

Performance of Pumpkin Cultivars, Middle Tennessee Experiment Station, 2000

Charles A. Mullins, Dennis Onks, and Roy Thompson

Interpretative Summary

All pumpkin cultivars were highly productive, and fruit size was average for most of the cultivars. 'Gold Strike' and 'Mother Lode' produced the highest tonnage of pumpkins that weighed over 20 lbs per pumpkin. 'Gold Rush' and 'Old Zebs' had a larger average weight than all cultivars except 'Mother Lode'. 'Gold Fever', 'Gold Standard', and 'Howdy Doody' produced a high tonnage of pumpkins that weighed less than 10 lb.

Introduction

Pumpkins for Halloween usage are grown throughout Tennessee. The primary acreage of pumpkins is on the Cumberland Plateau. Cultivars have been found to perform differently at different locations. Rainfall and temperature differences affect fruit set and development and disease problems. Pumpkins have been a profitable crop for producers in recent years, and acreage production seems to increase each year. Several tobacco and row crop producers have considered or actually produced pumpkins as an alternative crop. Pumpkin production has many problems that need to be considered by growers. Weed control can be a problem in pumpkins as labeled herbicides fail to control all species of weeds adequately. Insecticides and fungicides need to be applied on a 7 to 10 day frequency. Bees are needed for pollination. Pumpkins require a fairly high degree of management for successful results. An experiment was conducted at the Middle Tennessee Experiment Station at Spring Hill, TN in 2000 to evaluate performance of 10 pumpkin cultivars.

Materials and Methods

The site was prepared for planting by conventional tillage methods. Fertilizer was broadcast at 750 lb/A of 15-15-15 and incorporated with a disk on May 18. Plots were direct seeded with the selected cultivars on May 19. Plot size was one row, 12 by 20 ft. Each row contained 5 hills with 3 seeds/hill. Plants were later thinned to 2 plants/hill. Experimental plot design was a randomized complete block with four replications. A preemergence application of clomazone (Command) at 0.375 lb ai/A was made on May 19.

Insect control was by esfenvalerate (Asana) at 0.05 lb ai/A on a 7 to 14 day frequency. Fungicides were azoxystrobin (Quadris) at 0.25 lb ai/A or (Bravo) at 2.0 lb ai/A applied with each insecticide treatment. Pumpkins were harvested on Sept 7. Harvested pumpkins were sorted according to sizes of over 20 lb, 15 to 20 lb, 10 to 15 lb, and less than 10 lb. Number and weight of pumpkins in each weight range were recorded. Quality ratings were made at harvest. All ratings were on a 1 to 10 scale with 10 the

most desirable. All data were analyzed by analysis of variance methods, and means were separated by Duncan's multiple range tests at the 0.05 level of probability.

Results and Discussion

Pumpkin yields in tons and number per acre were relatively high (Tables 1 and 2). 'Mother Lode' had a higher total tonnage than all cultivars except 'Gold Fever', 'Gold Standard', 'Howdy Doody', and 'Magic Lantern'. 'Gold Fever', 'Gold Standard', and 'Howdy Doody' produced a higher tonnage of pumpkins that weighed less than 10 lb per pumpkin than all other cultivars. 'Gold Standard' was among cultivars that produced the highest tonnage of pumpkins that weighed 10 to 15 lb per pumpkin. 'Gold Fever', 'Howdy Doody', 'Magic Lantern', and 'Mother Lode' were among cultivars that produced the highest tonnage of pumpkins that weighed 15 to 20 lb per pumpkin. 'Gold Rush' and 'Mother Lode' produced more tonnage of pumpkins that weighed over 20 lb per pumpkin than any other cultivar. Yield in number per acre was very similar to yield in tons/acre for the 10 cultivars.

'Howdy Doody' and 'Mother Lode' were among cultivars rated as having the best color (Table 3). 'Howdy Doody' was among cultivars rated as having the best appearance. 'Mother Lode' was among cultivars with the longest fruit. Average fruit diameter did not vary due to cultivar.

Table 1. Yield in tons per acre of different size classes of pumpkin cultivars at The University of Tennessee Middle Tennessee Experiment Station at Spring Hill, 2000.

Cultivar	Total yield - tons/A	Pumpkins< 10 lb tons/A	Pumpkins 10-15 lb tons/A	Pumpkins 15-20 lb tons/A	Pumpkins >20 lb tons/A	Pumpk averag wt - lb
Gold Fever	30.3 a-d ^z	9.0 a	8.5 abcd	12.8 a	0 b	10.5 d
Gold Rush	21.6 e	2.6 c	4.3 d	2.8 b	11.9 a	16.4 a
Gold Standard	31.2 abc	8.9 a	13.0 a	7.3 ab	2.0 b	10.7 d
Gold Strike	21.8 de	5.5 b	6.4 cd	6.6 ab	3.2 b	12.9 c
Howden (Check)	20.5 e	3.2 bc	7.6 cd	6.1 ab	3.5 b	13.2 bc
Howdy Doody	34.6 ab	8.6 a	12.6 ab	12.9 a	0.5 b	10.5 d

Magic Lantern	30.9 abc	5.5 b	9.8 abc	12.4 a	3.2 b	11.8 cd
Merlin	23.6 cde	5.4 bc	9.6 abcd	8.1 ab	0.6 b	10.2 d
Mother Lode	37.3 a	4.4 bc	8.9 abcd	15.1 a	9.0 a	15.1 ab
Old Zebs	24.6 b-e	5.9 b	7.5 bcd	10.7 ab	0.5 b	12.9 a

^z Means within a column followed by the same letter are not significantly different at the 0.05 level of probability, Duncan's multiple range tests.

Table 2. Yield in number per acre of different size classes of pumpkin cultivars at The University of Tennessee Middle Tennessee Experiment Station at Spring Hill, 2000.

Cultivar	total yield - no./A	Pumpkins< 10 lb no./A	Pumpkins 10-15 lb no./A	Pumpkins 15-20 lb no./A	Pumpkins >20 lb no./A	Seed source
Gold Fever	5808 ab ^z	2768 a	1452 abc	1588 a	0 c	Rupp
Gold Rush	2541 e	817 e	636 c	318 b	772 a	Rupp
Gold Standard	5854 ab	2496 ab	2269 a	908 ab	182 c	Rupp
Gold Strike	3403 de	1407 cde	953 bc	771 ab	273 bc	Rupp
Howden (Ck)	3131 de	1044 de	953 bc	862 ab	273 bc	Harri
Howdy Doody	6716 a	2812 a	222 a	1634 a	45 c	Rupp
Magic Lantern	5400 bc	1634 cde	1679 ab	1815 a	273 bc	Harri
Merlin	4629 bc	2045 abc	1634 ab	908 ab	45 c	Harri
Mother Lode	4992 bc	1270 cde	1361 bc	1634 a	726 ab	Rupp
Old Zebs	4220 cd	1723 bcd	1180 bc	1270 ab	45 c	Rupp

^z Means within a column followed by the same letter are not significantly different at the 0.05 level of probability, Duncan's multiple range tests.

Table 3. Quality ratings of pumpkin cultivars at The University of Tennessee Middle Tennessee Experiment Station at Spring Hill, 2000.

Cultivar	Fruit color ^y	Fruit appear. ^y	Stem quality ^y	Fruit uniformity ^y	Fruit length inches ^y	Fruit diameter inches
Gold Fever	8.5 ab ^z	6.0 ab	8.0 a	6.2 ab	9.5 c	9.25 a
Gold Rush	8.0 b	5.5 ab	8.0 a	5.0 b	13.2 ab	10.5 a
Gold Standard	8.8 ab	6.2 ab	8.0 a	6.2 ab	9.8 c	9.5 a
Gold Strike	8.2 ab	5.2 b	8.0 a	5.5 ab	10.8 bc	11.0 a
Howden (Ck)	8.2 ab	5.5 ab	8.0 a	6.0 ab	11.0 bc	10.2 a
Howdy Doody	9.2 a	7.2 a	8.0 a	6.5 a	9.5 c	10.2 a
Magic Lantern	8.0 b	6.2 ab	8.0 a	6.75 a	11.2 abc	9.8 a
Merlin	8.5 ab	5.2 b	8.0 a	6.5 a	11.0 bc	9.0 a
Mother Lode	9.2 a	7.0 ab	8.0 a	5.8 ab	14.0 a	9.8 a
Old Zebs	8.5 ab	6.0 ab	8.0 a	6.2 ab	11.5 abc	10.5 a

^y Ratings on a scale of 1 to 10, 10 most desirable.

^z Means within a column followed by the same letter are not significantly different at the 0.05 level of probability, Duncan's multiple range tests.

Copyright © 1999 by [The University of Tennessee](http://www.tennessee.edu). All rights reserved.

This research represents one season's data and does not constitute recommendations.

After sufficient data is collected over the appropriate number of seasons, final recommendations will be made through research and extension publications.