

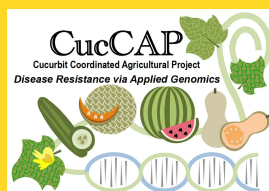
2018 Zucchini Squash Cultigen Evaluations



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Horticulture Series # 224

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EXTENSION



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Zucchini Squash
Cultigen Evaluations
Hort. Series # 224

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General Cultural Practices

The squash study was established on black plastic mulch. Pesticides used on all plots were chemicals labelled for that crop, 2018 North Carolina Agricultural Chemicals Manual, (<https://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual>).

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Disclaimer

This publication presents data from the cultivar evaluation trial conducted during 2018. 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.

TABLE OF CONTENTS

CONTENT

COVER PAGE, Title, Principle Investigators, Cooperators, Acknowledgements and Disclaimer.....	i
TABLE OF CONTENTS.....	ii-iii

Zucchini squash cultural practices for 2018 cultigen evaluation study, Central Crops Research Station, Clayton, NC.....	1-2
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ZUCCHINI SQUASH.....	3-21
Figure 1 – Zucchini squash cultigen photographs, Clayton, NC, fall 2018.....	3-16
Table 1 - Zucchini squash cultigens study; number of 20 lb boxes per indicated harvests; Clayton, NC, fall 2018.....	17
Table 2 - Zucchini squash cultigens study; cumulative fruit yield and percentage by grade among all harvests; Clayton, NC, fall 2018.....	18
Table 3 - Zucchini squash cultigens study; percentage per grade; Clayton, NC, fall 2018.....	19
Table 4 - Zucchini squash cultigens study; average fruit number per plant, per indicated harvests; Clayton, NC, fall 2018.....	20
Table 5 - Zucchini squash cultigens study; cumulative fruit weight per plant and percentage per grade among all harvests; Clayton, NC, fall 2018.....	21
Table 6 - Zucchini squash cultigens study; cumulative fruit number per plant and percentage per grade among all harvests; Clayton, NC, fall 2018.....	22
Table 7 - Zucchini squash cultigens study; cumulative fruit number and percentage per acre among all harvests; Clayton, NC, fall 2018.....	23
Table 8 - Zucchini squash cultigens study; number of fruit per acre by grade per indicated harvests; Clayton, NC, fall 2018.....	24
Table 9 - Zucchini squash cultigens study; percent fruit number per acre by grade per indicated harvests; Clayton, NC, fall 2018.....	25
Table 10 - Zucchini squash cultigens study; percent stand count and average fruit length and width measurements; Clayton, NC, fall 2018.....	26
Table 11- Zucchini squash cultigens study; plant growth quality data measurements; Clayton, NC, fall 2018.....	27

Zucchini Squash Cultural Practices for 2018 Cultigen Study, Central Crops Research Station; Clayton, NC

Introduction

In 2018, summer squash production totaled 2,400 acres in North Carolina. Summer squash remains an important crop to North Carolina producers as the state ranked 7th among those states that produced the crop nationwide in 2013. Summer squash ranks among the top 10 vegetables grown in North Carolina. Squash represents significant economic importance to North Carolina growers with a crop value of \$10.1 million in 2017. North Carolina growers have maintained their competitiveness through producing squash varieties that are highly desired by the consumer. In an effort to remain competitive in the marketplace and maximize profitability growers seek to grow squash varieties that will provide them with the highest yields and greatest overall fruit quality. The zucchini market in North Carolina has typically been supplied with a medium green fruit, however, some markets have 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. In 2018 the field trial was planted on 4 May and we began harvesting on 4 June. 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.

Materials and Methods

Seeds were sown on 4 May 2018. Hills with seed skips were replanted 5 days after planting to maximize plant stand counts in each plot. Final stand counts were taken on 25 May (approx. 3 weeks after initial planting). The study area was treated with Telone C-17 (10 gal/ac) on 1 November 2017. A broadcast equivalent application of 12-6-24 pre-plant fertilizer (400 lb/ac) was made across the entire trial area on 23 April 2018. Black plastic mulch (0.70 mil thick high density film, 48 inches wide; B.B. Hobbs, Clinton, NC) and drip irrigation tape (NETAFIM, 12 inch spacing, 0.24 gal/hr; NETAFIM, Tel Aviv, Israel) with these materials being laid out in the field on 23 April 2018. The herbicides Prefar (5 qts/ac), Sonolan (4 pts/ac) and Honcho (2 qts/ac) were applied to row middles on 4 May 2018. The insecticides Asana, Assail, FanFare, Endosulfan, were rotated and applied as a preventative measure beginning 15 May and on the following dates: 23 and 31 May; 6, 13, 20 and 27 June 2018. The following fungicide products were used as a preventive measure and on a rotational basis throughout the entire growing season: Presidio, Pristine, Procure, Proline 480, Ranman, and Zampro. The first fungicide application was made on 31 May; and on the following dates 6, 13, 20 and 27 June 2018. Liquid fertilizer (7-0-7) was applied through drip irrigation beginning 10 May and on the following dates: 16, 23 and 30 May; 6, 13, 20, 27 and 29 June. Harvests were conducted three times per week for the trial with a total of 13 harvests. The first harvest was 4 June and the final harvest (#13) was completed on 2 July 2018.

Most fruit were harvested when the blossom was detached from the fruit, and then categorized as marketable or nonmarketable. Fruit that were small or undersized, or were misshapen, were categorized as culls (non-marketable). Graded fruit were weighed and counted for each category and plot. The study design was a randomized complete block with four replications. Other than yield, other quality measurements taken were: percent plant stand and average fruit length and width. Overall, plant stands were excellent at 100%. Disease and insect pressure were very minimal, therefore, overall fruit yield and quality were very good for the entire study. The highest yielding (> 700 boxes/acre) cultigens (advanced line or cultivar) for marketable fruit in early harvests (1-4) were Ladoga and SV9494YG, while the lowest yielding (< 500 boxes/acre) were Sanabria, Spineless King, SV0914YG and SV9043YG (Table 1). Mid-season included 5 harvests (5-9). Yields were higher for all cultigens in the mid-season versus the early or late season harvests (10-13). The highest yielding mid-season cultigens (> 800 boxes/acre) were Cash Machine, Ladoga and SV9494YG, while yields were again highest for the late harvests for these same three cultigens. The highest cull fruit production was in the late harvests for all cultigens except Leopard. The cultigens that produced the most culls were Zucchini Elite and SVYG6633. No virus symptoms were observed in any fruit.

Marketable yields across all harvests (13) were greatest (> 2000 boxes/acre) for Cash Machine, Ladoga and SV9494YG while Bejo 3251, Sanabria and Zucchini Elite had the lowest marketable yields (<1500 boxes/acre) (Table 2). Cull fruit production was highest for Zucchini Elite (479 boxes/acre, 24% of fruit produced) followed by SVYG6633 (364 boxes/acre, 18% of fruit produced). Disease pressure was minimal throughout the season in this study, however, insect pressure was managed well through the early and mid-season harvests but increased pest presence in the late harvests (10-13) may have impacted fruit quality. Marketable fruit was 88% across all entries for the season (Table 2). Entries that performed well above the average were SVYG5395 (95%), Leopard (94%), SV0914YG (93%), SV6009 and SV9494YG (92%), Ladoga (91%). The entry with the highest cumulative yield (13 harvests) of marketable fruit was SV9494YG (2192 boxes/acre) and Bejo 3251 (1485 boxes/acre) was the lowest.

The highest percentage of marketable squash, averaged across entries, was obtained in the mid-season harvests (5-9) (95%) followed by early season harvests (1-4) (90%) and late season harvests (9-12) (75 %) (Table 3). The percentage yield of marketable fruit was especially high for SV0914 (97%), Ladoga (96%), SV6009YG and SVYG5395 were (95%) for early season harvests (1-4); Leopard, Sanabria and SVYG5395 were (99%); Bejo 3251 and SV6009YG were (97%) for mid-season harvests (5-9); and for late season harvests (10-13) SVYG5395 (89%) and Leopard yielded (88%) marketable fruit.

The average number of fruit per plant for each entry during three harvest intervals are shown in Table 4. Cumulative marketable fruit weight per plant over all harvests (13) averaged 88% (Table 5), while cumulative marketable fruit number per plant averaged 83% (Table 6).

The cumulative number of fruits per acre for each cultigen across all harvests (13) and for each grade are provided in (Table 7). The number of fruits per acre for each cultigen for early season harvests (1-4), mid-season harvests (5-9) and late season harvests (10-13) are provided in Table 8, with corresponding percentages in Table 9.

Plant stands were excellent (100%) for all cultigens and average fruit length and widths were determined (Table 10). In this trial Cash Machine, Spineless King, Zucchini Elite and SV9494YG produced longer fruits. In addition, all plots in the study were rated for the

following characteristics, plant canopy, foliage color, presence or absence of spines and overall vigor (Table 11). Cultigens with a dense canopy included Ladoga, Sanabria and Spineless King, while cultigens with the least dense canopies were Bejo 3251, SV6009YG and SVYG5395. Cultigens with few or no spines were Spineless King and SVYG6633. The most vigorous vine growth was recorded on Spineless King, while cultigens with the least vigorous vines were SVYG5395 and Cash Machine.

Summary

Overall, yields and fruit quality in this study were excellent. Excellent growing conditions with minimal pest pressure were important factors that contributed to these results.

Figure 1. Zucchini Squash photographs. Clayton, NC 2018.



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Table 1. Zucchini Squash cultigen study yields¹, number of 20 lb boxes per acre, per indicated harvests for replicated treatments. **Clayton, NC, 2018.**

<u>Cultigen</u>	<u>Company</u>	Number of 20 pound boxes per acre											
		Marketable			Culls ²			Virus ³			Total		
		Hvsts. 1 - 4	Hvsts. 5 - 9	Hvsts. 10 - 13	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)
Cash Machine	Enza Zaden	610	866	592	130	45	149	0	0	0	659	812	653
Green Machine	Enza Zaden	585	674	364	111	65	118	0	0	0	695	738	482
Ladoga	Bejo	724	809	501	33	34	130	0	0	0	757	843	631
Leopard	HM Clause	680	715	462	56	4	52	0	0	0	736	719	515
Payload	Syngenta	614	737	337	51	50	163	0	0	0	664	786	500
Sanabria	Bejo	427	729	333	60	8	147	0	0	0	488	736	480
Spineless King	Seedway	449	653	418	54	41	167	0	0	0	504	695	584
Zucchini Elite	Clifton Seed	625	638	224	140	46	293	0	0	0	765	683	517
Bejo 3251	Bejo	503	607	375	70	21	95	0	0	0	573	628	470
SV6009YG	Seminis	588	727	411	33	25	95	0	0	0	620	752	505
SV0914YG	Seminis	442	773	391	16	20	80	0	0	0	458	793	471
SV9043YG	Seminis	441	769	426	65	34	98	0	0	0	505	803	524
SV9494YG	Seminis	755	937	500	51	38	105	0	0	0	806	975	605
SVYG5395	Seminis	552	720	431	36	8	50	0	0	0	589	729	481
SVYG6633	Seminis	622	646	381	59	65	240	0	0	0	682	711	621
Average		574	733	410	64	34	132	0	0	0	633	760	536
LSD (0.05)		124	202	124	60	40	92	0	0	0	144	206	112

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 June and 2 July 2018.

² Culls consisted primarily of misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 2. Zucchini Squash cultigen study yields, cumulative boxes, (20 lbs.), per acre, among all harvests¹. **Clayton, NC, 2018.**

<u>Cultigen</u>					Percent		
	<u>Marketable</u>	<u>Culls</u> ²	<u>Virus</u> ³	<u>Total</u>	<u>Marketable</u>	<u>Cull</u>	<u>Virus</u>
Cash Machine	2069	358	0	2426	85	15	0
Green Machine	1623	293	0	1916	84	16	0
Ladoga	2034	197	0	2231	91	9	0
Leopard	1858	112	0	1969	94	6	0
Payload	1687	263	0	1950	87	13	0
Sanabria	1489	215	0	1704	87	13	0
Spineless King	1520	262	0	1783	85	15	0
Zucchini Elite	1486	479	0	1965	76	24	0
Bejo 3251	1485	186	0	1671	89	11	0
SV6009YG	1725	152	0	1877	92	8	0
SV0914YG	1606	116	0	1722	93	7	0
SV9043YG	1636	197	0	1833	89	11	0
SV9494YG	2192	193	0	2385	92	8	0
SVYG5395	1704	95	0	1798	95	5	0
SVYG6633	1650	364	0	2014	82	18	0
Average	1700	230	0	1930	88	12	0
LSD (0.05)	322	118	0	351	6	6	0

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 June and 2 July 2018.

² Culls consisted primarily of misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 3. Zucchini Squash cultigen study yields¹. Percentage marketable, cull, and virus symptomatic fruit per indicated harvests by number of 20 lb boxes for replicated treatments. **Clayton, NC, 2018.**

<u>Cultigen</u>	<u>Company</u>	Percentage (%) of yield based upon grade.								
		Marketable			Culls ²			Virus ³		
		(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)
Cash Machine	Enza Zaden	81	95	79	19	5	21	0	0	0
Green Machine	Enza Zaden	84	90	74	16	10	26	0	0	0
Ladoga	Bejo	96	96	80	4	4	20	0	0	0
Leopard	HM Clause	92	99	88	8	1	12	0	0	0
Payload	Syngenta	93	94	67	7	6	33	0	0	0
Sanabria	Bejo	88	99	67	12	1	33	0	0	0
Spineless King	Seedway	89	94	72	11	6	28	0	0	0
Zucchini Elite	Clifton Seed	81	93	42	19	7	58	0	0	0
Bejo 3251	Bejo	89	97	81	11	3	19	0	0	0
SV6009YG	Seminis	95	97	82	5	3	18	0	0	0
SV0914YG	Seminis	97	98	83	3	2	17	0	0	0
SV9043YG	Seminis	86	96	83	14	4	17	0	0	0
SV9494YG	Seminis	94	96	82	6	4	18	0	0	0
SVYG5395	Seminis	95	99	89	5	1	11	0	0	0
SVYG6633	Seminis	92	91	61	8	9	39	0	0	0
Average		90	95	75	10	5	25	0	0	0
LSD (0.05)		9	6	16	9	6	16	0	0	0

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 June and 2 July 2018.

² Culls consisted primarily of misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 4. Zucchini Squash cultigen study yields¹, average number of fruit per plant, per indicated harvests for replicated treatments. Clayton, NC, 2018.

Cultigen	Number of fruit per plant per harvest period²											
	Marketable			Culls³			Virus⁴			Total		
	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)	(1 - 4)	(5 - 9)	(10 - 13)
Cash Machine	3.6	5.6	3.4	1.9	0.4	1.2	0.0	0.0	0.0	5.4	5.9	4.6
Green Machine	3.6	4.3	2.6	1.8	0.5	1.0	0.0	0.0	0.0	5.4	4.9	3.6
Ladoga	3.7	4.5	3.1	0.4	0.3	0.9	0.0	0.0	0.0	4.1	4.8	4.0
Leopard	3.8	4.3	2.9	0.6	0.1	0.4	0.0	0.0	0.0	4.4	4.4	3.3
Payload	3.5	4.5	2.8	0.8	0.7	1.2	0.0	0.0	0.0	4.3	5.2	4.0
Sanabria	2.5	4.5	2.8	0.7	0.2	1.3	0.0	0.0	0.0	3.2	4.6	4.1
Spineless King	2.2	3.8	2.5	0.6	0.5	1.0	0.0	0.0	0.0	2.8	4.2	3.5
Zucchini Elite	3.7	3.8	2.3	1.6	0.4	1.9	0.0	0.0	0.0	5.3	4.3	4.1
Bejo 3251	2.9	3.8	2.8	1.0	0.2	0.6	0.0	0.0	0.0	3.9	4.0	3.4
SV6009YG	3.1	4.2	2.8	0.4	0.2	0.9	0.0	0.0	0.0	3.5	4.4	3.8
SV0914YG	2.6	4.6	3.1	0.2	0.2	0.6	0.0	0.0	0.0	2.8	4.8	3.7
SV9043YG	2.2	4.2	2.9	0.5	0.6	0.7	0.0	0.0	0.0	2.7	4.7	3.6
SV9494YG	4.4	6.0	3.4	0.5	0.5	1.0	0.0	0.0	0.0	4.9	6.4	4.4
SVYG5395	2.9	4.5	3.2	0.8	0.2	0.5	0.0	0.0	0.0	3.7	4.7	3.7
SVYG6633	3.3	3.8	2.9	1.3	1.1	2.1	0.0	0.0	0.0	4.6	4.9	5.0
Average	3.2	4.4	2.9	0.8	0.4	1.0	0.0	0.0	0.0	4.0	4.8	3.9
LSD (0.05)	0.9	1.0	0.8	0.6	0.3	0.6	0.0	0.0	0.0	1.2	0.9	0.7

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 June and 2 July 2018.

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

³ Culls consisted primarily of misshaped fruit.

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

Table 5 . Zucchini squash cultigen study. Cumulative fruit weight and percent per plant among all harvests¹. Clayton, NC, 2018.

<u>Cultigen</u>					<u>Percentage (%)</u>		
	<u>Marketable</u>	<u>Culls²</u>	<u>Virus³</u>	<u>Total</u>	<u>Marketable</u>	<u>Culls</u>	<u>Virus</u>
Cash Machine	9.5	1.5	0.0	9.8	85.4	14.6	0.0
Green Machine	7.4	1.3	0.0	8.8	83.8	16.2	0.0
Ladoga	9.3	0.9	0.0	10.2	91.1	8.9	0.0
Leopard	8.5	0.5	0.0	9.0	94.2	5.8	0.0
Payload	7.7	1.2	0.0	9.0	86.6	13.4	0.0
Sanabria	6.8	1.0	0.0	7.8	87.2	12.8	0.0
Spineless King	7.0	1.2	0.0	8.2	85.3	14.7	0.0
Zucchini Elite	6.8	2.2	0.0	9.0	75.6	24.4	0.0
Bejo 3251	6.8	0.9	0.0	7.7	89.5	10.5	0.0
SV6009YG	7.9	0.7	0.0	8.6	92.2	7.8	0.0
SV0914YG	7.4	0.5	0.0	7.9	93.1	6.9	0.0
SV9043YG	7.5	0.9	0.0	8.4	89.0	11.0	0.0
SV9494YG	10.1	0.9	0.0	11.0	91.9	8.1	0.0
SVYG5395	7.8	0.4	0.0	8.3	94.6	5.4	0.0
SVYG6633	7.6	1.7	0.0	9.2	81.9	18.1	0.0
Average	7.9	1.1	0.0	8.9	88.1	11.9	0.0
LSD (0.05)	1.5	0.5	0.0	1.6	5.6	5.6	0.0

¹ Total of 13 harvests.

² Culls consisted primarily of mishaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 6. Zucchini squash cultigen study yields, cumulative fruit number per plant and percent per grade among all harvests¹. **Clayton, NC, 2018.**

<u>Cultigen</u>					<u>Percentage (%)</u>		
	<u>Marketable</u>	<u>Culls</u> ²	<u>Virus</u> ³	<u>Total</u>	<u>Marketable</u>	<u>Culls</u>	<u>Virus</u>
Cash Machine	11	3	0	14	78	22	0
Green Machine	10	3	0	14	75	25	0
Ladoga	11	2	0	13	87	13	0
Leopard	11	1	0	12	91	9	0
Payload	11	3	0	13	81	19	0
Sanabria	10	2	0	12	82	18	0
Spineless King	8	2	0	11	81	19	0
Zucchini Elite	10	4	0	14	72	28	0
Bejo 3251	9	2	0	11	85	15	0
SV6009YG	10	1	0	12	87	13	0
SV0914YG	10	1	0	11	91	9	0
SV9043YG	9	2	0	11	84	16	0
SV9494YG	14	2	0	16	88	12	0
SVYG5395	11	1	0	12	88	12	0
SVYG6633	10	5	0	15	69	31	0
Average	10	2	0	13	83	17	0
LSD (0.05)	2	1	0	2	7	7	0

¹ Total of 13 harvests.

² Culls consisted of primarily misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 7. Zucchini squash cultigen study. Cumulative fruit number per acre and percentages, among all harvests¹. Clayton, NC, 2018.

<u>Cultigen</u>	<u>Company</u>	<u>Marketable</u>	<u>Culls</u> ²	<u>Virus</u> ³	<u>Total</u>	<u>Percentage (%)</u>		
						<u>Marketable</u>	<u>Culls</u>	<u>Virus</u>
Cash Machine	Enza Zaden	54341	14919	0	69260	78	22	0
Green Machine	Enza Zaden	45629	14702	0	60331	75	25	0
Ladoga	Bejo	49005	7079	0	56084	87	13	0
Leopard	HM Clause	47807	4901	0	52708	91	9	0
Payload	Syngenta	47154	11543	0	58697	81	19	0
Sanabria	Bejo	42689	9039	0	51728	82	18	0
Spineless King	Seedway	36917	8821	0	45738	81	19	0
Zucchini Elite	Clifton Seed	42689	16771	0	59459	72	28	0
Bejo 3251	Bejo	41273	7841	0	49114	85	15	0
SV6009YG	Seminis	44105	6425	0	50530	87	13	0
SV0914YG	Seminis	44758	4574	0	49332	91	9	0
SV9043YG	Seminis	40402	7623	0	48025	84	16	0
SV9494YG	Seminis	59786	8494	0	68280	88	12	0
SVYG5395	Seminis	45847	6425	0	52272	88	12	0
SVYG6633	Seminis	43778	19602	0	63380	69	31	0
Average		45745	9917	0	55662	83	17	0
LSD (0.05)		7756	4201	0	8443	7	7	0

¹ Total of 13 harvests.² Culls consisted of primarily misshaped fruit.³ Fruit were discolored or rough/disfigured due to virus.

Table 8. Zucchini squash cultigen study yields¹. Number of fruit per acre by grade per indicated harvests for replicated treatments. **Clayton, NC, 2018.**

<u>Cultigen</u>	<u>Company</u>	Number of fruit per acre per harvest period											
		<u>Marketable</u>			<u>Culls²</u>			<u>Virus³</u>			<u>Total</u>		
		<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>	<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>	<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>	<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>
Cash Machine	Enza Zaden	15464	24176	14702	8168	1634	5118	0	0	0	23631	21127	19820
Green Machine	Enza Zaden	15573	18840	11217	7950	2287	4465	0	0	0	23522	21127	15682
Ladoga	Bejo	16008	19493	13504	1851	1307	3920	0	0	0	17860	20800	17424
Leopard	HM Clause	16444	18731	12632	2723	436	1742	0	0	0	19166	19166	14375
Payload	Syngenta	15246	19711	12197	3267	3158	5118	0	0	0	18513	22869	17315
Sanabria	Bejo	10890	19493	12306	2831	653	5554	0	0	0	13721	20147	17860
Spineless King	Seedway	9583	16444	10890	2505	2069	4247	0	0	0	12088	18513	15137
Zucchini Elite	Clifton Seed	16117	16771	9801	6752	1851	8168	0	0	0	22869	18622	17968
Bejo 3251	Bejo	12632	16553	12088	4247	980	2614	0	0	0	16880	17533	14702
SV6009YG	Seminis	13613	18186	12306	1525	871	4029	0	0	0	15137	19058	16335
SV0914YG	Seminis	11217	20038	13504	871	980	2723	0	0	0	12088	21018	16226
SV9043YG	Seminis	9583	18077	12741	2069	2614	2940	0	0	0	11652	20691	15682
SV9494YG	Seminis	19275	25918	14593	2178	1960	4356	0	0	0	21453	27878	18949
SVYG5395	Seminis	12524	19602	13721	3376	762	2287	0	0	0	15899	20364	16008
SVYG6633	Seminis	14484	16662	12632	5554	4792	9257	0	0	0	20038	21453	21889
Average		13910	19246	12589	3724	1757	4436	0	0	0	17635	20691	17025
LSD (0.05)		4496	3808	3659	2479	1349	2768	0	0	0	5210	4042	2978

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 June and 2 July 2018.

² Culls consisted of primarily misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 9. Zucchini squash cultigen study¹. Percent fruit number per acre per indicated harvests for replicated treatments. Clayton, NC, 2018.

<u>Cultigen</u>	<u>Company</u>	Marketable			Culls²			Virus³		
		<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>	<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>	<u>(1 - 4)</u>	<u>(5 - 9)</u>	<u>(10 - 13)</u>
Cash Machine	Enza Zaden	65	94	74	35	6	26	0	0	0
Green Machine	Enza Zaden	64	89	70	36	11	30	0	0	0
Ladoga	Bejo	89	94	78	11	6	22	0	0	0
Leopard	HM Clause	86	98	87	14	2	13	0	0	0
Payload	Syngenta	84	86	71	16	14	29	0	0	0
Sanabria	Bejo	81	97	67	19	3	33	0	0	0
Spineless King	Seedway	79	89	72	21	11	28	0	0	0
Zucchini Elite	Clifton Seed	69	90	54	31	10	46	0	0	0
Bejo 3251	Bejo	78	94	82	22	6	18	0	0	0
SV6009YG	Seminis	90	95	76	10	5	24	0	0	0
SV0914YG	Seminis	93	96	83	7	4	17	0	0	0
SV9043YG	Seminis	81	87	82	19	13	18	0	0	0
SV9494YG	Seminis	89	93	76	11	7	24	0	0	0
SVYG5395	Seminis	81	97	86	19	3	14	0	0	0
SVYG6633	Seminis	73	77	58	27	23	42	0	0	0
Average		80	92	74	20	8	26	0	0	0
LSD (0.05)		12	6	16	12	6	16	0	0	0

¹ Total of 13 harvests. Planting was 4 May 2018. Harvests 1-4 occurred on 4, 6, 8 and 11 June; Harvests 5-9 occurred on 13, 15, 18, 20 and 22 June; Harvests 10-13 occurred on 25, 27, 29 and 2 July 2018.

² Culls consisted of primarily misshaped fruit.

³ Fruit were discolored or rough/disfigured due to virus.

Table 10. Zucchini Squash cultigen study - Percent plant stand count and average fruit length and width among replicated treatments. **Clayton, NC, 2018.**

<u>Cultigen</u>	<u>Company</u>	<u>% Stand¹</u>	<u>Fruit Size (cm)</u>	
			<u>Avg. Length</u>	<u>Avg. Width</u>
Cash Machine	Enza Zaden	100	20.7	4.9
Green Machine	Enza Zaden	100	18.9	4.6
Ladoga	Bejo	100	18.7	5.0
Leopard	HM Clause	100	18.9	4.8
Payload	Syngenta	100	19.8	5.0
Sanabria	Bejo	100	19.2	5.0
Spineless King	Seedway	100	20.4	5.0
Zucchini Elite	Clifton Seed	100	20.2	4.7
Bejo 3251	Bejo	100	18.5	4.8
SV6009YG	Seminis	100	19.0	5.0
SV0914YG	Seminis	100	18.5	5.2
SV9043YG	Seminis	100	19.3	5.2
SV9494YG	Seminis	100	20.0	4.8
SVYG5395	Seminis	100	18.1	4.9
SVYG6633	Seminis	100	18.2	4.8
Average			19.2	4.9
LSD (0.05)			1.5	0.4

¹ Final plant stand count was taken on 25 June 2018.

Table 11. Zucchini Squash cultigen study - Plant growth quality data. **Clayton, NC, 2018.**

<u>Cultigen</u>	<u>Company</u>	<u>Canopy</u> ¹	<u>Color</u> ²	<u>Spine</u> ³	<u>Vigor</u> ⁴
Cash Machine	Enza Zaden	7	8	5	5
Green Machine	Enza Zaden	7	8	6	7
Ladoga	Bejo	8	8	5	7
Leopard	HM Clause	6	8	7	7
Payload	Syngenta	7	8	5	6
Sanabria	Bejo	8	7	5	7
Spineless King	Seedway	9	8	1	9
Zucchini Elite	Clifton Seed	7	7	6	8
Bejo 3251	Bejo	5	7	6	7
SV6009YG	Seminis	5	8	5	8
SV0914YG	Seminis	3	8	6	6
SV9043YG	Seminis	6	8	6	8
SV9494YG	Seminis	7	8	5	8
SVYG5395	Seminis	5	6	6	5
SVYG6633	Seminis	7	8	2	7
Average		6	7	5	7
LSD (0.05)		2	1	2	2

¹ Canopy ratings are on a scale of 1-10; 1 = open, 10 = dense.

² Color ratings are for plant foliage on a scale of 1-10; 1 = pale green , 10 = dark green.

³ Color ratings are for plant foliage on a scale of 1-10; 1 = no spines, 10 = coarse spines.

⁴ Color ratings are for plant foliage on a scale of 1-10; 1 = smaller plants, 10 = robust plants.