2015 Yellow and Zucchini Squash Cultivar Evaluation

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Zucchini and Yellow Summer Squash

Cultivar Evaluations

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General Cultural Practices

The squash trials were initially established on black plastic mulch. Pesticides used on all plots were chemicals labelled for that crop, 2015 North Carolina Agricultural Chemicals Manual.

Acknowledgements

We gratefully acknowledge the assistance of Cathy Herring, (Superintendent), and Kirby Jones, (Horticulture Supervisor, Central Crops Research Station, Clayton, NC, as well as, the personnel at the research station for their help in establishing, maintaining, and harvesting the squash cultivar evaluation trial. We also gratefully acknowledge the following employees for their assistance with the trial: Brooke Hadley and Laura Page. We would also like to greatly thank the following seed companies for their cooperation and financial support: Abbott & Cobb, HM Clause, Sakata, Seminis/Monsanto, and Syngenta.

Disclaimer

This publication presents data from the cultivar evaluation trials conducted during 2015. Information in this report is believed to be reliable but should not be relied upon as a sole source of information. Limited accompanying detail is included but excludes some pertinent information, which may aid interpretation.

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Introduction

Summer squash production in North Carolina totaled 2,700 acres and carried an economic value of $4.6 million in 2013. North Carolina is the 7th largest producer of summer squash in the United States and this crop ranks among the top ten vegetables produced in the state. Commercial producers seek to grow the best performing squash cultivars with regards to yield and quality in order to maximize their return on investment and remain competitive in the market place. The zucchini market in North Carolina has typically been supplied with a medium green fruit, however, over the past few years the market has seen increased demand for cultivars that produce a darker green fruit. Summer squash plantings in North Carolina typically experience higher incidence of disease and insect pressure as they are harvested in the fall when environmental factors favor increased presence of these plant pests.

The squash were rated for marketable and nonmarketable yields, for early and late production, and for consistency of production throughout the harvest period. Quality measurements were collected and average plant stand counts were calculated to conduct the most complete evaluation of each cultivar in the field trial. We again included the number of fruit produced per plant over various harvest intervals, and for the entire production season to compliment the yield data. We hope this provides useful information and is of value in addition to the data that are typically contained in the report.

Materials and Methods

Seeds were sown on 3 August 2015. Hills with seed skips were replanted one week after planting to maximize plant stand counts in each plot. Final stand counts were taken 3 weeks after initial planting. This trial was planted into existing plastic mulch from a preceding squash trial. The herbicide Paraquat was applied to row middles at 3 pt/acre on 27 August. The insecticides Asana, FanFare, Perm-Up were rotated and applied as a preventative measure beginning 17 August and on the following dates: 26 August; 2, 11, 23 and 30 September. The following fungicide products were used: Bravo, Prevacur Flex, Penncozeb, Pristine, Procure, Ranman and Torino; and applied on the following dates: 17 and 26 August; 2, 11, 15, 18, 23 and 30 September. Fertilizer was applied through drip irrigation on the following dates: 19 and 26 August; 2, 9, 18, 23 and 30 September.

Harvests were conducted three times per week with a total of 12 harvests for the trial. The first harvest was 9 September and the final harvest (#12) was completed on 8 October. Most fruit were harvested when the blossom was detached from the fruit and categorized as marketable or non-marketable. Fruit that were small or undersized, or were misshapen, were categorized as culls (non-marketable). On 29 September plant leaf samples were collected and sent for lab analysis to verify the presence of viral pathogens. On 10 October the lab test results were positive for the presence of Watermelon Mosaic Virus (WMV) in this trial. Virus symptoms were observed as early as harvests 1-4 and gradually increased through mid-season harvests (5-8). The greatest incidence of WMV occurred in the late season harvests (9-12). Graded fruit

were weighed and counted for each category and plot. The trial design was a randomized complete block with four replications. Other quality measurements taken were: fruit color, plant vigor, percent plant stand, average fruit length and width, plant habit, and spine ratings. These measurements were taken using a rating system that is explained in the appropriate table. Overall, plant stands were excellent in all plots at 100%.

Table 1. Yellow squash seed sources and descriptions; Clayton, NC, 2015.

Obs. No.	Cultigen	Company	Descriptors
1	Cosmos	Abbott & Cobb	Straight neck; green stem; shiny and smooth fruit; slender; elongated fruit with extended length in bulb portion; butter- yellow skin; small to medium size calyx
2	Goldprize	Syngenta	Straight neck; green stem; regular length and bulb stem proportions; fruit fairly smooth; medium size, protruding calyx
3	Solstice	Abbott & Cobb	Straight neck; some green and some yellow stems; smooth, shiny fruit; regular length fruit with good proportional bulb width and length dimensions; butter- yellow skin; small to medium sized calyx
4	SN0016	Syngenta	Straight neck; green stem; shiny and smooth fruit; regular fruit with good proportional bulb width and length dimensions; attractive yellow fruit; small to medium sized calyx

Figure 1. Yellow squash cultigen pictures.

Figure 1. Yellow squash cultigen pictures.

Table 2. Yellow Squash cultigen trial yields[1], number of 20 lb boxes per acre, per indicated harvests. Clayton, NC, 2015.

	Number of 20 pound boxes per acre											
Cultivar	**Marketable**			**Culls[2]**			**Virus[3]**			**Total**		
	1 - 4	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**
Cosmos	167	151	67	6	2	6	1	48	212	174	201	285
Goldprize	216	196	70	0	0	11	2	17	137	219	213	217
Solstice	292	226	83	1	3	0	0	71	170	293	301	253
SN0016	236	256	165	0	2	16	0	9	168	236	267	350
Average	228	207	96	2	2	8	1	36	172	230	245	276
LSD (0.05)	**112**	**89**	**77**	**8**	**6**	**22**	**5**	**37**	**125**	**115**	**75**	**64**

Table 3. Yellow Squash cultigen trial yields[1], number of fruit per plant, per indicated harvests. Clayton, NC, 2015.

	Number of fruit per plant per harvest period[4]											
Cultivar	**Marketable**			**Culls[2]**			**Virus[3]**			**Total**		
	1 - 4	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**	**1 - 4**	**5 - 8**	**9 - 12**
Cosmos	2.4	3.1	1.2	0.1	0.0	0.2	0.1	1.0	3.2	2.5	4.1	4.6
Goldprize	2.1	3.7	1.2	0.0	0.0	0.1	0.1	0.4	2.3	2.2	4.1	3.6
Solstice	3.7	4.8	1.7	0.0	0.1	0.0	0.0	1.4	3.0	3.7	6.3	4.7
SN0016	3.2	4.6	2.5	0.0	0.0	0.2	0.0	0.2	2.2	3.2	4.8	4.9
Average	2.8	4.0	1.7	0.0	0.0	0.1	0.0	0.7	2.7	2.9	4.8	4.4
LSD (0.05)	**1.2**	**1.3**	**1.6**		**0.1**	**0.3**	**0.1**	**0.8**	**1.5**	**1.2**	**1.0**	**1.3**

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9, 11, 14, and 16 September. Harvests 5-8 occurred on 18, 21, 23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Culls consisted primarily of misshaped fruit.

[3] Fruit categorized as virus fruit displayed external virus symptoms such as splotchy discoloration and bumpiness.

[4] Average number of fruit harvested from each plant at each harvest period (i.e.: 1-4; 5-11; 12-15).

Table 4. Yellow Squash cultigen trial. Percentage marketable, cull, and virus symptomatic fruit per indicated harvests by fruit yield. Clayton, NC, 2015.

Cultivar	Percent by grade[1]								
	Marketable			Culls [2]			Virus [3]		
	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12
Cosmos	93.8	76	26	3.4	1	3	2.8	23	70
Goldprize	97.9	90	33	0.0	0	4	2.1	10	63
Solstice	99.1	76	32	0.9	1	0	0.0	22	68
SN0016	100.0	96	53	0.0	1	4	0.0	4	44
Average	97.7	84.5	36.2	1.1	0.6	2.5	1.2	14.8	61.2
LSD (0.05)	**7.2**	**19.9**	**29.9**	**2.8**	**1.9**	**6.8**	**5.8**	**19.4**	**33.9**

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9, 11, 14 and 16 September; Harvests 5-8 occurred on 18, 21, 23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Culls consisted primarily of misshaped fruit.

[3] Fruit categorized as virus fruit displayed external virus symptoms such as splotchy discoloration and bumpiness.

Table 5. Yellow Squash cultigen trial yields, cumulative boxes, (20 lb), per acre, over all harvests.[1] Clayton, NC, 2015.

				Percent [3]		
Cultivar	**Marketable**	**Culls[2]**	**Total**	**Marketable**	**Cull**	**Virus**
Cosmos	384	14	659	59	2	39
Goldprize	482	11	649	73	2	25
Solstice	601	4	846	71	1	29
SN0016	657	19	852	78	2	20
Average	531	12	752	70	2	28
LSD (0.05)	**166**	**20**	**148**	**21**	**3**	**22**

Table 6. Yellow Squash cultigen trial yields, total number of fruit per plant, over all 15 harvests.[1] Clayton, NC, 2015.

				Percent [3]		
Cultivar	**Marketable**	**Culls[2]**	**Total**	**Marketable**	**Cull**	**Virus**
Cosmos	6.7	0.3	11.1	60	2	38
Goldprize	7.0	0.1	9.9	71	1	28
Solstice	10.2	0.1	14.8	69	1	31
SN0016	10.2	0.2	12.8	81	1	18
Average	8.5	0.2	12.1	70	1	28
LSD (0.05)	**2.8**	**0.3**	**2.6**	**17**	**3**	**19**

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9, 11, 14 and 16 September; Harvests 5-8 occurred on 18, 21, 23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Culls consisted primarily of misshaped fruit.

[3] Percentages may be greater than 100% due to the rounding of percentages to the nearest whole number.

Table 7. Yellow Squash cultigen trial - **Quality ratings**. Percent stand count, powdery mildew, and average. fruit length and width; Clayton, NC, 2015 [1].

				Fruit Size (mm)[4]	
Cultivar	Company	% Stand [2]	Powdery Mildew[3]	Average Length	Average Width
Cosmos	Abbott & Cobb	100.0	3.1	14.9	3.9
Goldprize	Syngenta	100.0	3.5	13.8	4.2
Solstice	Abbott & Cobb	100.0	2.2	16.1	4.3
SN0016	Syngenta	100.0	3.0	14.7	4.3
Average		100.0	3.0	14.9	4.2
LSD (0.05)		**- -**	**0.3**	**1.6**	**0.5**

[1] All ratings were statistically analyzed by SAS using least significant differences to separate cultivar responses over 4 replications.

[2] Percent stand was determined by number of plants in given plot on 24 August 2015.

[3] Powdery mildew scale: 1=None
2=Low
3=Moderate
4=High

[4] Fruit length and width was taken by meauring 5 U.S. grade fancy fruit from each plot at 5 dfferent harvests throughout the season

Table 8. Zucchini squash seed sources and descriptions; 2015.

Entry No.	Cultigen	Company	Description
1	Endeavor	Sakata	Medium green fruit; speckled fruit; straight with flaring at bulbuous end; average length fruits; fairly uniform shape and size
2	Payload	Syngenta	Medium green fruit; slight tapering as fruit enlarge toward blossom end; subtle ridging down fruit; average peduncle length; good commercial length of fruit; uniform shape and size; straight fruit
3	Respect	Harris Moran	Medium to dark green fruit; slight tapering as fruit enlarge toward blossom end; subtle ridging down fruit; average peduncle length; good commercial length of fruit that are slightly shorter size; uniform straight fruit
4	SB 0027	Syngenta	Medium green fruit; sporadic speckling on fruit; slight taper toward blossom end; compact peduncle; average length; fruits; fairly uniform size and shape fruit with kink between neck and bulb of fruit
5	Spineless Beauty	Syngenta	Medium green speckled fruit; slight taper as fruit enlarges toward blossom end; ridging down fruit; average peduncle length; good commercial length of fruit; a few fruit curved slightly, otherwise generally uniform shaped fruit
6	Spineless Perfection	Syngenta	Medium to dark green fruit; slight tapering toward blossom end of fruit; ridging down fruit; average peduncle length; good commercial fruit length; uniform shape
7	SV 0474 YG	Seminis	Medium green, speckled fruit; slight tapering of fruit towards bulbous end; subltle ridging down entire fruit; average sized peduncle; average to slightly shorter fruits; very uniform shape and size
8	SV 0914 YG	Seminis	Medium to dark green fruit; slight tapering towards blossom end; ridging down entire fruit; compact to average length peduncle; excellent commercial length; very uniform size and shape
9	SV 6009 YG	Seminis	Dark green fruit; tapering of fruit toward blossom end; very subtle ridging (hardly visible); long peduncle; slightly shorter length of fruit; transgenic for virus resistance to ZYMV, CMV, and WMMV; however fruit shape and yield severely affected by virus in this study
10	SV 9043 YG	Seminis	Dark green fruit; straight fruit that flares to larger blossom end; average size peduncle; good fruit length for commercial production

Figure 2. Zucchini squash cultigen pictures.

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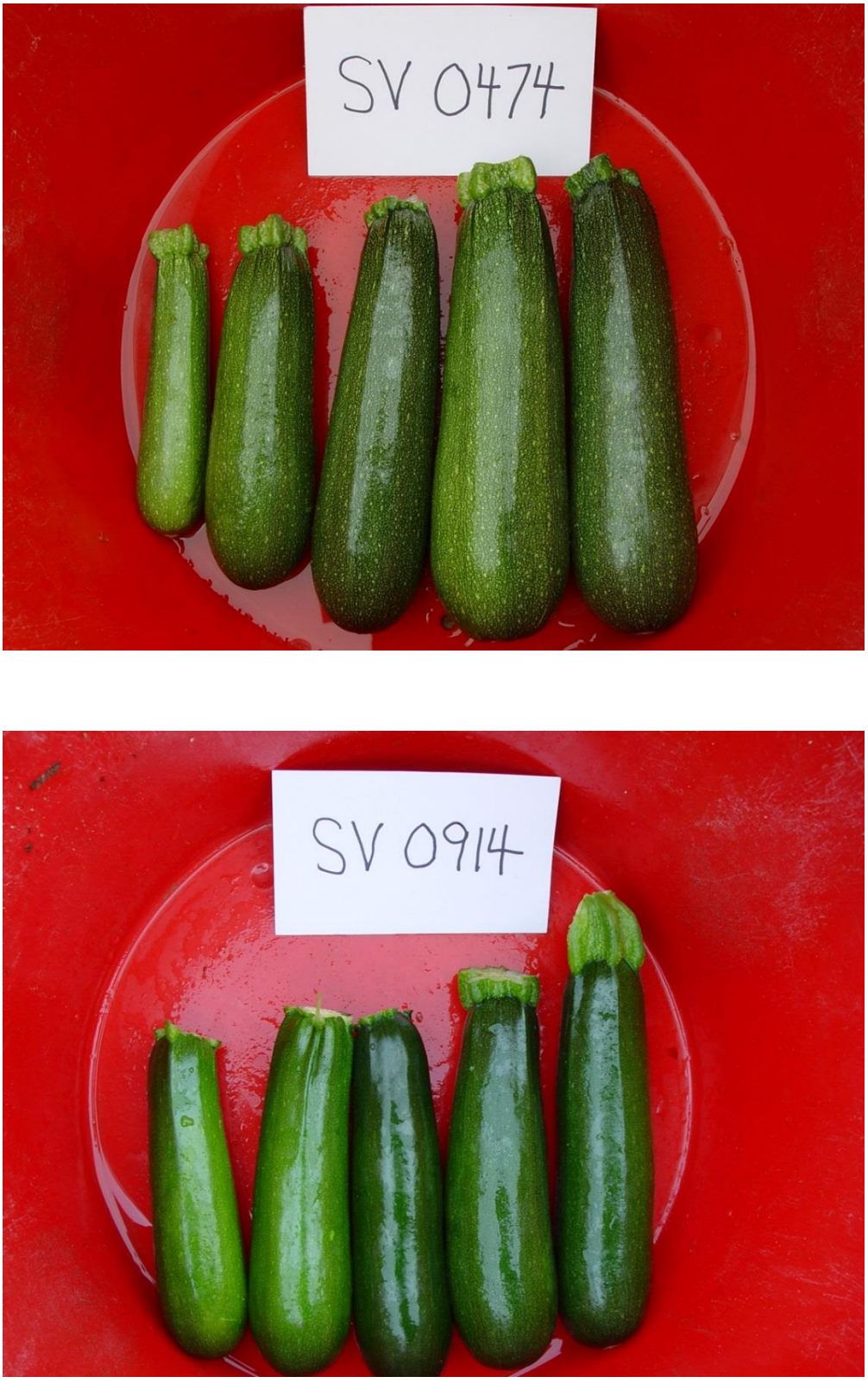

Figure 2. Zucchini squash cultigen pictures.

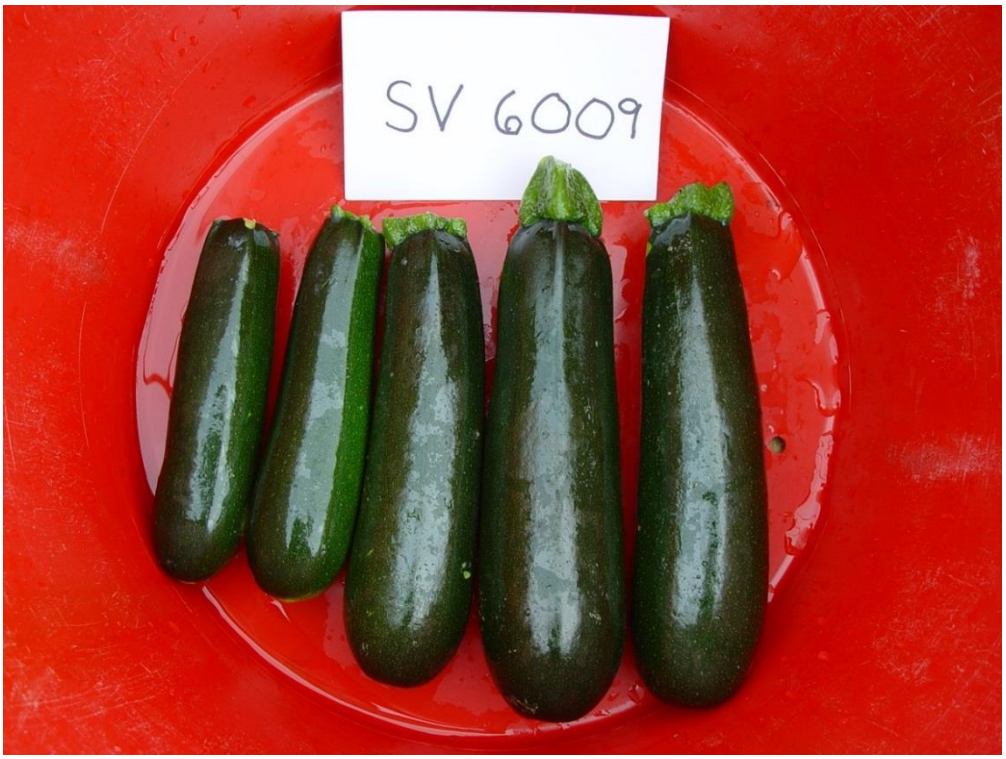

Table 9. Zucchini squash seed sources and descriptors (observation entries); Clayton, NC, 2015.

Obs. No.	Cultigen	Company	Description
11	Alfresco	Tozer	Light green / Mediterranean fruit type; straight fruit with taper towards blossom end; average peduncle size; average fruit length; fruit tend to be skinny
12	Midnight	Tozer	Medium to dark green fruit; straight fruit that flares wider at the blossom end; average size peduncle; good fruit length for commercial production
13	Parador	Tozer	Golden yellow fruit; straight fruit with pleasing gradual taper; average peduncle length; fruit were regular; average commercial length
14	Sunstripe	Tozer	Golden yellow fruit with light yellow stripes the length of the fruit; fruits tend to constrict in the middle of fruit (elongated dog bone shape; compact peduncle; pronounced ridging on fruit; fruit tend to be long and skinny
15	British Summertime	Tozer	Medium to dark green fruit; fruit tapers and become wider at blossom end; ridging at stem end of fruit; average peduncle length; good, fairly uniform fruit length and shape
16	Patio Star	Tozer	Medium to dark green fruit; Fruit constricts slightly in middle, then larger fruit width at blossom end than stem end; ridging

Figure 3. Zucchini squash cultigen pictures (observation entries).

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Table 10. Zucchini Squash cultigen trial yields[1], number of 20 lb boxes per acre, per indicated harvests for replicated trial. Clayton, NC, 2015.

		Number of 20 pound boxes per acre														
		Marketable[2]						Culls[3]			Virus[4]			Total		
		1 - 4		5 - 8		9 - 12										
Cultivar	Company	#1	#2	#1	#2	#1	#2	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12
Endeavor	Sakata	108	85	190	51	85	50	14	25	37	7	7	159	214	272	332
Payload	Syngenta	106	60	261	84	118	104	1	9	25	2	5	70	169	359	316
Respect	HM Clause	127	83	182	34	127	97	6	16	15	0	3	43	216	235	282
SB0027	Syngenta	85	39	185	20	109	60	8	9	34	1	1	51	132	215	255
Spineless Beauty	Syngenta	75	78	170	35	62	25	15	13	13	3	55	149	170	273	248
Spineless Perfection	Syngenta	72	40	120	35	73	10	3	9	14	2	8	95	118	171	191
SV0474YG	Seminis	144	99	199	56	143	58	11	9	12	0	3	22	254	267	235
SV0914YG	Seminis	33	20	145	19	118	52	12	7	23	0	0	2	65	171	195
SV6009YG	Seminis	170	56	222	30	97	5	45	16	7	0	21	82	271	289	192
SV9043YG	Seminis	117	119	184	46	133	101	21	6	13	0	4	72	257	240	320
Average		104	68	186	41	107	56	14	12	19	1	11	75	187	249	257
LSD (0.05)		**39**	**70**	**51**	**52**	**44**	**56**	**26**	**24**	**38**	**7**	**21**	**102**	**94**	**78**	**100**

Table 11. Zucchini Squash cultigen trial yields[1], number of 20 lb boxes per acre, per indicated harvests for observational plots. Clayton, NC, 2015.

		Number of 20 pound boxes per acre														
		Marketable[2]						Culls[3]			Virus[4]			Total		
		1 - 4		5 - 8		9 - 12										
Cultivar	Company	#1	#2	#1	#2	#1	#2	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12	1 - 4	5 - 8	9 - 12
Alfresco	Tozer	33	0	96	0	17	0	0	0	0	0	52	137	33	148	154
Midnight	Tozer	44	52	33	44	30	41	41	20	4	0	63	137	137	159	213
Parador	Tozer	48	0	159	24	24	0	0	9	0	0	68	126	48	259	150
Sunstripe	Tozer	7	0	54	11	26	0	0	15	0	0	96	76	7	196	102
British Summertime	Tozer	51	57	98	122	76	15	9	7	0	0	17	81	115	244	172
Patio Star	Tozer	22	0	85	9	33	0	0	7	15	13	37	54	35	118	102
Average		34	18	87	35	34	9	8	9	3	2	56	102	62	187	149

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9, 11, 14 and 16 September. Harvests 5-8 occurred on 18, 21, 23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[3] Culls consisted primarily of misshaped fruit.

[4] Fruit were discolored or rough/disfigured due to virus.

Table 12. Zucchini Squash cultigen trial. Percentage marketable, cull, and virus symptomatic fruit per indicated harvests[1] by NC, 2015.

		Percentage of yield based upon grade.								
Cultivar	Company	Marketable			Culls[2]			Virus[3]		
		1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12
Endeavor	Sakata	89	89	46	8	8	12	4	3	42
Payload	Syngenta	99	96	69	0	3	7	1	1	24
Respect	Harris Moran	98	90	79	2	9	7	0	1	14
SB0027	Syngenta	94	95	68	6	5	12	0	1	20
Spineless Beauty	Syngenta	92	76	34	7	5	5	1	19	61
Spineless Perfection	Syngenta	92	89	43	5	6	8	3	5	50
SV0474YG	Seminis	96	96	88	4	3	5	0	1	7
SV0914YG	Seminis	78	95	89	22	5	10	0	0	1
SV6009YG	Seminis	86	88	57	14	5	3	0	7	40
SV9043YG	Seminis	91	96	73	9	2	4	0	1	24
Average		91	91	64	8	5	7	1	4	28
LSD (0.05)		**13**	**11**	**24**	**12**	**9**	**12**	**4**	**6**	**25**

Table 13. Zucchini Squash cultigen trial. Percentage marketable, cull, and virus symptomatic fruit per indicated harvests[1] by fruit yield for observational treatments. Clayton, NC, 2015.

		Percentage of yield based upon grade.								
Cultivar	Company	Marketable			Culls[2]			Virus[3]		
		1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12
Alfresco	Tozer	100	65	11	0	0	0	0	35	89
Midnight	Tozer	70	48	34	30	12	2	0	40	64
Parador	Tozer	100	71	16	0	3	0	0	26	84
Sunstripe	Tozer	100	56	26	0	13	0	0	31	74
British Summertime	Tozer	92	90	53	8	3	0	0	7	47
Patio Star	Tozer	63	48	32	0	3	15	38	49	53
Average		**87**	**63**	**29**	**6**	**6**	**3**	**6**	**31**	**69**

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9,11, 14 and 16 September. Harvests 5-8 occurred on 18,21,23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[3] Culls consisted of primarily misshaped fruit.

[4] Fruit were discolored or rough/disfigured due to virus.

Table 14. Zucchini Squash cultigen trial yields, cumulative boxes, (20 lbs.), per acre, over all harvests[1]. Clayton, NC, 2015.

	Marketable[2]					Percent		
Cultivar	**#1**	**#2**	**Culls[3]**	**Virus[4]**	**Total**	**Marketable**	**Cull**	**Virus**
Endeavor	383	186	76	173	818	70.0	9.4	20.6
Payload	486	248	35	76	845	86.3	4.1	9.6
Respect	436	214	37	46	733	88.7	5.1	6.2
SB0027	380	119	51	53	602	83.5	8.1	8.4
Spineless Beauty	307	138	40	207	692	63.6	5.8	30.6
Spineless Perfection	265	85	26	105	480	71.2	5.8	23.0
SV0474YG	487	213	32	25	757	93.6	3.7	2.7
SV0914YG	297	90	42	2	431	90.3	9.3	0.4
SV6009YG	490	91	68	104	752	77.7	8.5	13.8
SV9043YG	435	267	39	76	817	86.1	5.1	8.8
Average	396	165	44	87	693	81.1	6.5	12.4
LSD (0.05)	**83**	**106**	**48**	**109**	**199**	**11.3**	**6.0**	**12.4**

Table 15. Zucchini Squash cultigen trial yields, cumulative boxes, (20 lbs.), per acre, over all harvests[1]. Clayton, NC, 2015.

	Marketable[2]					Percent		
Cultivar	**#1**	**#2**	**Culls[3]**	**Virus[4]**	**Total**	**Marketable**	**Cull**	**Virus**
Alfresco	146	0	0	190	335	43.5	0.0	56.5
Midnight	107	137	65	200	510	47.9	12.8	39.3
Parador	231	24	9	194	457	55.7	1.9	42.4
Sunstripe	87	11	15	113	227	43.3	6.7	50.0
British Summertime	224	194	15	98	531	78.7	2.9	18.4
Patio Star	139	9	22	163	333	44.4	6.5	49.0
Average	**156**	**62**	**21**	**160**	**399**	**52.2**	**5.1**	**42.6**

[1] Total of 12 harvests.

[2] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[3] Culls consisted of primarily misshaped fruit.

[4] Fruit were discolored or rough/disfigured due to virus.

Table 16. Zucchini Squash cultigen trial yields[1], average number of fruit per plant, per indicated harvests. Clayton, NC, 2015.

Cultivar	Number of fruit per plant per harvest period[2]														
	Marketable[3]						Culls[4]			Virus[5]			Total		
	1-4		5 - 8		9 - 12										
	#1	#2	#1	#2	#1	#2	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12
Endeavor	1.40	0.47	3.04	0.31	1.08	0.23	0.10	0.13	0.10	0.05	0.08	1.30	2.01	3.56	2.71
Payload	1.35	0.33	3.78	0.50	1.68	0.53	0.03	0.15	0.15	0.03	0.05	0.70	1.73	4.48	3.05
Respect	1.90	0.58	2.95	0.23	1.70	0.38	0.10	0.10	0.10	0.00	0.05	0.31	2.58	3.33	2.48
SB0027	1.33	0.25	3.00	0.15	1.58	0.33	0.10	0.15	0.28	0.03	0.03	0.38	1.70	3.33	2.55
Spineless Beauty	1.07	0.45	2.38	0.23	0.95	0.13	0.10	0.18	0.15	0.05	0.78	1.28	1.68	3.55	2.50
Spineless Perfection	1.18	0.23	1.95	0.25	1.18	0.05	0.05	0.13	0.15	0.03	0.10	1.08	1.48	2.43	2.45
SV0474YG	1.88	0.65	3.37	0.35	2.15	0.28	0.15	0.03	0.13	0.00	0.05	0.18	2.68	3.80	2.73
SV0914YG	0.50	0.10	2.28	0.10	1.60	0.25	0.13	0.13	0.13	0.00	0.00	0.03	0.73	2.50	2.00
SV6009YG	2.34	0.39	3.63	0.21	1.20	0.03	0.47	0.31	0.08	0.00	0.33	0.91	3.20	4.47	2.22
SV9043YG	1.38	0.63	2.90	0.33	1.50	0.48	0.30	0.08	0.15	0.00	0.05	0.85	2.30	3.35	2.98
Average	1.43	0.41	2.93	0.26	1.46	0.27	0.15	0.14	0.14	0.02	0.15	0.70	2.01	3.48	2.57
LSD (0.05)	**0.52**	**0.34**	**0.60**	**0.30**	**0.55**	**0.28**	**0.19**	**0.14**	**0.22**	**0.07**	**0.28**	**0.88**	**0.65**	**0.62**	**0.60**

Table 17. Zucchini Squash cultigen trial yields[1], average number of fruit per plant, per indicated harvests. Clayton, NC, 2015.

Cultivar	Number of fruit per plant per harvest period[2]														
	Marketable[3]						Culls[4]			Virus[5]			Total		
	1-4		5 - 8		9 - 12										
	#1	#2	#1	#2	#1	#2	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12	1-4	5 - 8	9 - 12
Alfresco	0.67	0.00	1.77	0.00	0.30	0.00	0.00	0.00	0.00	0.00	1.22	2.10	0.67	3.00	2.44
Midnight	0.60	0.40	0.60	0.40	0.50	0.30	0.40	0.30	0.10	0.00	0.70	0.60	1.40	2.00	1.50
Parador	0.80	0.00	3.10	0.20	0.60	0.00	0.00	0.20	0.00	0.00	0.70	1.50	0.80	4.20	2.10
Sunstripe	0.20	0.00	1.40	0.20	0.70	0.00	0.00	0.30	0.00	0.00	0.70	0.70	0.20	2.60	1.60
British Summertime	0.78	0.44	1.66	0.66	1.20	0.10	0.10	0.20	0.00	0.00	0.44	0.78	1.33	3.00	2.10
Patio Star	0.30	0.00	1.40	0.10	0.60	0.00	0.00	0.20	0.40	0.10	1.30	0.90	0.40	3.00	1.70
Average	0.56	0.14	1.66	0.26	0.65	0.07	0.08	0.20	0.08	0.02	0.84	1.10	0.80	2.97	1.91

[1] Total of 12 harvests. Planting was August 3, 2015. Harvests 1-4 occurred on 9, 11, 13 and 16 September. Harvests 5-8 occurred on 18, 21, 23 and 25 September; Harvests 9-12 occurred on 28 and 30 September; 5 and 8 October.

[2] Average number of fruit harvested from each plant at each harvest period (i.e.: 1-5; 6-10; 11-15).

[3] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[4] Culls consisted primarily of misshaped fruit.

[5] Fruit were discolored or rough/disfigured due to virus.

Table 18. Zucchini Squash cultigen trial yields, cumulative fruit number per plant, over all 12 harvests[1]. NC, 2015.

	Marketable[2]					Percent		
Cultivar	#1	#2	Culls[3]	Virus[4]	Total	Marketable	Cull	Virus
Endeavor	5.5	1.0	0.3	1.4	8.3	79	4	16
Payload	6.8	1.4	0.3	0.8	9.3	88	3	9
Respect	6.6	1.2	0.3	0.4	8.4	92	4	4
SB0027	5.9	0.7	0.5	0.4	7.6	88	7	5
Spineless Beauty	4.4	0.8	0.4	2.1	7.7	66	6	28
Spineless Perfection	4.3	0.5	0.3	1.2	6.4	75	6	19
SV0474YG	7.4	1.3	0.3	0.2	9.2	95	3	2
SV0914YG	4.4	0.5	0.4	0.0	5.2	92	7	0
SV6009YG	7.2	0.6	0.9	1.2	9.9	79	9	13
SV9043YG	5.8	1.4	0.5	0.9	8.6	84	6	10
Average	5.8	0.9	0.4	0.9	8.1	84	5	11
LSD (0.05)	**0.9**	**0.5**	**0.3**	**1.0**	**1.3**	**10**	**4**	**10**

Table 19. Zucchini Squash cultigen trial yields, cumulative fruit number per plant, over all 12 harvests.[1] Clayton, NC, 2015.

	Marketable[2]					Percent		
Cultivar	#1	#2	Culls[3]	Virus	Total	Marketable	Cull	Virus
Alfresco	2.8	0.0	0.0	3.3	6.1	45	0	55
Midnight	1.7	1.1	0.8	1.3	4.9	57	16	27
Parador	4.5	0.2	0.2	2.2	7.1	66	3	31
Sunstripe	2.3	0.2	0.3	1.6	4.4	57	7	36
British Summertime	3.7	1.2	0.3	1.2	6.4	76	5	19
Patio Star	2.3	0.1	0.6	2.1	5.1	47	12	41
Average	3.0	0.5	0.4	2.0	5.7	60	6	33

[1] Total of 12 harvests.

[2] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[3] Culls consisted of primarily misshaped fruit.

Table 20. Zucchini Squash cultigen trial - **Quality ratings**. Percent stand count, plant vigor, color rating, plant habit, spine rating, percent broken NC, 2015**.**

	Marketable[2]								Fruit Size (mm) [8]	
Cultivar	% Stand[1]	Plant Vigor [2]	Color Rating[3]	Culls[3] habit[4]	Spine Rating[5]	Virus[4] Broken [6]	% Normal	Powdery Mildew[7]	Avg. Length	Avg. Width
Endeavor	100	8.5	3.5	6.8	2.8	5.0	95.0	1.6	15.5	4.0
Payload	100	7.5	3.6	2.8	3.8	2.5	97.5	1.5	15.2	3.9
Respect	100	6.5	4.1	1.8	2.5	7.5	92.5	1.3	15.7	3.8
SB0027	100	8.5	3.7	3.8	1.0	10.0	90.0	1.6	15.0	3.5
Spineless Beauty	100	7.0	3.1	5.0	1.0	2.5	97.5	2.5	16.4	4.1
Spineless Perfection	100	8.0	3.6	3.5	1.0	25.0	75.0	2.0	15.4	3.7
SV0474YG	100	7.0	3.5	1.0	6.0	10.0	90.0	1.0	15.4	4.1
SV0914YG	100	8.8	3.6	1.5	1.3	2.5	97.5	1.3	14.8	3.6
SV6009YG	100	4.5	4.1	1.0	5.8	2.5	97.5	2.8	14.8	3.9
SV9043YG	100	8.0	3.9	1.8	3.3	0.0	100.0	2.0	15.8	3.9
Average	100	7.4	3.7	2.9	2.8	6.8	93.3	1.8	15.4	3.9
LSD (0.05)	**- -**	**1.0**	**0.2**	**1.1**	**0.9**	**13.3**	**13.3**	**0.7**	**1.3**	**0.4**

Table 21. Zucchini Squash cultigen trial - **Quality ratings**. Percent stand count, plant vigor, color rating, plant habit, spine rating, NC, 2015**.**

	Marketable[2]								Fruit Size (mm) [8]	
Cultivar	% Stand[1]	Plant Vigor [2]	Color Rating[3]	Culls[3] habit[4]	Spine Rating[5]	Virus[4] Broken [6]	% Normal	Powdery Mildew[7]	Avg. Length	Avg. Width
Alfresco	100	8.0	2.0	7.0	1.0	10.0	90.0	3.5	15.6	3.4
Midnight	100	5.0	4.0	7.0	3.0	0.0	100.0	3	16.0	3.7
Parador	100	8.0	1.0	2.0	3.0	0.0	100.0	2.5	16.4	3.8
Sunstripe	100	9.0	1.0	2.0	1.0	0.0	100.0	2	16.2	3.3
British Summertime	100	7.0	3.8	2.0	5.0	20.0	80.0	3.5	17.4	4.2
Patio Star	100	5.0	3.7	5.0	1.0	0.0	100.0	3.5	10.1	3.5
Average	100	7.0	2.6	4.2	2.3	5.0	95.0	3.0	16.3	3.7

[1] Final stands were taken on 24 August 2015.

[2] Marketable fruit are graded into U.S. No.1 (requires younger and more tender squash than U.S. No.2. (permitted to be more mature and allows greater surface area to be affected by defects).

[3] Culls consisted of primarily misshaped fruit.

[4] Fruit were discolored or rough/disfigured due to virus.

5=ebony; 4=dark green; 3=average green; 2=light green; 1=yellow

[4] Plant habit ratings: 1 = open; 9 = closed

[5] Spine Rating: 1 = No spines present; 9 = prolific spines present

[6] % Broken: Percentage of plants broken within plot among cultivars.

[7] Powdery mildew scale: 1=None

2=Low

3=Moderate

4=High

[8] Fruit length and width was taken by meauring 5 U.S. grade fancy fruit from each plot at 5 dfferent harvests throughout the season.

Figure 4. Zucchini color scale.