

Pumpkin Cultivar Evaluation in Ohio, 2007

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Introduction

Pumpkins are the third largest fresh market vegetable in Ohio with nearly 7,000 acres in production. Pumpkins account for 10% to 40 % of annual gross income for some vegetable producers. It is important for our producers to use cultivars that consistently produce high yields of quality fruit. Of equal importance is the need to incorporate new cultivars into the program that provide good disease tolerance in order to reduce pesticide input and production costs while maintaining high quality. This project was supported in part by a research grant from the Ohio Vegetable and Small Fruit Research and Development Program.

Methods

Eighteen cultivars were evaluated at the OARDC Western branch in South Charleston, Ohio. Prior to planting, 100 lbs./A of actual N, P₂O₅, and K₂O were applied. An additional 30 lbs./A pounds of actual N was sidedressed prior to vine tip. All plots were transplanted on May 30, 2007. All transplants were germinated in 72 cells deep, 10 days prior to transplanting. Admire, for cucumber beetle and bacterial wilt control, was applied to the seedling trays one day prior to transplanting. Plots were 30 feet long with 10 feet between rows and 4 feet between plants in the row. Strategy was applied for weed control pre-planting. The experiment was conducted as a randomized complete block design with four replications. Trickle irrigation was available for all plots and was used two or three times per week from late June through August. A standard disease control program included the fungicides Cabrio on July 25, Manex + Nova on August 2, Quadris Opti on August 9 and 24, Bravo + Procure on August 16 and September 14, and Pristine on September 4. A boom sprayer with cone nozzles at 40 psi was used for fungicide application. A standard insect control program included Pounce on June 21, August 1, and August 25 to control beetle feeding on fruit. Fruit were harvested on September 11.

Results

Cultivars are listed in Table 1 ranked according to tons produced per acre. Super Freak, a specialty mid-size (8-10 pounds) pumpkin, was planted one month later on July 7. Two small types (< 4 pounds per fruit) and two mini-pumpkins are at the bottom of the table.

The highest yielding varieties (>20 pounds per fruit) in terms of tons per acre were: Mr. Wrinkles, SSX 5120, Midas Touch, Gold Medal, RPX 1295, and HMX 6685, with SSX 5120 having the highest average fruit size at 36 pounds. In second place was Mr. Wrinkles with 26 pounds per fruit.

The highest yielding varieties in the 16- to 20-pound fruit size category were: HMX 6686, Hannibal, 20 Karat Gold, and Gold Challenger. HMX 6686 produced 24 tons. Hannibal, 20

Karat Gold, and Gold Challenger all produced fruit greater than 16 pounds, with yields ranging from 16 to 17 tons per acre.

In the small types, SSX 5078 and HMX 5683 produce nice, small, round, 4-pound fruit. HMX 5683 has attractive, slight bumpiness.

Powdery mildew tolerance was evaluated four times near the end of the season but only the last evaluation on September 4 is listed in Table 1. The only varieties with 30% or less of the bottom of the leaves infected by powdery mildew were: HMX 6686, HMX 6685, SSX 5078, Gold Speck, and Gold Dust. SSX 5120 was more than 30% at 31.5%, but significantly lower than other varieties, with infection ranging from 58% to 78%.

Individual pictures of each variety plus comparison views among varieties are available at the VegNet Web site: <http://vegnet.osu.edu>.

Table 1. Preliminary 2007 Pumpkin Cultivar Evaluation, South Charleston, OH.

ID #	Variety	Marketable Orange Fruit/A	Marketable Orange Tons/A	Average Fruit Size (lbs.)	Fruit Diameter (in)	Powdery Mildew Severity Top, % Leaf Coverage ¹	Powdery Mildew Severity, Bottom % Leaf Coverage ¹	Downy Mildew % Leaf Coverage ²	Microdochium ³	Virus ⁴	Source
17	HMX 6686	2,897	24	16.8	12	1.6	13.8	10.6	3.2	2	HM
8	Mr. Wrinkles	1,738	22	26.1	13	4.8	66.7	17.1	2.6	2	SK
10	SSX 5120	1,159	21	35.8	12.7	1.8	31.5	11.2	2.5	2	SK
11	Midas Touch	1,979	21	22	11.9	4.8	63.8	19	2.7	1.8	SI
2	Gold Medal	1,883	20	22	12.7	3.6	68.4	15.8	2.5	1.9	RU
5	RPX 1626	2,752	19	13.8	10.7	0.6	38.5	8.7	2.4	1.8	RU
7	RPX 1295	1,690	17	20	12.3	6.2	66	12.5	3.2	1.7	RU
12	Hannibal	1,979	17	17.4	11.4	4.3	74.5	19.5	3.2	1.7	SI
16	HMX 6685	1,786	17	20	12.4	0.5	9.8	9.7	2.4	1.9	HM
4	20 Karat Gold	2,028	16	15.7	10.8	4.4	58.2	12.3	4.3	1.9	RU
6	Gold Challenger	1,786	16	18.1	11.6	4.3	79	17.5	3.7	1.9	RU
20	Super Freak-Knuckle Head	6,180	10	8	10.4	0	72.5	8.5	1.4	2	SI
21	Super Freak - Goosebumps	1,883	8	9	8.9	1.1	66.5	1.9	1.6	2	SI
9	SSX 5078	5,987	11	3.6	6.7	0.33	27	20.8	3.2	1.7	SK
18	HMX 5683	4,538	9	4	6.4	1.4	62.3	15.4	2.7	1.9	SK
1	Gold Speck	24,864	5	0.4	4	0	15	6.3	1.4	2	RU
3	Gold Dust	26,264	7	0.5	4	1.2	9.8	0.9	1.9	2	RU
	LSD 0.05%	6511	8.2	3.7	0.9	5.7	18.3	13.1	1.2	0.3	

Key To Disease Ratings

¹Powdery mildew: only 4th rating (September 4, 2007) is shown. Percentage of leaf area infected on top and bottom of the leaf. Average of three rankers, each using three leaves per plot.

²Downy mildew: percentage of leaf area infected. Average of three rankers, each using three leaves per plot.

³Microdochium (plectosporium or white speck). Rating score on foliage, petioles, vines, and fruit: 0 = none, 1 = low, 2 = medium, 5 = moderate, 7 = high, 10 = death.

⁴Virus: presence or absence of virus on foliage or fruit: 1 = virus present. 2 = no virus.