

Pumpkin Cultivar Production & Quality Evaluations

2014

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Pumpkins are one of the most widely grown crops throughout Ohio and Midwestern states and acreage and consumer demand continues to grow. Spending on decorations for Halloween is second only to Christmas according to the National Retail Federation. New cultivars need to be researched to keep up with market demand. This field trial screened new pumpkin variety releases for their production performance under Southern Ohio growing conditions and to evaluate yield potential and fruit quality characteristics for Ohio markets.

Materials and Methods

This trial evaluated twenty-four pumpkin cultivars for their production suitability, performance and quality attributes under southern Ohio growing conditions. Cultivar selections were new releases along with industry standard varieties. Input was received from seed companies, growers, and industry personnel regarding variety selection and standard comparison. Seeds were direct seeded to the field on June 2nd. Rows were spaced 8 foot apart with seeds planted 3 foot apart in the row. The experimental design was a randomized complete block design with 4 replications per cultivar. Field trials were located in southern Ohio, at the Ohio State University Piketon Research & Extension Center at Piketon, Ohio (lat. 39.07° N, long. 83.01° W, elevation 578 ft.). The experimental soil is designated as a DoA—Doles silt loam, with 0–3% slopes. It is a deep, nearly level and somewhat poorly drained soil. 100 pounds of N, P₂O₅ and K₂O per acre were applied prior to planting. A standard commercial fungicide and insecticide program was implemented, following recommendations from the Midwest Vegetable Production Guide for Commercial Growers (ID-56). Weeds were controlled with cultivation and hand hoeing.

Results and Discussion

Overall plant and fruit quality was good in the 2014 season. Drip irrigation was applied as needed throughout the growing season. Overall fruit yield and quality was good for this trial. Fruit were harvested on September 25th. Fruit color was rated based on color charts from the Royal Horticulture Society (Version V).

This season's pumpkin screening contained jack o lantern, large sized, pie type pumpkins and specialty type. The jack o lantern and specialty pumpkins marketable pounds per acre ranged from 63,307(Mustang) to 24,171(Corvette). Average fruit weight ranged from 24.07 lbs. (Cronus) to 9.37 lbs. (Corvette) (Table 2).

The pie and mini pumpkins marketable pounds per acre ranged from 25,360 lbs. (Half Pint) to 7,519 lbs. (Jack be Little). Average fruit weight ranged from 2.93 lbs. (Mischief) to .48 lbs. (Jack be Little) (Table 1).

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Polar Bear



Cronus



Gladiator



Little Giant



Half Pint



Mischief

Figure 1. Selection of 2014 high performing pumpkin cultivars

Table 1. Pie and mini pumpkin cultivar yields Piketon, Ohio.

Cultivar	Marketable Fruit per Acre	Marketable lbs.per Acre	Average Fruit Weight	Seed Source
Half Pint	15791 A	25360 A	1.52 B	HL
Jack Be Little	15246 A	7519 B	0.48 C	HL
Jill Be Little	16244 A	9021 B	0.56 C	HL
Little Giant	5264 B	14565 AB	2.78 A	HM
Michief	8077 B	23491 A	2.93 A	HM
LSD	7123	12192	0.57	

*Values with the same letter are not significantly different.

Table 2. Total marketable yield and fruit per acre for Jack O Lantern and Specialty type pumpkin evaluations in Piketon, Ohio.

Cultivar	Marketable Fruit per Acre	Marketable lbs. per Acre	Average Fruit Weight	Seed Source
Apollo	2631 BCDEFG	42162 BCDE	15.86 DEFGH	HM
Camaro	2722 ABCDEF	46754 ABC	17.29 BCDEF	HL
Cargo	1815 G	33832 CDE	18.69 BCD	JS
Challenger	2994 ABCDE	53824 AB	17.76 BCDE	HL
Champion	2087 FG	42149 BCDE	20.10 BC	JS
Charisma	3720 A	44926 BCD	11.69 IJK	JS
Corvette	2450	24171 E	9.37 K	HL
Cougar	3085.5 ABCD	41387 BCDE	13.34 GHIJ	HL
Cronus	1996.5 FG	47789 ABC	24.07 A	HM
Expert	2722.5 BCDEFG	41092 BCDE	15.15 EFGHI	JS
Gladiator	2178 DFG	32443 CDE	14.90 EFGHI	JS
Mustang	3085.5 ABCD	63307 A	20.45 B	HL
New Racer Plus	3539.3 AB	36400 BCDE	10.37 JK	JS
Polar Bear	1815 G	33600 CDE	17.97 BCDE	JS
Racer	3176.3 ABC	38233 BCDE	12.05 IJK	JS
Rhea	2904 ABCDEF	48043 ABC	16.79 CDEFG	HM
Rival	2994.8 ABCDE	39830 BCDE	12.86 HIJ	JS
Rockstar	1905.8 G	28055 DE	14.15 FHGI	JS
Warty Goblin	2994.8 ABCDE	37580 BCDE	12.33 IJK	HM
LSD	958	18264	3.46	

*Values with the same letter are not significantly different.

Table 3. Color quality ratings for Jack O Lantern and Specialty type pumpkin evaluations in Piketon, Ohio.

Cultivar	RHS #	Color^z
Apollo	24B	68 Strong Orangish Yellow
Camaro	21A	66 Vivad Orangish Yellow
Cargo	20A	83 Brilliant Yellow
Challenger	17B	82 Vivid Yellow
Champion	24A	50 Strong Orange
Charisma	21B	67 Brilliant Orangish Yellow
Corvette	21A	66 Vivid Orangish Yellow
Cougar	21B	67 Brilliant Orangish Yellow
Cronus	24A	50 Strong Orange
Expert	23A	66 Vivad Orangish Yellow
Gladiator	24A	50 Strong Orange
Mustang	21A	67 Vivad Orangish Yellow
New Racer Plus	21A	67 Vivad Orangish Yellow
Polar Bear	155B	92 Yellowish White
Racer	24A	50 Strong Orange
Rhea	23A	66 Vivad Orangish Yellow
Rival	24A	50 Strong Orange
Rockstar	24A	50 Strong Orange
Warty Goblin	24A	50 Strong Orange
Half Pint	25C	49 Brilliant Orange
Jack Be Little	25C	49 Brilliant Orange
Jill Be Little	21A	66 Brilliant Orangish Yellow
Little Giant	24A	50 Strong Orange
Michief	24A	50 Strong Orange

^zColor rating: RHS Horticulture Color Charts