

Green Slicer Cucumber Variety Trial Year 2

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Introduction

Demand by major grocery chains for locally produced slicing cucumbers has increased dramatically in recent years. Most growers continue to produce their older standard varieties due to experience in production and harvest management. In 2012 we reviewed as many of the currently available cucumber varieties as could be found from regional seed outlets. One interesting aspect of this newer marketing opportunity is the premium placed by some buyers from the grocery chains on 'super jumbo' sizes of cucumbers. This trial took place at the PSU Southeast Agricultural Research and Extension Center (SEAREC / Landisville) and at the Franklin County Horticultural Center. The 2013 trial used many of the same varieties, but moved several varieties into the trellised high tunnel production variety trial as they were poorly adapted to field conditions.

Objectives

- Identify slicing cucumber cultivars that have promise as successful market varieties.
- Rate cultivars as to their resistance and susceptibility to powdery and downy mildew in a standard disease management program.
- Identify cultivars that are considered superior in flavor and appearance.
- Produce saleable yield data (size, avg. weight, etc.) for the cultivars in this program in order to allow growers to select varieties that meet their marketing criteria.

Methodology

All varieties were replicated 4 times in 10 plant blocks on raised-bed plastic at the Penn State Southeast Research and Extension Center (SEAREC) in randomized block planting pattern. Plants were set 12" apart in row, in blocks with 8' between rows in order to keep the fruit separate as the vines develop. We followed the pest management guidelines in the Penn State 2013 Vegetable Guide to control weeds (between rows), diseases and insects. Downy mildew preventative materials were only used once the nearby Sentinel plots showed symptoms.

The plants were regularly evaluated for the development of diseases, specifically Powdery and Downy mildew. Fruit were harvested for yield, individual weight, and length. Tissue samples of the vines were submitted to Agri-Analysis for nutrient recommendations. Soluble fertilizers were applied through the drip system based on these tissue samplings.

Field Cucumber Variety Trial 2013

Variety	10 plant yield count	10 plant yield weight	10 plant cull count	10 plant cull weight	Yield per acre count	Yield per acre weight
SV4719CS	68	#47.62	18	#9.02	50,336	#34,572
SW150	88	#52.5	18	#9.49	63,455	#38,123
SW160	84	#50.38	23	#13.1	60,834	#36,565
Cutter	94	#55.86	22	#11.38	68,327	#40,574
Speedway	94	#60.05	22	#11.57	68,000	#43,524
Cobra	81	#52.67	20	#10.67	59,048	#38,183
Python	76	#47.61	16	#9.8	55,418	#34,567
SV3462CS	69	#48.76	18	#11.11	50,440	#35,495
Marketmore 76	73	#49.44	14	#9.16	52,750	#35,848
Gold Standard	55	#41.89	19	#13.70	39,725	#30,427
Darlington	75	#44.46	21	#10.37	54,250	#31,483
Rockingham	88	#54.04	28	#14.09	63,828	#39,237
Boa	88	#42.54	19	#10.04	63,828	#30,845
Intimidator	58	#34.33	25	#12.18	41,750	#24,890
Dasher II	96	#59.81	17	#8.54	69,750	#43,365

Variety Comments

Marketmore 76: This non-hybrid variety has been around for a very long time, yet still compares well with many much newer hybrids. The fruit are largely on the smaller (less than 8") size, but the cull rate was low and the overall quality high. Yields were among the lowest for this trial. Minimal infection with either PM or DM under a standard preventative program. Monoecious.

Cobra: High yields and reasonable packouts with most fruit ripening at 7-9". Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program. Gynoecious.

Cutter: High yields of short, blocky fruit, but one of the highest cull rates of the trial in 2012. The cull rate in 2013 was still high, but not as extreme as in 2012. These plants did perform well as the season got hotter. Minimal infection with either PM or DM under a standard preventative program.

Darlington: High yields (2012) and reasonable packouts with most fruit ripening at 7-9". In 2013, this variety had relatively poor yields, but a reasonable cull rate. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program.

Rockingham: High yields and with some of the largest fruit ripening at greater than 9". Disappointing cull rate that could have been tied to the high heat of the 2012 growing season. This high cull rate was repeated in 2013. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program. Gynoecious.

Gold Standard: Very light colored cucumber reported to have high beta carotene. Lower yields, but a low cull rate (2012). The cull rate in 2013 was among the highest. Good spread of fruit between 7 and 9". Minimal infection with either PM or DM under a standard preventative program.

Python: High yields and with some of the largest fruit ripening at greater than 9". Very consistent harvests throughout the hottest part of the season. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program.
Gynoecious

SVR14763462: This and SVR14784719 are some of the first varieties of cucumbers bred with DM resistance. While the yields were moderate, the fruit quality was good, the cull rate low and the harvests consistent. No PM or DM noted.

Intimidator: Relatively low yields, but one of the highest percentages of large fruit in the trial. Very consistent yields of larger fruit. Fruit are a bit lighter in color, but still dark enough for most markets. Minimal infection with either PM or DM under a standard preventative program. Gynoecious

Boa: Highest yields in the trial with most of the fruit ripening at 7- 9". Reasonable cull rate even at very high yields. Very consistent harvests. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program.
Gynoecious

SVR14784719: This and SVR14763462 are some of the first varieties of cucumbers bred with DM resistance. While the yields were moderate, the fruit quality was good, the cull rate low and the harvests consistent. Slightly higher yields than SVR14763462. No PM or DM noted.

Speedway: Moderate yields and reasonable packouts with most fruit ripening at 7-9". Very low cull rate. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program. Gynoecious.

Dasher II: Among the higher yields in the trial with most of the fruit ripening at 7- 9". Very low cull rate even at very high yields. Very consistent harvests. Good looking dark green fruit. Minimal infection with either PM or DM under a standard preventative program. Gynoecious

SW 150: Very high yields, low cull rate and good looking fruit. Minimal infection with either PM or DM under a standard preventative program.

SW 160: High yields, but a moderately high cull rate. Minimal infection with either PM or DM under a standard preventative program.

Seed Sources: Johnny's Seeds, Seedway Seeds, Ball Seeds, and Burpee Seeds.

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