

Performance of Cucumber Cultivars, Plateau Experiment Station, 2001

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Interpretative Summary

Yield for all cultivar was lower than expected. >Speedway=, >Greensleeves' and >Indy= were among cultivars that produced the highest marketable yield. All the varieties rated well for color, curvature, and smoothness.

Introduction

Cucumbers are grown on a rather limited acreage in Tennessee. Cucumbers have been identified as a crop that has potential for increased production. The market prefers dark green, straight, and long cucumber fruit. The more popular types of cucumbers grown for fresh market are standard slicing type. Burpless cucumbers have become more popular in recent years, and are milder than the standard slicing cultivars. Pickling type cucumbers are also grown for fresh market. Pickling type cultivars usually are shorter, lighter in color and have smaller seeds and seed cavities than slicing type cultivars. Many of the newer cucumber cultivars have resistance to many diseases. An experiment was conducted at the Plateau Experiment Station at Crossville, TN in 2001 to evaluate performance of 13 cucumber cultivars for fresh market usage.

Materials and Methods

The site was prepared for planting by conventional tillage in late April. Fertilizer was broadcast at 300 lb/A of 15-15-15 before final disking on May 28. Four foot wide black plastic mulch was laid on six ft centers on May 9. Plots were direct seeded on May 9. Plot size was one row, 12 ft long and contained 8 plants. Experimental plot design was a randomized complete block with four replications. Row middles were cultivated on June 26. Carbaryl (Sevin XLR) at 1 lb ai/A was applied for insect control on May 17. Esfenvalerate (Asana) was applied for insect control on June 9, June 12, June 23, and July 13. Mancozeb (Dithane DF) at 1.6 lb ai/A and chlorothalonil (Bravo) at 1.5 lb ai/A were applied on June 12, June 23, July 3, and July 11. The cucumber plants were staked with a 54 inch stake driven between each two plants and a string trellis was extended between stakes and was used for support of the cucumber vines.

Nine harvests were made between July 19 and August 10. Yields were recorded by number and weight of marketable, oversize, and cull fruit. Fruit were measured for length and rated for characteristics after each harvest. Three to five fruit were used for these determinations. Ratings were made on a 1 to 10 scale with 1 being the smoothest, straightest, or darkest in appearance.

Results and Discussion

Yield for all cultivar was lower that expected. >Indy= and >Greensleeves= were among those varieties that produced a higher yield in marketable tons per acre (Table 1). >Speedway= and >Greensleeves' and >Indy= were among cultivars that produced the highest number of marketable fruit per acre. >SRQ 2387= led several cultivars in the level of oversize fruit in tons and number per acre. >Speedway= was among cultivars that produced the largest number and greatest weight of cull fruit per acre.

Fruit length was longer for >Sweet Slice= than for all cultivars except >Daytona=, >Lightening= and >Speedway=(Table 2). All the cultivars tested rated well for smoothness, curvature, and color. >Sweet Slice=, a burpless type cultivar, and >Indy= led several cultivars in smoothness. >Indy= and >Dasher II= led several cultivars for curvature. >HMX 8416= and >Indy= were among cultivars rated darkest for fruit color.

Table 1. Yield of cucumber cultivars evaluated at The University of Tennessee Plateau Experiment Station at Crossville, 2001.

Cultivar	Marketable yield tons/A	Oversize yield tons/A	Cull yield tons/A	Marketable yield no./A	Oversize yield no./A	Cull yield no./A
Dasher II	9.7 a ^z	0.3 b	0.3 ab	38893 ab	519 b	3042 a
Daytona	10.5 a	0.4 b	.05 ab	40103 ab	519 b	2454 ab
Green Slam	11.9 a	0.7 ab	0.3 b	38029 ab	1037 ab	1659 b
Greensleeves	12.8 a	1.5 ab	0.5 ab	49437 ab	2247 ab	2350 ab
HMX8416	11.3 a	1.0 ab	0.4 ab	45289 ab	1556 ab	1936 ab
Indy	14.3 a	0.6 ab	0.4 ab	48573 ab	864 b	1711 b
Lightening	12.1 a	1.0 ab	0.5 ab	41831 ab	2247 ab	2454 ab
North	12.0 a	1.5 ab	0.4 ab	43733 ab	2420 ab	1711 b
Speedway	15.1 a	1.5 ab	0.7 a	57561 a	2074 ab	3042 a
SRQ2387	11.2 a	2.0 a	0.5 ab	36127 ab	3457 a	1694 b
SRQ2389	9.4 a	0.6 ab	0.4 ab	36473 ab	1037 ab	1763 b

Sweet Slice	10.7 a	0.9 ab	0.6 ab	27830 b	1035 ab	1987 ab
Turbo	9.8 a	0.7 ab	0.3 b	34917 b	1037 ab	1365 b

^z Means within a column followed by the same letter are not significantly different at the 0.05 level of probability, Duncan=s multiple range tests.

Table 2. Fruit length and quality ratings of smoothness, curvature, and color for cucumber cultivars at The University of Tennessee Plateau Experiment Station at Crossville, 2001.

Cultivar	Fruit length inches	Smoothness rating ^y	Curvature rating ^y	Color rating ^y
Dasher II	6.00 b ^z	2.07 ab	1.82 a	2.03 ab
Daytona	7.22 ab	2.25 ab	2.39 ab	2.25 ab
Green slam	6.81 b	2.50 b	2.00 ab	2.14 ab
Greensleeves	6.44 b	2.61 b	1.93 ab	2.50 b
HMX 8416	6.78 b	2.54 bb	2.36 ab	1.86 a
Indy	6.96 b	1.71 a	1.82 a	1.89 aaab
Lightening	7.20 ab.	2.11 ab	2.43 ab	2.18 ab
Panther	6.70 b	2.21 ab	2.07 ab	2.46 ab
Speedway	7.31 ab	2.54 b	2.39 ab	2.39 ab
SRQ2387	6.80 b	2.50 b	2.25 ab	2.07 ab
SRQ2389	6.04 b	2.32 ab	2.11 ab	2.07 ab
Sweet Slice	8.26 a	1.79a	2.50 b	2.32 ab

Turbo	6.53 b	2.00 ab	2.11 ab	2.11 ab
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^y Ratings on a scale of 1 to 10, 1=smoother, straighter, or darker color.

^z Means within a column followed by the same letter are not significantly different at the 0.05 level of probability, Duncan=s multiple range test

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This research represents one season's data and does not constitute recommendations. After sufficient data is collected over the appropriate number of seasons, final recommendations will be made through research and extension publications.