
Performance of Several Yellow Squash Cultivars in North Florida 96-16

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Introduction

Squash is a major vegetable crop in Florida, including the Suwannee Valley area. A total of 12,500 acres were planted in Florida in 1994-95. The acreage planted in Florida has decreased since the 1980s when acreage was typically 15,000 to 18,000 annually. Fall production of yellow squash in North Florida has decreased in the last five years, in part due to the difficulty in controlling the silverleaf whitefly (*Bemisia argentifolii*) on squash. The feeding of silverfish whitefly causing a pale yellow fruit in addition to mosaic virus transmitted by aphids have made fall squash a very risky and expensive crop.

Several new squash cultivars have become available that help growers manage mosaic virus problems. Some have resistance to specific viruses while others have a precocious gene that minimizes the expression of the green-yellow mosaic on the fruit. Several of these cultivars were evaluated at the Suwannee Valley Research and Education Center near Live Oak, Florida in the spring of 1996.

Materials and Methods

Plots were established in a Lakeland fine sand at the Suwannee Valley Research and Education Center near Live Oak, Florida. Preplant soil test (Mehlich-1 extract) showed 53 ppm phosphorus, 34 ppm potassium, 28 ppm magnesium and 320 ppm calcium. Soil pH was 6.1 using a 1:2 (soil:water) solution. The soil was fertilized prior to planting with 6000 lbs/A of 13-4-13 (N-P₂O₅-K₂O) on March 14, 1996. The crop also received an additional 50 lbs/A of N and K₂O through weekly fertigation from April 25 to May 17. Beds were formed on 5 ft centers and covered with black plastic mulch. A drip-irrigation tube was laid in a one-inch deep groove in the center of the bed. Final beds were 36 inches wide and 6 inches high. Plots 15 ft were established on the beds and were seeded on April 1, 1996. Two rows per bed were seeded with seed spaced 18 inches apart in each row on the bed.

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Plots were irrigated by drip irrigation using a tensiometer as a scheduling aid. Water was applied to maintain a soil moisture level of -8 to -12 centibars at a 12 inch depth. Insects and diseases were managed in accordance with a recommended spray program.

Squash was harvested eight times from May 13 to May 30. Fruit were graded as marketable, cull by mosaic, or other cull. Data were subjected to analysis of variance procedures.

Results and Discussion

Total season marketable yield ranged from 579 to 759 bu/A with no significant differences among the nine cultivars tested. The highest early season (first two harvests) marketable yield was found in 'Picasso', 'Prelude II', and 'Lemondrop'. Highest early yields were 234 to 266 bu/A. Lowest early yield was found in 'Meigs', 'Sun 9602', 'General Patton', 'Monet', and 'Supersett'.

High yields of fruit exhibiting mosaic symptoms were found in 'Picasso', 'Lemondrop', and 'Sun 9651'. Mosaic fruit yields ranged from 204 bu/A for 'Picasso' to 1 bu/A with 'Prelude II'. Very low mosaic fruit yields were found in 'Prelude II', 'Supersett', 'Meigs', 'General Patton', and 'Monet'. Intermediate mosaic yield of 76 bu/A was found in 'Sun 9602'.

All cultivars performed well in overall seasonal yield; however, 'Picasso', 'Lemondrop', and 'Sun 9651' each had high mosaic fruit yields. 'Prelude II' was the only high early yielding cultivar with low total mosaic yield. This trial shows several cultivars are available to help growers manage mosaic related fruit quality problems.

Trial Cooperators^z

Hendrix and Dail, Inc. (fumigant), 7610 US Highway 41 N, Palmetto FL 324221
Sonoco Products Company (mulch), 1 N 2nd Street, PO Box 160, Hartsville SC 29550
Robert Irrigation Products Inc. (drip tape), 700 Rancheros Dr, San Marcos CA 92069
IMC Fertilizer Inc (fertilizer), PO Box M, Tifton GA 31793
Sunseed Genetics Inc (seed), PO Box 1438, Hollister CA 95024-1438
Asgrow Seed Company (seed), Doraville GA 30360
Peter Edward Seed Co., Inc (seed), Main Office, 302 S Center Street, Eustis FL 32726
Petoseed (seed), 1905 Lirio Ave, PO Box 4206, Saticoy CA 93007-4206
Rogers Seed Co (seed), PO Box 1827, Gilroy CA 95021

^zContact Extension Service for names and address of current Florida representatives. Mention of a specific company or product does not constitute endorsement over other companies or equivalent products.

Table 1. Evaluation of nine yellow squash cultivars for marketable and mosaic fruit yield in the spring of 1996 at Live Oak, FL.

Cultivar	Seed Source	Type ^z	Mosaic Related Characteristics	Marketable Yield (bu/A) ^y		Mosaic Fruit Yield
				Total Season	Early Season ^x	
Prelude II	Asgrow	CRN	Transgenic	759	236	1
Lemondrop	Asgrow	SN	None	637	234	137
Meigs	Asgrow	CRN	Precocious	635	130	13
Supersett	Harris Moran	CRN	Precocious	623	169	4
General Patton	Asgrow	SN	Precocious	615	159	17
Picasso	Ferry-Morse	CRN	None	607	266	204
Monet (FMX 227)	Ferry-Morse	SN	Precocious	595	153	17
Sun 9651	Sunseeds	SN	None	594	220	124
Sun 9602	Sunseeds	CRN	None	579	148	76
Significance ^w				NS	**	**
LSD (0.05) ^v					42.7	109

^z Fruit type was either straight neck (SN) or crook neck (CRN).

^y Yield reported in bushels per acre, 42 lbs per bushel.

^x Early yield was first two harvests only.

^w Significance was either highly significant at the 1% level of probability (**) or not significant (NS).

^v Least significant difference (LSD) was calculated at the 5% level.