

## **Pumpkin Cultivar Performance in Northern Indiana, 2001**

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Pumpkin cultivars and lines were evaluated in plots at Coulter's Farm in Westville, Indiana. This paper presents results for twenty-one jack-o-lantern types and five pie types.

Pumpkins were seeded on June 18, 2001, using a tractor-mounted carousel transplanter to open a furrow and space the seed. Twenty seeds per cultivar or 15 seeds per numbered line were spaced 5 ft. apart in the row. Pumpkin rows alternated with guard rows of gourds or squash planted 2.5 ft. apart in the row. Spacing between rows was 6 ft. Each cultivar or line was planted in one row of each of two replications. Jack-o-lantern and pie types were grouped within the replications. Prior to planting, fertilizer was applied at the following per-acre rate: 150 lb. 46-0-0, 140 lb. 18-46-0 and 250 lb. 0-0-60, for a total of 94 lb. N, 64 lb P<sub>2</sub>O<sub>5</sub> and 150 lb. K<sub>2</sub>O per acre. Pest management followed standard practices on the farm. Irrigation was applied as needed, a total of 4 times throughout the season.

Pumpkins were harvested on September 14 and October 8, 2001. Many pumpkins had not turned completely orange, and so both mature green and marketable orange pumpkins were counted and weighed to estimate potential yield. The number of pumpkins more than 1/2 green among those harvested was counted and is presented as a percent of the total number harvested. Analyses of variance were performed separately for jack-o-lantern pumpkins and pie pumpkins, with mean separation using Fisher's protected least significant difference with alpha= 0.05. In one replication, no plants of two cultivars survived. Yield and components of yield for these cultivars were treated as missing values in the analysis.

Results are presented in Table 1. Plant stands were reduced in some plots of one replication because of predation by rodents. For this reason and because replications were harvested on different dates, the table includes results for each replication separately as well as the mean of the two replications. Yield of jack-o-lantern types ranged from 8.5 to 38.5 lb. per plant, equivalent to 6 to 28 tons per acre at a plant population of 1452 plants/A. No statistically significant differences in yield were found. The number of jack-o-lantern pumpkins per plant varied from 0.6 to 2.0, equivalent to 871 to 2904 pumpkins per acre. Cultivars with the highest numbers of pumpkins per plant included Gold Bullion, Howdy Doody, Pankow's Field, Pro Gold 500, Pro Gold 200, Autumn King, and Trax Field. Considering number of fruit per plant, overall appearance and strength of the stem, the following Jack-o-lantern types were considered the most promising in their size class: 25 lb. or more – Gold Medal, Trax Field, Trojan, RSX 1001; 20 to 25 lb. – Gold Strike; 15 to 20 lb. – Gold Standard and Howdy Doody.

Yield of the pie-sized pumpkins ranged from 8 to 15.5 lb. per plant, equivalent to 6 to 11 tons per acre. No statistically significant differences were found among cultivars. The number of pumpkins per plant varied from 1.45 to 4.65, equivalent to 2105 to 6752 per acre. The smaller fruited Pro Gold 100 and Touch of Autumn produced more fruit per plant than Mystic Plus and Pik-A-Pie; Hybrid Pam was intermediate. Hybrid Pam, Mystic Plus, and Pik-A-Pie all averaged between 5 and 5.6 lb. per fruit. Of these three, Hybrid Pam and Pik-A-Pie performed the best, in part because of the large number of green fruit for Mystic Plus. Pro Gold 100 and Touch of Autumn averaged just under 3 lb. per fruit. Pro Gold 100 is generally yellow from the start of fruit development; some fruit had a green area on the shoulder at the stem end.

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Table 1. Yield and fruit size of jack-o-lantern and pie pumpkins in Westville, Indiana, 2001.\*

Cultivar	Seed Source	Plant Stand 7/11†			Yield per Plant (lb.)			No. per Plant			Ave. Fruit Wt. (lb.)			Percent more than 1/2 Green#		
		14-Sep	8-Oct	Ave.	14-Sep	8-Oct	Ave.	14-Sep	8-Oct	Ave.	14-Sep	8-Oct	Ave.	14-Sep	8-Oct	Ave.
<i>Jack-o-Lantern Pumpkins</i>																
Autumn King	Rupp	19	8	<b>13.5</b>	31	34	<b>32.5</b>	1.2	1.5	<b>1.35</b>	26	22	<b>24.0</b>	61	0	<b>30.5</b>
Gold Bullion	Rupp	17	12	<b>14.5</b>	32	41	<b>36.5</b>	1.7	2.3	<b>2.00</b>	18	18	<b>18.0</b>	48	25	<b>36.5</b>
Gold Gem	Rupp	16	13	<b>14.5</b>	31	14	<b>22.5</b>	1.4	0.8	<b>1.10</b>	23	16	<b>19.5</b>	50	27	<b>38.5</b>
Gold Medal	Rupp	17	5	<b>11.0</b>	31	34	<b>32.5</b>	1.0	1.2	<b>1.10</b>	31	29	<b>30.0</b>	12	17	<b>14.5</b>
Gold Rush	Rupp	19	5	<b>12.0</b>	32	12	<b>22.0</b>	0.8	0.4	<b>0.60</b>	40	30	<b>35.0</b>	60	100	<b>80.0</b>
Gold Standard	Rupp	19	19	<b>19.0</b>	23	15	<b>19.0</b>	1.1	1.1	<b>1.10</b>	21	14	<b>17.5</b>	24	5	<b>14.5</b>
Gold Strike	Rupp	18	7	<b>12.5</b>	25	27	<b>26.0</b>	1.2	1.3	<b>1.25</b>	21	21	<b>21.0</b>	68	0	<b>34.0</b>
Howden	Harris Moran	12	5	<b>8.5</b>	16	36	<b>26.0</b>	0.7	1.8	<b>1.25</b>	24	20	<b>22.0</b>	50	0	<b>25.0</b>
Howdy Doody	Rupp	19	11	<b>15.0</b>	25	33	<b>29.0</b>	1.4	2.0	<b>1.70</b>	17	16	<b>16.5</b>	26	5	<b>15.5</b>
Magic Lantern	Harris Moran	14	14	<b>14.0</b>	15	18	<b>16.5</b>	0.9	0.9	<b>0.90</b>	18	19	<b>18.5</b>	75	31	<b>53.0</b>
Merlin	Harris Moran	15	3	<b>9.0</b>	9	8	<b>8.5</b>	0.5	0.7	<b>0.60</b>	17	13	<b>15.0</b>	13	0	<b>6.5</b>
Pankow's Field		18	10	<b>14.0</b>	26	23	<b>24.5</b>	1.4	1.9	<b>1.65</b>	18	12	<b>15.0</b>	38	0	<b>19.0</b>
Pro Gold 200	Abbott & Cobb	20	.	<b>16.6</b>	26	.	<b>27.4</b>	1.5	.	<b>1.63</b>	17	.	<b>15.7</b>	10	.	<b>0.0</b>
Pro Gold 500	Abbott & Cobb	17	6	<b>11.5</b>	28	48	<b>38.0</b>	1.2	2.0	<b>1.60</b>	22	24	<b>23.0</b>	19	8	<b>13.5</b>
Pro Gold 510	Abbott & Cobb	18	19	<b>18.5</b>	23	13	<b>18.0</b>	1.2	0.7	<b>0.95</b>	20	20	<b>20.0</b>	43	8	<b>25.5</b>
RSX 1001	Rupp	15	.	<b>11.6</b>	33	.	<b>34.4</b>	1.0	.	<b>1.13</b>	33	.	<b>31.7</b>	73	.	<b>57.5</b>
RSX 1005	Rupp	14	5	<b>9.5</b>	25	30	<b>27.5</b>	0.9	1.4	<b>1.15</b>	27	21	<b>24.0</b>	46	0	<b>23.0</b>
RSX 1006	Rupp	13	10	<b>11.5</b>	17	17	<b>17.0</b>	0.8	0.9	<b>0.85</b>	20	19	<b>19.5</b>	36	0	<b>18.0</b>
RSX 1008	Rupp	13	8	<b>10.5</b>	16	29	<b>22.5</b>	0.8	1.3	<b>1.05</b>	21	23	<b>22.0</b>	80	0	<b>40.0</b>
Trax Field	Rupp	17	13	<b>15.0</b>	34	43	<b>38.5</b>	1.2	1.5	<b>1.35</b>	27	28	<b>27.5</b>	62	10	<b>36.0</b>
Trojan	Seedway	16	8	<b>12.0</b>	16	33	<b>24.5</b>	0.6	1.3	<b>0.95</b>	28	26	<b>27.0</b>	33	20	<b>26.5</b>
Grand Mean		16.5	9.5	<b>13.4</b>	24.5	26.7	<b>25.7</b>	1.1	1.3	<b>1.19</b>	23.3	20.6	<b>22.1</b>	44.1	13.5	<b>30.1</b>
LSD(.05)††				<b>ns</b>			<b>ns</b>			<b>0.66</b>			<b>5.2</b>			
LSD for comparisons with RSX 1001 or ProGold 200				<b>ns</b>			<b>ns</b>			<b>0.81</b>			<b>6.3</b>			
<i>Pie Pumpkins</i>																
Hybrid Pam	Seedway	20	14	<b>17.0</b>	18	13	<b>15.5</b>	3.5	2.6	<b>3.05</b>	5.2	5	<b>5.1</b>	26	0	<b>13.0</b>
Mystic Plus	Harris Moran	19	10	<b>14.5</b>	7	9	<b>8.0</b>	1.3	1.6	<b>1.45</b>	5.2	6	<b>5.6</b>	88	31	<b>59.5</b>
Pik-A-Pie	Rupp	19	16	<b>17.5</b>	13	13	<b>13.0</b>	2.4	2.8	<b>2.60</b>	5.4	5	<b>5.2</b>	61	0	<b>30.5</b>
Pro Gold 100	Abbott & Cobb	16	6	<b>11.0</b>	12	12	<b>12.0</b>	4.6	4.7	<b>4.65</b>	2.7	3	<b>2.9</b>	5	0	<b>2.5</b>
Touch of Autumn	Rupp	19	18	<b>18.5</b>	13	10	<b>11.5</b>	5.4	3.5	<b>4.45</b>	2.5	3	<b>2.8</b>	23	0	<b>11.5</b>
Grand Mean		18.6	12.8	<b>15.7</b>	12.6	11.4	<b>12.0</b>	3.4	3.0	<b>3.24</b>	4.2	4.4	<b>4.3</b>	40.6	6.2	<b>23.4</b>
LSD(.05)				<b>ns</b>			<b>ns</b>			<b>1.93</b>			<b>1.0</b>			

\*Trial included two replications. One replication was harvested 14 Sept. and the second on 8 Oct. Marketable pumpkins and those at or past the mature green stage were harvested.

†Plot size: 100 ft. long by 6 ft. wide, 20 seeds planted; RSX lines 75 ft. by 6 ft, 15 seeds planted (1452 plants per acre). Plant stand severely reduced due to predation in one replication.

No plants of RSX 1001 or ProGold 200 survived in that replication, and so data from only one rep included in analysis for those cultivars.

Least Square Means presented.

#The number of pumpkins harvested that were more than 1/2 green were counted and are reported as a percent of the total number harvested.

††Means differing by more than this amount are significantly different at  $P \leq .05$  according to Fisher's protected least significant difference. ns=no significant differences.