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The IPM Scout

The 1997 pumpkin cultivar trial at Clemson University's Coastal Research & Education Center in Charleston, SC, featured the same 32 cultivars tested in 1996. Cultivars were separated into three maturity groups: 85-95, 100-105, and 110-120 days to maturity (DTM). Each group was started from seed in the greenhouse and transplanted to the field 10-11 days after seeding. Seeding and transplanting were staggered so that harvest dates for all maturity groups would coincide (approximately October 1). Seeding dates for the three maturity groups (in order) were June 27, July 8 and July 18; transplanting dates were July 8, July 18 and July 29, respectively. Plant spacing was 4 ft within rows, with eight plants per replication. Raised beds covered with white-on-black polyethylene mulch were spaced 9 ft apart.

Fruit were harvested on Sept. 23, 30, and Oct. 7. The average number of fruit harvested, and the average number of those that were of marketable quality, is shown in the table. Yields are given as number of fruit per 32-foot row, since most pumpkins in the state are marketed singly by the piece, not by bulk weight. To calculate the yield per acre, multiply the number in the table by 151. Marketable fruit are those that "look like you would find them in a supermarket." Most of the unmarketable fruit were culled because of virus, which left them lumpy, warty, or unevenly colored. (Lumpy fruit with good color still may be marketable at a pick-your-own-pumpkin patch.)

Cultivar	Total number of fruit	Number of marketable fruit	Percent with firm handles
Appalachian.....	4.1	0.9	68
Big Max.....	5.2	0.7	<u>13</u>
Connecticut Field	2.5	<u>0.3</u>	42
Funny Face.....	1.7	0.9	56
Ghost Rider.....	4.7	3.7	67
Happy Jack.....	0.9	<u>0.1</u>	50
Howden.....	2.6	1.2	67
Howden Biggie...	<u>0.3</u>	<u>0</u>	<u>0</u>
HMX 5683.....	12.3	3.6	76
HMX 6686.....	23.9	7.1	54
HMX 6688.....	2.8	0.7	75
Jack of All Trades	<u>0.5</u>	<u>0.1</u>	100
Jackpot.....	<u>0.4</u>	<u>0</u>	100
Little Lantern.....	5.2	3.9	57
Lumina.....	<u>0.1</u>	<u>0.1</u>	<u>0</u>
Mammoth Gold...	10.9	1.1	31
Oz.....	1.8	0.4	67
Pankow's Field....	3.4	1	55
ProGold 500.....	1.4	<u>0.3</u>	67
ProGold 510.....	0.6	<u>0.3</u>	<u>25</u>
Rocket.....	1.7	0.4	37
Rouge Vif			
d'Etampes.....	12.7	0.9	38
Small Sugar.....	5.3	3.5	66
Spirit.....	0.5	0	75
Spookie.....	21.4	12.9	57
Spooktacular.....	6	3.2	45
Tallman.....	4.6	1.9	63
Tom Fox.....	5	3	78
Trickster.....	<u>0.5</u>	<u>0.3</u>	75
Wizard.....	5.6	1.1	50

In each column the lowest yields are double-underlined and the **highest** yields are shown in **bold**.

The most productive cultivars in 1997 were HMX 6686, Spookie, Rouge Vif d'Etampes, and HMX 5683. They produced between 3600 and 1860 fruit per acre. Spookie and HMX 6686 also produced the most marketable fruit, 1950 and 1070 per acre, respectively. In 1997, Little Lantern, Ghost Rider, HMX 5683, Small Sugar, and Spooktacular also produced a fair number of marketable-quality fruit. However, in this test, Howden Biggie, Jackpot, and Spirit produced no marketable fruit.

Dividing the number of marketable fruit by the total number of fruit gives the percent marketable fruit, another way to compare cultivars. Some cultivars produced many fruit (like Rouge Vif) but few were marketable. These cultivars would have a low percent marketable fruit. The cultivars with the five highest percent marketable fruits were Ghost Rider (79%), Little Lantern (75%), Small Sugar (66%), Tom Fox (60%), and Spookie (60%).

Overall in the 1997 trial, Spookie and HMX 6686 were the best cultivars in terms of number of marketable fruit. Spookie fruit were small, weighing about 2 lb, whereas HMX 6686 fruit averaged 5.3 lb. These results were obtained under heavy virus and mildew pressure. In the upper part of South Carolina, where virus pressure is not as severe as in the coastal plain, these two cultivars should also do well, since both produced high numbers of fruit.

We also measured handle length and firmness (as firm, soft, or rotten). HMX 5683, Pankow's Field, and Tom Fox had the longest handles, averaging over 4.3 in. Lumina had the shortest handles, under 2 in., and Howden, Jackpot, and Spooktacular had handles under 2.5 in. The percent of all fruit with firm handles is given in the third column of the table. All fruit from Jack of All Trades and Jackpot had firm handles. Only 13% of Big Max fruit had firm handles, and Howden Biggie and Lumina fruit all had soft or rotten handles.



Cultivar Corner



Harris Seeds and Harris Moran Seed Company are offering the first orange pumpkins resistant to powdery mildew, 'HMX 5680' and 'HMX 5683.' HMX 5683 was tested in Charleston, SC in 1996 and 1997. In both years it was one of the cultivars

with the least powdery mildew. Both cultivars take 115 days to mature and produce deep-to-dark orange, slightly upright fruit which average 12 in. wide x 14 in. high. Fruit of HMX 5680 weigh 15-25 lb, those of HMX 5683 weigh 16-24 lb. The main difference between the two cultivars is the vines: HMX 5680 produces "full vigorous vines" but HMX 5683 has "semi-vine plants." *Seed quantity of both cultivars is limited.* Contacts: Harris Seeds, 60 Saginaw Drive, P.O. Box 22960, Rochester, NY 14692-2960; 1-800-544-7938; and Harris-Moran Seed Company, Central Industrial Park, 3900-A Consumer St., Riviera Beach, FL 33404; 407-840-9958.

Market Window

Pumpkin Storage Trial, 1997

James W. Rushing and Anthony P. Keinath

Because of high temperatures during the pumpkin growing season in South Carolina, fruit may mature several weeks before the traditional Halloween market window. Appropriate storage conditions are needed to hold pumpkins until the best time for sale. This storage trial repeated the one done in 1996 (see **SC Pumpkin News**, April 1996).

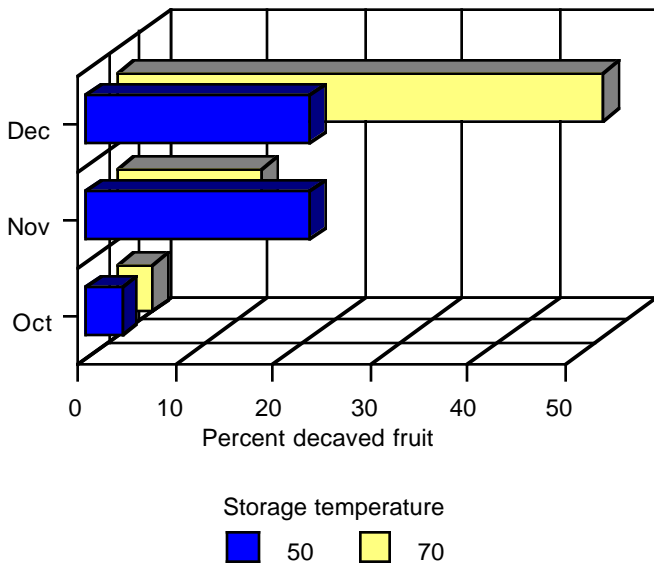
Harvesting and handling. Firm, unblemished fruit from the cultivar trial were used for the storage trial. The cultivars 'Funny Face', 'Spooktacular', 'Trickster', 'Spookie', 'Small Sugar', and 'HMX 6686' were used. Pumpkins were cut from the vines on Sept. 30 and transported to a shaded area where they were held at ambient temperature. They were returned to the field on Oct. 1 in preparation for a field day on the morning of Oct. 2. Storage trials began the morning of Oct. 3.

Storage protocol. Equal numbers (from 2 to 7) of pumpkins of each variety were placed in storerooms at either 50°F. or 70°F. Since many producers do not have storerooms with temperature control, an additional “shade-tree” study was done. Sixty-six pumpkins of assorted varieties were taken from the field and placed under a tree where they were exposed to prevailing weather conditions.

Quality evaluations. Fruit were examined daily. When a pumpkin with decay was found in the storerooms with temperature control, it was removed from storage and the cause of decay was identified, if possible. This study continued until Dec. 19. In the shade-tree study, fruit were examined every 3 days and decayed pumpkins were simply discarded until Oct. 31, Halloween Day.

Results

Temperature-controlled storage. At 28 days after the trial was begun, less than 4% of the fruit had decayed at both temperatures. By 77 days, 23% of the fruit at 50°F. had decayed, but 50% of the fruit at 70°F. had rot. At 50°F., black rot was the most common type of decay, but at 70°F. we found black rot, anthracnose, *Fusarium*, and soft rot.



Shade-tree study. After 28 days, 36% of the original 66 fruit had decayed. There was no clear indication that any particular variety was less susceptible to decay than another when stored in this manner.

Conclusions

Clearly, appropriate temperature management can dramatically improve the storage quality of

pumpkins. Growers cannot expect to harvest pumpkins in early September and keep them until the Halloween market period unless suitable storage facilities are available.

Ask the Great Pumpkin

Q: Is it OK to plant pumpkins next to watermelons?

GP: Although pumpkins and watermelons are both in the cucurbit (or squash) family (Cucurbitaceae), it should not be a problem to plant pumpkin in a field next to an existing watermelon field. Most insects and pathogens (disease-causing organisms) are not likely to spread from watermelon to pumpkin. Watermelon is less susceptible to powdery and downy mildew than pumpkin and not as good of a host for insects. The greatest dangers probably would be black rot, anthracnose, and aphids.

On the other hand, it is not a good idea to plant summer or fall watermelon next to an existing field of pumpkin. Because pumpkin is a good host for insects and pathogens which attack melons, the pumpkin patch could be a serious source of problems for the later watermelon crop.

Send your questions about growing, selling, or buying pumpkins in the Southeast to: SC Pumpkin News, c/o Dr. Anthony P. Keinath, Coastal REC, 2865 Savannah Highway, Charleston, SC 29414-5332; fax: 803.571.4654; or via the Internet to: tknth@clermson.edu.

Next issue (Apr '98): Pumpkin spacing trial results.

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Editor and Contributor.....Anthony Keinath
Production Assistants.....Ginny DuBose & Harriett Hall

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