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West Virginia Pumpkin Cultivar Evaluations 2014

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Pumpkins (*Cucurbita sp. L.*) are a very popular fall crop in West Virginia. Each year, new commercial cultivars are released and growers must choose the appropriate cultivars for their respective markets. To increase the supply of locally grown pumpkins, growers who have winter feedlots can use these small land plots to grow pumpkins for direct market. In addition, the pumpkin crop will use the residual nitrogen from the feedlot livestock and reduce leaching into adjacent streams or ponds.

Materials and Methods

Thirty-one pumpkin cultivars were evaluated on a commercial farm in Mason County (southwest), West Virginia (38.7°N lat.). The soil type was a Moshannon silt loam with a base pH of 6.0. Prior to planting 46 lbs. of N, 19 lbs. P₂O₅, and 100 lbs. K₂O were applied to the test plot area (0.6 acres). The plot had been a commercial feedlot for five months prior to planting, so residual nitrogen and other nutrients were present. The pumpkin cultivars were seeded into 50-cell transplant trays and grown as transplants for three weeks before being hand-planted on June 25, 2014. Each plot was 35 feet long with 6 feet between rows and 4 feet between plants, resulting in approximately 1,815 plants/acre. Standard pest management practices were employed, although no fungicides were used to control powdery mildew. The experimental design was a randomized complete block design with three replications per cultivar. Marketable fruit were harvested on October 5, 2014 and sorted into marketable and nonmarketable before weighing and measuring quality variables such as color and stem quality. Color was rated based on color charts from the Royal Horticulture Society (Version V).

Results and Discussion

Average fruit size ranged from 0.5-26 lbs. across all cultivars with 'Jill-B-Little' and 'Jack-B-Little' the smallest fruit harvested and 'Polar Bear,' 'Mammoth Gold,' and 'Champion' the largest average fruit weight harvested (Table 1, 2). 'Apollo' had excellent yields and color, but fair stem quality (Table 3). Likewise 'Champion' and 'Challenger' had excellent color and yield for a jack-o-lantern size pumpkin and fair stem quality. 'Camaro' and 'Mustang' have excellent size, yield, and uniformity with powdery mildew tolerance. However, fruit color on 'Mustang' is not dark orange and stem quality is not consistently high. 'Racer' was uniform in size and quality, but average weight was less than 15 lbs. per pumpkin in this trial. 'Rockstar' had high marketable yields with excellent color and stem quality. 'Rhea' is a moderate, orange-colored pumpkin with high yields and average stem quality. 'Jack-B-Little' yielded significantly higher quality and number of marketable fruit relative to the other miniature pumpkin, 'Jill-B-Little.' 'Polar Bear' was the only white-fruited cultivar but had very high marketable yield and quality. 'Warty Goblin' would be a specialty pumpkin variety but had excellent yields and quality.



Rockstar



Racer



Champion



Apollo



Cougar



Challenger

Figure 1. Selection of high performing pumpkin cultivars harvested in 2014.

Table 1. Total marketable yield and fruit per acre for jack-o-lantern pumpkin cultivars in West Virginia.

Cultivar	Mkt. (%)	Marketable Pumpkins/ Acre	Avg. Wt. (lbs.)	Wt./Acre (tons)	Seed Source
Apollo	87.6	2,420	16.3	20.0	HM
Camaro	91.6	2,481	14.4	18.6	HL
Challenger	88.0	1,936	17.9	18.8	SW
Champion	90.6	1,997	24.8	23.0	JS
Charisma	100.0	2,178	9.4	10.5	JS
Corvette	95.7	1,936	10.7	10.3	HL
Cougar	100.0	2,541	14.5	18.5	HL
Cronus	92.3	1,513	16.2	12.8	HM
Expert	71.3	726	15.3	5.5	JS
Gladiator	100.0	1,816	14.1	12.7	HM
Gold Strike	32.5	999	17.3	9.3	RU
Gold Rush	68.8	817	18.5	8.8	RU
Gold Medal	95.3	1,452	13.0	10.0	RU
Gold Gem	100.0	1,089	20.0	9.9	RU
Gold Medallion	100.0	1,271	18.5	12.1	RU
Howden	83.5	1,453	19.3	14.3	RU
Mammoth Gold	92.3	1,573	20.1	15.8	RU
Mustang	100.0	1,997	18.5	18.5	RU
New Racer Plus	86.7	2,420	9.8	11.9	JS
Polar Bear	100.0	2,723	25.9	36.1	JS
Racer	100.0	3,570	13.3	23.4	JS
Rhea	91.3	2,662	14.5	19.7	HM
Rival	86.0	3,086	13.8	18.6	JS
Rockstar	91.6	1,936	21.1	21.6	JS
Solid Gold	85.2	1,876	11.7	11.6	RU
Warty Goblin	89.3	2,178	13.5	15.8	HM
<i>Mean</i>	<i>8.9</i>	<i>1,896</i>	<i>15.3</i>	<i>14.9</i>	
<i>Standard Error:</i>	<i>1.7</i>	<i>112</i>	<i>0.7</i>	<i>1.1</i>	

Table 2. Marketable yield of miniature and pie pumpkins.

Cultivar	Mkt. (%)	Marketable Pumpkins/Acre	Avg. Wt. (lbs.)	Wt./acre (tons)	Seed Source
Half Pint	25.0	3,458	1.2	1.8	HL
Jack-B-Little	77.0	9,014	0.5	2.6	HL
Jill-B-Little	100.0	2,450	0.47	0.7	HL
Little Giant	100.0	4,113	2.7	5.6	HM
Mischief	97.0	6,843	3.0	10.5	HM
<i>Mean</i>	<i>83.2</i>	<i>5,134</i>	<i>1.5</i>	<i>4.4</i>	
Standard Error	7.2	1,395	0.3	1.2	

Table 3. Color, and stem quality ratings of pumpkin cultivars evaluated in West Virginia.

Cultivar	Color^z	Stem Rating^y
Apollo	moderate orange	3.2
Camaro	moderate orange	2.1
Challenger	strong-moderate orange	3.0
Champion	strong orange	4.3
Charisma	moderate orange	4.0
Corvette	moderate orangish-yellow	3.3
Cougar	strong orange	2.5
Cronus	strong orange	2.0
Expert	strong orange	1.5
Gladiator	strong orange	1.8
Gold Strike	moderate orange	4.3
Gold Rush	strong orange	3.7
Gold Medal	strong orange	5.0
Gold Gem	moderate orange	2.0
Gold Medallion	moderate orangish-yellow	2.0
Howden	strong orange	2.0
Half Pint	moderate orangish-yellow	4.0
Jack-B-Little	moderate yellowish-orange	2.7
Jill-B-Little	moderate orangish-yellow	4.5
Little Giant	moderate orange	2.0
Mammoth Gold	brownish orange	5.0
Mischief	strong orange	1.8
Mustang	moderate orangish-yellow	4.0

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Table 3 (continued)

Cultivar	Color^z	Stem Rating^y
New Racer Plus	moderate orange	3.8
Polar Bear	strong white	1.8
Racer	strong orange	1.0
Rhea	moderate orange	3.0
Rival	moderate orange	4.1
Rockstar	strong orange	1.0
Solid Gold	moderate orange	4.0

^zColor rating: RHS Horticulture Color Charts.

^yStem rating: 1=strong, thick; 5=weak or decayed.

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