

Pumpkin Cultivar Evaluation, 2004

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Introduction

Pumpkins are now the third largest fresh market vegetable in OH with nearly 5,000 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 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

Twenty three cultivars were evaluated at the OARDC Western branch in South Charleston, OH. Prior to planting, 100 lbs/A of actual N, P₂O₅ and K₂O was applied. An additional 30 lbs of actual N per acre was sidedressed prior to vine tip. All plots were direct seeded on 4 June, 2004 and some reseeded in certain plots about 7-10 days later. Admire, for cucumber beetle and bacterial wilt control, was applied in the furrow at seeding. Plots were 30 feet long with 10 feet between rows and 3 feet between plants in the row. Strategy was applied for weed control post planting but before crop emergence. The experiment was conducted as a randomized complete block design with 4 replications. Trickle irrigation was available for all plots and was used 5 times during the growing season. A standard disease control program included the fungicides: Quadris, Nova and Bravo. A standard insect control program included Sevin XLR and Thiodan. Fruit were harvested 13 and 14 September, 2004.

Results

Cultivars are grouped in Table 1 according to average fruit size starting with the large sizes down to the smaller sizes. The best large sized varieties (22-24 lbs per fruit) in terms of tons per acre were: Gold Gem, Autumn King, Harvest Time and Super Herc (HMX 3692). Phat Jack had the largest average fruit size at 26 pounds producing 15 tons per acre. However, it had only 1200 fruit per acre. The best medium sized pumpkins (15 to 19 lbs per fruit) were Pro Gold 510, Octoberfest, RPX 1003, RPX 1006 and King Midas.

New and appealing small varieties with an average fruit size from 2 to 4 pounds were HMX 3694 (4 lb) and HMX 4682 (2 lb). Features included dark green handles, good orange color and a hard fruit rind.

Powdery mildew tolerance was evaluated on 27 August, 2004. The only varieties with 25% or less of the foliage affected by powdery mildew were: HMX 3692 (Super Herc), RPX03515, HMX 2689 (Gladiator), Gold Bullion, HMX 3694, Touch of Autumn and HMX 4682. Gold Bullion is not known to be PMT.

Angular leaf spot rankings ranged from 1 to 4 with the highest average at 2.3. The incidence of angular leaf spot seemed to be based on location in the field rather than on cultivar susceptibility. Cultivars near the southern end of the field had higher scores than the middle and north end because it was surrounded by field corn.

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

Table 1, 2004 Pumpkin Cultivar Evaluation, South Charleston, OH

| ID # | Variety | Marketable Orange Fruit/A | Marketable Orange Tons/A | Average Fruit Size (lbs) | Fruit Diameter (in) | Downy Mildew Rating ¹ | Foliar Powdery Mildew Rating ¹ | Powdery Mildew on Handle ³ | Angular Leaf Spot ² | Source |
|------|-----------------------|---------------------------|--------------------------|--------------------------|---------------------|----------------------------------|---|---------------------------------------|--------------------------------|--------|
| 4 | Phat Jack | 1197 | 15.3 | 26 | 14 | 23.7 | 37.5 | 1.75 | 1.5 | SI |
| 10 | Autumn King | 1960 | 23 | 24 | 13 | 60 | 47.5 | 1 | 1.25 | RU |
| 2 | Harvest Time | 1996 | 22 | 23 | 13 | 43.7 | 28.7 | 2 | 1.5 | AC |
| 23 | HMX 3692 (Super Herc) | 1633 | 19.24 | 23 | 13 | 26.2 | 25 | 2 | 1.75 | HM |
| 12 | Gold Gem | 2395 | 27 | 22 | 14 | 66.3 | 50 | 1.25 | 1.25 | RU |
| 14 | RPX 1003 | 2069 | 20.3 | 21 | 13 | 56.2 | 45 | 2.25 | 1.75 | RU |
| 3 | King Midas | 1887 | 19.1 | 20 | 14 | 27.2 | 37.5 | 1.5 | 1.5 | SI |
| 13 | RPX 1002 | 1706 | 16.8 | 20 | 13 | 48.7 | 42.5 | 1.75 | 1.37 | RU |
| 11 | Gold Medal | 1524 | 14.8 | 20 | 12 | 38.7 | 45 | 1.5 | 1.75 | RU |
| 1 | Pro Gold 510 | 2504 | 23 | 19 | 13 | 37.5 | 40 | 1.5 | 1.5 | AC |
| 5 | Octoberfest | 2541 | 23 | 18 | 12 | 43.7 | 41.2 | 1.5 | 1.5 | SII |
| 19 | 03RPX764 | 2069 | 18.3 | 18 | 12 | 17 | 35 | 2 | 1.75 | RU |
| 15 | RPX 1006 | 2432 | 20. | 17 | 12 | 62.5 | 47.5 | 1.5 | 1.25 | RU |
| 18 | 03RPX763 | 2504 | 20.9 | 16 | 11 | 41.2 | 37.5 | 2 | 1.5 | RU |
| 8 | Gold Standard | 2505 | 16 | 16 | 11 | 47.5 | 53.7 | 1.25 | 2.1 | RU |
| 16 | RPX 03515 | 1877 | 14.2 | 16 | 12 | 6.3 | 25 | 2 | 1 | RU |
| 22 | HMX 2689 (Gladiator) | 2287 | 16.2 | 15 | 12 | 8.2 | 13.2 | 2 | 1.87 | HM |
| 7 | Gold Bullion | 2359 | 16.8 | 14 | 12 | 19.2 | 23.7 | 1.75 | 1.25 | RU |
| 17 | RPX 03516 | 2940 | 19.3 | 13 | 11 | 42.5 | 32.5 | 2 | 1.25 | RU |
| 6 | Pick-A-Pie | 3557 | 10.6 | 9 | 8 | 85 | 51.3 | 1.75 | 1.25 | RU |
| 20 | HMX 3694 | 4428 | 8.5 | 4 | 7 | 11.5 | 21.3 | 2 | 2.3 | HM |
| 9 | Touch of Autumn | 7405 | 8.5 | 2 | 5 | 12 | 8.7 | 2 | 1 | RU |
| 21 | HMX 4682 | 7986 | 8.1 | 2 | 6 | 6.3 | 22.5 | 2 | 2 | HM |
| | LSD 0.05% | 1069 | 16.3 | 9.4 | 1.4 | 24.8 | 17.0 | 0.51 | 0.85 | |

Key To Disease Ratings in Table 1.

1. Downy Mildew and Powdery Mildew: Percentage of leaf area affected.
2. Angular Leaf Spot: 1 = no angular leaf spot, 2 = trace to 25%, 3 = 25 to 40%, 4 = 50%, 5 = 75%.
6 = > 75% to all foliage affected and/or dead foliage.
3. Powdery Mildew on handle: 1 = presence of powdery mildew on handle; 2 = no powdery mildew on handle.

Brief Descriptions of Some Pumpkin Varieties, 2004, South Charleston, OH

1. Pro Gold 510 - This variety has become a standard in OH and still continues to be one of the most consistent performers over the years. Average fruit size is between 18- 20 lbs and usually yields 17 to 23 tons/A.

2. Harvest Time - Introduced about 2-3 years ago. Fruits are elongated, large with a flattened tear drop shape and smooth skin. Good yields. Very desirable for retail markets but maybe not wholesale markets because of elongated shape. Some growers feel the fruit does not hold up under wet field conditions.

3. King Midas – Nice round shape and good color. Handles are strong. Some variability in size and shape. Deserves another look and worth a trial spot on the farm.

4. Phat Jack - Huge round fruit with large thick handle. Beautiful handle attachment. Largest average fruit size (26 lbs) in the trial. Drawbacks are there are few fruit per acre and it requires a very long growing season. Not for main production but desirable to have these around as a specialty pumpkin.

#5. Octoberfest – Slightly flattened round shape. Nice ribbing and good color. Good yields.

12. Gold Gem - Produces fruit of consistent size and shape around 22 lbs. Nice thick handles.

14. RPX 1003 - Medium to large fruit (~21 lbs) nice color, good handle and ribbing.

#15. RPX 1006 – Nice round shape with good ribbing. Fruit has a dark orange color with dark green handles.

16. RPX 03515 – Medium type with some PMT, average fruit size, ~16 lbs.

17. RPX 03516 – Slightly upright, medium size fruit (~13 lb) with wide ribbing. Nice handle attachment. PMT.

20. HMX 3694 - Semi-bush. small size (4 lbs) round fruit with solid 2-3 inch, dark green handle. Nice dark color. Good PMT.

21. HMX 4682 – Nice small fruit on semi-bush plant. Good handle and dark orange color. Hard shell. Good PMT.

22. HMX 2689 (Gladiator) - Medium size pumpkin (~15 lb) on semi-bush, Nice handle, prolific. Good PMT.

23. HMX 3692 (Super Herc) – Nice large fruits on semi-bush (23 lbs). Upright, tall shape with big handles. Good PMT.