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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 P₂O₅ and 150 lb. K₂O 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.

Acknowledgments: The Coulter Family, owners and managers of Coulter's Farm, provided land, seed, planting equipment, handled all land preparation and pest management operations and assisted in designing and harvesting the trial.

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

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

*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<= .05 according to Fisher's protected least significant difference. ns=no significant differences.