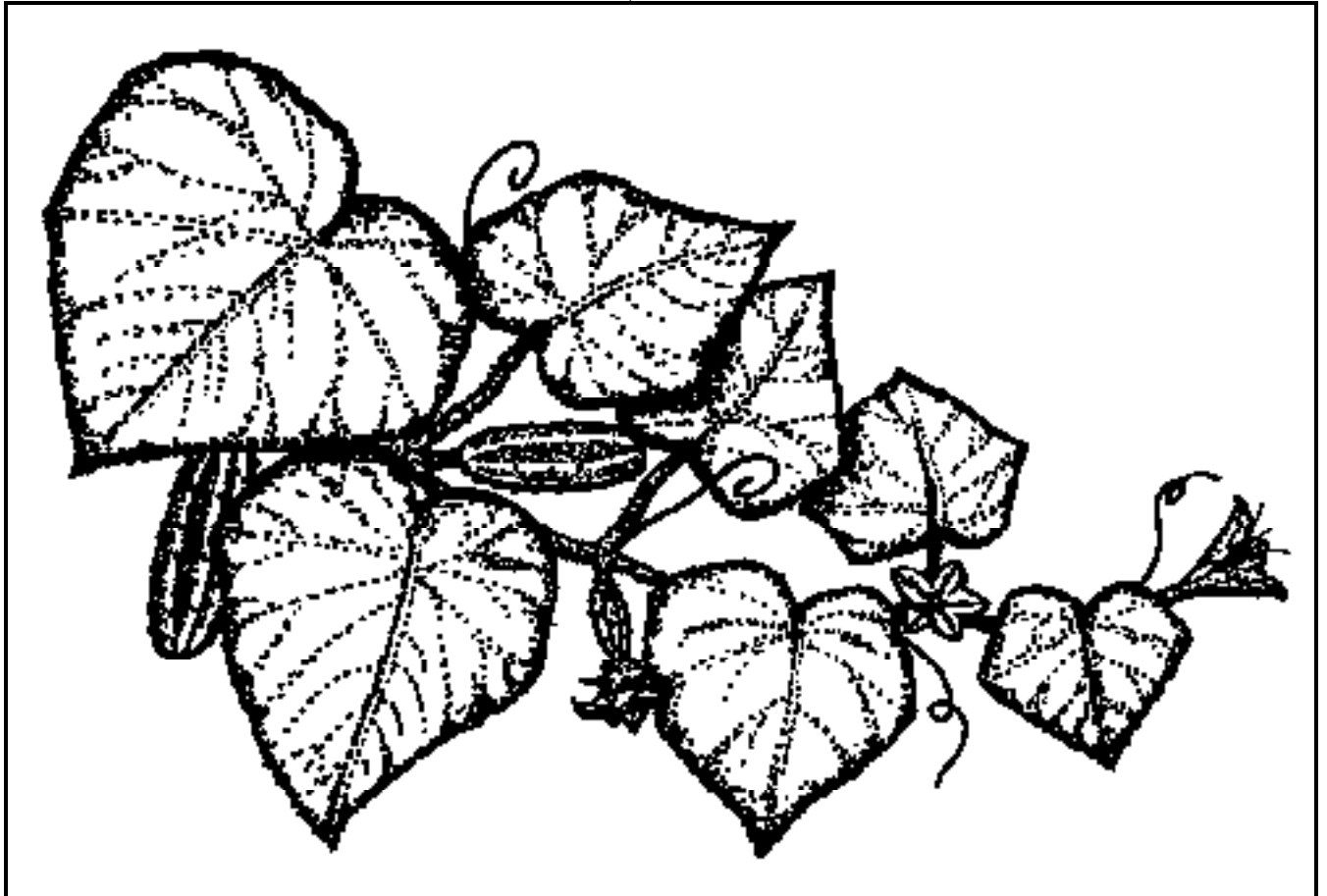


\$5.00

NC State Cucumber Trials 2009



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The authors gratefully acknowledge the assistance of Robbie Brogden and the personnel at the Horticultural Crops Research Station, Clinton, NC for help in planting, maintaining, and harvesting the trials.

About This Report

The data contained in this publication are made available to interested persons so that they will be informed as to the nature and scope of our cucumber breeding program. Since the results of the trials are based on one year's data, they should be interpreted cautiously. Genotype x environment interactions make it likely that the performance of any given cultigen (cultivar or breeding line) will be significantly different in other trials. Often, cultigens that perform well for yield, earliness, fruit quality, or disease resistance in one trial will perform significantly worse in other trials.

Other factors, known only to the researchers, may complicate the interpretation of the results, making it difficult for others to interpret differences from one year to the next. For example, the effect of seed lot, pollenizer, harvest labor, irrigation, fertilizer, pollinating insects and weather patterns may cause some test plots in the field to receive better or worse treatment than average. Therefore, we urge caution in interpreting these data. Conclusions drawn by the reader will be more accurate if they are of a general nature. For example, note which cultigens performed in the top third for yield, rather than which one was at the very top.

Pricing schemes

Value of production figures were obtained by assigning the following prices for the marketable grades:

Grade	Spring \$/cwt	Summer \$/cwt
No.1 (< 1 1/16")	\$19.30	\$19.30
No.2 (1 1/16 - 1 1/2")	11.05	11.05
No.3 (1 1/2 - 2")	7.75	7.75
No.4 (> 2")	0.00	0.00

The pricing system is the one currently in use in North Carolina (averaged over the spring and summer crops) and is revised annually. The same pricing systems are applied to all production in a particular year even though commercial prices for summer production are usually higher than for spring production.

Yield is presented in cwt/A to make it easy to convert to other useful values. For example, approximation of bu/A can be obtained by taking cwt/A x 2, MT/ha by taking cwt/A x 1/10, and t/A by taking cwt/A x 1/20.

Progression of breeding lines through trials:

Stage 1 trial	Stage 2 trial	Stage 3 trial	Stage 4 trial
2 replications	1 replication	3 replications	3 replications
1 harvest	6 harvests	6 harvests	6 harvests
		spring season	summer season

The cost of planning these trials, doing the field work, running the data analysis, and summarizing the results for this report was approximately \$48,000 for the brinestock, pickling and slicing cucumber trials. Printing and binding charges were approximately \$3.00 per report.

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Pickling Cucumbers

Brinestock Evaluation

Spring (Stage 3) Pickle Trial

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Introduction

Cucumbers from harvests 2, 4 and 6 of the stage 3 spring pickling cucumber trial were each placed in one brine tank at Mt. Olive Pickle Co. The tanks were purged with nitrogen to remove excess carbon dioxide from the brine.

Methods

The cultigens (cultivars and breeding lines) were evaluated for fruit quality (shape, external color, texture, seedcell size, and lot uniformity), firmness, bloaters, and other defects in October. Quality was evaluated by judges from industry: Phil Denlinger, Henry Woods, Bob Quinn, and Jimmy Davis (Mt. Olive), Eddie Quill, Darrell Hawley, JW Jackson, and Rickey Jackson (Bay Valley), Curtiss Cates and John Cates (Addis Cates Co.), Steve Apol (Toisnot), Dan Bader (Carolina's Best), Sara Walpole, Chris Dyke, and Michelle Wood (Nunhems), and Chris Ware (Harris Moran).

Fruit quality was evaluated using a rating system (that approximated letter grades) from 1 to 9, where 9 = A+, 8 = A, 7 = A-, 6 = B+, 5 = B, 4 = B-, 3 = C, 2 = D, 1 = F. Bloaters and defects were measured as percentage of fruits with damage in a sample of 20 grade 3B fruits. Firmness was measured by punching 10 grade 2B fruits with a Magness-Taylor tester (having a 5/16" diameter tip). All cultigens were randomized, replicated and coded to prevent bias and provide a measure of error variance.

Results

The cultigens are presented in order by decreasing fruit quality in Table 1, and are ranked for resistance to bloaters and defects in Tables 2 and 3, respectively. Fruit texture and firmness rankings are in Table 4. The average quality ratings assigned by each judge in the test are presented in Table 5, showing how lenient each judge was relative to the others. Because of low bloater incidence, the bloater data showed few significant differences among cultigens.

Summary

- The cultigens with best fruit quality in brinestock were NC-Duplin, Vlasstar, NC-Danbury, Exp08-7878, Vlaspick, EGP-410, Exp08-7612, McPick, Johnston, Starex, Feisty(9464), and Cross Country.
- Most cultigens were bloater resistant; several were susceptible: NC-Moriah, Exp08-7612, and NC-Denton.
- The firmest cultigens were Sumter, Europick, EGP-410, Exp08-7814, NC-Danbury, Exp08-7878, Treasure, LB 17, Exp08-7612, Vlasstar, and NC-Lexington.
- As usual, brinestock firmness (from the punch test) was only partially correlated with texture (subjective rating from the judges), so the two traits are measurements of different aspects of cucumber fruit firmness.
- Judges ranged from Denlinger who assigned the highest quality ratings, to Jackson who assigned the lowest. Analysis of variance indicated significant differences among judges for the way they rated fruit quality. However, interaction of judge with cultigen was non-significant (the judges agreed on which were good cultigens, and which were bad cultigens).

² Thanks to Mt. Olive Pickle Co., Mt. Olive, N.C. for assistance in brining the cucumbers, and for providing the facilities for evaluating the cultigens tested. Thanks also to the personnel at the Horticultural Crops Research Station, Clinton, N.C. for help in running the field trials.

Table 1. Brinestock evaluation - quality ratings (cultigens are ranked by average quality).²

Rank	Cultivar or line	Seed source	Average quality	Shape	Extrnal color	Text- ure	Seed cell	Uniform- ity
1	NC-Duplin	NCState Univ	6.6	6.6	6.7	6.5	6.5	6.5
2	Vlasstar	Seminis	6.3	6.2	6.5	6.3	6.2	6.5
3	NC-Danbury	NCState Univ	6.2	6.1	6.5	6.1	6.1	6.3
4	Exp08-7878	Bejo Seeds	6.1	6.0	5.7	6.4	6.4	6.1
5	Vlaspik	Seminis	6.0	5.7	6.2	6.2	6.2	5.9
6	EGP-410	EmeraldSeeds	6.0	5.6	6.0	6.4	6.3	5.8
7	Exp08-7612	Bejo Seeds	5.8	5.5	6.3	5.8	5.9	5.7
8	McPick	UnitedGenet	5.8	5.9	6.6	4.9	5.7	6.0
9	Johnston	NCState Univ	5.7	5.2	6.0	5.9	5.8	5.8
10	Starex	Baker Seeds	5.7	5.1	5.9	5.9	5.9	5.8
11	Feisty(9464)	Harris Moran	5.7	5.4	6.3	5.5	5.5	5.8
12	CrossCountry	Harris Moran	5.7	5.4	5.9	5.6	5.5	5.9
13	Sumter	Clemson Univ	5.7	5.3	5.1	6.1	6.2	5.6
14	Raleigh	NCState Univ	5.6	5.4	6.2	5.3	5.4	5.8
15	Sassy	Harris Moran	5.6	5.0	6.6	5.2	5.2	5.8
16	Europick	UnitedGenet	5.6	5.1	5.9	5.7	5.6	5.6
17	NC-Longhurst	NCState Univ	5.5	5.1	6.4	5.0	5.1	6.1
18	EGP-427	EmeraldSeeds	5.5	5.1	6.2	5.5	5.5	5.3
19	NC-Davie	ZerainGedera	5.5	5.9	5.8	4.9	4.9	5.9
20	NC-Lexington	NCState Univ	5.5	5.3	5.6	5.4	5.3	5.6
21	Exp08-7814	Bejo Seeds	5.4	5.0	5.9	5.1	5.3	5.5
22	NC-Dawson	NCState Univ	5.4	5.3	5.7	5.1	5.0	5.7
23	HSX 441-B	HortAg Seeds	5.3	5.3	6.1	5.1	4.7	5.5
24	NC-Leland	NCState Univ	5.3	4.9	5.9	5.0	4.8	5.8
25	Calypso	NCState Univ	5.2	4.9	4.6	5.6	5.6	5.4
26	Colt	Seminis	5.2	5.1	5.4	5.4	4.5	5.5
27	Exp08-7633	Bejo Seeds	5.2	4.9	5.4	5.2	5.0	5.3
28	NC-Denton	NCState Univ	5.1	5.0	5.4	4.9	4.9	5.5
29	LB 17	Baker Seeds	5.1	4.7	5.4	5.2	4.9	5.3
30	Treasure	Harris Moran	5.0	4.4	4.9	5.6	5.4	4.9
32	NC-Moriah	NCState Univ	4.9	4.9	4.8	4.7	4.6	5.4
33	H-19	Seminis	4.8	4.8	5.5	3.9	4.1	5.5
34	Wis.SMR 18	Univ. Wis.	4.5	4.2	4.5	4.7	4.7	4.6
35	NC-Merritt	NCState Univ	3.9	3.1	4.5	3.5	3.4	4.8
36	Coolgreen	Seminis	3.7	3.1	4.5	3.2	3.3	4.3
CV (%)			13.5	20.7	16.6	20.0	21.1	17.5
Mean			5.4	5.1	5.7	5.3	5.3	5.6
LSD (5%)			0.3	0.4	0.4	0.4	0.4	0.4

² Quality rated 1 to 9 (9=A+, 8=A, 7=A-, 6=B+, 5=B, 4=B-, 3=C, 2=D, 1=F).
Correlation (Shape with Uniformity) = 0.87**
Correlation (Texture with Seedcell) = 0.92**

Table 2. Brinestock evaluation - percentage of fruit damaged by bloaters (cultigens are ranked by balloon bloater resistance).

Rank	Cultivar or line	Seed source	Total bloaters	Balloon	Lens	Honey- comb
1	NC-Duplin	NCState Univ	0	0	0	0
2	Vlasstar	Seminis	0	0	0	0
3	Vlaspik	Seminis	0	0	0	0
4	Johnston	NCState Univ	0	0	0	0
5	Starex	Baker Seeds	0	0	0	0
6	CrossCountry	Harris Moran	0	0	0	0
7	NC-Dawson	NCState Univ	0	0	0	0
8	HSX 441-B	HortAg Seeds	0	0	0	0
9	NC-Leland	NCState Univ	0	0	0	0
10	Colt	Seminis	0	0	0	0
11	LB 17	Baker Seeds	0	0	0	0
12	Treasure	Harris Moran	0	0	0	0
13	Wealthy	Harris Moran	0	0	0	0
14	Wis.SMR 18	Univ. Wis.	0	0	0	0
15	NC-Merritt	NCState Univ	0	0	0	0
16	Coolgreen	Seminis	0	0	0	0
17	Feisty(9464)	Harris Moran	0	0	0	0
18	NC-Lexington	NCState Univ	0	0	0	0
19	NC-Davie	ZeraimGedera	0	0	0	0
20	Calypso	NCState Univ	0	0	0	0
21	Europick	UnitedGenet	0	0	0	0
22	EGP-427	EmeraldSeeds	0	0	0	0
23	NC-Danbury	NCState Univ	0	0	0	0
24	Raleigh	NCState Univ	0	0	0	0
25	Exp08-7633	Bejo Seeds	0	0	0	0
26	H-19	Seminis	0	0	0	0
27	EGP-410	EmeraldSeeds	0	0	0	0
28	Sumter	Clemson Univ	0	0	0	0
29	Exp08-7878	Bejo Seeds	1	0	0	0
30	NC-Longhurst	NCState Univ	1	1	0	0
31	Sassy	Harris Moran	1	1	0	0
32	McPick	UnitedGenet	1	1	0	0
33	Exp08-7814	Bejo Seeds	3	2	1	0
34	NC-Moriah	NCState Univ	3	3	0	0
35	Exp08-7612	Bejo Seeds	3	3	0	0
36	NC-Denton	NCState Univ	4	4	0	0
CV (%)			332.9	333.2	814.5	0
Mean			0.4	0.4	0.1	0
LSD (5%)			2.4	2.2	0.5	0

Table 3. Brinestock evaluation - percentage of fruit damaged by defects (cultigens are ranked by resistance to defects).

Rank	Cultivar or line	Seed source	Total defects	Placental hollows	Blossom- end defects	Soft centers
1	NC-Duplin	NCState Univ	0	0	0	0
2	Vlasstar	Seminis	0	0	0	0
3	Vlaspik	Seminis	0	0	0	0
4	Johnston	NCState Univ	0	0	0	0
5	Starex	Baker Seeds	0	0	0	0
6	Treasure	Harris Moran	0	0	0	0
7	Exp08-7878	Bejo Seeds	0	0	0	0
8	NC-Moriah	NCState Univ	0	0	0	0
9	Feisty(9464)	Harris Moran	0	0	0	0
10	NC-Lexington	NCState Univ	0	0	0	0
11	NC-Denton	NCState Univ	0	0	0	0
12	CrossCountry	Harris Moran	1	0	1	0
13	LB 17	Baker Seeds	1	0	1	0
14	Wis.SMR 18	Univ. Wis.	1	0	0	1
15	Calypso	NCState Univ	1	1	0	0
16	Sassy	Harris Moran	1	0	1	0
17	Wealthy	Harris Moran	1	0	1	0
18	NC-Danbury	NCState Univ	1	1	0	0
19	Exp08-7814	Bejo Seeds	1	1	0	0
20	Europick	UnitedGenet	2	1	1	0
21	EGP-427	EmeraldSeeds	2	1	1	0
22	NC-Longhurst	NCState Univ	2	0	0	2
23	NC-Dawson	NCState Univ	2	0	0	2
24	NC-Leland	NCState Univ	2	0	0	2
25	Raleigh	NCState Univ	2	1	0	1
26	Sumter	Clemson Univ	2	2	0	0
27	Exp08-7612	Bejo Seeds	2	1	0	1
28	NC-Merritt	NCState Univ	2	0	0	2
29	HSX 441-B	HortAg Seeds	3	0	0	3
30	NC-Davie	ZeraimGedera	3	1	1	1
31	Exp08-7633	Bejo Seeds	3	1	0	1
32	H-19	Seminis	3	1	0	1
33	EGP-410	EmeraldSeeds	3	2	1	0
34	Colt	Seminis	3	0	0	3
35	McPick	UnitedGenet	6	6	0	0
36	Coolgreen	Seminis	7	0	0	7
	CV (%)		115.3	202.6	332.5	186.6
	Mean		1.5	0.6	0.2	0.7
	LSD (5%)		2.9	2.0	0.9	2.3

Table 4. Brinestock evaluation - firmness and texture of fruit, and resistance to bloaters and defects (cultigens are ranked by firmness).²

Rank	Cultivar or line	Seed source	Firm- ness (lb.)	Text- ure	Total bloaters & defects	Total bloaters	Bal- loon	Defects
1	Sumter	Clemson Univ	19.3	6.1	2	0	0	2
2	Europick	UnitedGenet	18.6	5.7	2	0	0	2
3	EGP-410	EmeraldSeeds	18.4	6.4	3	0	0	3
4	Exp08-7814	Bejo Seeds	18.4	5.1	4	3	2	1
5	NC-Danbury	NCState Univ	18.3	6.1	1	0	0	1
6	Exp08-7878	Bejo Seeds	18.1	6.4	1	1	0	0
7	Treasure	Harris Moran	18.1	5.6	0	0	0	0
8	LB 17	Baker Seeds	17.8	5.2	1	0	0	1
9	Exp08-7612	Bejo Seeds	17.5	5.8	5	3	3	2
10	Vlasstar	Seminis	17.2	6.3	0	0	0	0
11	NC-Lexington	NCState Univ	17.0	5.4	0	0	0	0
12	Vlaspik	Seminis	16.8	6.2	0	0	0	0
13	NC-Leland	NCState Univ	16.8	5.0	2	0	0	2
14	Colt	Seminis	16.7	5.4	3	0	0	3
15	NC-Longhurst	NCState Univ	16.7	5.0	2	1	1	2
16	Calypso	NCState Univ	16.6	5.6	1	0	0	1
17	Johnston	NCState Univ	16.5	5.9	0	0	0	0
18	HSX 441-B	HortAg Seeds	16.4	5.1	3	0	0	3
19	NC-Denton	NCState Univ	16.1	4.9	4	4	4	0
20	McPick	UnitedGenet	16.0	4.9	7	1	1	6
21	Raleigh	NCState Univ	15.9	5.3	2	0	0	2
22	H-19	Seminis	15.9	3.9	3	0	0	3
23	Exp08-7633	Bejo Seeds	15.7	5.2	3	0	0	3
24	Starex	Baker Seeds	15.6	5.9	0	0	0	0
25	CrossCountry	Harris Moran	15.5	5.6	1	0	0	1
26	NC-Duplin	NCState Univ	15.4	6.5	0	0	0	0
27	NC-Moriah	NCState Univ	15.3	4.7	3	3	3	0
29	NC-Davie	ZeraimGedera	14.7	4.9	3	0	0	3
30	Feisty(9464)	Harris Moran	14.5	5.5	0	0	0	0
31	NC-Merritt	NCState Univ	14.2	3.5	2	0	0	2
32	Wis.SMR 18	Univ. Wis.	14.2	4.7	1	0	0	1
33	EGP-427	EmeraldSeeds	14.1	5.5	2	0	0	2
34	NC-Dawson	NCState Univ	13.6	5.1	2	0	0	2
35	Sassy	Harris Moran	13.2	5.2	2	1	1	1
36	Coolgreen	Seminis	9.4	3.2	7	0	0	7
CV (%)			7.1	0	0	0	0	0
Mean			16.1	0	0	0	0	0
LSD (5%)			1.9	0	0	0	0	0

² Firmness determined by punch-testing (Magness-Taylor) 10 grade 2B fruits.

Correlation of Texture with: Firmness = 0.46**, Balloon = -0.14ns

Correlation of Texture with: Honeycomb = 0.00ns, Soft centers = -0.61**

Table 5. Brinestock evaluation - quality ratings assigned by the judges (judges are ranked by leniency).^z

Rank	Judge	Average quality	Shape	External color	Texture	Seed cell	Uniformity
1	Denlinger	6.5	6.2	7.3	5.8	6.1	7.3
2	Apol	6.4	6.4	6.4	6.4	6.4	6.4
3	Hawley	6.0	5.8	6.2	6.0	6.1	6.1
4	Davis	6.0	5.7	5.4	6.4	6.6	5.8
5	CatesC	5.9	6.0	6.1	6.0	5.7	5.9
6	Ware	5.7	5.3	5.8	6.0	6.0	5.5
7	Woods	5.7	5.6	5.7	5.8	5.6	5.8
8	Quill	5.7	5.2	5.9	5.3	5.7	6.1
9	Bader	5.5	5.3	5.8	5.6	5.4	5.5
10	Dyke	5.2	5.1	5.7	4.8	5.1	5.4
11	Wood	5.0	4.4	5.8	5.1	5.3	4.4
12	JacksonJW	5.0	5.3	6.0	4.3	4.0	5.3
13	CatesJ	4.8	4.2	4.6	4.9	5.1	5.2
14	JacksonRk	4.7	4.5	5.4	4.7	4.4	4.7
15	Quinn	4.7	4.1	4.4	4.0	3.3	7.5
16	Walpole	3.7	3.1	5.1	3.9	3.5	3.1

^z Quality rated 1 to 9 (9=A+, 8=A, 7=A-, 6=B+, 5=B, 4=B-, 3=C, 2=D, 1=F).

Pickling Cucumbers

Preliminary (Stage 1) Pickling Cucumber Trial 2009

The stage 1 pickle trial was not run this year.

Observational (Stage 2) Pickling Cucumber Trial 2009

The stage 2 pickle trial was not run this year.

Spring (Stage 3) Pickling Cucumber Trial 2009

Todd C. Wehner and Tammy L. Ellington

Experiment Design

1. A randomized complete block with 3 replications of pickle cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 20 ft. rows with 5 ft. alleys at each end.
3. Rows were on raised 18" beds spaced 60" apart (center to center).
4. Fertilizer consisted of 80-80-80 lb/A (N-P-K) broadcast preplant and 30-0-0 lb/A (N-P-K) sideplaced at the 2 to 4 leaf stage.
5. Curbit was applied preemergence at the rate of 1 lb. a.i./A.
6. The trial was planted 1 May, and harvested 8 times (Mondays and Thursdays) between 16 June and 10 July.

Data Collection

1. Firmness was measured on 3 Grade 3 fruits using a Magness-Taylor tester with a 5/16" tip.
2. Length/Diameter ratio was calculated by measuring 5 Grade 2 fruits.
3. Quality ratings were from 1 to 9, with 1 = worst, 9 = best.
4. Disease ratings were from 0 to 9, with 0 = no disease, 1-2 = trace, 3-4 = slight, 5-6 = moderate, 7-8 = severe, 9 = plant dead.

Results

The following cultigens performed well, and could be advanced to the next stage:

1	Starex	Baker Seeds
2	LB 17	Baker Seeds
3	Vlaspik	Seminis
4	Wealthy	Harris Moran
5	Raleigh	NCState Univ
6	Exp08-7814	Bejo Seeds
7	Exp08-7878	Bejo Seeds
8	Sassy	Harris Moran
9	Exp08-7633	Bejo Seeds
10	Treasure	Harris Moran
11	Colt	Seminis
12	NC-Davie	ZerainGedera

Table 6. Stage 3 spring pickle trial - yield data (cultigens are ranked by fruit value).

Rank	Cultivar or line	Seed source	Value (\$)	Weight (cwt)	Fruit grade distribution (% by weight)					Plants per A (x1000)
					Cull	No.1	No.2	No.3	No.4	
1	NC-Lexington	NCState Univ	2901	322	15	12	41	28	4	26
2	Starex	Baker Seeds	2624	370	24	8	26	33	8	26
3	Raleigh	NCState Univ	2539	346	20	8	30	34	9	26
4	NC-Leland	NCState Univ	2526	254	13	16	49	19	2	26
5	Exp08-7878	Bejo Seeds	2519	357	19	5	25	42	9	26
6	Vlaspik	Seminis	2515	307	24	12	34	28	2	26
7	Vlasstar	Seminis	2479	323	20	10	30	33	7	26
8	NC-Davie	ZeraimGedera	2471	340	20	8	27	35	10	26
9	NC-Dawson	NCState Univ	2392	364	24	5	25	39	8	26
10	Exp08-7814	Bejo Seeds	2372	345	21	5	26	40	8	26
11	LB 17	Baker Seeds	2337	353	20	6	24	37	14	26
12	Wealthy	Harris Moran	2285	350	25	6	23	35	10	26
13	Exp08-7633	Bejo Seeds	2276	300	21	8	33	31	7	26
14	NC-Longhurst	NCState Univ	2263	240	18	16	43	21	2	26
15	Johnston	NCState Univ	2225	309	30	10	29	28	3	26
16	Colt	Seminis	2215	331	30	7	27	30	5	26
17	Sassy	Harris Moran	2184	314	29	9	26	31	5	26
18	NC-Duplin	NCState Univ	2165	311	18	6	27	36	13	26
19	EGP-427	EmeraldSeeds	2116	316	27	8	23	36	6	23
20	CrossCountry	Harris Moran	2069	294	25	6	28	35	6	26
21	Exp08-7612	Bejo Seeds	2036	283	23	10	26	33	8	24
22	NC-Danbury	NCState Univ	1988	259	19	9	29	34	9	26
23	NC-Moriah	NCState Univ	1985	307	24	7	21	35	12	26
24	McPick	UnitedGenet	1981	256	21	11	29	32	8	26
25	Calypso	NCState Univ	1971	296	26	8	26	31	9	26
26	Treasure	Harris Moran	1965	308	32	8	26	26	8	26
27	EGP-410	EmeraldSeeds	1945	264	22	8	32	33	6	26
28	Europick	UnitedGenet	1933	260	20	8	32	30	9	26
29	NC-Denton	NCState Univ	1904	266	25	8	26	36	5	25
30	Feisty(9464)	Harris Moran	1902	240	24	10	36	27	3	26
31	HSX 441-B	HortAg Seeds	1789	232	26	11	32	26	4	26
32	NC-Merritt	NCState Univ	1542	275	47	8	22	21	2	26
33	Sumter	Clemson Univ	1353	238	28	6	21	29	16	26
34	H-19	Seminis	1231	127	14	13	48	24	1	26
35	Wis.SMR 18	Univ. Wis.	869	150	32	6	25	25	12	26
36	Coolgreen	Seminis	664	98	41	10	33	15	1	26
CV (%)			12	15	12	22	11	13	50	2
Mean			2070	286	24	9	30	31	7	26
LSD (5%)			416	68	5	3	5	7	6	1

Correlation (Fruit value with fruit weight) = 0.85**

Table 7. Stage 3 spring pickle trial - earliness data (cultigens are ranked by fruit value in harvests 1 and 2).

Rank	Cultivar or line	Seed source	Cumulative fruit value and % of total value ^z (8 harvests) for harvest:									
			1		1-2		1-3		1-4		1-5	
			\$/A	%	\$/A	%	\$/A	%	\$/A	%	\$/A	%
1	Wealthy	Harris Moran	433	19	1036	46	1286	57	1742	77	2088	92
2	LB 17	Baker Seeds	357	15	1003	43	1216	52	1803	77	2001	86
3	Starex	Baker Seeds	298	11	947	37	1198	47	1904	73	2146	82
4	Treasure	Harris Moran	394	20	942	48	1142	58	1571	80	1697	87
5	Vlaspik	Seminis	292	11	917	37	1082	43	1771	71	1955	78
6	Raleigh	NCState Univ	254	10	814	32	1096	44	1716	68	1899	75
7	Sassy	Harris Moran	244	11	810	37	1013	46	1607	73	1703	78
8	Colt	Seminis	191	9	802	36	1004	45	1681	76	1833	83
9	Exp08-7633	Bejo Seeds	204	9	773	34	920	40	1511	66	1626	72
10	EGP-427	EmeraldSeeds	196	10	762	37	948	46	1640	79	1799	86
11	Johnston	NCState Univ	294	13	755	34	1015	45	1554	70	1765	79
12	Exp08-7814	Bejo Seeds	55	2	667	28	916	38	1492	63	1638	69
13	Exp08-7878	Bejo Seeds	63	3	589	23	842	34	1490	59	1641	65
14	NC-Moriah	NCState Univ	95	5	561	28	735	37	1229	62	1391	70
15	EGP-410	EmeraldSeeds	78	4	537	26	777	39	1330	67	1454	74
16	NC-Duplin	NCState Univ	98	5	524	24	801	37	1418	66	1635	76
17	Europick	UnitedGenet	133	7	515	27	751	39	1275	66	1433	74
18	CrossCountry	Harris Moran	102	5	510	25	745	36	1444	70	1614	78
19	NC-Merritt	NCState Univ	93	6	501	32	696	45	1127	73	1267	82
20	NC-Davie	ZeraimGedera	30	1	495	20	790	32	1407	57	1666	68
21	Vlasstar	Seminis	6	0	480	19	711	28	1485	59	1755	70
22	NC-Denton	NCState Univ	20	1	472	25	700	37	1159	61	1297	68
23	NC-Dawson	NCState Univ	25	1	466	19	877	36	1562	65	1734	72
24	HSX 441-B	HortAg Seeds	48	3	445	25	679	38	1231	69	1380	77
25	Feisty(9464)	Harris Moran	17	1	440	23	686	36	1226	64	1386	73
26	Exp08-7612	Bejo Seeds	75	4	433	22	714	35	1263	62	1474	72
27	NC-Danbury	NCState Univ	12	1	397	20	629	32	1092	55	1288	65
28	Coolgreen	Seminis	12	2	389	59	532	81	611	92	624	95
29	Calypso	NCState Univ	57	3	348	18	598	30	1139	58	1300	66
30	Wis.SMR 18	Univ. Wis.	3	0	198	22	426	49	606	70	661	76
31	Sumter	Clemson Univ	3	0	160	12	318	24	723	54	942	70
32	NC-Lexington	NCState Univ	30	1	124	4	328	11	1220	42	1669	58
33	McPick	UnitedGenet	8	0	71	4	313	16	842	43	1059	53
34	NC-Longhurst	NCState Univ	11	0	59	3	121	6	722	32	1058	47
35	NC-Leland	NCState Univ	8	0	12	0	50	2	657	26	931	37
36	H-19	Seminis	0	0	0	0	8	1	125	10	329	27
	CV (%)		48	44	23	18	18	13	15	9	14	7
	Mean		118	5	527	26	741	37	1288	63	1476	72
	LSD (5%)		93	4	194	8	213	8	320	9	332	9

Correlation (Fruit value with value in harvests 1 and 2) = 0.39**

Table 8. Stage 3 spring pickle trial - fruit quality data (cultigens are ranked by average quality).

Rank	Cultivar or line	Seed source	Average quality ^z	Shape ^z	Color ^y	Seed- cell ^z	Overall impres- sion ^z
1	NC-Davie	ZerainGedera	7.7	8.0	6.7	6.7	8.3
2	Sumter	Clemson Univ	7.3	8.0	6.3	6.7	7.3
3	LB 17	Baker Seeds	7.3	7.3	7.0	7.3	7.3
4	Europick	UnitedGenet	7.3	7.3	6.3	6.7	8.0
5	Vlaspik	Seminis	7.3	7.0	7.0	7.3	7.7
6	McPick	UnitedGenet	7.2	7.3	7.7	6.7	7.7
7	Exp08-7814	Bejo Seeds	7.2	7.7	7.3	6.7	7.3
8	Vlasstar	Seminis	7.2	6.7	6.7	7.3	7.7
9	NC-Danbury	NCState Univ	7.1	7.7	7.7	6.7	7.0
10	Starex	Baker Seeds	7.1	7.7	6.7	6.3	7.3
11	Exp08-7878	Bejo Seeds	7.0	7.7	7.3	6.0	7.3
12	Calypso	NCState Univ	7.0	7.7	6.3	6.0	7.3
13	Feisty(9464)	Harris Moran	7.0	7.3	7.3	6.0	7.7
14	H-19	Seminis	7.0	7.3	7.3	6.3	7.3
15	CrossCountry	Harris Moran	7.0	7.0	7.3	6.3	7.7
16	NC-Denton	NCState Univ	7.0	7.0	7.7	6.7	7.3
17	Raleigh	NCState Univ	6.9	7.3	7.0	6.3	7.0
18	Exp08-7612	Bejo Seeds	6.9	7.3	7.0	6.0	7.3
19	NC-Leland	NCState Univ	6.9	7.3	7.7	6.3	7.0
20	NC-Lexington	NCState Univ	6.9	7.0	6.7	6.3	7.3
21	NC-Duplin	NCState Univ	6.8	7.0	6.3	6.7	6.7
22	Sassy	Harris Moran	6.7	7.0	8.3	6.0	7.0
23	NC-Dawson	NCState Univ	6.7	7.0	7.3	6.3	6.7
24	Exp08-7633	Bejo Seeds	6.7	6.7	7.0	6.0	7.3
25	EGP-410	EmeraldSeeds	6.7	6.7	6.0	6.7	6.7
26	Colt	Seminis	6.7	6.3	7.0	7.0	6.7
27	NC-Longhurst	NCState Univ	6.6	7.0	8.0	5.7	7.0
28	Johnston	NCState Univ	6.6	6.3	7.3	6.7	6.7
29	Treasure	Harris Moran	6.6	6.7	7.3	6.3	6.7
30	HSX 441-B	HortAg Seeds	6.4	6.7	7.7	6.3	6.3
31	NC-Moriah	NCState Univ	6.3	6.7	6.3	5.7	6.7
32	EGP-427	EmeraldSeeds	6.3	6.0	6.3	6.7	6.3
33	NC-Merritt	NCState Univ	5.9	6.0	7.7	5.3	6.3
34	Coolgreen	Seminis	5.9	5.0	6.3	7.0	5.7
35	Wealthy	Harris Moran	5.8	6.0	8.0	5.3	6.0
36	Wis.SMR 18	Univ. Wis.	5.2	4.7	4.3	7.0	4.0
	CV (%)		8.0	11.1	10.7	15.1	9.5
	Mean		6.8	6.9	7.0	6.4	7.0
	LSD (5%)		0.9	1.3	1.2	1.6	1.1

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent).

^y Color rated 1 to 9 (1 = white, 5 = medium green, 9 = very dark green).

Correlation (Fruit value with average quality) = 0.39**

Table 9. Stage 3 spring pickle trial - other quality data (cultigens are ranked by average quality).^z

Rank	Cultivar or line	Seed source	Firm- ness	L/D ratio	Defects1°			Defects2°		
					2	4	6	2	4	6
1	Sumter	Clemson Univ	18	3.1	K	H	X	M	W	K
2	Europick	UnitedGenet	18	3.1	K	D	X	K	T	K
3	EGP-410	EmeraldSeeds	18	3.1	K	D	D	K	K	G
4	Vlaspik	Seminis	17	3.6	K	D	K	G	K	D
5	Exp08-7612	Bejo Seeds	17	3.0	K	D	T	K	K	K
6	Treasure	Harris Moran	17	3.4	M	T	X	T	K	K
7	LB 17	Baker Seeds	17	3.2	K	D	T	T	K	K
8	NC-Danbury	NCState Univ	17	3.3	K	T	K	G	K	K
9	Exp08-7878	Bejo Seeds	16	3.1	K	D	K	G	K	K
10	Calypso	NCState Univ	16	3.2	M	T	D	K	K	K
11	Feisty(9464)	Harris Moran	16	3.4	K	D	X	G	K	K
12	Raleigh	NCState Univ	16	3.3	K	T	D	G	K	K
13	NC-Longhurst	NCState Univ	16	3.2	V	T	T	X	K	K
14	NC-Davie	ZeraimGedera	16	2.9	K	D	D	K	K	K
15	McPick	UnitedGenet	16	2.9	K	L	K	G	K	K
16	Vlasstar	Seminis	16	3.1	K	D	K	G	K	K
17	NC-Leland	NCState Univ	16	3.4	K	T	T	X	K	K
18	HSX 441-B	HortAg Seeds	16	3.3	M	D	D	G	K	K
19	Exp08-7814	Bejo Seeds	16	3.2	K	T	T	G	K	K
20	Starex	Baker Seeds	15	3.3	K	D	D	T	K	K
21	NC-Denton	NCState Univ	15	3.3	G	T	X	K	K	K
22	Exp08-7633	Bejo Seeds	15	2.9	K	T	D	K	K	K
23	CrossCountry	Harris Moran	15	3.2	K	T	X	T	K	K
24	NC-Lexington	NCState Univ	15	3.0	K	K	T	T	K	K
25	Johnston	NCState Univ	15	3.3	K	T	X	G	K	D
26	H-19	Seminis	15	3.1	V	K	K	T	K	V
27	NC-Duplin	NCState Univ	15	2.3	K	D	D	K	T	K
28	EGP-427	EmeraldSeeds	15	2.9	K	D	D	T	K	T
29	Colt	Seminis	14	3.3	G	T	T	T	C	K
30	NC-Moriah	NCState Univ	14	3.3	G	D	X	M	G	T
31	NC-Merritt	NCState Univ	14	3.5	K	X	X	T	K	T
32	Wealthy	Harris Moran	14	3.0	T	T	T	D	G	D
33	Wis.SMR 18	Univ. Wis.	14	3.0	Y	K	T	W	H	X
34	Sassy	Harris Moran	14	3.6	K	T	D	G	K	K
35	NC-Dawson	NCState Univ	14	3.3	G	T	K	K	K	K
36	Coolgreen	Seminis	11	3.3	T	T	T	X	X	X
CV (%)			8	11.0						
Mean			16	3.2						
LSD (5%)			2	0.6						

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent).

Defects were rated as follows (giving primary and secondary for each harvest):

A - wArty fruit	J - RiDGed	S - Separated carpels
B - Blossom end defects	K - Keep(excellent)	T - Tapered ends
C - Crooks excessive	L - Late maturity	U - Uniform green
D - Dogbone shape	M - Mottled fruit	V - Varicolor (dark stem end, light blossom end)
E - Early maturity	N - Nubs excessive	W - White fruit
F - Four celled	O - Offtype fruit	X - neCKS on fruit
G - lonG fruit	P - Placental hollows	Y - Yellow fruit
H - sHort fruit	Q -	Z - diSeased fruit
I - strIPed fruit	R - Reject (poor)	

Table 10. Stage 3 spring pickle trial - sex expression and vine data (cultigens are ranked by gynoecious rating).

Rank	Cultivar or line	Seed source	Gyn. rating ^z	Vine size ^y	Vine color ^x
1	Starex	Baker Seeds	9	8	5
2	Exp08-7814	Bejo Seeds	9	7	7
3	Vlaspik	Seminis	9	7	7
4	EGP-427	EmeraldSeeds	9	6	8
5	Treasure	Harris Moran	9	8	7
6	Exp08-7878	Bejo Seeds	9	8	7
7	Wealthy	Harris Moran	9	8	7
8	Sassy	Harris Moran	9	8	8
9	Vlasstar	Seminis	9	5	6
10	HSX 441-B	HortAg Seeds	8	8	9
11	Johnston	NCState Univ	8	7	5
12	EGP-410	EmeraldSeeds	8	6	8
13	Colt	Seminis	8	8	6
14	Feisty(9464)	Harris Moran	8	7	9
15	Europick	UnitedGenet	8	7	7
16	Exp08-7612	Bejo Seeds	8	7	7
17	LB 17	Baker Seeds	8	9	8
18	Exp08-7633	Bejo Seeds	8	7	7
19	Raleigh	NCState Univ	7	8	6
20	NC-Merritt	NCState Univ	7	6	7
21	CrossCountry	Harris Moran	6	7	8
22	NC-Davie	ZeraimGedera	6	7	8
23	NC-Duplin	NCState Univ	5	7	7
24	NC-Dawson	NCState Univ	5	8	7
25	NC-Denton	NCState Univ	5	7	8
26	NC-Danbury	NCState Univ	4	7	7
27	Wis.SMR 18	Univ. Wis.	4	7	5
28	H-19	Seminis	4	4	7
29	Sumter	Clemson Univ	4	6	8
30	McPick	UnitedGenet	3	8	8
31	NC-Moriah	NCState Univ	3	8	8
32	Coolgreen	Seminis	3	7	5
33	Calypso	NCState Univ	3	7	7
34	NC-Leland	NCState Univ	3	5	7
35	NC-Lexington	NCState Univ	3	6	6
36	NC-Longhurst	NCState Univ	3	6	5
	CV (%)		18	13	14
	Mean		6	7	7
	LSD (5%)		2	2	2

^z Gynoecious rating (1 = androecious, 2-3 = andromonoecious, 4-6 = monoecious, 7-8 = predominately gynoecious, 9 = gynoecious).

^y Size rated 1 to 9 (1=very small, 9=very large).

^x Color rated 1 to 9 (1=yellow, 9=very dark green).

Correlation (Yield w/ gynoecious rating) = 0.28*; (Yield w/ vine size) = 0.24*

Table 11. Stage 3 spring pickle trial - disease data (cultigens are ranked by average disease resistance).^z

Rank	Cultivar or line	Seed source	Downy mildew
1	Exp08-7878	Bejo Seeds	1.7
2	Exp08-7814	Bejo Seeds	2.0
3	HSX 441-B	HortAg Seeds	2.3
4	Feisty(9464)	Harris Moran	2.3
5	McPick	UnitedGenet	3.0
6	Sassy	Harris Moran	3.3
7	Exp08-7612	Bejo Seeds	3.3
8	Exp08-7633	Bejo Seeds	3.3
9	NC-Denton	NCState Univ	3.3
10	NC-Moriah	NCState Univ	3.3
11	CrossCountry	Harris Moran	3.7
12	Wealthy	Harris Moran	4.0
13	NC-Dawson	NCState Univ	4.0
14	Treasure	Harris Moran	4.3
15	Europick	UnitedGenet	4.7
16	LB 17	Baker Seeds	4.7
17	NC-Leland	NCState Univ	4.7
18	Vlasstar	Seminis	5.0
19	Raleigh	NCState Univ	5.0
20	NC-Davie	ZeraimGedera	5.0
21	NC-Danbury	NCState Univ	5.0
22	H-19	Seminis	5.0
23	NC-Lexington	NCState Univ	5.0
24	Starex	Baker Seeds	5.7
25	Vlaspik	Seminis	5.7
26	EGP-427	EmeraldSeeds	5.7
27	EGP-410	EmeraldSeeds	5.7
28	NC-Merritt	NCState Univ	5.7
29	Johnston	NCState Univ	6.0
30	Sumter	Clemson Univ	6.0
31	NC-Longhurst	NCState Univ	6.0
32	Colt	Seminis	6.3
33	NC-Duplin	NCState Univ	6.7
34	Calypso	NCState Univ	7.0
35	Wis.SMR 18	Univ. Wis.	7.7
36	Coolgreen	Seminis	7.7
	CV (%)		17.8
	Mean		4.7
	LSD (5%)		1.4

^z Disease rated 0 to 9 (0=none, 1-2=trace, 3-4=slight, 5-6=moderate, 7-8=advanced, 9=plant dead).

Correlation (Yield vs. disease rating) =-0.26ns

Table 12. Stage 3 spring pickle trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	Simple weighted indexes		Average rank indexes	
			SWI1	SWI2	ARI1	ARI2
1	Starex	Baker Seeds	10.4	8.5	14.0	14.6
2	LB 17	Baker Seeds	10.4	8.4	11.8	10.9
3	Vlaspik	Seminis	10.2	8.2	13.1	13.2
4	Wealthy	Harris Moran	10.1	8.2	19.8	17.2
5	Raleigh	NCState Univ	9.9	8.2	14.4	14.3
6	Exp08-7814	Bejo Seeds	9.7	8.3	11.4	11.5
7	Exp08-7878	Bejo Seeds	9.7	8.4	12.2	12.0
8	Sassy	Harris Moran	9.5	8.0	15.4	15.4
9	Exp08-7633	Bejo Seeds	9.5	7.9	15.5	15.1
10	Treasure	Harris Moran	9.4	7.7	18.6	15.6
11	Colt	Seminis	9.0	7.5	19.0	18.8
12	NC-Davie	ZerainGedera	9.0	7.7	12.9	14.8
13	Johnston	NCState Univ	8.9	7.4	19.4	19.4
14	Vlasstar	Seminis	8.8	7.5	15.0	16.6
15	EGP-427	EmeraldSeeds	8.7	7.3	20.1	19.4
16	NC-Dawson	NCState Univ	8.6	7.6	17.7	18.0
17	CrossCountry	Harris Moran	8.4	7.3	16.2	17.0
18	NC-Moriah	NCState Univ	8.2	7.1	20.6	19.5
19	NC-Lexington	NCState Univ	8.2	7.4	17.4	19.4
20	Exp08-7612	Bejo Seeds	8.1	7.1	17.7	16.8
21	Feisty(9464)	Harris Moran	8.1	7.0	17.2	17.3
22	Europick	UnitedGenet	8.1	6.9	16.4	16.2
23	NC-Denton	NCState Univ	8.1	7.0	18.0	18.5
24	NC-Duplin	NCState Univ	8.0	6.9	20.3	21.0
25	EGP-410	EmeraldSeeds	7.9	6.6	20.6	19.4
26	HSX 441-B	HortAg Seeds	7.8	6.8	20.0	19.0
27	NC-Danbury	NCState Univ	7.8	6.8	19.3	19.9
28	NC-Leland	NCState Univ	7.4	6.7	18.9	20.6
29	Calypso	NCState Univ	7.2	6.4	21.7	22.1
30	McPick	UnitedGenet	7.0	6.5	17.6	18.6
31	NC-Merritt	NCState Univ	6.9	6.1	26.7	24.6
32	NC-Longhurst	NCState Univ	6.9	6.2	22.9	24.0
33	Sumter	Clemson Univ	5.9	5.4	21.6	22.1
34	H-19	Seminis	5.2	4.7	23.1	25.3
35	Coolgreen	Seminis	4.7	4.5	29.0	28.2
36	Wis.SMR 18	Univ. Wis.	4.2	3.8	30.7	30.0
	CV (%)		8.6	7.4	17.8	13.3
	Mean		8.2	7.1	18.5	18.5
	LSD (5%)		1.2	0.9	5.3	4.0

^z SWI is simple weighted index calculated from the performance of a cultigen for yield; earliness; fruit shape, seedcell size and overall impression; and disease resistance. The index is calculated with 2 different methods of weighting each trait (10 is best, 1 is worst).

ARI is the average ranking of each cultigen for yield, earliness, fruit quality and disease resistance. The index is calculated with 2 different sets of secondary traits added in with the primary traits (1 is best).

Correlation (Yield with SWI1) = 0.83** Correlation (Yield with ARI1) = -0.71**

Summer (Stage 4) Pickling Cucumber Trial 2009

Todd C. Wehner and Tammy L. Ellington

Experiment Design

1. A randomized complete block with 3 replications of pickle cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 20 ft. rows with 5 ft. alleys at each end.
3. Rows were on raised 18" beds spaced 60" apart (center to center).
4. Fertilizer consisted of 80-80-80 lb/A (N-P-K) broadcast preplant and 30-0-0 lb/A (N-P-K) sideplaced at the 2 to 4 leaf stage.
5. Curbit was applied preemergence at the rate of 1 lb. a.i./A.
6. The trial was planted 10 July, and harvested 8 times (Mondays and Thursdays) between 18 August and 11 September.

Data Collection

1. Firmness was measured on 3 Grade 3 fruits using a Magness-Taylor tester with a 5/16" tip.
2. Length/Diameter ratio was calculated by measuring 10 Grade 2 fruits.
3. Quality ratings were from 1 to 9, with 1 = worst, 9 = best.
4. Disease ratings were from 0 to 9, with 0 = no disease, 1-2 = trace, 3-4 = slight, 5-6 = moderate, 7-8 = severe, 9 = plant dead.

Results

The following cultigens performed well, and could be advanced to the next stage:

1	Vlasstar	Seminis
2	Exp08-7878	Bejo Seeds
3	Starex	Baker Seeds
4	Wealthy	Harris Moran
5	Vlaspik	Seminis
6	Treasure	Harris Moran
7	EGP-410	EmeraldSeeds
8	Colt	Seminis
9	Exp08-7633	Bejo Seeds
10	NC-Davie	ZeraimGedera
11	Raleigh	NCState Univ

Table 13. Stage 4 summer pickle trial - yield data (cultigens are ranked by fruit value).

Rank	Cultivar or line	Seed source	Value (\$)	Weight (cwt)	Fruit grade distribution (% by weight)				Plants per A (x1000)	
					Cull	No.1	No.2	No.3		No.4
1	Vlasstar	Seminis	1341	187	33	10	31	23	3	26
2	Exp08-7878	Bejo Seeds	1285	159	25	12	32	28	3	26
3	Starex	Baker Seeds	1117	159	38	10	32	19	0	26
4	NC-Davie	ZerainGedera	1104	152	34	12	31	19	3	26
5	Treasure	Harris Moran	977	147	40	9	32	16	2	26
6	Vlaspik	Seminis	975	124	39	17	35	8	1	26
7	McPick	UnitedGenet	964	131	35	11	34	19	1	26
8	Wealthy	Harris Moran	935	151	43	9	27	18	3	26
9	Exp08-7633	Bejo Seeds	927	119	34	14	36	16	1	25
10	Colt	Seminis	925	136	45	15	27	12	1	26
11	NC-Danbury	NCState Univ	916	121	35	12	34	20	0	23
12	Raleigh	NCState Univ	911	135	40	12	27	18	3	26
13	NC-Dawson	NCState Univ	900	145	37	8	22	28	5	26
14	EGP-410	EmeraldSeeds	889	138	37	8	29	22	4	26
15	Exp08-7814	Bejo Seeds	882	129	37	9	30	22	2	26
16	HSX 441-B	HortAg Seeds	881	136	42	9	29	17	2	26
17	CrossCountry	Harris Moran	848	123	41	11	30	15	2	26
18	Johnston	NCState Univ	848	120	43	14	32	11	0	26
19	LB 17	Baker Seeds	811	125	42	11	26	19	2	26
20	Europick	UnitedGenet	808	109	31	12	29	24	4	26
21	Feisty(9464)	Harris Moran	737	105	42	11	35	10	1	26
22	EGP-427	EmeraldSeeds	732	118	41	9	24	22	3	20
23	NC-Longhurst	NCState Univ	719	90	35	15	38	12	0	26
24	Exp08-7612	Bejo Seeds	646	103	37	8	29	19	7	20
25	Calypso	NCState Univ	618	110	45	8	20	25	2	23
26	NC-Lexington	NCState Univ	612	79	36	14	37	13	0	26
27	NC-Denton	NCState Univ	598	116	54	7	25	13	1	26
28	NC-Merritt	NCState Univ	578	101	51	11	24	13	1	21
29	Sassy	Harris Moran	567	95	49	9	32	8	2	26
30	NC-Duplin	NCState Univ	501	77	44	12	29	14	1	26
31	NC-Leland	NCState Univ	375	50	39	13	38	10	0	26
32	Sumter	Clemson Univ	356	62	51	9	25	13	2	25
33	Wis.SMR 18	Univ. Wis.	29	15	87	5	4	4	0	26
CV (%)			26	20	16	23	16	33	90	5
Mean			797	117	41	11	29	17	2	25
LSD (5%)			332	38	11	4	8	9	3	2

Correlation (Fruit value with fruit weight) = 0.95**

Table 14. Stage 4 summer pickle trial - earliness data (cultigens are ranked by fruit value in harvests 1 and 2).

Rank	Cultivar or line	Seed source	Cumulative fruit value and % of total value ^z (6 harvests) for harvest:									
			1		1-2		1-3		1-4		1-5	
			\$/A	%	\$/A	%	\$/A	%	\$/A	%	\$/A	%
1	Wealthy	Harris Moran	388	42	584	64	717	78	863	93	873	94
2	Vlaspik	Seminis	259	26	522	53	697	71	903	93	919	94
3	Starex	Baker Seeds	227	21	477	43	701	63	969	87	1004	90
4	Vlasstar	Seminis	178	13	470	35	668	50	978	73	1045	78
5	EGP-410	EmeraldSeeds	264	29	459	51	593	66	753	84	781	88
6	Colt	Seminis	203	22	457	50	620	67	822	89	862	93
7	Raleigh	NCState Univ	208	23	415	46	596	66	793	87	823	90
8	LB 17	Baker Seeds	214	26	414	50	547	67	715	88	728	89
9	Treasure	Harris Moran	217	23	406	44	586	65	753	80	791	83
10	Sassy	Harris Moran	215	43	406	74	469	85	531	95	534	95
11	Exp08-7633	Bejo Seeds	238	26	405	44	515	55	683	74	718	77
12	CrossCountry	Harris Moran	207	28	382	50	514	66	688	84	717	87
13	Johnston	NCState Univ	122	14	361	43	527	62	760	90	788	93
14	Exp08-7878	Bejo Seeds	115	8	323	23	485	36	745	55	799	60
15	Feisty(9464)	Harris Moran	131	19	323	44	397	54	550	75	574	79
16	EGP-427	EmeraldSeeds	113	16	311	45	454	66	627	87	635	88
17	NC-Danbury	NCState Univ	17	2	262	29	450	49	747	82	765	84
18	Europick	UnitedGenet	93	12	242	30	392	49	596	74	637	79
19	Exp08-7814	Bejo Seeds	78	8	232	24	369	41	526	59	571	64
20	NC-Davie	ZeraimGedera	16	2	222	20	497	45	805	73	875	79
21	Exp08-7612	Bejo Seeds	77	12	207	33	296	46	480	74	508	79
22	HSX 441-B	HortAg Seeds	49	5	128	14	327	39	556	65	605	71
23	Calypso	NCState Univ	34	5	121	19	217	35	438	71	466	75
24	NC-Merritt	NCState Univ	11	2	110	19	154	27	372	65	397	69
25	NC-Duplin	NCState Univ	3	0	95	19	198	40	397	80	438	88
26	NC-Denton	NCState Univ	0	0	66	12	169	30	385	66	444	75
27	McPick	UnitedGenet	3	0	50	5	247	25	550	57	586	61
28	NC-Dawson	NCState Univ	3	0	43	5	202	23	484	55	521	59
29	Sumter	Clemson Univ	9	3	40	13	173	48	291	83	308	89
30	Wis.SMR 18	Univ. Wis.	0	0	20	42	26	51	29	67	29	67
31	NC-Longhurst	NCState Univ	0	0	0	0	55	7	382	53	434	60
32	NC-Lexington	NCState Univ	0	0	0	0	39	6	244	40	267	44
33	NC-Leland	NCState Univ	0	0	0	0	10	2	112	25	133	30
	CV (%)		64	59	40	33	33	25	28	18	27	16
	Mean		112	13	259	32	391	48	592	73	623	77
	LSD (5%)		117	12	167	17	210	19	273	21	279	20

Correlation (Fruit value with value in harvests 1 and 2) = 0.60**

Table 15. Stage 4 summer pickle trial - fruit quality data (cultigens are ranked by average quality).

Rank	Cultivar or line	Seed source	Average quality ^z	Shape ^z	Color ^y	Seed- cell ^z	Overall impres- sion ^z
1	McPick	UnitedGenet	7.9	8.0	8.0	7.7	8.0
2	NC-Danbury	NCState Univ	7.9	7.7	7.7	7.7	8.3
3	EGP-410	EmeraldSeeds	7.6	7.7	6.3	7.7	7.3
4	Johnston	NCState Univ	7.4	7.3	8.0	7.3	7.7
5	NC-Davie	ZerainGedera	7.2	8.7	7.3	5.0	8.0
6	Exp08-7814	Bejo Seeds	7.2	6.3	8.7	8.7	6.7
7	Sumter	Clemson Univ	7.1	7.7	6.3	7.3	6.3
8	Treasure	Harris Moran	7.1	7.0	7.0	7.7	6.7
9	Exp08-7612	Bejo Seeds	7.1	7.0	8.0	7.0	7.3
10	Vlasstar	Seminis	7.0	7.3	7.0	6.3	7.3
11	Colt	Seminis	6.9	6.7	7.0	7.3	6.7
12	Europick	UnitedGenet	6.9	6.7	6.3	7.3	6.7
13	Exp08-7878	Bejo Seeds	6.9	7.0	5.3	7.0	6.7
14	CrossCountry	Harris Moran	6.9	6.7	7.7	7.3	6.7
15	Vlaspik	Seminis	6.9	6.3	7.3	7.3	7.0
16	NC-Duplin	NCState Univ	6.8	7.7	6.3	5.7	7.0
17	EGP-427	EmeraldSeeds	6.7	7.3	6.7	5.3	7.3
18	NC-Longhurst	NCState Univ	6.7	7.3	7.3	6.0	6.7
19	Calypso	NCState Univ	6.7	7.0	6.3	6.0	7.0
20	Raleigh	NCState Univ	6.7	6.7	6.7	6.0	7.3
21	Feisty(9464)	Harris Moran	6.7	6.7	7.3	6.7	6.7
22	NC-Dawson	NCState Univ	6.7	6.3	6.7	6.3	7.3
23	Starex	Baker Seeds	6.6	6.3	6.3	6.3	7.0
24	Exp08-7633	Bejo Seeds	6.6	6.3	8.3	7.3	6.0
25	NC-Lexington	NCState Univ	6.4	7.3	6.3	4.7	7.3
26	LB 17	Baker Seeds	6.4	7.0	6.7	6.0	6.3
27	NC-Merritt	NCState Univ	6.4	6.7	8.0	6.3	6.3
28	NC-Leland	NCState Univ	6.3	7.0	7.3	6.0	6.0
29	HSX 441-B	HortAg Seeds	6.2	6.7	7.7	6.0	6.0
30	Sassy	Harris Moran	6.2	5.7	8.0	7.3	5.7
31	NC-Denton	NCState Univ	6.1	6.0	7.7	6.0	6.3
32	Wealthy	Harris Moran	5.9	6.3	8.0	5.0	6.3
33	Wis.SMR 18	Univ. Wis.	4.3	5.0	4.7	4.0	4.0
	CV (%)		7.7	10.5	7.7	13.5	10.5
	Mean		6.7	6.9	7.1	6.5	6.8
	LSD (5%)		0.8	1.2	0.9	1.4	1.2

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent).

^y Color rated 1 to 9 (1 = white, 5 = medium green, 9 = very dark green).

Correlation (Fruit value with average quality) = 0.42**

Table 16. Stage 4 summer pickle trial - other quality data (cultigens are ranked by average quality).^z

Rank	Cultivar or line	Seed source	Firm- ness	L/D ratio	Defects1°			Defects2°		
					2	4	6	2	4	6
1	Europick	UnitedGenet	17	3.0	K	K	K	H	H	H
2	Calypso	NCState Univ	16	3.1	W	K	K	H	W	W
3	McPick	UnitedGenet	16	3.7	K	K	K	G	K	G
4	Exp08-7814	Bejo Seeds	16	3.2	T	K	K	K	T	G
5	EGP-410	EmeraldSeeds	15	3.0	K	K	K	T	H	K
6	Sumter	Clemson Univ	15	3.1	K	K	W	M	W	K
7	Treasure	Harris Moran	15	3.2	K	K	K	M	M	T
8	Vlasstar	Seminis	15	3.4	K	K	K	G	T	G
9	NC-Danbury	NCState Univ	15	3.5	K	K	K	M	K	K
10	NC-Davie	ZeraimGedera	15	3.0	D	K	K	H	H	K
11	Exp08-7612	Bejo Seeds	15	3.2	K	K	K	H	D	G
12	Exp08-7878	Bejo Seeds	15	3.2	K	G	K	W	T	W
13	CrossCountry	Harris Moran	15	3.3	T	K	K	M	G	G
14	NC-Merritt	NCState Univ	15	3.6	K	T	K	G	D	D
15	NC-Leland	NCState Univ	15	3.4	K	G	K	X	K	X
16	HSX 441-B	HortAg Seeds	15	3.3	H	M	M	T	D	K
17	Johnston	NCState Univ	14	3.3	G	K	K	T	G	D
18	NC-Denton	NCState Univ	14	3.4	G	D	G	T	G	T
19	Wealthy	Harris Moran	14	3.1	T	D	K	G	H	D
20	Colt	Seminis	14	3.4	K	G	K	D	D	G
21	Vlaspik	Seminis	14	3.5	T	K	G	O	G	D
22	NC-Longhurst	NCState Univ	14	3.6	K	G	K	X	T	X
23	NC-Duplin	NCState Univ	14	3.0	K	K	K	H	D	D
24	Exp08-7633	Bejo Seeds	14	3.1	H	H	K	T	K	H
25	LB 17	Baker Seeds	13	2.4	H	K	K	T	D	M
26	Sassy	Harris Moran	13	3.5	G	D	K	T	G	G
27	Raleigh	NCState Univ	13	3.2	H	K	K	O	D	D
28	Starex	Baker Seeds	13	3.3	H	K	K	M	G	G
29	NC-Lexington	NCState Univ	13	3.1	K	K	K	X	W	X
30	EGP-427	EmeraldSeeds	13	2.3	K	K	K	K	T	D
31	Feisty(9464)	Harris Moran	12	3.3	K	K	K	G	T	T
32	Wis.SMR 18	Univ. Wis.	12	2.8	N	Y	N	W	W	W
33	NC-Dawson	NCState Univ	12	3.3	K	K	K	T	G	G
CV (%)			9	9.7						
Mean			14	3.2						
LSD (5%)			2	0.5						

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent).

Defects were rated as follows (giving primary and secondary for each harvest):

A - wArty fruit	J - RiDGed	S - Separated carpels
B - Blossom end defects	K - Keep(excellent)	T - Tapered ends
C - Crooks excessive	L - Late maturity	U - Uniform green
D - Dogbone shape	M - Mottled fruit	V - Varicolor (dark stem end, light blossom end)
E - Early maturity	N - Nubs excessive	W - White fruit
F - Four celled	O - Offtype fruit	X - neCKS on fruit
G - lonG fruit	P - Placental hollows	Y - Yellow fruit
H - sHort fruit	Q -	Z - diSeased fruit
I - strIpEd fruit	R - Reject (poor)	

Table 17. Stage 4 summer pickle trial - sex expression and vine data (cultigens are ranked by gynoecious rating).

Rank	Cultivar or line	Seed source	Gyn. rating ^z	Vine size ^y	Vine color ^x
1	EGP-410	EmeraldSeeds	9	7	7
2	Vlasstar	Seminis	9	7	7
3	EGP-427	EmeraldSeeds	9	7	7
4	Johnston	NCState Univ	9	6	7
5	Treasure	Harris Moran	9	8	7
6	Sassy	Harris Moran	9	7	7
7	Colt	Seminis	9	7	7
8	CrossCountry	Harris Moran	8	8	7
9	Wealthy	Harris Moran	8	7	7
10	Exp08-7814	Bejo Seeds	8	7	6
11	Vlaspik	Seminis	8	6	6
12	Raleigh	NCState Univ	8	7	7
13	Exp08-7612	Bejo Seeds	8	6	7
14	Starex	Baker Seeds	7	8	6
15	LB 17	Baker Seeds	7	7	6
16	Europick	UnitedGenet	6	6	7
17	Feisty(9464)	Harris Moran	5	7	7
18	Exp08-7633	Bejo Seeds	5	8	7
19	NC-Merritt	NCState Univ	5	7	6
20	Exp08-7878	Bejo Seeds	5	7	8
21	HSX 441-B	HortAg Seeds	5	7	8
22	NC-Duplin	NCState Univ	4	7	7
23	NC-Dawson	NCState Univ	4	7	7
24	NC-Davie	ZerainGedera	4	7	8
25	NC-Danbury	NCState Univ	4	6	7
26	NC-Longhurst	NCState Univ	4	5	6
27	NC-Lexington	NCState Univ	4	5	5
28	Wis.SMR 18	Univ. Wis.	3	6	5
29	NC-Leland	NCState Univ	3	5	5
30	McPick	UnitedGenet	3	7	7
31	NC-Denton	NCState Univ	3	7	7
32	Calypso	NCState Univ	3	7	5
33	Sumter	Clemson Univ	3	7	7
CV (%)			18	10	12
Mean			6	7	7
LSD (5%)			2	1	1

^z Gynoecious rating (1 = androecious, 2-3 = andromonoecious, 4-6 = monoecious, 7-8 = predominately gynoecious, 9 = gynoecious).

^y Size rated 1 to 9 (1=very small, 9=very large).

^x Color rated 1 to 9 (1=yellow, 9=very dark green).

Correlation (Yield with gynoecious rating)=0.35** Yield with vine size=0.43**

Table 18. Stage 4 summer pickle trial - disease data (cultigens are ranked by average disease resistance).^z

Rank	Cultivar or line	Seed source	Downy mildew
1	Exp08-7878	Bejo Seeds	3.0
2	Exp08-7814	Bejo Seeds	3.7
3	HSX 441-B	HortAg Seeds	4.0
4	NC-Dawson	NCState Univ	4.0
5	NC-Lexington	NCState Univ	4.0
6	NC-Leland	NCState Univ	4.0
7	McPick	UnitedGenet	4.0
8	Treasure	Harris Moran	4.3
9	Exp08-7612	Bejo Seeds	4.3
10	NC-Longhurst	NCState Univ	4.3
11	Vlasstar	Seminis	4.7
12	Feisty(9464)	Harris Moran	4.7
13	Exp08-7633	Bejo Seeds	4.7
14	NC-Davie	ZeraimGedera	4.7
15	CrossCountry	Harris Moran	5.0
16	NC-Merritt	NCState Univ	5.0
17	EGP-410	EmeraldSeeds	5.3
18	EGP-427	EmeraldSeeds	5.3
19	Raleigh	NCState Univ	5.3
20	Starex	Baker Seeds	5.3
21	NC-Denton	NCState Univ	5.3
22	Colt	Seminis	5.7
23	Wealthy	Harris Moran	5.7
24	LB 17	Baker Seeds	5.7
25	NC-Duplin	NCState Univ	5.7
26	Calypso	NCState Univ	5.7
27	Johnston	NCState Univ	6.0
28	Sassy	Harris Moran	6.0
29	Vlaspik	Seminis	6.0
30	Europick	UnitedGenet	6.3
31	NC-Danbury	NCState Univ	6.3
32	Sumter	Clemson Univ	6.7
33	Wis.SMR 18	Univ. Wis.	7.0
	CV (%)		15.3
	Mean		5.1
	LSD (5%)		1.3

^z Disease rated 0 to 9 (0=none, 1-2=trace, 3-4=slight, 5-6=moderate, 7-8=advanced, 9=plant dead).

Correlation (Yield vs. disease rating) = -0.41**

Table 19. Stage 4 summer pickle trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	Simple weighted indexes		Average rank indexes	
			SWI1	SWI2	ARI1	ARI2
1	Vlasstar	Seminis	7.0	6.1	10.4	10.3
2	Exp08-7878	Bejo Seeds	6.5	5.7	11.4	11.5
3	Starex	Baker Seeds	6.3	5.6	14.6	14.6
4	Wealthy	Harris Moran	6.3	5.6	19.0	16.8
5	Vlaspik	Seminis	6.3	5.5	15.1	15.5
6	Treasure	Harris Moran	6.2	5.6	11.8	11.0
7	EGP-410	EmeraldSeeds	6.2	5.6	11.2	11.4
8	Colt	Seminis	6.0	5.4	15.1	15.2
9	Exp08-7633	Bejo Seeds	6.0	5.4	15.8	15.9
10	NC-Davie	ZeraimGedera	5.9	5.3	12.3	13.1
11	Raleigh	NCState Univ	5.8	5.3	15.4	15.8
12	CrossCountry	Harris Moran	5.8	5.4	15.5	14.9
13	Johnston	NCState Univ	5.7	5.2	14.0	15.4
14	Exp08-7814	Bejo Seeds	5.7	5.2	12.9	12.4
15	LB 17	Baker Seeds	5.6	5.1	18.2	17.9
16	NC-Danbury	NCState Univ	5.6	5.0	12.6	15.2
17	McPick	UnitedGenet	5.4	4.9	10.2	11.6
18	Feisty(9464)	Harris Moran	5.4	5.0	16.5	17.3
19	EGP-427	EmeraldSeeds	5.2	4.9	17.6	17.6
20	Exp08-7612	Bejo Seeds	5.1	4.8	15.6	15.6
21	Sassy	Harris Moran	5.1	5.0	21.3	20.3
22	Europick	UnitedGenet	5.1	4.6	18.6	18.0
23	HSX 441-B	HortAg Seeds	5.1	4.6	19.3	17.7
24	NC-Dawson	NCState Univ	4.8	4.5	17.5	18.3
25	NC-Longhurst	NCState Univ	4.4	4.0	18.8	19.8
26	NC-Merritt	NCState Univ	4.4	4.1	20.6	20.1
27	Calypso	NCState Univ	4.4	4.1	20.2	19.0
28	NC-Lexington	NCState Univ	4.2	3.8	19.5	21.0
29	NC-Duplin	NCState Univ	4.2	3.9	20.1	21.4
30	NC-Denton	NCState Univ	4.1	3.9	23.2	22.0
31	NC-Leland	NCState Univ	3.9	3.5	22.5	22.1
32	Sumter	Clemson Univ	3.7	3.4	22.2	22.9
33	Wis.SMR 18	Univ. Wis.	2.2	2.5	31.9	29.7
CV (%)			12.5	10.3	19.3	17.1
Mean			5.3	4.8	17.0	17.0
LSD (5%)			1.1	0.8	5.3	4.7

^z SWI is simple weighted index calculated from the performance of a cultigen for yield; earliness; fruit shape, seedcell size and overall impression; and disease resistance. The index is calculated with 2 different methods of weighting each trait (10 is best, 1 is worst).

ARI is the average ranking of each cultigen for yield, earliness, fruit quality and disease resistance. The index is calculated with 2 different sets of secondary traits added in with the primary traits (1 is best).

Correlation (Yield with SWI1) = 0.92**

Correlation (Yield with ARI1) = -0.80**

Slicing Cucumbers

Preliminary (Stage 1) Slicing Cucumber Trial 2009

The stage 1 slicer trial was not run this year.

Observational (Stage 2) Slicing Cucumber Trial 2009

The stage 2 slicer trial was not run this year.

Spring (Stage 3) Slicing Cucumber Trial 2009

Todd C. Wehner and Tammy L. Ellington

Experiment Design

1. A randomized complete block with 3 replications of slicer cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 20 ft. rows with 5 ft. alleys at each end.
3. Rows were on raised 18" beds spaced 60" apart (center to center).
4. Fertilizer consisted of 80-80-80 lb/A (N-P-K) broadcast preplant and 30-0-0 lb/A (N-P-K) sideplaced at the 2 to 4 leaf stage.
5. Curbit was applied preemergence at the rate of 1 lb. a.i./A.
6. The trial was planted 1 May, and harvested 6 times (Mondays and Thursdays) between 19 June and 7 July.

Data Collection

1. Fruits were weighed after sorting into No.1, No.2 and cull (nubs and crooks) grades according to U.S.D.A. standards.
2. Fruit length, diameter and weight were recorded for 3 fruit per plot.
3. Quality ratings were from 1 to 9, with 1 = worst, 9 = best.
4. Disease ratings were from 0 to 9, with 0 = no disease, 1-2 = trace, 3-4 = slight, 5-6 = moderate, 7-8 = severe, 9 = plant dead.

Results

The following cultigens performed well, and could be advanced to the next stage:

1	G57xNC-58	NCState Univ
2	G57xNC-62	NCState Univ
3	G83xNC-62	NCState Univ
4	Dasher II	Seminis
5	Intimidator	Seminis
6	G57xNC-59	NCState Univ
7	NC-Stratford	NCState Univ

Table 20. Stage 3 spring slicer trial - yield data (cultigens ranked by cwt/A of Fancy + No. 1 grade fruit).

Rank	Cultivar or line	Seed source	Yield(cwt/A)		Percent fancy +No.1	Percent culls	Plants per A (x1000)
			Fancy +No.1	Market- able			
1	G57xNC-58	NCState Univ	156	231	47	31	26
2	G57xNC-62	NCState Univ	116	199	44	24	25
3	Dasher II	Seminis	101	157	46	26	26
4	G83xNC-62	NCState Univ	101	220	35	25	25
5	G57xNC-59	NCState Univ	100	146	49	27	24
6	NC-Stratford	NCState Univ	95	159	42	28	19
7	Intimidator	Seminis	93	159	46	23	26
8	EGSB-160	EmeraldSeeds	82	131	47	26	26
9	G57xNC-63	NCState Univ	75	131	41	30	25
10	G83xNC-58	NCState Univ	74	159	33	27	26
11	G83xNC-59	NCState Univ	70	121	39	32	26
12	Poinsett 76	Cornell Univ	70	157	31	30	26
13	EMSB-143	EmeraldSeeds	61	95	52	20	26
14	EGSB-152	EmeraldSeeds	58	93	40	34	26
15	Cherokee 87	Check	58	119	27	42	24
16	Montebello	United Genet	56	91	34	44	25
17	NC-Sunshine	NCState Univ	53	114	25	45	22
18	G83xNC-63	NCState Univ	53	101	32	39	26
19	Ashley	Check	39	80	25	42	24
20	Marketmore76	Check	32	62	35	31	26
	CV (%)		42	33	24	27	11
	Mean		77	136	39	31	25
	LSD (5%)		53	74	15	14	5

Correlation (Marketable yield with % culls) = -0.49**

Table 21. Stage 3 spring slicer trial - earliness data (cultigens ranked by weight of Fancy + No.1 grade fruit in harvests 1 and 2).

Rank	Cultivar or line	Seed source	Cumulative fruit weight and % of total weight (6 harvests) for harvest:									
			1		1-2		1-3		1-4		1-5	
			Wt.	%	Wt.	%	Wt.	%	Wt.	%	Wt.	%
1	G57xNC-58	NCState Univ	72	30	167	73	201	87	224	97	226	98
2	G57xNC-62	NCState Univ	83	41	134	68	160	82	191	96	197	99
3	G83xNC-62	NCState Univ	53	25	128	57	187	84	218	99	219	99
4	Intimidator	Seminis	55	32	101	68	126	83	157	99	159	100
5	G57xNC-63	NCState Univ	44	32	88	68	112	86	124	95	127	97
6	G57xNC-59	NCState Univ	40	25	88	59	114	80	139	95	142	97
7	NC-Sunshine	NCState Univ	20	19	88	73	106	91	111	96	113	97
8	NC-Stratford	NCState Univ	33	20	74	45	109	67	137	85	144	90
9	Dasher II	Seminis	26	14	68	45	100	66	139	90	153	97
10	G83xNC-58	NCState Univ	32	21	68	43	116	73	149	95	158	99
11	EGSB-160	EmeraldSeeds	9	6	64	44	103	74	123	93	125	95
12	Cherokee 87	Check	12	10	50	40	98	83	117	98	117	98
13	G83xNC-59	NCState Univ	14	12	48	38	78	63	106	87	112	91
14	G83xNC-63	NCState Univ	19	20	43	42	60	60	88	88	91	90
15	Montebello	United Genet	6	5	37	34	65	75	83	92	88	97
16	Poinsett 76	Cornell Univ	2	1	31	20	88	57	127	82	143	92
17	EGSB-152	EmeraldSeeds	1	1	28	29	67	67	87	93	89	95
18	Ashley	Check	1	2	14	19	47	55	66	78	73	95
19	EMSB-143	EmeraldSeeds	0	0	11	13	45	45	80	79	90	95
20	Marketmore76	Check	0	0	7	13	26	42	47	74	50	78
	CV (%)		82	61	46	38	37	22	35	8	34	5
	Mean		26	16	67	45	100	71	126	90	131	95
	LSD (5%)		35	16	50	28	61	26	72	11	74	8

Correlation (Marketable yield with yield in harvests 1-2) = 0.81**

Correlation (Marketable yield with % of yield in harvests 1-2) = 0.44**

Table 22. Stage 3 spring slicer trial - fruit quality data (cultigens ranked by average quality).^z

Rank	Cultivar or line	Seed source	Average quality	Shape	Color	Seed- cell	Overall impression
1	Poinsett 76	Cornell Univ	7.1	8	8	7	7
2	Montebello	United Genet	7.1	6	7	8	7
3	EMSB-143	EmeraldSeeds	7.0	7	9	6	8
4	G83xNC-62	NCState Univ	6.9	7	8	7	7
5	Dasher II	Seminis	6.8	7	8	6	7
6	NC-Stratford	NCState Univ	6.7	8	8	6	7
7	G83xNC-58	NCState Univ	6.7	7	8	6	7
8	G83xNC-59	NCState Univ	6.7	7	8	6	7
9	G83xNC-63	NCState Univ	6.6	8	8	6	6
10	Marketmore76	Check	6.6	7	7	6	7
11	EGSB-160	EmeraldSeeds	6.6	6	8	6	7
12	EGSB-152	EmeraldSeeds	6.6	6	8	6	7
13	Ashley	Check	6.3	7	6	7	5
14	G57xNC-62	NCState Univ	6.2	6	7	6	6
15	Intimidator	Seminis	6.2	6	8	6	6
16	NC-Sunshine	NCState Univ	6.1	6	8	7	6
17	Cherokee 87	Check	6.0	6	6	6	6
18	G57xNC-58	NCState Univ	5.8	6	7	6	5
19	G57xNC-63	NCState Univ	5.7	6	6	6	5
20	G57xNC-59	NCState Univ	5.6	5	6	6	5
CV (%)			6.8	10	7	13	13
Mean			6.5	7	7	6	6
LSD (5%)			0.7	1	1	1	1

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent; except color where 1 = white, 5 = medium green, 9 = very dark green).
Correlation (Marketable yield with average quality) = -0.16^{ns}

Table 23. Stage 3 spring slicer trial - fruit dimensions and comments (cultigens ranked by average quality rating).^z

Rank	Cultivar or line	Seed source	Length (inch)	Diameter (inch)	Wt. (lb.)	Defect 1°			Defect 2°		
						2	4	6	2	4	6
1	Poinsett 76	Cornell Univ	7.4	2.2	0.71	H	D	D	T	K	K
2	Montebello	United Genet	7.5	2.0	0.68	K	T	T	T	K	K
3	EMSB-143	EmeraldSeeds	8.0	1.9	0.70	K	T	T	G	K	K
4	G83xNC-62	NCState Univ	7.9	2.0	0.71	K	X	X	T	K	T
5	Dasher II	Seminis	7.5	2.0	0.66	K	D	T	T	K	K
6	NC-Stratford	NCState Univ	7.8	2.1	0.81	G	D	X	T	K	K
7	G83xNC-58	NCState Univ	7.9	2.1	0.77	T	D	D	K	K	K
8	G83xNC-59	NCState Univ	7.9	2.0	0.81	T	D	D	K	K	K
9	G83xNC-63	NCState Univ	7.9	2.0	0.75	K	D	D	T	T	K
10	Marketmore76	Check	7.9	1.9	0.68	M	H	X	T	V	K
11	EGSB-160	EmeraldSeeds	7.9	1.9	0.64	T	T	D	K	K	K
12	EGSB-152	EmeraldSeeds	8.4	1.9	0.67	K	T	X	T	K	K
13	Ashley	Check	7.3	2.0	0.64	M	D	X	T	T	T
14	G57xNC-62	NCState Univ	6.5	2.0	0.59	H	H	T	T	X	K
15	Intimidator	Seminis	7.2	1.8	0.52	H	T	X	T	K	T
16	NC-Sunshine	NCState Univ	7.4	2.0	0.66	H	D	T	D	K	K
17	Cherokee 87	Check	7.5	2.1	0.72	H	H	X	M	D	K
18	G57xNC-58	NCState Univ	6.6	2.0	0.61	H	X	D	M	K	K
19	G57xNC-63	NCState Univ	6.6	2.1	0.62	H	H	D	M	D	T
20	G57xNC-59	NCState Univ	6.2	2.1	0.59	H	H	X	M	D	K
CV (%)			5.2	5.6	14.66						
Mean			7.5	2.0	0.68						
LSD (5%)			0.6	0.2	0.16						

^z Defects were rated as follows (giving primary and secondary for each harvest):

A - wArty fruit	J - RiDGed	S - Separated carpels
B - Blossom end defects	K - Keep(excellent)	T - Tapered ends
C - Crooks excessive	L - Late maturity	U - Uniform green
D - Dogbone shape	M - Mottled fruit	V - Varicolor (dark stem end, light blossom end)
E - Early maturity	N - Nubs excessive	W - White fruit
F - Four celled	O - Offtype fruit	X - neCKS on fruit
G - lonG fruit	P - Placental hollows	Y - Yellow fruit
H - sHort fruit	Q -	Z - diSeased fruit
I - strIPed fruit	R - Reject (poor)	

Table 24. Stage 3 spring slicer trial - sex expression and vine data (cultigens ranked by gynoecious rating).

Rank	Cultivar or line	Seed source	Gyn. rating ^z	Early yield (cwt/A)	Earli- ness (%) ^x	Vine size ^w	Vine color ^w
1	Montebello	United Genet	8	37	34	7	8
2	Intimidator	Seminis	8	101	68	6	7
3	Dasher II	Seminis	7	68	45	6	8
4	EGSB-160	EmeraldSeeds	7	64	44	6	7
5	G57xNC-58	NCState Univ	6	167	73	8	6
6	G83xNC-62	NCState Univ	6	128	57	7	5
7	G83xNC-58	NCState Univ	6	68	43	7	7
8	NC-Stratford	NCState Univ	6	74	45	5	7
9	EGSB-152	EmeraldSeeds	5	28	29	7	7
10	G57xNC-63	NCState Univ	5	88	68	6	8
11	G57xNC-62	NCState Univ	5	134	68	8	7
12	Cherokee 87	Check	5	50	40	7	8
13	NC-Sunshine	NCState Univ	5	88	73	5	7
14	G57xNC-59	NCState Univ	4	88	59	6	9
15	G83xNC-63	NCState Univ	4	43	42	6	4
16	Marketmore76	Check	3	7	13	6	8
17	G83xNC-59	NCState Univ	3	48	38	6	8
18	Ashley	Check	3	14	19	6	6
19	EMSB-143	EmeraldSeeds	3	11	13	7	8
20	Poinsett 76	Cornell Univ	3	31	20	8	9
CV (%)			29	46	38	16	12
Mean			5	67	45	7	7
LSD (5%)			2	50	28	2	1

^z Gynoecious rating (1 = androecious, 2-3 = andromonoecious, 4-6 = monoecious, 7-8 = predominately gynoecious, 9 = gynoecious).

^y Early yield is weight of Fancy+No.1 grade fruit produced in harvests 1 and 2.

^x Earliness is the percent of the yield (Fancy + No.1 grade fruit) of 6 harvests that was produced in harvests 1 and 2.

^w Vine size & color are rated 1 (small or yellow green) to 9 (large or dark green)
Correlation (Marketable yield with gynoecious rating) = 0.23^{ns}

Table 25. Stage 3 spring slicer trial - disease ratings (cultigens ranked by average disease resistance).^z

Rank	Cultivar or line	Seed source	Downy mildew
1	Cherokee 87	Check	2.7
2	G57xNC-59	NCState Univ	3.3
3	EGB-160	EmeraldSeeds	3.7
4	Dasher II	Seminis	4.0
5	EGB-152	EmeraldSeeds	4.0
6	EMS-143	EmeraldSeeds	4.0
7	Poinsett 76	Cornell Univ	4.0
8	G83xNC-63	NCState Univ	4.3
9	Montebello	United Genet	4.7
10	G83xNC-59	NCState Univ	4.7
11	Ashley	Check	4.7
12	G57xNC-63	NCState Univ	5.0
13	G83xNC-62	NCState Univ	5.3
14	G83xNC-58	NCState Univ	5.3
15	G57xNC-62	NCState Univ	5.3
16	Marketmore76	Check	5.3
17	NC-Stratford	NCState Univ	5.7
18	Intimidator	Seminis	6.0
19	G57xNC-58	NCState Univ	7.0
20	NC-Sunshine	NCState Univ	7.3
CV (%)			20.8
Mean			4.8
LSD (5%)			1.7

^z Disease rated 0 to 9 (0=none, 1-2=trace, 3-4=slight, 5-6=moderate, 7-8=advanced, 9=plant dead).

Correlation (Marketable yield with disease rating) = 0.29^{ns}

Table 26. Stage 3 spring slicer trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	Simple weighted indexes		Average rank indexes	
			SWI1	SWI2	ARI1	ARI2
1	G57xNC-58	NCState Univ	7.4	6.5	11.0	10.1
2	G57xNC-62	NCState Univ	6.7	6.0	9.1	8.5
3	G83xNC-62	NCState Univ	6.7	5.9	7.5	7.5
4	Dasher II	Seminis	5.7	5.3	8.1	8.2
5	Intimidator	Seminis	5.7	5.4	10.9	10.4
6	G57xNC-59	NCState Univ	5.7	5.3	10.9	9.6
7	NC-Stratford	NCState Univ	5.6	5.1	9.6	9.9
8	EGSB-160	EmeraldSeeds	5.4	5.0	9.3	9.3
9	G83xNC-58	NCState Univ	5.2	4.9	10.1	10.4
10	G57xNC-63	NCState Univ	5.2	5.0	12.3	11.1
11	Poinsett 76	Cornell Univ	4.9	4.5	8.6	9.2
12	G83xNC-59	NCState Univ	4.9	4.6	10.4	10.9
13	Cherokee 87	Check	4.8	4.5	10.9	10.3
14	NC-Sunshine	NCState Univ	4.7	4.7	12.9	12.5
15	G83xNC-63	NCState Univ	4.7	4.5	10.7	11.0
16	Montebello	United Genet	4.5	4.3	9.6	10.5
17	EGSB-152	EmeraldSeeds	4.4	4.2	11.7	11.8
18	EMSB-143	EmeraldSeeds	4.3	4.0	10.6	11.4
19	Ashley	Check	3.7	3.5	12.5	13.1
20	Marketmore76	Check	3.4	3.2	13.4	14.4
CV (%)			15.6	13.6	17.3	16.8
Mean			5.2	4.8	10.5	10.5
LSD (5%)			1.3	1.1	3.0	2.9

^z SWI is simple weighted index calculated from the performance of a cultigen for yield; earliness; fruit shape, seedcell size and overall impression; and disease resistance. The index is calculated with 2 different methods of weighting each trait (10 is best, 1 is worst).

ARI is the average ranking of each cultigen for yield, earliness, fruit quality and disease resistance. The index is calculated with 2 different sets of secondary traits added in with the primary traits (1 is best).

Correlation (Marketable yield with SWI1) = 0.93**

Correlation (Marketable yield with ARI1) = -0.54**

Summer (Stage 4) Slicing Cucumber Trial 2009

Todd C. Wehner and Tammy L. Ellington

Experiment Design

1. A randomized complete block with 3 replications of slicer cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 20 ft. rows with 5 ft. alleys at each end.
3. Rows were on raised 18" beds spaced 60" apart (center to center).
4. Fertilizer consisted of 80-80-80 lb/A (N-P-K) broadcast preplant and 30-0-0 lb/A (N-P-K) sideplaced at the 2 to 4 leaf stage.
5. Curbit was applied preemergence at the rate of 1 lb. a.i./A.
6. The trial was planted 10 July, and harvested 4 times (Mondays and Thursdays) between 21 August and 8 September.

Data Collection

1. Fruit were weighed after sorting into No.1, No.2 and cull (nubs and crooks) grades according to U.S.D.A. standards.
2. Fruit length, diameter and weight were recorded for 3 fruit per plot.
3. Quality ratings were from 1 to 9, with 1 = worst, 9 = best.
4. Disease ratings were from 0 to 9, with 0 = no disease, 1-2 = trace, 3-4 = slight, 5-6 = moderate, 7-8 = severe, 9 = plant dead.

Results

The following cultigens performed well, and could be advanced to the next stage:

1	G57xNC-58	NCState Univ
2	Intimidator	Seminis
3	NC-Stratford	NCState Univ
4	NC-Sunshine	NCState Univ
5	G57xNC-59	NCState Univ
6	EMSB-143	EmeraldSeeds
7	EGSB-160	EmeraldSeeds

Table 27. Stage 4 summer slicer trial - yield data (cultigens ranked by cwt/A of Fancy + No. 1 grade fruit).

Rank	Cultivar or line	Seed source	Yield(cwt/A)		Percent fancy +No.1	Percent culls	Plants per A (x1000)
			Fancy +No.1	Market- able			
1	G57xNC-58	NCState Univ	72	126	38	33	26
2	G57xNC-59	NCState Univ	67	100	46	30	26
3	NC-Stratford	NCState Univ	60	110	38	31	26
4	Intimidator	Seminis	58	111	37	32	26
5	NC-Sunshine	NCState Univ	40	61	38	41	17
6	Montebello	United Genet	40	60	48	29	25
7	G57xNC-63	NCState Univ	39	79	32	31	26
8	Poinsett 76	Cornell Univ	37	68	36	30	26
9	Dasher II	Seminis	35	64	34	38	26
10	EGSB-160	EmeraldSeeds	30	59	28	45	26
11	EMSB-143	EmeraldSeeds	30	43	46	35	26
12	G83xNC-58	NCState Univ	27	46	28	52	24
13	G83xNC-63	NCState Univ	26	40	34	50	23
14	G83xNC-62	NCState Univ	25	53	25	47	24
15	G83xNC-59	NCState Univ	25	36	31	55	24
16	G57xNC-62	NCState Univ	25	65	22	42	26
17	Cherokee 87	Check	23	43	27	50	25
18	EGSB-152	EmeraldSeeds	20	30	33	50	26
19	Ashley	Check	17	41	23	41	23
20	Marketmore76	Check	10	11	28	69	26
	CV (%)		51	36	36	28	11
	Mean		35	62	34	41	25
	LSD (5%)		30	37	20	20	4

Correlation (Marketable yield with % culls) = -0.74**

Table 28. Stage 4 summer slicer trial - earliness data (cultigens ranked by weight of Fancy + No.1 grade fruit in harvests 1 and 2).

Rank	Cultivar or line	Seed source	Cumulative fruit weight and % of total weight (6 harvests) for harvest:									
			1		1-2		1-3		1-4		1-5	
			Wt.	%	Wt.	%	Wt.	%	Wt.	%	Wt.	%
1	G57xNC-58	NCState Univ	19	15	49	39	99	78	112	88	122	97
2	Intimidator	Seminis	7	5	28	25	69	60	86	76	102	90
3	NC-Stratford	NCState Univ	4	3	26	24	83	76	98	89	107	97
4	NC-Sunshine	NCState Univ	9	10	25	38	47	76	51	84	61	100
5	G57xNC-59	NCState Univ	1	1	15	14	38	37	69	66	95	95
6	G83xNC-62	NCState Univ	1	2	14	34	33	67	46	87	50	96
7	G57xNC-62	NCState Univ	2	2	14	22	27	42	54	82	63	97
8	G83xNC-63	NCState Univ	2	3	11	19	22	43	35	85	38	95
9	G57xNC-63	NCState Univ	0	0	8	11	39	44	57	70	72	90
10	Cherokee 87	Check	1	1	4	8	12	25	24	50	43	100
11	Dasher II	Seminis	1	1	3	4	11	12	31	44	57	89
12	Montebello	United Genet	1	1	3	4	16	25	27	45	52	87
13	G83xNC-58	NCState Univ	0	0	3	7	16	40	27	62	42	93
14	G83xNC-59	NCState Univ	0	0	2	6	15	32	28	71	32	83
15	Ashley	Check	0	0	1	2	11	24	14	33	32	75
16	EGSB-160	EmeraldSeeds	0	0	1	1	17	26	24	37	49	73
17	Poinsett 76	Cornell Univ	0	0	0	0	8	13	28	43	58	87
18	EMSB-143	EmeraldSeeds	0	0	0	0	0	1	11	23	33	69
19	EGSB-152	EmeraldSeeds	0	0	0	0	1	2	4	10	20	64
20	Marketmore76	Check	0	0	0	0	0	0	1	37	6	63
CV (%)			195	191	94	96	69	57	47	37	39	17
Mean			2	2	10	13	28	36	41	59	57	87
LSD (5%)			7	7	16	20	32	34	32	36	37	25

Correlation (Marketable yield with yield in harvests 1-2) = 0.68**

Correlation (Marketable yield with % of yield in harvests 1-2) = 0.42**

Table 29. Stage 4 summer slicer trial - fruit quality data (cultigens ranked by average quality).^z

Rank	Cultivar or line	Seed source	Average quality	Shape	Color	Seed- cell	Overall impression
1	Marketmore76	Check	7.3	8	8	7	7
2	NC-Sunshine	NCState Univ	7.0	6	8	8	7
3	Intimidator	Seminis	6.9	7	7	6	8
4	EGSB-160	EmeraldSeeds	6.9	7	8	7	7
5	EMSB-143	EmeraldSeeds	6.8	7	8	7	7
6	G83xNC-58	NCState Univ	6.3	6	8	6	6
7	Poinsett 76	Cornell Univ	6.3	6	8	6	7
8	G83xNC-62	NCState Univ	6.3	6	7	7	6
9	NC-Stratford	NCState Univ	6.2	6	8	6	7
10	Montebello	United Genet	6.2	6	8	6	6
11	G83xNC-63	NCState Univ	6.2	5	8	7	7
12	Dasher II	Seminis	6.2	5	7	8	6
13	G83xNC-59	NCState Univ	6.0	6	7	6	6
14	EGSB-152	EmeraldSeeds	5.9	6	8	7	5
15	Cherokee 87	Check	5.7	6	7	5	6
16	G57xNC-58	NCState Univ	5.6	5	5	6	5
17	Ashley	Check	5.3	6	6	5	5
18	G57xNC-63	NCState Univ	5.2	5	6	5	5
19	G57xNC-62	NCState Univ	5.2	5	5	6	5
20	G57xNC-59	NCState Univ	4.7	5	5	5	4
CV (%)			9.9	18	11	12	14
Mean			6.1	6	7	6	6
LSD (5%)			1.0	2	1	1	1

^z Quality rated 1 to 9 (1 = poor, 5 = average, 9 = excellent; except color where 1 = white, 5 = medium green, 9 = very dark green).
Correlation (Marketable yield with average quality) = -0.15^{ns}

Table 30. Stage 4 summer slicer trial - fruit dimensions and comments (cultigens ranked by average quality rating).^z

Rank	Cultivar or line	Seed source	Length (inch)	Diameter (inch)	Wt. (lb.)	Defect1°			Defect2°		
						2	4	6	2	4	6
1	Marketmore76	Check	7.9	2.1	0.62	K	K	K	T	T	T
2	NC-Sunshine	NCState Univ	7.6	1.9	0.64	K	K	K	K	D	H
3	Intimidator	Seminis	8.6	1.9	0.74	K	K	K	T	T	T
4	EGSB-160	EmeraldSeeds	8.2	1.9	0.55	K	K	K	T	T	T
5	EMSB-143	EmeraldSeeds	5.0	1.8	0.63	K	T	K	T	C	T
6	G83xNC-58	NCState Univ	6.9	2.0	0.55	H	K	K	M	G	H
7	Poinsett 76	Cornell Univ	6.7	2.0	0.74	H	H	K	N	N	H
8	G83xNC-62	NCState Univ	7.7	2.0	0.66	H	H	K	T	M	T
9	NC-Stratford	NCState Univ	7.3	2.0	0.69	K	K	H	H	D	K
10	Montebello	United Genet	7.9	1.8	0.57	G	O	H	T	D	T
11	G83xNC-63	NCState Univ	7.6	1.9	0.64	K	H	K	T	N	K
12	Dasher II	Seminis	7.2	1.9	0.56	H	D	K	T	N	H
13	G83xNC-59	NCState Univ	7.5	2.0	0.65	H	K	K	K	H	H
14	EGSB-152	EmeraldSeeds	7.4	1.8	0.55	H	T	H	T	N	T
15	Cherokee 87	Check	6.8	2.0	0.55	K	H	H	M	N	M
16	G57xNC-58	NCState Univ	6.7	2.1	0.67	H	H	M	K	M	H
17	Ashley	Check	7.1	1.9	0.58	M	H	H	T	M	M
18	G57xNC-63	NCState Univ	6.6	2.0	0.61	H	H	M	M	M	H
19	G57xNC-62	NCState Univ	6.6	2.0	0.58	H	H	K	D	M	M
20	G57xNC-59	NCState Univ	6.3	2.0	0.57	H	H	M	M	M	H
CV (%)			7.1	7.3	16.73						
Mean			7.2	2.0	0.62						
LSD (5%)			0.8	0.2	0.17						

^z Defects were rated as follows (giving primary and secondary for each harvest):

A - wArty fruit	J - RiDGed	S - Separated carpels
B - Blossom end defects	K - Keep(excellent)	T - Tapered ends
C - Crooks excessive	L - Late maturity	U - Uniform green
D - Dogbone shape	M - Mottled fruit	V - Varicolor (dark stem end, light blossom end)
E - Early maturity	N - Nubs excessive	W - White fruit
F - Four celled	O - Offtype fruit	X - neCKS on fruit
G - lonG fruit	P - Placental hollows	Y - Yellow fruit
H - sHort fruit	Q -	Z - diSeased fruit
I - strIPed fruit	R - Reject (poor)	

Table 31. Stage 4 summer slicer trial - sex expression and vine data (cultigens ranked by gynoecious rating).

Rank	Cultivar or line	Seed source	Gyn. rating ^z	Early yield (cwt/A)	Earli- ness (%) ^x	Vine size ^w	Vine color ^w
1	Montebello	United Genet	8	3	4	8	8
2	Intimidator	Seminis	7	28	25	8	6
3	NC-Stratford	NCState Univ	7	26	24	7	6
4	G83xNC-62	NCState Univ	7	14	34	7	7
5	Cherokee 87	Check	7	4	8	7	8
6	G57xNC-58	NCState Univ	6	49	39	8	7
7	Dasher II	Seminis	6	3	4	7	8
8	G57xNC-63	NCState Univ	6	8	11	7	7
9	G57xNC-62	NCState Univ	6	14	22	6	7
10	G83xNC-58	NCState Univ	6	3	7	7	7
11	NC-Sunshine	NCState Univ	6	25	38	6	7
12	EGSB-160	EmeraldSeeds	5	1	1	8	7
13	Poinsett 76	Cornell Univ	5	0	0	7	7
14	G83xNC-59	NCState Univ	5	2	6	7	6
15	G57xNC-59	NCState Univ	5	15	14	8	7
16	EMSB-143	EmeraldSeeds	5	0	0	8	7
17	G83xNC-63	NCState Univ	5	11	19	7	7
18	Ashley	Check	5	1	2	7	7
19	EGSB-152	EmeraldSeeds	4	0	0	8	7
20	Marketmore76	Check	4	0	0	7	7
CV (%)			18	94	96	12	12
Mean			6	10	13	7	7
LSD (5%)			2	16	20	1	1

^z Gynoecious rating (1 = androecious, 2-3 = andromonoecious, 4-6 = monoecious, 7-8 = predominately gynoecious, 9 = gynoecious).

^y Early yield is weight of Fancy+No.1 grade fruit produced in harvests 1 and 2.

^x Earliness is the percent of the yield (Fancy + No.1 grade fruit) of 6 harvests that was produced in harvests 1 and 2.

^w Vine size & color are rated 1 (small or yellow green) to 9 (large or dark green).

Correlation (Marketable yield with gynoecious rating) = 0.39**

Table 32. Stage 4 summer slicer trial - disease ratings (cultigens ranked by average disease resistance).^z

Rank	Cultivar or line	Seed source	Downy mildew
1	EGSB-152	EmeraldSeeds	3.7
2	EMSB-143	EmeraldSeeds	4.0
3	Dasher II	Seminis	4.7
4	EGSB-160	EmeraldSeeds	4.7
5	G57xNC-59	NCState Univ	4.7
6	Poinsett 76	Cornell Univ	5.0
7	Ashley	Check	5.0
8	Marketmore76	Check	5.0
9	Montebello	United Genet	5.3
10	G83xNC-62	NCState Univ	5.3
11	G57xNC-63	NCState Univ	5.3
12	G83xNC-58	NCState Univ	5.3
13	G83xNC-59	NCState Univ	5.3
14	Intimidator	Seminis	5.7
15	G57xNC-62	NCState Univ	6.0
16	NC-Stratford	NCState Univ	6.3
17	Cherokee 87	Check	6.3
18	G57xNC-58	NCState Univ	6.3
19	NC-Sunshine	NCState Univ	6.3
20	G83xNC-63	NCState Univ	6.3
CV (%)			13.5
Mean			5.3
LSD (5%)			1.2

^z Disease rated 0 to 9 (0=none, 1-2=trace, 3-4=slight, 5-6=moderate, 7-8=advanced, 9=plant dead).

Correlation (Marketable yield with disease rating) = 0.17^{ns}

Table 33. Stage 4 summer slicer trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	Simple weighted indexes		Average rank indexes	
			SWI1	SWI2	ARI1	ARI2
1	G57xNC-58	NCState Univ	4.2	4.0	10.1	9.0
2	Intimidator	Seminis	4.2	4.0	7.2	7.3
3	NC-Stratford	NCState Univ	4.0	3.8	8.9	8.7
4	NC-Sunshine	NCState Univ	3.8	3.8	8.3	8.9
5	G57xNC-59	NCState Univ	3.6	3.3	11.7	9.7
6	EMSB-143	EmeraldSeeds	3.6	3.2	8.8	9.5
7	EGSB-160	EmeraldSeeds	3.5	3.2	8.9	9.5
8	Montebello	United Genet	3.4	3.1	10.1	10.3
9	Dasher II	Seminis	3.4	3.1	9.5	9.6
10	Poinsett 76	Cornell Univ	3.4	3.1	10.6	10.8
11	G83xNC-62	NCState Univ	3.4	3.5	9.2	9.1
12	Marketmore76	Check	3.3	3.0	9.3	11.1
13	G83xNC-58	NCState Univ	3.3	3.0	10.4	10.7
14	EGSB-152	EmeraldSeeds	3.3	2.9	11.4	11.5
15	G57xNC-63	NCState Univ	3.2	3.0	12.4	11.0
16	G83xNC-63	NCState Univ	3.1	3.1	11.7	12.5
17	G83xNC-59	NCState Univ	3.1	2.8	11.4	11.8
18	G57xNC-62	NCState Univ	2.9	2.8	13.0	11.8
19	Cherokee 87	Check	2.9	2.7	13.6	13.8
20	Ashley	Check	2.8	2.5	13.6	13.2
CV (%)			11.8	12.1	18.9	19.1
Mean			3.4	3.2	10.5	10.5
LSD (5%)			0.7	0.6	3.3	3.3

^z SWI is simple weighted index calculated from the performance of a cultigen for yield; earliness; fruit shape, seedcell size and overall impression; and disease resistance. The index is calculated with 2 different methods of weighting each trait (10 is best, 1 is worst).

ARI is the average ranking of each cultigen for yield, earliness, fruit quality and disease resistance. The index is calculated with 2 different sets of secondary traits added in with the primary traits (1 is best).

Correlation (Marketable yield with SWI1) = 0.76**

Correlation (Marketable yield with ARI1) = -0.39**