

# Pumpkin Cultivar Performance Trial

## Grown in Southern Ohio 2018

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### OBJECTIVES:

To screen new pumpkin variety releases (2017-2018) for their production performance under Southern Ohio growing conditions and to evaluate yield potential and fruit quality characteristics for the southern Ohio area.

### MATERIALS and METHODS:

This trial evaluated twenty replicated 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 7th. Randomized complete block design with three blocks and 5 plants per variety per plot was used in the study. Rows were spaced 8 foot apart with seeds planted 3 foot apart in the row and row length was 12 foot. This study was conducted at the Ohio State University (OSU) South Centers/Piketon Research & Extension Center at Piketon, Ohio (lat. 39.07° N, long. 83.01° W), elevation 578 feet. 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. Typically, the soil surface is a brown, friable silt loam about 20 cm deep and beneath this the subsoil is about 18.5 m. 578 pounds of 19-19-19 fertilizer per acre was applied prior to planting. There were zero applications of powdery mildew fungicides applied. Insecticides and downy mildew applications were applied following recommendations from the Midwest Vegetable Production Guide for Commercial Growers (ID-56). Sandea pre-emerge herbicides were applied to the trial. Weeds were also controlled with cultivation and hand hoeing.

### References

Egel, D., R. Foster, E. Maynard, R., et al. 2017. Midwest Vegetable Production Guide for Commercial Growers, 2017 (ID-56). Purdue University.



**RESULTS:**

Table 1. Yields from replicated Pumpkin Cultivar Performance Trial Non-Sprayed.

<i>Cultivar</i>	<i>Pounds per Plant</i>	<i>Fruit per Acre</i>	<i>Pounds per Acre</i>	<i>Average Fruit Weight (lbs.)</i>
<i>Miniwarts</i>	12.78 ABC	33275 A	23199 ABC	2.74 E
<i>JPN 62005R</i>	11.99 ABC	5445 CD	21773 ABC	16.65 ABC
<i>Specter</i>	13.14 ABC	6050 CD	23854 ABC	10.7 BCDE
<i>Warty Gnome</i>	17.52 ABC	39930 A	31808 ABC	3.21 E
<i>Ares</i>	19.49 ABC	7260 CD	35388 ABC	19.43 AB
<i>Cronus</i>	14.94 ABC	6050 CD	27133 ABC	13.36 ABCDE
<i>Kratos</i>	14.15 ABC	6050 CD	25693 ABC	11.26 BCDE
<i>Rhea</i>	9.95 ABC	4840 CD	18070 ABC	10.91 BCDE
<i>Zues</i>	5.35 C	3630 CD	9727 C	6.28 CDE
<i>Orange Sunrise</i>	25.46 A	12705 BC	46212 A	14.3 ABCD
<i>Bisbee Gold</i>	15.86 ABC	20570 B	28796 ABC	5.72 CDE
<i>Bayhorse Gold</i>	13.44 ABC	5445 CD	24398 ABC	19.52 AB
<i>Craker Jack</i>	9.35 BC	5445 CD	16972 BC	8.35 CDE
<i>Honky Tonk</i>	21.75 AB	10890 BCD	39490 AB	14.9 ABCD
<i>Hulk</i>	17.95 ABC	6050 CD	32593 ABC	22.68 A
<i>Jason</i>	15.34 ABC	9075 CD	27842 ABC	12.65 ABCDE
<i>Secretarit</i>	16.16 ABC	7865 CD	29339 ABC	14.9 ABCD
<i>NH 4717</i>	5.76 C	3025 CD	10467 C	4.61 DE
<i>Skidoo</i>	13.15 ABC	7260 CD	23882 ABC	8.99 BCDE
<i>SPU13118</i>	5.10 C	1815 D	9263 C	12.24 ABCDE
<i>LSD</i>	15.94	10027	28939	10.98

Table 2. Yields from replicated Pumpkin Cultivar Performance Trial Sprayed.

<i>Cultivar</i>	<i>Pounds per Plant</i>	<i>Fruit per Acre</i>	<i>Pounds per Acre</i>	<i>Average Fruit Weight (lbs.)</i>	<i>Seed Source</i>
<i>Miniwarts</i>	11.8 BC	35695 A	21428 BC	2.4 G	Harris Moran
<i>JPN 62005R</i>	19.04 B	7260 DEF	34564 B	19.64 AB	Johnny's
<i>Specter</i>	18.94 B	9680 CDEF	34390 B	14.53 BC	Harris Moran
<i>Warty Gnome</i>	13.31 BC	33880 A	24165 BC	2.84 G	Harris Moran
<i>Ares</i>	13.39 BC	6050 DEF	24304 BC	15.53 ABC	Harris Moran
<i>Cronus</i>	9.3 BC	3025 EF	16880 BC	14.38 BC	Harris Moran
<i>Kratos</i>	20.01 B	10285 CDE	36329 B	13.49 BCD	Harris Moran
<i>Rhea</i>	15.13 BC	9075 CDEF	27472 BC	11.81 CDE	Harris Moran
<i>Zues</i>	9.4 BC	4235 DEF	17066 BC	16.61 ABC	Harris Moran
<i>Orange Sunrise</i>	16.14 B	7865 DEF	29308 B	14.38 BC	Harris Moran
<i>Bisbee Gold</i>	14.96 BC	21175 B	27169 BC	5.15 FG	Rupp
<i>Bayhorse Gold</i>	35.21 A	15730 BC	63915 A	16.26 ABC	Rupp
<i>Craker Jack</i>	8.64 BC	6655 DEF	15686 BC	6.3 EFG	Sakata
<i>Honky Tonk</i>	19.57 B	10285 CDE	35530 B	13.53 BCD	Sakata
<i>Hulk</i>	10.56 BC	3630 EF	19171 BC	21.75 A	Sakata
<i>Jason</i>	12.48 BC	5445 DEF	22665 BC	16.22 ABC	Seedway
<i>Secretarit</i>	10.44 BC	5445 DEF	18962 BC	14.37 BC	Seedway



NH 4717	15.88 B	9075 CDEF	28828 B	12.71 CDE	Johnny's
Skidoo	18.88 B	11495 CD	34272 B	11.69 CDEF	Rupp
SPU13118	3.72 C	2420 F	6762 C	7.45 DEFG	Sakata
LSD	11.96	7773.00	21721	6.64	-

Table 3. Fruit quality ratings at harvest on sprayed pumpkins.

Variety	<i>Powdery Mildew on stem</i>	<i>Plectosporim Blight on Stem</i>	<i>Plectosporim Blight on Fruit</i>
Miniwarts	1.33 AB	3.33 ABC	0 B
JPN 62005R	0 B	4.33 AB	2.33 AB
Specter	0 B	3.66 ABC	0 B
Warty Gnome	0 B	2.66 BC	0 B
Ares	0 B	5 A	0.33 AB
Cronus	0 B	2 CD	0 B
Kratos	0 B	5 A	1 AB
Rhea	0 B	5 A	1.33 AB
Zues	0 B	4.33 AB	1.667 AB
Orange Sunrise	0 B	5 A	1 AB
Bisbee Gold	0.66 AB	4 AB	1.66 AB
Bayhorse Gold	0 B	2.66 BC	0.66 AB
Cracker Jack	0 B	3.33 ABC	2.33 AB
Honky Tonk	1.66 A	5 A	0.33 AB
Hulk	0 B	0.33 D	0 B
Jason	0 B	4.66 A	1 AB
Secretariat	0 B	4.33 AB	0 B
NH 4717	0 B	3.66 ABC	1.33 AB
Skidoo	0 B	5 A	2.66 A
SPU13118	0 B	3.33 ABC	1.33 AB
LSD	1.36	1.98	2.66

Table 4. Fruit quality ratings at harvest on non-sprayed pumpkins.

Variety	<i>Powdery Mildew on stem</i>	<i>Plectosporim Blight on Stem</i>	<i>Plectosporim Blight on Fruit</i>
Miniwarts	0 B	3 ABC	0 D
JPN 62005R	0 B	4 AB	1.66 ABCD
Specter	0 B	3.66 AB	0 D
Warty Gnome	0 B	3.33 ABC	0 D
Ares	0.66 A	3.66 AB	2 ABCD
Cronus	0 B	3 ABC	0.33 CD
Kratos	0 B	4 AB	3.66 A
Rhea	0 B	3 ABC	0 D
Zues	0 B	1.66 BC	0.33 CD
Orange Sunrise	0 B	4.66 A	1 BCD



<i>Bisbee Gold</i>	0 B	4 AB	1 BCD
<i>Bayhorse Gold</i>	0 B	3.33 ABC	0 D
<i>Cracker Jack</i>	0 B	4.33 A	0.33 CD
<i>Honky Tonk</i>	0 B	3.33 ABC	1.33 ABCD
<i>Hulk</i>	0 B	1 C	0 D
<i>Jason</i>	0 B	1 C	1 BCD
<i>Secretariat</i>	0 B	4 AB	3 AB
<i>NH 4717</i>	0 B	3.33 ABC	1.66 ABCD
<i>Skidoo</i>	0 B	4.66 A	1.66 ABCD
<i>SPU13118</i>	0 B	3.33 ABC	2.66 ABC
<i>LSD</i>	0.43	2.6	2.46

Table 5. Chroma Meter rind color results from 3 fruit sampled.

<i>Variety</i>	<i>L</i> (defines lightness)	<i>A</i> (denotes the red/green value)	<i>B</i> (defines the yellow/blue value)
<i>Miniwarts</i>	39.21	9.06	39.1
<i>JPN 622005R</i>	49.3	27.48	41.72
<i>Specter</i>	77.08	-0.61	32.78
<i>Warty Gnome</i>	61.33	10.77	55.15
<i>Ares</i>	46.82	21.16	39.76
<i>Cronus</i>	51.08	23.33	47.69
<i>Kratos</i>	48.92	24.13	44.24
<i>Rhea</i>	51.13	27.34	45.75
<i>Zeus</i>	49.29	27.43	44.89
<i>Orange Sunrise</i>	59.54	29.84	58.62
<i>Bisbee Gold</i>	50.41	25.29	37.73
<i>Bayhorse Gold</i>	55.54	30.72	51.63
<i>Cracker Jack</i>	45.88	26.24	40.6
<i>Honky Tonk</i>	47.67	24.6	44.6
<i>Hulk</i>	51.96	23.24	44.73
<i>Jason</i>	53.88	27.47	49.39
<i>Secretariat</i>	46.19	25.23	40.13
<i>NH 4717</i>	50.76	27.94	43.11
<i>Skidoo</i>	50.29	26.35	41.08
<i>SPU13118</i>	58.23	22.79	54.89



Figure 1. Exterior of top five varieties in the 2018 Pumpkin Cultivar Performance Trial.

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