at rate of 20 lbs. N/A, 20 lbs. P_2O_5/A, and 20 lbs. K_2O/A.

SOUTHERN PEA

VARIETY TRIAL RESULTS-FORT PIERCE

Unit Reporting: Agricultural Research Center, Fort Pierce
Leaders: P.J. Stoffella
Planted: March 22, 1983
Harvested: Each cultivar harvested at maturity; beginning July 1, 1983, ending July 19, 1983
Soil: Oldsmar fine sand

Cultivar	Source	Seed Yield[z] (lb./A)
Texas Cream 12	Peas Inc. of Texas	4,699a
Worthmore	Peas Inc. of Texas	2,769ab
Hercules	Peas Inc. of Texas	2,720ab
Big Boy	Peas Inc. of Texas	2,650ab
Blue Goose	Peas Inc. of Texas	2,640ab
White Acre	Peas Inc. of Texas	2,387bc
Texas Cream 40	Peas Inc. of Texas	2,324bc
California Blackeye #5	Peas Inc. of Texas	2,248bcd
Pinkeye Purplehull	Peas Inc. of Texas	2,175bcd
Zipper Cream	Peas Inc. of Texas	2,128bcd
Purplehull Big Boy	Peas Inc. of Texas	1,823bcde
Mississippi Cream	Peas Inc. of Texas	1,653cde
Knuckle Purplehull	Peas Inc. of Texas	1,368de
Mississippi Purple	Peas Inc. of Texas	1,112e

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

Comments: Crop grown on raised beds with 14 inch strip Mulch, 7 feet between bed centers, 2 rows per bed, and 2 inches between plants.

Southern Pea Variety Trial Results - Fort Pierce

Unit Reporting: Agricultural Research and Education Center, Fort Pierce
Leaders: P. J. Stoffella, B. J. Williams
Planted: March 15, 1984
Harvested: Each cultivar harvested at maturity; beginning June 12, 1984, ending July 2, 1984.
Soil: Oldsmar Fine Sand

Cultivar	Source	Seed Yield (lb./A)	Biological Yield (lbs./A)	Harvest Index (%)	Seed size (g/100 seeds)
Texas Cream-12	C.T. Smith Company	1347abc[z]	4792a	27.9d	12.8d
Purplehull Big Boy	C.T. Smith Company	897d	3788b	23.9d	19.8a
Pinkeye Purplehull	C.T. Smith Company	1055cd	3672b	28.7d	14.6c
Knuckle Purplehull	C.T. Smith Company	1437ab	3578b	40.3c	19.4ab
Texas Cream-40	C.T. Smith Company	1380abc	3143bc	44.1bc	18.3b
White Acre	C.T. Smith Company	1653a	3010bc	55.3a	8.1e
Mississippi Cream	C.T. Smith Company	1131bcd	2395c	47.2b	12.9d

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

INFLUENCE OF PESTICIDE SPRAY SCHEDULE ON GROWTH AND YIELDS OF SOUTHERN PEAS

Pests: Bean leafroller, SGSB, leafminer, rust, powdery mildew.
Spray regime:-
Disease control with Dithane M-22 Special + Copper
Insect control with alternate sprays of malathion and carbaryl

Effect of Spray Schedules and Cultivars on Cowpea Yield Components - Fall 1982

Treatments	Seed Yield	Biological[z] Yield	Harvest[y] Index	Lodging[x] Rating
Pesticide	-------lbs/A--------		%	
Schedule (PS)				
Weekly	857a[w]	2212a	38.6a	1.87b
On Demand[v]	606b	1643b	36.4ab	2.25ab
None	508c	1473c	33.6b	2.31a
Cultivars (C)				
Pinkeye Purple Hull	798a	2096a	40.2a	3.25a
Knuckle Purple Hull	792a	1989a	37.7a	2.42b
California Blackeye #5	573b	1656b	33.5b	1.92c
Texas Cream	467c	1363c	33.6b	1.00d
Interaction				
C x PS	NS	*	NS	NS

Effect of Spray Schedules and Cultivars on Cowpea Yield Components - Spring 1984

Treatments	Seed Yield	Biological[z] Yield	Harvest[y] Index	Lodging[x] Rating
Pesticide	--------lbs/A--------		%	
Schedule (PS)				
Weekly	889a[w]	2857a	30.7a	2.62
On Demand[v]	708b	2380b	30.3a	2.31
None	549c	2079c	27.4b	2.44
Cultivars (C)				
Pinkeye Purple Hull	594b	2008b	30.0b	3.42a
Knuckle Purple Hull	544b	2785a	20.0c	3.33a
California Blackeye #5	1066a	2941a	36.1a	1.83b
Texas Cream	658b	2021b	32.2b	1.25b
Interaction				
C x PS	NS	NS	NS	NS

NS, * Nonsignificant (NS) and significant at 5% level (*).

[z]Biological yield = seeds + pods + stems + roots
[y]Harvest index = (seed yield/biological yield) x 100
[x]Lodging rating is based on a scale of 1 (erect) to 5 (prostrate)
[w]Mean separation by Duncan's Multiple Range Test, 5% level.
[v]Dithane M-22 applied when 10% of leaves were infested with rust pustules or mildew mycelium. Carbaryl or malathion applied when density of SGSB reached 0.2/meter row.

SOUTHERN PEA LEAFMINER TRIAL - SPRING 1984

Treatment	Number of large mines per treatment in weekly surveys: 9 Apr	16 Apr	23 Apr	30 Apr	7 May	15 May	21[y] May	30[y] May	4 Jun
A * *	0b[z] *	0c *	25b *	57c *	41b *	43b *	40 *	24 *	7d *
B * *	0b *	2c *	15b *	41c *	39b *	83b *	245	184	138bc
C *	0b	9abc	872a	1637ab	1020a *	459a *	204	80	27d
D *	0b	19ab	930a	1977a	1178a	471a	369 *	297 *	170ab *
E *	0b	8abc	768a	1509b	973a	409a	182	182	109c
F	3b	23a	915a	1809ab	1192a	408a	384	305	194a
No. Nodes	3	4	6	8	11	13	13	14	14

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

[y]Adjusted for data collected in 4 of the 6 replicates.

*Schedule of Trigard (cyromazine) sprays applied for leafminer control.

Planted 19 March 1984; Harvested 11 June 1984.

Treatments:
- A full season control of leafminer
- B control up to flower bud initiation
- C control from flower bud to pod set
- D control from pod set to pod fill
- E control on dicot leaves
- F no leafminer control

BLACK BEAN VARIETY TRIAL

Unit Reporting: Agricultural Research and Education Center, Fort Pierce
Leaders: P.J. Stoffella and B.J. Williams
Planted: April 10, 1984
Harvested: July 12, 1984

Variety	Biological Yield (lb./A)	Seed Yield (lb./A)	Seed Size (g/100 seeds)	Lodging[z]
232	1213ab	602cd	25.0a[y]	2.5ab
277	1711ab	951abc	21.8b	2.5ab
178	1898a	979abc	21.1bc	2.0b
196	1711ab	983abc	20.7bcd	3.5ab
194	1478ab	831abcd	20.5bcd	3.0ab
264	1556ab	909abcd	19.8bcde	2.5ab
242	1478ab	521d	19.4cdef	3.0ab
94	1354ab	838abcd	18.8efg	3.0ab
248	1711ab	1037a	17.9efg	4.0ab
234	1089ab	605bcd	17.8efg	3.0ab
MIDNIGHT	1525ab	752abcd	17.8efg	2.5ab
29	1478ab	852abcd	17.3fg	3.0ab
182	1431ab	813abcd	16.7gh	2.5ab
192	948a	818abcd	14.8h	3.0ab
191	1711ab	938abc	14.7h	4.0ab
180	1789ab	999ab	14.7h	4.5a

[z]Lodging is based on scale of 1 (prostrate) to 5 (erect).

[y]Mean separation by Duncan's Multiple Range Test, 5% level.

TOMATO

UNSTAKED VARIETY TRIAL RESULTS-FORT PIERCE

Unit Reporting: Agricultural Research Center, Fort Pierce
Leaders: P.J. Stoffella
Transplanted: March 3, 1983
Harvested: May 26, 1983. Last of 4: June 16, 1983
Soil: Oldsmar fine sand

Cultivar	Source	Marketable Yield[z] (25 lb/A)	Average Fruit Size[z] (oz/fruit)
Sunny	Asgrow	2,390a	6.29bcd
7060	IFAS	2,195ab	9.15a
Horizon (7045)	IFAS	2,101ab	6.54bc
Duke	Peto	2,069abc	6.29bcd
7025	IFAS	1,933abc	6.78b
FTE-12	IFAS	1,890bcd	6.29bcd
7057	IFAS	1,811bcde	6.17bcde
7061	IFAS	1,680cde	9.40a
Suncoast (7065)	IFAS	1,642de	8.85a
Walter	IFAS	1,423e	5.80cde
Hayslip	IFAS	1,419e	5.31e
Flora-Dade	IFAS	1,412e	5.35de

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

Comments: Crop grown on raised beds with plastic mulch, 7 feet between rows and 2 feet between plants within rows.

TOMATO

UNSTAKED VARIETY TRIAL RESULTS-FORT PIERCE

Unit Reporting: Agricultural Research Center, Fort Pierce
Leaders: P.J. Stoffella and B.J. Williams
Transplanted: September 15, 1983
Harvested: December 8, 1983. Last of 4: December 27, 1983
Soil: Oldsmar fine sand

Cultivar	Source	Marketable Yield[z] (25 lb/A)	Average Fruit Size[z] (oz/fruit)
803148	IFAS	1,523a	5.72d
Sunny	Asgrow	1,513a	6.25bc
Duke	Peto	1,475a	6.47bc
Hayslip	IFAS	1,316ab	6.99a
Horizon (7067)	IFAS	1,226abc	7.03a
7093	IFAS	1,056bcd	6.71ab
7057	IFAS	1,025bcd	7.05a
FTE-12	IFAS	904cdef	7.07a
7025	IFAS	771def	6.63abc
D79000	IFAS	682ef	6.63a
Flora-Dade	IFAS	596f	6.13cd
Walter	IFAS	591f	6.67ab

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

Comments: Crop grown on raised beds with plastic mulch, 7 feet between rows and 2 feet between plants within rows.

TOMATO
UNSTAKED VARIETY TRIAL RESULTS-FORT PIERCE

Unit Reporting: Agricultural Research & Education Center, Fort Pierce
Leaders: P.J. Stoffella and B.J. Williams
Planted: February 23, 1984
Harvested: May 10, 1984. Last of 4: May 31, 1984
Soil: Oldsmar fine sand

Cultivar	Source	Marketable Yield[z] (25 lb/A)	Average Fruit Size[z] (oz/fruit)
Independence	ABBOTT & COBB	1,943 a	6.37 bc
7067	IFAS	1,749 ab	6.23 bc
7078	IFAS	1,627 abc	7.65 a
7065	IFAS	1,580 bc	8.21 a
7060	IFAS	1,535 bc	7.89 a
7095	IFAS	1,523 bc	5.67 bc
7025	IFAS	1,489 bc	5.70 bc
Duke	PETO	1,477 bc	5.83 bc
Atlantic City	PERRY MORSE	1,394 bc	6.54 b
Sunny	ASGROW	1,379 bc	5.42 c
FTE-12	PETO	1,315 c	7.78 bc
Hayslip	IFAS	1,268 c	5.55 bc

[z]Mean separation within columns by Duncan's Multiple Range Test, 5% level.

TABLE 1A Availability, use and experienced effectiveness of methods used to manage the major fungal and bacterial diseases of tomato in commercial fields in Florida.

Pathogen	Biological Control	Host Plant resistance	Chemical control	Cultural								
				Sanitation	Crop Rotation	Planting Date	Clean seed, Trsplts	Water Mgt.	Fertility Mgt.	Tillage	Staking	Plastic Mulch
FOLIAR DISEASES												
Phytophthora infestans	0	0	1-B	z	z	2-A	2-B	z	z	z	z	z
Xanthomonas vesicatoria	0	0	1-C	2-C	3-C	2-B	2-B	z	z	z	2-C	z
Stemphyllium solani	0	1-A	3-B	3-C	3-C	3-C	3-B	z	3-C	z	z	z
Alternaria tomato	0	1-A	3-B	3-C	3-C	3-B	3-B	3-C	3-C	z	z	z
Alternaria solani	0	2-C	1-B	3-C	3-C	2-B	2-B	3-B	2-B	z	z	z
Botrytis cinerea	0	0	3-B	3-C	3-C	2-B	3-B	z	1-A	z	z	z
Cladosporium fulvum	0	2-C	2-B	3-C	3-C	2-B	z	z	z	z	2-B	z
Corynespora cassicola	0	0	1-B	3-C	3-C	2-B	z	z	z	z	z	z
Phoma destructiva	0	0	1-A	3-C	3-D	3-C	3-B	z	z	z	z	z

a – 0 = none available.
b – z = not applicable or not known to be a factor.
c – Current use of control method; 1 = major use, 2 = some use, 3 = little or no use.
d – Effectiveness of control obtained with method; A = excellent, B = moderately effective, C = of some use, D = not effective, and E = detrimental.
e – Fruit rot.

(From R. M. Sonoda et al. 1983. Florida Scientist 46:111-116.

TABLE 1B. Availability, use and experienced effectiveness of methods used to manage the major fungal and bacterial diseases of tomato in commercial fields in Florida.

Pathogen	Biological Control	Host Plant resistance	Chemical control	Cultural								
				Sanitation	Crop Rotation	Planting Date	Clean seed, Trsplts	Water Mgt.	Fertility Mgt.	Tillage	Staking	Plastic Mulch
SOIL-BORNE DISEASES												
Fusarium oxysporum	0	1-A	3-A	3-C	3-C	2-D	3-C	3-C	3-B	z	z	z
F. oxysporum 'crown rot'	0	0	1-E	3-C	3-C	2-B	z	3-C	3-C	z	z	z
Verticillium albo-atrum	0	1-B	2-B	3-C	3-D	2-C	z	z	z	z	z	z
Pseudomonas solanacearum	0	3-C	1-B	3-C	3-C	2-B	3-C	3-B	z	z	z	z
'Damping-off'	0	0	2-B	3-D	3-C	2-B	z	3-B	z	z	z	z
Rhizoctonia solani	0	0	1-B	3-C	3-C	2-C	z	3-B	z	z	1-A	1-A
Sclerotium rolfsii	0	0	1-C	3-B	3-D	2-B	z	3-B	3-C	3-C	2-A	1-A
Sclerotinia sclerotiorum	0	0	1-B	3-C	3-B	2-B	z	3-B	z	z	2-C	z
Phytophthora parasitica	0	0	z	3-C	3-C	2-C	z	3-B	z	z	2-B	2-B

a – 0 = none available.
b – z = not applicable or not known to be a factor.
c – Current use of control method; 1 = major use, 2 = some use, 3 = little or no use.
d – Effectiveness of control obtained with method; A = excellent, B = moderately effective, C = of some use, D = not effective, and E = detrimental.
e – Fruit rot.

(From R. M. Sonoda et al. 1983. Florida Scientist 46:111-116)

Main effects of within-row spacing and plants per hill on mean fruit weight and number per acre and mean fruit size (oz/fruit) of 'Early Calwonder' bell peppers grown[z] in Delray, Florida during the fall 1983 season.

Main effects	Marketable fruit		
	1000's/acre	bu/acre[y]	oz/fruit
Within-row spacing (WRS) (inches)			
5	81	790	3.9
10	61	603	4.0
15	53	547	3.9
20	51	458	3.6
Significant effect[x]	L**	L**	NS
Plants/hill (PH) (No.)			
1	67	523	3.9
2	67	602	3.8
3	53	652	3.8
Significant effect[x]	L*	NS	NS
PH x WRS	NS	NS	NS

[z]From P.J. Stoffella et al., 1984, Proc. Fla. State Hort. Soc. 97 (in press).

[y]Bushel = 25 lbs.

[x]Significant F - value at the 1% (**) and 5% (*) levels, linear (L), and non-significant (NS).

Main effects of within-row spacing and plants per hill on mean fruit weight and number per acre and mean fruit size (oz/fruit) of 'Early Calwonder' bell peppers grown at Loxahatchee, FL during the spring 1984 season.[z]

Main effects	Marketable fruit		
	1000's/acre	bu/acre[y]	oz/fruit
Within-row spacing (WRS) (inches)			
5	135	1783	5.4
10	115	1506	5.3
15	107	1444	5.4
20	98	1327	5.4
Significant effect[x]	L**	L*	NS
Plants/hill (PH) (No.)			
1	104	1385	5.3
2	112	1531	5.5
3	126	1624	5.2
Significant effect[x]	L**	L*	NS
PH x WRS	NS	NS	NS

[z]From P.J. Stoffella et al., 1984, Proc. Fla. State Hort. Soc. 97 (in press).

[y]Bushel = 25 lbs.

[x]Significant F - value at the 1% (**) and 5% (*) levels; linear (L), and non-significant (NS).