

Winter Squash & Pumpkin Variety Evaluations

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Twenty-four winter squash and pumpkin varieties were evaluated in a replicated trial under Kentucky conditions. These included acorn, buttercup, butternut, cushaw, decorative, hubbard, Kabocha, pumpkin, and storage types.

Materials and Methods

Varieties were seeded on 15 April into Styrofoam plug trays (72 cells per tray) at the Horticulture Research Farm in Lexington. Plug trays were set on a greenhouse bench to germinate. Plants were set into black plastic-mulched, raised beds using a waterwheel setter on 1 June. Most plots were 24 feet long, with 6 plants set 4 feet apart within the row and 6 feet between rows. Bush squash plots were also 24 feet long, but plants were set 2 feet apart in the row. Each treatment was replicated 4 times in a randomized complete block design. Drip irrigation provided water and fertilizer as needed.

One hundred pounds of N/A as ammonium nitrate was incorporated into the field prior to bed shaping and planting. The plot was fertigated with a total of 24 lbs N/A as ammonium nitrate divided into four applications over the season. The systemic insecticide Platinum 2 SC was applied with a hand sprayer as a drench at the base of each plant after transplanting using the maximum rate of 8 fl oz/A. Foliar insecticide applications included Sevin and Pounce. Weekly foliar fungicide applications included Maneb, Bravo, Quadris and Pristine. Curbit and Sandea preemergent herbicides were applied and incorporated between the rows, just as the vines began to grow off the plastic mulch. One fruit from each replication was measured for dimensions and evaluated for flavor, skin and interior color.

Results

The growing season was hot and very wet resulting in severe disease pressure. Vine cover was thick, with no plant death. Fruit were harvested at the end of the season. Harvest and evaluation data are in Tables 1 and 2.

Butternut. Argonaut is a high yielding, very good-tasting large processing butternut. It had a very solid straight long neck. The squash exterior is covered with a heavy white bloom or wax layer and is not as attractive as Atlas, but it yielded 9,100 pounds more per acre than Atlas.

Cushaw. Cushaw Green Stripe was far superior to the two other cushaws in yield and appeared to be superior in fruit density, but it did not taste quite as good. Cushaw Orange Stripe and the Autumn Colors varieties were attractive, but may not have pollinated as well during the hot summer, as fruit did not contain many seeds. Autumn Colors did not maintain much green coloration and most were completely orange like the Cushaw Orange Stripe. The large number of culled Autumn Colors fruit was due to the presence of off type fruit that were pumpkin shaped, and may be due to a mixture of two seed types. All varieties showed some fruit splitting or cracking.

Kobocha. Sweet Mama was the highest yielding of this squash type as in past trials. Special Export and Eclipse were notable for their eating quality. Kabocha squash are known for their dry, sweet flesh and excellent eating characteristics.

Buttercup. Statistically there were no yield differences between these varieties, indicating that there was quite a bit of variation in yield between replications. Orange Cutie and Orange Dawn tended to have the highest yields, but the skin on these varieties was dull and judged to be not as attractive as the bright orange skin of Ambercup, Sunshine and Sun Spot. Sunshine was the best tasting of the orange buttercups. Sun Spot was notable as being a very attractive, petite, orange buttercup. Autumn Cup and Thunder were

the best of the green buttercup squash, tending to have higher yields and excellent flavor. All of the green buttercups were very attractive. Bon Bon was the only buttercup tested that still retained the typical buttercup acorn shape, with the cap and button on the bottom.

Miscellaneous types. Red Warty Thing was a very attractive, large, ornamental squash that yielded well and is recommended for growers. It had some variation in the amount of wartiness between fruits. Hubba Hubba, a small, bright orange, bush-type hubbard squash was attractive and productive. Internally it was not as attractive as many of the other squash types. La Estrella is a Calabash, Calabaza, or Cuban pumpkin that is very productive with thick, fine-grained, very bright orange, attractive, excellent tasting flesh. This pumpkin has an unusual, attractive exterior that stands out. Grey Ghost is a winter storage squash that has an attractive, grey exterior and burnt orange interior. It is a heavy dense squash with excellent eating characteristics. Lakota is a very attractive, orange squash with variable dark green skin patterns. It is a nice addition for ornamental arrangements. Autumn Delight, an acorn squash, was very attractive, uniform in size, productive, and has powdery mildew resistance. It has a mild flavor, but had a little internal fiber. One Too Many is a white-to cream-colored pumpkin with orange veins on the surface that is very attractive. However, it is very variable in shape and size. With the wet season a large number of these cracked in the field, and also cracked after harvest when exposed to rain.

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Table 1. Winter squash and pumpkin variety trial yield and fruit characteristics, Lexington, Ky., 2006.

Variety	Squash Type ¹	Seed Source	Days to Harvest	Yield (cwt/A) ²	Avg. No. Fruit/A	Avg. Wt./Fruit (lbs.)	Culls (%) ³	Outside Measurements		Seed Cavity	
								Length (in.)	Width (in.)	Length (in.)	Width (in.)
Argonaut	Bn	SI	140	389a	4719	8.4	0.0	15.8	5.9	4.8	4.0
Atlas	Bn	SW	110	298abcd	5536	5.3	1.8	13.0	6.0	3.8	3.7
Cushaw Green Stripe	Cu	RU	110	339abc	2360	14.8	5.8	17.1	9.6	6.6	7.5
Cushaw Orange Stripe	Cu	SW	110	192defghi	2087	9.3	4.6	15.9	8.8	6.7	6.8
Autumn Colors	Cu	SI	105	162fghi	1543	12.2	50.8	20.1	9.8	6.9	7.5
Sweet Mama	Ka	SW	85	235cdefgh	5082	4.6	0.5	4.5	8.0	2.5	5.3
Special Export	Ka	SI	90-95	152hi	6080	2.9	0.0	3.5	7.0	2.2	5.0
Eclipse	Ka	RU	85	114i	3267	3.5	0.0	4.1	6.6	2.4	4.5
T133	Ka	SW	92	108i	3358	3.2	0.0	4.3	7.1	2.6	5.1
Orange Cutie	Bc	ST	95	197defghi	8621	2.3	0.0	3.7	6.4	2.1	4.3
Orange Dawn	Bc	RU	90	190defghi	9075	2.1	0.0	4.0	6.0	2.3	3.9
Autumn Cup	Bc	SW	95	185efghi	5763	3.2	0.0	4.4	6.9	2.9	4.1
Amber Cup	Bc	SW	74	178fghi	4764	3.3	0.0	4.6	7.1	2.4	4.9
Thunder	Bc	RU	85	157ghi	4628	3.2	0.0	4.4	6.8	2.7	4.4
Sunshine	Bc	ST	95	156ghi	4129	3.8	0.0	4.6	7.2	2.9	4.1
Sun Spot	Bc	RU	75	156hi	7895	1.9	0.0	4.6	5.5	2.4	3.4
Bon Bon	Bc	ST	81	151hi	4311	3.5	9.7	4.8	6.6	2.5	4.1
Red Warty Thing	De	SW	110	377ab	1724	22.1	0.0	9.6	11.8	5.7	8.3
Hubba Hubba	Hu	SI	95	291abcde	9710	2.9	0.0	7.7	7.9	4.9	5.6
La Estrella	Ca	SW	70-100	273bcdef	2632	10.2	6.7	7.7	9.8	4.4	6.3
One Too Many	Pu	SW	110	252cdefg	1225	20.3	26.9	9.2	12.3	5.5	8.9
Grey Ghost	St	SI	100	229cdefgh	3040	7.4	0.0	5.6	8.9	3.0	5.4
Autumn Delight	Ac	SW	70	163fghi	10482	1.5	1.5	4.4	4.5	2.5	2.4
Lakota	De	SW	105	137hi	2223	6.2	0.0	8.0	8.3	4.2	5.5

¹ Squash type: Ac = acorn; Bc = buttercup; Bn = butternut; Ca = Calabash; Cu = cushaw pumpkin; De = decorative; Hu = hubbard; Ka = Kabocha; Pu = pumpkin; St = storage

² Numbers followed by the same letter are not significantly different (Waller-Duncan LSD P = 0.05). Cwt/A = hundredweights (100 lb. units) per acre.

³Cull percent by weight.

Table 2. Winter Squash and Pumpkin Fruit Characteristics, Lexington, KY, 2006.

Variety	Flavor (1-5) ¹	Interior Color ²	Skin Color ²	Comments
Argonaut	4.3	dk br. or.	flesh colored w/gy. bloom	Attractive internally, v. dense, straight solid necks
Atlas	3.7	br. or.	Flesh-tan	Solid neck, high density
Cushaw Green Stripe	3.3	yl. whiteish	wh. w/gr. mottled stripes	Some fruit cracking
Cushaw Orange Stripe	4.2	lt. or. yl	cr. wh. w/or. mottled stripes	Light weight, fine grained, slightly stringy, may not have been pollinated well, some fruit cracking
Autumn Colors	4.0	cr. or.	wh. w/or. yl. stripes, gr. bottom stripes	Did not maintain gr. color well, not very dense, some fruit cracking, off-type pumpkins in seed lot
Sweet Mama	4.1	br. or.	dk. gr. w/sage stripes	Fine grained, moist
Special Export	4.4	burnt or.	dk. gr. w/sage stripes	Attractive exterior and interior
Eclipse	4.7	burnt or.	dk. gr. w/sage stripes	Very dry, fine textured, sweet flesh
T133	4.2	burnt or.	dk. gr. w/sage stripes	Dry, not as sweet as the other kabochas, v. fine texture
Orange Cutie	4.3	burnt or.	br. or.	Sweet taste, dull exterior, some dark green skin spotting
Orange Dawn	4.0	or.	dull or. w/flesh colored stripes	Dull exterior color, attractive, greenish layer beneath skin
Autumn Cup	4.7	cr. or.	dk. gr.	Fine grained, dry, sweet taste, nice orange color when cooked
Amber Cup	4.1	or.	br. or. w/flesh colored stripes	Very attractive, moist/sweet, flesh not as fine textured as the other buttercups
Thunder	4.7	burnt or.	dk. gr. w/sage stripes	Dry sweet flesh, fine grained
Sunshine	4.8	burnt or.	burnt or.	Very attractive
Sun Spot	4.3	dk. or.	br. or. w/flesh colored stripes	Very attractive, fine grained, slightly moist, sweet flesh
Bon Bon	4.5	or. yl.	dk. gr. w/tannish, greenish stripes	Fine grained, fairly sweet and dry, smooth texture
Red Warty Thing	3.5	br. dk. or.	red/warty	Attractive internally, stringy fibrous texture, variability in amount of wartiness
Hubba Hubba	3.5	br. or. yl.	br. or. w/flesh colored stripes	A little stringy, attractive exterior, internal flesh has green cast and not as attractive
La Estrella	4.5	br. or. yl.	gr. to tan w/wh. blotches	Fluorescent orange interior color, flesh moist, fine grained, smooth
One Too Many	3.3	yl. or.	wh. w/or. veins	Very variable in shape, many fruit cracked when rained on
Grey Ghost	4.3	burnt or.	gy.	Moist fine grained flesh, attractive exterior
Autumn Delight	3.1	cr. or.	dk. gr.	Mild moist taste, slightly fibrous
Lakota	3.6	yl. or.	br. or. w/dk. gr. mottled striping	Attractive, variable color

¹Flavor: 1 = poor, 5 = excellent, Based on two samples that were micro waved under plastic wrap and evaluated without any seasonings.

²Interior and skin color: or = orange; cr = cream; yl = yellow; gr = green; gy = grey; wh = white; lt = light; dk = dark; br = bright