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Pumpkin Cultivar Production & Quality Evaluations — 2014

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Pumpkins are one of the most widely grown crops throughout Ohio and other midwestern states, and acreage and consumer demand continue to grow. Spending on decorations for Halloween is second only to spending at 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 24 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 feet apart with seeds planted 3 feet 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. One-hundred (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* (Purdue Extension publication 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, and specialty type pumpkins. The jack-o'-lantern and specialty pumpkins' marketable-pounds-per-acre ranged from 63,307 lbs. (Mustang) to 24,171 lbs. (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).

Acknowledgments

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

Cultivar	Marketable Fruit per Acre¹	Marketable Lbs. per Acre¹	Average Fruit Weight (lb.)¹	Seed Source
Half Pint	15,791 A	25,360 A	1.52 B	HL
Jack Be Little	15,246 A	7,519 B	0.48 C	HL
Jill Be Little	16,244 A	9,021 B	0.56 C	HL
Little Giant	5,264 B	14,565 AB	2.78 A	HM
Mischief	8,077 B	23,491 A	2.93 A	HM
LSD	7,123	12,192	0.57	

¹Values with the same letter are not significantly different.

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

Cultivar	Marketable Fruit per Acre¹		Marketable Lbs. per Acre¹		Average Fruit Weight (lb.)¹		Seed Source
Apollo	2,631	BCDEFG	42,162	BCDE	15.86	DEFGH	HM
Camaro	2,722	ABCDEF	46,754	ABC	17.29	BCDEF	HL
Cargo	1,815	G	33,832	CDE	18.69	BCD	JS
Challenger	2,994	ABCDE	53,824	AB	17.76	BCDE	HL
Champion	2,087	FG	42,149	BCDE	20.10	BC	JS
Charisma	3,720	A	44,926	BCD	11.69	IJK	JS
Corvette	2,450		24,171	E	9.37	K	HL
Cougar	3,085.5	ABCD	41,387	BCDE	13.34	GHIJ	HL
Cronus	1,996.5	FG	47,789	ABC	24.07	A	HM
Expert	2,722.5	BCDEFG	41,092	BCDE	15.15	EFGHI	JS
Gladiator	2,178	DFG	32,443	CDE	14.90	EFGHI	JS
Mustang	3,085.5	ABCD	63,307	A	20.45	B	HL
New Racer Plus	3,539.3	AB	36,400	BCDE	10.37	JK	JS
Polar Bear	1,815	G	33,600	CDE	17.97	BCDE	JS
Racer	3,176.3	ABC	38,233	BCDE	12.05	IJK	JS
Rhea	2,904	ABCDEF	48,043	ABC	16.79	CDEFG	HM
Rival	2,994.8	ABCDE	39,830	BCDE	12.86	HIJ	JS
Rockstar	1,905.8	G	28,055	DE	14.15	FHGI	JS
Warty Goblin	2,994.8	ABCDE	37,580	BCDE	12.33	IJK	HM
LSD	958		18,264		3.46		

¹Values 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 #	Color¹
Apollo	24B	68 Strong Orangish Yellow
Camaro	21A	66 Vivid 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 Vivid Orangish Yellow
Gladiator	24A	50 Strong Orange
Mustang	21A	67 Vivid Orangish Yellow
New Racer Plus	21A	67 Vivid Orangish Yellow
Polar Bear	155B	92 Yellowish White
Racer	24A	50 Strong Orange
Rhea	23A	66 Vivid 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

¹Color rating: RHS Horticulture Color Charts.