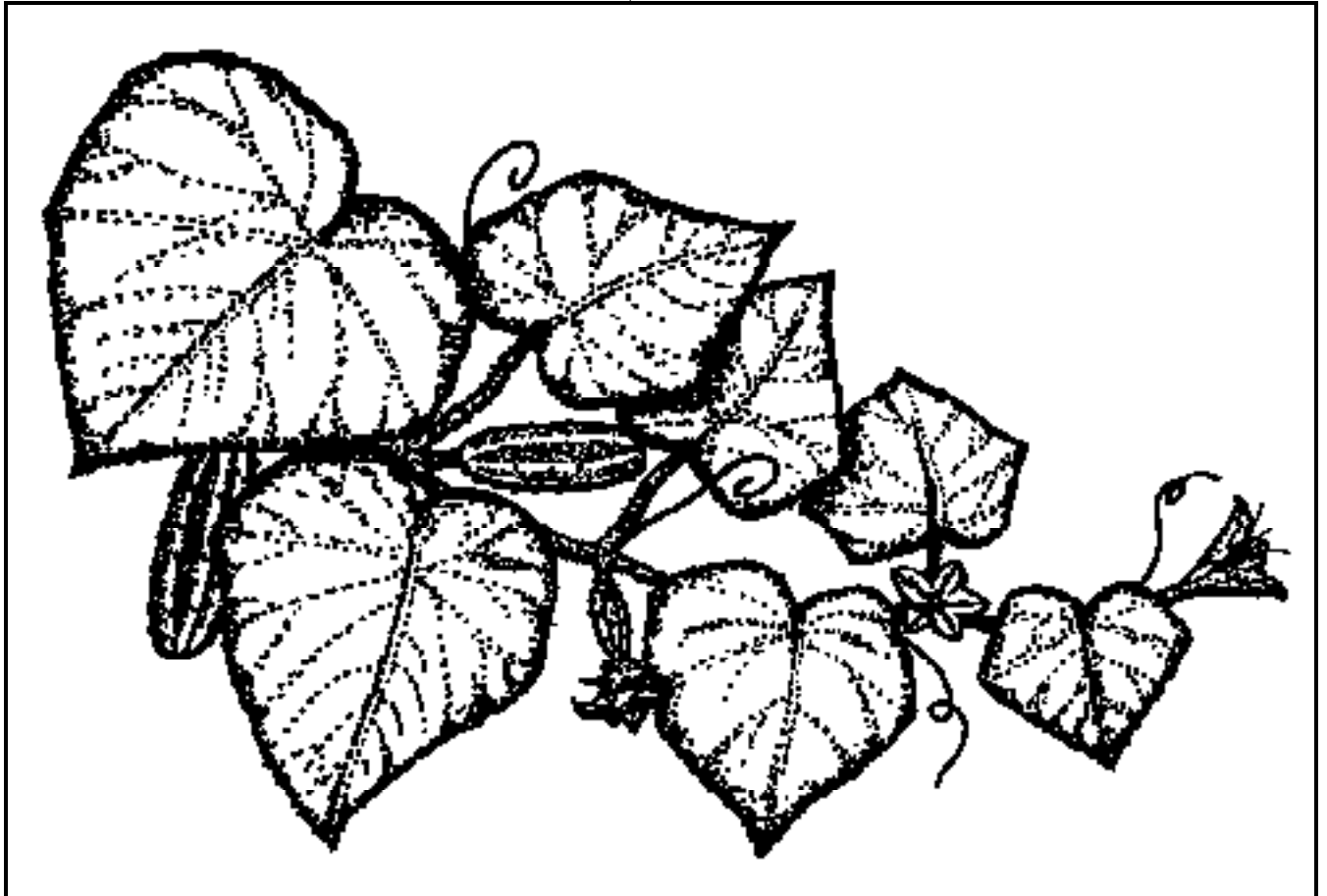


\$5.00

NC State Cucumber Trials 2006



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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 (combined grade 3 is the average of 3A and 3B):

Grade	Spring \$/cwt	Summer \$/cwt
No.1 (< 1 1/16")	\$20.00	\$20.00
No.2 (1 1/16 - 1 1/2")	11.50	11.50
No.3 (1 1/2 - 2")	8.00	8.00
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, 3 and 4 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, Bob Quinn, Henry Woods, and Nick Flores (Mt. Olive), John Cates and Curtiss Cates (Addis Cates Co.), Steve Apol (Toisnot), and Sara Walpole (Nunhems).

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 Atlantis, Exp04-2759, NC-Danbury, Exp05-6819, Feisty, Vlasstar, Exp05-6828, Classy, NC-Duplin, Starex, HMX-5406, Pershing, NC-Davie and Powerpak.
- Most cultigens were bloater resistant.
- The firmest cultigens were Sumter, Exp05-6828, NC-Danbury, Rocket, Atlantis, Exp05-6819, Exp04-2759, NC-Lexington, HMX-5406, Starex, Exp05-6838, Wis.SMR 18, EX0450-6143, NC-Dixon and NC-Duplin.
- 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 Steve Apol who assigned the highest quality ratings, to Nick Flores 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 (all judges gave good cultigens high ratings, and bad cultigens low ratings).

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	Atlantis	Bejo Seeds	6.5	6.1	6.3	6.4	6.9	6.7
2	Exp04-2759	Bejo Seeds	6.3	6.7	6.2	6.2	6.1	6.5
3	NCDanbury	NCStateUniv	6.2	6.3	6.3	6.0	5.8	6.4
4	Exp05-6819	Bejo Seeds	6.1	6.1	6.0	6.0	6.0	6.3
5	Feisty	HarrisMoran	6.1	6.0	6.2	6.0	5.8	6.5
6	Vlasstar(10489	Seminis	6.1	6.3	6.4	6.0	5.7	6.2
7	Exp05-6828	Bejo Seeds	6.1	6.0	6.0	6.1	6.2	6.1
8	Classy	HarrisMoran	6.0	6.0	6.0	6.0	5.5	6.5
9	NCDuplin(56x57	NCStateUniv	6.0	5.8	6.2	6.1	5.6	6.2
10	Starex	Baker Seeds	5.9	5.7	6.0	5.9	5.9	6.2
11	HMX-5406	HarrisMoran	5.9	5.4	5.5	6.5	6.3	6.0
12	Pershing	Nunhems	5.9	5.7	6.4	5.8	5.6	6.2
13	NCDavie(54x55)	NCStateUniv	5.8	5.9	6.0	5.7	5.2	6.4
14	Powerpak	Seminis	5.8	6.0	5.9	5.4	5.5	6.3
15	NCDixon	NCStateUniv	5.8	5.8	5.7	5.7	5.5	6.3
16	Crispina	Nunhems	5.8	5.7	6.1	5.9	5.0	6.2
17	H-19	Seminis	5.8	5.0	5.5	5.9	6.3	6.2
18	Sumter	ClemsonUniv	5.8	5.8	4.9	6.2	6.1	5.8
19	Rocket	Baker Seeds	5.6	5.9	6.0	5.3	4.9	6.1
20	Cates	Nunhems	5.6	5.3	5.7	5.5	5.7	5.9
21	Wainwright	Nunhems	5.6	5.5	6.0	5.4	5.3	5.8
22	EX0450-6143	Seminis	5.6	5.4	5.8	5.6	5.3	5.7
23	Ballerina	Nunhems	5.5	5.5	6.1	5.2	4.7	6.2
24	NCDenton(G5x55	NCStateUniv	5.5	5.3	5.7	5.6	4.9	6.1
25	Vlaspik	Seminis	5.5	5.1	5.8	5.5	5.4	5.5
26	NCLexington	NCStateUniv	5.4	5.0	5.8	5.5	5.0	5.8
27	Crispina(Parth	Nunhems	5.4	5.3	5.5	5.4	4.6	6.0
28	NCDawson(G5x52	NCStateUniv	5.3	4.8	5.6	5.1	4.9	5.9
29	Raleigh	NCStateUniv	5.3	5.0	5.8	5.3	5.0	5.3
30	Calypso	NCStateUniv	5.3	4.7	5.5	5.3	5.1	5.7
31	Exp05-6838	Bejo Seeds	5.3	4.6	5.8	5.2	5.0	5.7
32	NCLeland	NCStateUniv	5.2	4.5	5.7	5.2	4.9	5.6
33	BallerinaPrth	Nunhems	5.1	4.9	5.8	4.8	4.6	5.6
34	Johnston	NCStateUniv	5.1	4.5	5.6	5.2	4.9	5.4
35	NCLeland(Parth	NCStateUniv	5.1	3.8	5.2	5.2	5.6	5.7
36	NCLonghurst	NCStateUniv	5.1	3.6	5.3	5.4	5.3	5.9
37	NCLonghurstPrh	NCStateUniv	5.1	3.4	4.8	5.6	6.0	5.5
38	NCLexingtonPrh	NCStateUniv	5.0	4.4	4.9	5.1	4.6	5.9
39	Wis.SMR 18	Univ. Wis.	4.7	3.9	4.7	5.1	4.8	5.0
40	NCMoriah	NCStateUniv	4.5	3.2	4.6	4.8	4.4	5.3
41	Coolgreen	Seminis	4.4	3.8	4.7	4.2	3.8	5.5
42	NCMerritt	NCStateUniv	4.3	3.2	4.6	4.5	4.6	4.8
LSD (5%)			0.4	0.6	0.5	0.6	0.6	0.5
Mean			5.5	5.2	5.7	5.5	5.3	5.9
CV (%)			12	20	15	19	21	14

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) = 0.75**
Correlation (Texture with Seedcell) = 0.80**

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	Vlasstar(10489	Seminis	0	0	0	0
2	Starex	Baker Seeds	0	0	0	0
3	Pershing	Nunhems	0	0	0	0
4	H-19	Seminis	0	0	0	0
5	NCLexington	NCStateUniv	0	0	0	0
6	NCLeland	NCStateUniv	0	0	0	0
7	NCLeland(Parth	NCStateUniv	0	0	0	0
8	NCLonghurst	NCStateUniv	0	0	0	0
9	NCLonghurstPrh	NCStateUniv	0	0	0	0
10	NCLexingtonPrh	NCStateUniv	0	0	0	0
11	NCMoriah	NCStateUniv	0	0	0	0
12	NCMerritt	NCStateUniv	0	0	0	0
13	Crispina	Nunhems	0	0	0	0
14	NCDavie(54x55)	NCStateUniv	0	0	0	0
15	NCDuplin(56x57	NCStateUniv	0	0	0	0
16	HMX-5406	HarrisMoran	0	0	0	0
17	Sumter	ClemsonUniv	0	0	0	0
18	NCDenton(G5x55	NCStateUniv	0	0	0	0
19	Wainwright	Nunhems	0	0	0	0
20	Calypso	NCStateUniv	1	0	0	1
21	Cates	Nunhems	1	0	0	1
22	EX0450-6143	Seminis	2	0	0	2
23	Crispina(Parth	Nunhems	0	0	0	0
24	Exp04-2759	Bejo Seeds	0	0	0	0
25	Coolgreen	Seminis	1	1	0	0
26	Rocket	Baker Seeds	1	1	0	0
27	Raleigh	NCStateUniv	1	1	0	0
28	Atlantis	Bejo Seeds	1	1	0	0
29	Exp05-6838	Bejo Seeds	1	1	0	0
30	NCDixon	NCStateUniv	1	1	0	0
31	Vlaspik	Seminis	1	1	0	0
32	Ballerina	Nunhems	2	1	0	1
33	Wis.SMR 18	Univ. Wis.	1	1	0	0
34	Johnston	NCStateUniv	2	1	1	0
35	NCDanbury	NCStateUniv	1	1	0	0
36	Classy	HarrisMoran	2	2	0	0
37	Powerpak	Seminis	2	2	0	0
38	Exp05-6819	Bejo Seeds	2	2	0	0
39	Exp05-6828	Bejo Seeds	2	2	0	0
40	NCDawson(G5x52	NCStateUniv	3	3	0	0
41	BallerinaPrth	Nunhems	3	3	0	0
42	Feisty	HarrisMoran	3	3	0	0
LSD (5%)			3	3	1	1
Mean			1	1	0	0
CV (%)			191	226	1122	410

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	Starex	Baker Seeds	0	0	0	0
2	H-19	Seminis	0	0	0	0
3	NCLeland	NCStateUniv	0	0	0	0
4	NCLeland(Parth	NCStateUniv	0	0	0	0
5	NCLonghurst	NCStateUniv	0	0	0	0
6	NCLonghurstPrh	NCStateUniv	0	0	0	0
7	NCLexingtonPrh	NCStateUniv	0	0	0	0
8	NCLexington	NCStateUniv	0	0	0	0
9	Exp04-2759	Bejo Seeds	0	0	0	0
10	Calypso	NCStateUniv	0	0	0	0
11	Crispina	Nunhems	1	0	0	0
12	NCDavie(54x55)	NCStateUniv	1	1	0	0
13	Coolgreen	Seminis	1	0	0	1
14	NCDixon	NCStateUniv	1	1	0	0
15	Wis.SMR 18	Univ. Wis.	1	1	0	0
16	Classy	HarrisMoran	1	1	0	0
17	Vlasstar(10489	Seminis	1	0	0	1
18	Pershing	Nunhems	1	0	1	0
19	HMX-5406	HarrisMoran	1	1	0	0
20	Raleigh	NCStateUniv	1	0	0	1
21	Feisty	HarrisMoran	1	1	0	0
22	NCDuplin(56x57	NCStateUniv	1	1	0	0
23	Sumter	ClemsonUniv	1	1	0	0
24	Crispina(Parth	Nunhems	1	0	0	1
25	Atlantis	Bejo Seeds	1	0	1	0
26	Exp05-6838	Bejo Seeds	1	0	0	1
27	Exp05-6828	Bejo Seeds	1	1	0	0
28	Johnston	NCStateUniv	2	1	0	1
29	Exp05-6819	Bejo Seeds	2	1	0	0
30	NCDawson(G5x52	NCStateUniv	2	1	0	0
31	BallerinaPrth	Nunhems	2	0	0	1
32	NCMoriah	NCStateUniv	2	0	0	2
33	Cates	Nunhems	2	1	0	1
34	Vlaspik	Seminis	2	1	0	1
35	NCMerritt	NCStateUniv	2	0	0	2
36	NCDanbury	NCStateUniv	2	1	0	1
37	EX0450-6143	Seminis	2	2	0	0
38	NCDenton(G5x55	NCStateUniv	3	2	0	0
39	Rocket	Baker Seeds	3	2	0	1
40	Ballerina	Nunhems	3	0	0	3
41	Wainwright	Nunhems	5	4	0	0
42	Powerpak	Seminis	7	3	1	3
	LSD (5%)		2	2	1	2
	Mean		1	1	0	1
	CV (%)		101	169	427	210

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	ClemsonUniv	24.5	6.2	1	0	0	1
2	Exp05-6828	Bejo Seeds	23.1	6.1	4	2	2	1
3	NCDanbury	NCStateUniv	23.0	6.0	4	1	1	2
4	Rocket	Baker Seeds	22.9	5.3	4	1	1	3
5	Atlantis	Bejo Seeds	22.9	6.4	2	1	1	1
6	Exp05-6819	Bejo Seeds	22.5	6.0	4	2	2	2
7	Exp04-2759	Bejo Seeds	22.3	6.2	1	0	0	0
8	NCLexington	NCStateUniv	22.3	5.5	0	0	0	0
9	HMX-5406	HarrisMoran	22.3	6.5	1	0	0	1
10	Starex	Baker Seeds	22.1	5.9	0	0	0	0
11	Exp05-6838	Bejo Seeds	22.0	5.2	2	1	1	1
12	Wis.SMR 18	Univ. Wis.	22.0	5.1	2	1	1	1
13	EX0450-6143	Seminis	21.9	5.6	4	2	0	2
14	NCDixon	NCStateUniv	21.8	5.7	2	1	1	1
15	NCDuplin(56x57	NCStateUniv	21.8	6.1	1	0	0	1
16	NCDavie(54x55)	NCStateUniv	21.6	5.7	1	0	0	1
17	Raleigh	NCStateUniv	21.6	5.3	2	1	1	1
18	Vlaspik	Seminis	21.5	5.5	3	1	1	2
19	NCDenton(G5x55	NCStateUniv	21.4	5.6	3	0	0	3
20	Cates	Nunhems	21.3	5.5	3	1	0	2
21	Vlasstar(10489	Seminis	21.1	6.0	1	0	0	1
22	NCLexingtonPrh	NCStateUniv	21.1	5.1	0	0	0	0
23	NCLeland	NCStateUniv	21.1	5.2	0	0	0	0
24	Pershing	Nunhems	21.0	5.8	1	0	0	1
25	Wainwright	Nunhems	20.8	5.4	5	0	0	5
26	Johnston	NCStateUniv	20.7	5.2	4	2	1	2
27	H-19	Seminis	20.7	5.9	0	0	0	0
28	Crispina	Nunhems	20.5	5.9	1	0	0	1
29	Powerpak	Seminis	20.2	5.4	9	2	2	7
30	Calypso	NCStateUniv	20.0	5.3	1	1	0	0
31	NCDawson(G5x52	NCStateUniv	20.0	5.1	5	3	3	2
32	Crispina(Parth	Nunhems	19.8	5.4	2	0	0	1
33	Ballerina	Nunhems	19.8	5.2	5	2	1	3
34	NCLonghurst	NCStateUniv	19.5	5.4	0	0	0	0
35	BallerinaPrth	Nunhems	19.5	4.8	5	3	3	2
36	NCLeland(Parth	NCStateUniv	19.3	5.2	0	0	0	0
37	Feisty	HarrisMoran	19.2	6.0	4	3	3	1
38	Classy	HarrisMoran	19.1	6.0	3	2	2	1
39	NCMoriah	NCStateUniv	18.8	4.8	2	0	0	2
40	NCMerritt	NCStateUniv	17.9	4.5	2	0	0	2
41	NCLonghurstPrh	NCStateUniv	17.6	5.6	0	0	0	0
42	Coolgreen	Seminis	12.3	4.2	1	1	1	1
LSD (5%)			2.0	0.6	4	3	3	2
Mean			20.8	5.5	2	1	1	1
CV (%)			6	19	99	191	226	101

² Firmness determined by punch-testing (Magness-Taylor) 10 grade 2B fruits.
Correlation of Texture with: Firmness = 0.39**, Balloon = -0.23**
Correlation of Texture with: Honeycomb = -0.09ns, Soft centers = -0.30**

Table 5. Brinestock evaluation - quality ratings assigned by the judges (judges are ranked by leniency).²

Rank	Judge	Average quality	Shape	External color	Texture	Seed cell	Uniformity
1	Apol	7.3	7.4	7.4	7.3	7.2	7.3
2	Denlinger	6.2	5.6	6.8	6.1	6.0	6.6
3	Cates,J	5.8	4.5	6.0	6.1	6.3	6.0
4	Walpole	5.4	5.2	5.5	5.8	5.5	5.1
5	Woods	5.4	5.2	5.3	5.5	5.3	5.5
6	Cates,C	4.8	5.1	5.1	4.7	4.5	4.8
7	Quinn	4.7	3.8	4.6	4.3	3.7	7.0
8	Flores	4.6	4.4	4.6	4.6	4.3	5.2

² 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 2006

Experiment Design

1. A randomized complete block with 2 replications of pickle cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 5 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 26 April, and harvested 2 times 22 and 29 June.

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	M 27	NCState Univ.
2	NC-71	NCState Univ.
3	Raleigh	NCState Univ.
4	NC-74	NCState Univ.
5	NC-52	NCState Univ.
6	NC-55	NCState Univ.
7	Johnston	NCState Univ.
8	NC-56	NCState Univ.

Table 6. Stage 1 spring pickle trial - yield data (cultigens are ranked by number of marketable fruits per plot).

Rank	Cultivar or line	Seed source	No. fruits per plot			% cull	Fruit per plant
			Mark- able	Total	Early (OSize)		
1	M 27	NCState Univ.	62	70	6	10	2.3
2	Raleigh	NCState Univ.	62	73	8	16	2.4
3	NC-52	NCState Univ.	58	74	12	22	2.5
4	NC-74	NCState Univ.	57	64	10	12	2.1
5	NC-71	NCState Univ.	56	67	17	16	2.2
6	Johnston	NCState Univ.	53	66	7	18	2.7
7	NC-56	NCState Univ.	49	53	9	8	2.3
8	NC-54	NCState Univ.	48	54	8	11	1.8
9	NC-55	NCState Univ.	48	54	12	11	1.9
10	NC-73	NCState Univ.	40	50	7	21	1.7
11	NC-57	NCState Univ.	36	44	8	18	1.5
12	Calypso	NCState Univ.	34	35	7	3	1.3
13	NC-70	NCState Univ.	33	44	6	25	1.8
14	Napoleon	Nunhems	32	36	4	11	1.5
15	Sumter	NCState Univ.	31	37	9	12	1.2
16	NC-66	NCState Univ.	29	29	0	0	1.6
17	NC-67	NCState Univ.	27	32	2	15	2.4
18	WisSMR18	Univ.Wis.	26	32	10	17	1.1
19	NC-72	NCState Univ.	25	34	5	27	1.1
20	NC-69	NCState Univ.	24	26	3	7	1.5
21	NC-68	NCState Univ.	18	22	1	10	1.2
22	Gy 5	NCState Univ.	16	23	3	33	0.8
23	H-19	Univ.Ark.	8	8	1	7	0.3
	CV (%)		27	27	49	49	30
	Mean		38	44	6	14	1.7
	LSD (5%)		21	25	7	15	1.1

Correlation (Total yield with % culls) = 0.18^{ns}

Table 7. Stage 1 spring pickle trial - vine data (cultigens are ranked by gynoecious rating).

Rank	Cultivar or line	Seed source	Gynoecious rating	LD ratio	Length (in.)	Diam. (in.)	Firm. (lb.)	DM rating
1	NC-70	NCState Univ.	9.0	3.0	4.7	1.6	13.5	2.0
2	NC-66	NCState Univ.	9.0	3.0	3.7	1.2	17.0	2.0
3	Johnston	NCState Univ.	9.0	2.9	4.5	1.6	15.5	1.5
4	NC-67	NCState Univ.	7.0	3.8	5.2	1.4	18.0	0.0
5	Raleigh	NCState Univ.	7.0	3.0	4.6	1.5	15.0	1.0
6	Calypso	NCState Univ.	7.0	2.9	4.6	1.6	16.5	0.0
7	NC-68	NCState Univ.	6.5	3.6	4.7	1.3	14.0	5.0
8	NC-57	NCState Univ.	6.0	3.0	4.9	1.7	16.5	2.0
9	NC-54	NCState Univ.	5.5	3.0	4.5	1.5	13.5	0.0
10	NC-56	NCState Univ.	5.5	3.0	4.5	1.5	15.0	1.5
11	WisSMR18	Univ.Wis.	5.0	3.1	4.5	1.5	16.5	4.5
12	NC-52	NCState Univ.	5.0	2.9	4.4	1.5	12.5	1.0
13	Gy 5	NCState Univ.	4.0	3.7	5.0	1.4	13.0	1.5
14	Sumter	NCState Univ.	4.0	2.9	5.0	1.7	18.5	1.0
15	Napoleon	Nunhems	4.0	2.8	4.3	1.5	13.0	1.0
16	M 27	NCState Univ.	4.0	2.8	4.1	1.5	16.0	5.5
17	NC-71	NCState Univ.	4.0	2.8	4.5	1.6	14.0	0.0
18	NC-73	NCState Univ.	3.5	3.2	4.9	1.5	15.0	0.0
19	NC-72	NCState Univ.	3.5	3.2	5.3	1.7	17.0	4.5
20	NC-55	NCState Univ.	3.5	3.0	4.3	1.5	16.0	1.5
21	NC-74	NCState Univ.	3.5	2.7	4.3	1.6	18.0	0.5
22	H-19	Univ.Ark.	3.0	3.4	3.9	1.2	16.5	2.5
23	NC-69	NCState Univ.	3.0	3.3	4.8	1.4	14.0	2.0
CV (%)			20	7	7	8	12	52
Mean			5.3	3.1	4.6	1.5	15.4	1.8
LSD (5%)			2.2	0.5	0.7	0.3	3.8	1.9

^z Gynoecy rated 1 to 9 (1 = androecious, 5 = monoecious, 9 = gynoecious).

^y Fruit firmness measured in lb of force.

^z Downy mildew rated 0 to 9 (0 = no disease, 9 = plant dead).

Correlation (Total yield with gynoecious rating) = 0.07^{ns}

Table 8. Stage 1 spring pickle trial - fruit quality data (cultigens are ranked by average fruit quality).

Rank	Cultivar or line	Seed source	Average quality ^z	Shape ^z	Color ^y	Seed- cell ^z	Overall impres- sion ^z
1	Sumter	NCState Univ.	7.1	8	5	6	7
2	H-19	Univ.Ark.	6.8	7	7	7	7
3	NC-74	NCState Univ.	6.7	7	7	7	7
4	NC-72	NCState Univ.	6.6	7	6	6	7
5	M 27	NCState Univ.	6.5	8	5	5	7
6	NC-71	NCState Univ.	6.5	8	7	4	8
7	NC-69	NCState Univ.	6.5	7	6	7	6
8	Gy 5	NCState Univ.	6.5	7	7	6	8
9	NC-55	NCState Univ.	6.4	8	7	4	7
10	NC-57	NCState Univ.	6.4	7	7	5	7
11	Calypso	NCState Univ.	6.3	7	7	5	7
12	NC-67	NCState Univ.	6.3	7	7	6	7
13	Napoleon	Nunhems	6.2	7	8	6	7
14	NC-73	NCState Univ.	6.1	7	7	5	7
15	NC-56	NCState Univ.	6.0	8	5	4	6
16	NC-68	NCState Univ.	6.0	7	7	6	6
17	NC-54	NCState Univ.	5.9	7	5	4	7
18	NC-70	NCState Univ.	5.9	6	8	5	7
19	Raleigh	NCState Univ.	5.9	6	8	5	7
20	NC-66	NCState Univ.	5.7	6	6	5	6
21	NC-52	NCState Univ.	5.4	6	5	4	6
22	Johnston	NCState Univ.	5.4	6	8	4	7
23	WisSMR18	Univ.Wis.	4.8	6	4	4	5
	CV (%)		5	7	6	11	6
	Mean		6.2	7	6	5	7
	LSD (5%)		0.7	1	1	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 (Total yield with average quality) = -0.14^{ns}

Table 9. Stage 1 spring pickle trial - primary and secondary fruit defects, for harvest 1 and 2 in replications 1 and 2 (cultigens ranked by fruit quality).^z

Rank	Cultivar or line	Seed source	Average quality	Hv1Prmry		Hv1Scdry		Hv2Prmry		Hv2Scdry	
				Rp1	Rp2	Rp1	Rp2	Rp1	Rp2	Rp1	Rp2
1	Sumter	NCState Univ.	7.1	W	W	K	K	K	K	W	W
2	H-19	Univ.Ark.	6.8	V	X	K	V	V	X	K	V
3	NC-74	NCState Univ.	6.7	H	H	K	K	K	K	H	H
4	NC-72	NCState Univ.	6.6	O	L	G	T	K	K	O	D
5	M 27	NCState Univ.	6.5	W	W	K	K	K	K	W	K
6	NC-71	NCState Univ.	6.5	K	H	K	K	K	K	D	K
7	NC-69	NCState Univ.	6.5	V	X	K	G	V	X	K	G
8	Gy 5	NCState Univ.	6.5	K	K	D	D	K	K	D	D
9	NC-55	NCState Univ.	6.4	K	A	K	K	K	K	K	H
10	NC-57	NCState Univ.	6.4	T	H	K	T	K	K	H	D
11	Calypso	NCState Univ.	6.3	K	K	K	K	K	K	K	H
12	NC-67	NCState Univ.	6.3	L	T	T	K	X	X	V	V
13	Napoleon	Nunhems	6.2	K	H	K	K	K	K	H	H
14	NC-73	NCState Univ.	6.1	K	K	G	G	K	K	D	O
15	NC-56	NCState Univ.	6.0	W	W	K	K	D	K	K	W
16	NC-68	NCState Univ.	6.0	V	G	L	V	V	G	L	V
17	NC-54	NCState Univ.	5.9	K	L	L	K	K	K	G	D
18	NC-70	NCState Univ.	5.9	K	T	K	K	K	K	C	H
19	Raleigh	NCState Univ.	5.9	H	D	D	H	K	K	N	D
20	NC-66	NCState Univ.	5.7	H	H	L	L	K	K	V	V
21	NC-52	NCState Univ.	5.4	H	H	K	K	K	K	D	K
22	Johnston	NCState Univ.	5.4	D	D	H	K	K	D	T	K
23	WisSMR18	Univ.Wis.	4.8	W	W	K	D	Y	Y	W	W
CV (%)			5								
Mean			6.2								
LSD (5%)			0.7								

^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 1 spring pickle trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	SWI1	SWI2	Mark. yield	Early yield	Fruit shape	Seed cell	Over -all
1	M 27	NCState Univ.	13.9	11.5	62	6	8	5	7
2	NC-71	NCState Univ.	13.5	11.5	56	17	8	4	8
3	Raleigh	NCState Univ.	13.2	10.7	62	8	6	5	7
4	NC-74	NCState Univ.	12.9	10.7	57	10	7	7	7
5	NC-52	NCState Univ.	12.7	10.5	58	12	6	4	6
6	NC-55	NCState Univ.	12.0	10.4	48	12	8	4	7
7	Johnston	NCState Univ.	11.6	9.5	53	7	6	4	7
8	NC-56	NCState Univ.	11.6	9.9	49	9	8	4	6
9	NC-54	NCState Univ.	11.1	9.4	48	8	7	4	7
10	NC-73	NCState Univ.	9.8	8.5	40	7	7	5	7
11	NC-57	NCState Univ.	9.7	8.6	36	8	7	5	7
12	Sumter	NCState Univ.	9.3	8.5	31	9	8	6	7
13	Calypso	NCState Univ.	9.1	8.1	34	7	7	5	7
14	NC-70	NCState Univ.	8.8	7.8	33	6	6	5	7
15	Napoleon	Nunhems	8.3	7.4	32	4	7	6	7
16	NC-72	NCState Univ.	8.1	7.5	25	5	7	6	7
17	WisSMR18	Univ.Wis.	7.8	7.1	26	10	6	4	5
18	NC-67	NCState Univ.	7.4	6.7	27	2	7	6	7
19	NC-66	NCState Univ.	7.4	6.5	29	0	6	5	6
20	NC-69	NCState Univ.	7.4	6.9	24	3	7	7	6
21	NC-68	NCState Univ.	6.2	6.0	18	1	7	6	6
22	Gy 5	NCState Univ.	6.1	6.0	16	3	7	6	8
23	H-19	Univ.Ark.	4.9	5.2	8	1	7	7	7
	CV (%)		18	15	27	49	7	11	6
	Mean		9.7	8.5	38	6	7	5	7
	LSD (5%)		3.7	2.7	21	7	1	1	1

^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).

Correlation (Total yield with SWI1) = 0.97**

Correlation (Total yield with SWI2) = 0.95**

**Observational (Stage 2) Pickling Cucumber Trial
2006**

The stage 2 pickle trial was not run this year.

**Spring (Stage 3) Pickling Cucumber Trial
2006**

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 26 April, and harvested 8 times (Mondays and Thursdays) between 15 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:

01	Exp04-2759	Bejo Seeds
02	Wainwright	Nunhems
03	Starex	Baker Seeds
04	Vlaspik	Seminis
05	Crispina	Nunhems
06	Ballerina	Nunhems
07	Exp05-6828	Bejo Seeds
08	Rocket	Baker Seeds
09	Powerpak	Seminis
10	Atlantis	Bejo Seeds
11	Cates	Nunhems

Table 11. 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	Exp04-2759	Bejo Seeds	2879	378	16	9	31	33	12	25
2	Starex	Baker Seeds	2856	398	24	8	32	29	8	26
3	Crispina	Nunhems	2794	292	14	17	41	22	5	26
4	Wainwright	Nunhems	2666	329	21	12	33	29	5	24
5	Ballerina	Nunhems	2632	299	18	13	39	26	4	26
6	Exp05-6828	Bejo Seeds	2618	422	21	7	20	35	17	26
7	Vlasstar(10489	Seminis	2616	334	20	10	31	32	7	26
8	Vlaspik	Seminis	2579	294	23	15	36	25	2	26
9	Exp05-6819	Bejo Seeds	2537	384	17	7	24	33	19	26
10	Atlantis	Bejo Seeds	2489	366	22	9	25	31	14	24
11	Powerpak	Seminis	2466	312	18	9	32	34	7	26
12	Rocket	Baker Seeds	2436	316	15	8	31	34	11	26
13	Classy	HarrisMoran	2424	319	17	10	29	33	12	26
14	Cates	Nunhems	2408	293	22	13	33	27	5	26
15	NCDawson(G5x52	NCStateUniv	2377	327	24	9	28	32	7	26
16	HMX-5406	HarrisMoran	2203	310	21	8	29	29	12	26
17	Feisty	HarrisMoran	2176	283	20	9	34	29	8	26
18	EX0450-6143	Seminis	2141	290	22	11	29	30	8	26
19	Johnston	NCStateUniv	2140	278	25	11	38	18	8	26
20	Pershing	Nunhems	2099	278	17	8	35	30	10	26
21	NCDavie(54x55)	NCStateUniv	2026	261	15	8	34	31	12	26
22	NCMoriah	NCStateUniv	2015	261	28	11	32	27	2	26
23	NCDanbury	NCStateUniv	2009	241	18	11	38	27	6	26
24	NCDenton(G5x55	NCStateUniv	1984	256	20	12	30	30	9	26
25	Raleigh	NCStateUniv	1931	264	23	10	32	25	11	26
26	NCLexington	NCStateUniv	1909	201	11	14	43	28	4	26
27	H-19	Seminis	1840	204	11	13	37	32	6	26
28	Exp05-6838	Bejo Seeds	1757	267	21	7	29	30	13	26
29	NCLonghurst	NCStateUniv	1754	176	15	18	45	20	2	24
30	NCLeland	NCStateUniv	1722	181	17	18	42	18	5	22
31	NCMerritt	NCStateUniv	1701	225	24	10	30	30	6	23
32	NCDixon	NCStateUniv	1637	228	13	7	27	37	15	26
33	Sumter	ClemsonUniv	1626	234	20	7	27	32	13	24
34	Calypso	NCStateUniv	1556	193	17	11	31	32	8	19
35	NCDuplin(56x57	NCStateUniv	1362	194	23	8	28	30	12	25
36	BallerinaPrth	Nunhems	1166	134	27	18	35	18	2	26
37	Crispina(Parth	Nunhems	1117	128	22	12	43	19	3	20
38	Coolgreen	Seminis	949	151	21	7	23	29	20	16
39	Wis.SMR 18	Univ. Wis.	848	166	31	5	20	27	17	24
40	NCLexingtonPrh	NCStateUniv	813	94	17	9	43	27	4	26
41	NCLonghurstPrh	NCStateUniv	504	56	26	23	33	15	2	24
42	NCLeland(Parth	NCStateUniv	370	40	34	24	33	8	0	23
	CV (%)		20	22	23	28	17	19	47	10
	Mean		1956	254	20	11	32	28	8	25
	LSD (5%)		631	89	8	5	9	9	6	4

Correlation (Fruit value with fruit weight) = 0.93**

Table 12. 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	Starex	Baker Seeds	527	18	825	29	1255	44	1633	57	1942	68
2	Wainwright	Nunhems	424	16	787	29	1063	40	1451	54	1700	64
3	Vlaspik	Seminis	347	13	785	30	1011	39	1444	56	1695	66
4	HMX-5406	HarrisMoran	312	14	745	34	1030	47	1401	63	1588	72
5	Ballerina	Nunhems	347	13	698	27	999	38	1477	56	1817	69
6	Exp04-2759	Bejo Seeds	290	10	686	24	1065	37	1523	53	1899	66
7	Crispina	Nunhems	440	16	665	24	1025	37	1368	49	1667	60
8	Rocket	Baker Seeds	326	13	646	26	985	40	1418	58	1694	69
9	Atlantis	Bejo Seeds	324	13	631	25	1023	41	1469	59	1708	69
10	Cates	Nunhems	255	10	627	26	902	37	1254	52	1531	63
11	Exp05-6828	Bejo Seeds	325	12	627	23	975	36	1421	54	1779	68
12	Johnston	NCStateUniv	331	15	623	29	872	41	1193	56	1416	66
13	Powerpak	Seminis	296	12	599	24	932	38	1335	54	1562	63
14	EX0450-6143	Seminis	185	8	565	26	862	40	1368	64	1575	74
15	Raleigh	NCStateUniv	246	13	546	28	805	42	1104	57	1311	68
16	Exp05-6819	Bejo Seeds	158	6	544	21	851	33	1288	50	1696	66
17	Classy	HarrisMoran	181	7	528	21	896	37	1407	58	1664	69
18	NCDawson(G5x52	NCStateUniv	124	5	494	20	861	36	1233	51	1513	63
19	NCMoriah	NCStateUniv	179	8	459	23	811	40	1211	60	1378	68
20	Vlasstar(10489	Seminis	130	5	445	16	864	32	1378	53	1747	68
21	Exp05-6838	Bejo Seeds	235	13	428	24	722	41	1023	58	1247	71
22	Feisty	HarrisMoran	156	6	405	16	670	28	1038	45	1283	57
23	Pershing	Nunhems	205	10	392	19	711	34	1042	50	1306	62
24	Crispina(Parth	Nunhems	275	27	386	36	579	54	795	72	849	77
25	NCMerritt	NCStateUniv	123	7	383	23	605	36	902	54	1076	64
26	NCDanbury	NCStateUniv	138	7	376	19	666	34	1058	52	1285	63
27	BallerinaPrth	Nunhems	279	23	375	31	639	54	794	67	891	75
28	NCDenton(G5x55	NCStateUniv	68	3	326	16	595	30	984	50	1227	63
29	NCDavie(54x55)	NCStateUniv	72	3	246	12	504	25	934	46	1221	60
30	Sumter	ClemsonUniv	82	5	222	14	454	28	785	49	1055	65
31	NCDuplin(56x57	NCStateUniv	53	3	202	12	327	21	645	44	837	58
32	NCLexingtonPrh	NCStateUniv	186	21	194	22	259	31	494	65	534	69
33	Calypso	NCStateUniv	38	2	155	9	298	18	586	37	776	49
34	NCDixon	NCStateUniv	25	2	135	8	356	21	639	39	871	53
35	Wis.SMR 18	Univ. Wis.	4	0	95	10	230	25	369	43	486	57
36	Coolgreen	Seminis	8	1	66	8	239	26	399	44	550	59
37	NCLonghurstPrh	NCStateUniv	31	12	39	13	48	14	171	35	211	43
38	NCLexington	NCStateUniv	9	0	12	1	112	6	488	25	800	41
39	H-19	Seminis	9	1	9	1	56	3	175	9	422	23
40	NCLonghurst	NCStateUniv	0	0	4	0	33	2	193	11	489	28
41	NCLeland	NCStateUniv	0	0	3	0	36	2	265	16	501	29
42	NCLeland(Parth	NCStateUniv	0	0	0	0	12	2	57	10	85	16
CV (%)			67	88	39	42	33	27	25	15	23	12
Mean			184	9	404	19	649	31	981	48	1211	60
LSD (5%)			200	13	257	13	344	13	404	12	446	11

Correlation (Fruit value with value in harvests 1 and 2) = 0.76**

Table 13. 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	NCDanbury	NCStateUniv	7.8	8.0	7.7	7.3	8.0
2	Exp04-2759	Bejo Seeds	7.4	7.3	7.7	7.3	7.7
3	Sumter	ClemsonUniv	7.4	7.7	5.0	7.7	7.0
4	NCDixon	NCStateUniv	7.3	8.0	6.7	6.3	7.7
5	Exp05-6828	Bejo Seeds	7.3	6.7	7.7	7.7	7.7
6	Vlasstar(10489	Seminis	7.2	7.7	7.0	6.7	7.3
7	Vlaspik	Seminis	7.2	7.3	7.7	7.3	7.0
8	Exp05-6819	Bejo Seeds	7.1	7.0	7.7	6.7	7.7
9	Johnston	NCStateUniv	7.0	7.3	7.0	6.7	7.0
10	NCDuplin(56x57	NCStateUniv	7.0	7.3	7.3	5.7	8.0
11	EX0450-6143	Seminis	6.9	7.3	6.7	7.0	6.3
12	Rocket	Baker Seeds	6.9	7.7	7.3	6.0	7.0
13	Feisty	HarrisMoran	6.9	7.7	7.0	6.0	7.0
14	Wainwright	Nunhems	6.9	7.3	7.0	6.3	7.0
15	NCDavie(54x55)	NCStateUniv	6.8	8.0	7.0	5.0	7.3
16	Atlantis	Bejo Seeds	6.8	7.3	7.0	6.3	6.7
17	Exp05-6838	Bejo Seeds	6.8	6.7	7.7	6.7	7.0
18	Crispina	Nunhems	6.7	7.3	6.7	6.3	6.3
19	HMX-5406	HarrisMoran	6.7	6.7	6.3	5.7	7.7
20	Classy	HarrisMoran	6.7	6.7	8.3	6.7	6.7
21	NCMoriah	NCStateUniv	6.7	6.7	6.7	6.3	7.0
22	Raleigh	NCStateUniv	6.6	7.0	7.3	5.7	7.0
23	Pershing	Nunhems	6.6	7.0	6.7	6.3	6.3
24	Powerpak	Seminis	6.4	7.7	8.0	5.0	6.7
25	Ballerina	Nunhems	6.4	6.3	7.7	6.7	6.3
26	NCLexington	NCStateUniv	6.3	7.7	5.3	4.3	7.0
27	NCDawson(G5x52	NCStateUniv	6.3	7.0	7.0	5.3	6.7
28	H-19	Seminis	6.3	7.0	5.0	5.3	6.7
29	Starex	Baker Seeds	6.3	6.3	6.0	5.7	7.0
30	Crispina(Parth	Nunhems	6.3	6.3	6.0	6.3	6.3
31	Calypso	NCStateUniv	6.2	7.0	6.7	5.0	6.7
32	NCDenton(G5x55	NCStateUniv	6.0	6.0	7.7	5.3	6.7
33	NCLeland	NCStateUniv	6.0	6.0	6.3	5.7	6.3
34	NCLonghurst	NCStateUniv	5.9	6.0	6.0	5.7	6.0
35	BallerinaPrth	Nunhems	5.8	5.7	7.0	6.0	5.7
36	NCMerritt	NCStateUniv	5.8	6.0	7.0	5.0	6.3
37	Cates	Nunhems	5.7	6.3	6.0	4.7	6.0
38	Coolgreen	Seminis	5.6	6.0	4.7	4.7	6.0
39	NCLeland(Parth	NCStateUniv	5.3	6.0	4.7	5.0	5.0
40	Wis.SMR 18	Univ. Wis.	5.1	5.7	4.0	5.0	4.7
41	NCLexingtonPrh	NCStateUniv	5.0	6.0	4.3	4.3	4.7
42	NCLonghurstPrh	NCStateUniv	4.9	5.3	4.7	5.0	4.3
	CV (%)		7.9	10.2	10.1	17.5	11.1
	Mean		6.5	6.9	6.6	5.9	6.7
	LSD (5%)		0.8	1.1	1.1	1.7	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) = 0.52**

Table 14. 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	NCLeland	NCStateUniv	20	3.5	G	G	X	T	T	V
2	H-19	Seminis	19	3.3	T	T	X	K	K	G
3	NCDixon	NCStateUniv	19	3.0	H	K	K	K	T	H
4	Vlaspik	Seminis	19	3.5	G	K	K	T	G	G
5	Crispina	Nunhems	19	3.2	A	K	K	K	A	A
6	Rocket	Baker Seeds	18	3.0	K	K	K	H	H	T
7	Crispina(Parth	Nunhems	18	3.6	I	K	K	T	T	G
8	Raleigh	NCStateUniv	18	3.3	K	T	K	G	K	G
9	Powerpak	Seminis	18	3.4	T	K	K	J	G	K
10	NCLexington	NCStateUniv	18	3.2	V	V	X	K	K	V
11	NCDawson(G5x52	NCStateUniv	18	3.6	G	G	K	T	K	G
12	NCLonghurst	NCStateUniv	18	3.7	G	G	X	T	T	V
13	Sumter	ClemsonUniv	18	3.2	W	K	W	K	W	K
14	Atlantis	Bejo Seeds	18	3.4	A	K	K	T	G	T
15	Exp05-6838	Bejo Seeds	18	2.9	H	H	K	T	K	K
16	NCLexingtonPrh	NCStateUniv	18	3.4	W	W	W	K	K	T
17	Exp05-6828	Bejo Seeds	17	3.2	K	K	K	T	G	G
18	Exp05-6819	Bejo Seeds	17	3.2	K	K	K	G	G	K
19	NCLeland(Parth	NCStateUniv	17	3.8	V	V	X	G	G	W
20	NCLonghurstPrh	NCStateUniv	17	3.7	V	V	X	W	W	W
21	HMX-5406	HarrisMoran	17	3.2	T	K	W	K	T	T
22	Pershing	Nunhems	17	3.3	T	K	K	H	T	G
23	Ballerina	Nunhems	17	3.3	H	T	M	M	K	D
24	Calypso	NCStateUniv	17	3.0	H	K	K	K	T	H
25	BallerinaPrth	Nunhems	17	3.3	T	K	M	K	T	T
26	Wis.SMR 18	Univ. Wis.	17	3.0	Y	Y	Y	T	W	W
27	NCDanbury	NCStateUniv	17	3.1	K	K	K	K	G	K
28	Vlasstar(10489	Seminis	17	3.3	T	K	K	K	T	T
29	EX0450-6143	Seminis	17	3.4	K	K	M	T	G	D
30	Wainwright	Nunhems	17	3.5	T	K	K	D	G	D
31	NCMoriah	NCStateUniv	17	3.7	G	K	K	T	T	T
32	Starex	Baker Seeds	17	3.4	G	G	G	T	K	T
33	NCMerritt	NCStateUniv	17	3.1	O	K	O	K	G	K
34	Exp04-2759	Bejo Seeds	16	3.4	A	K	K	K	G	D
35	Johnston	NCStateUniv	16	3.1	K	K	K	C	G	G
36	NCDavie(54x55)	NCStateUniv	16	3.0	K	K	K	H	K	H
37	Cates	Nunhems	16	3.5	G	G	M	K	T	D
38	NCDuplin(56x57	NCStateUniv	16	3.2	K	K	K	H	K	H
39	Feisty	HarrisMoran	16	3.4	G	K	G	T	G	D
40	NCDenton(G5x55	NCStateUniv	16	3.4	T	K	M	K	G	D
41	Classy	HarrisMoran	15	3.1	T	G	G	K	T	D
42	Coolgreen	Seminis	14	3.4	O	G	K	G	T	D
CV (%)			9	6.7						
Mean			17	3.3						
LSD (5%)			2	0.4						

^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 15. Stage 3 spring pickle trial - fruit keeping ability data (cultigens are ranked by % weight loss).

Rank	Cultivar or line	Seed source	Weight loss (%) ^z	Rating (0 - 9) ^y Shriv- eling	Rots & disease	Firm- ness (lb.) ^x
1	NCLonghurst	NCStateUniv	10	2	1	19
2	Vlasstar(10489	Seminis	13	3	2	16
3	NCLonghurstPrh	NCStateUniv	13	4	3	17
4	NCLexington	NCStateUniv	15	2	1	14
5	Wainwright	Nunhems	15	2	1	13
6	Johnston	NCStateUniv	16	3	1	14
7	NCDuplin(56x57	NCStateUniv	16	2	1	16
8	NCMerritt	NCStateUniv	16	4	2	13
9	NCDawson(G5x52	NCStateUniv	17	4	1	12
10	NCDavie(54x55)	NCStateUniv	17	2	1	18
11	NCDenton(G5x55	NCStateUniv	17	4	1	15
12	H-19	Seminis	17	3	1	19
13	Rocket	Baker Seeds	18	2	1	16
14	Pershing	Nunhems	18	3	1	14
15	Sumter	ClemsonUniv	18	4	1	14
16	Atlantis	Bejo Seeds	18	2	1	13
17	Exp05-6838	Bejo Seeds	18	3	1	12
18	Vlaspik	Seminis	18	4	1	15
19	Exp05-6828	Bejo Seeds	19	3	1	12
20	NCDanbury	NCStateUniv	19	3	1	15
21	Raleigh	NCStateUniv	19	4	1	13
22	Calypso	NCStateUniv	20	4	1	14
23	Exp05-6819	Bejo Seeds	20	4	1	12
24	NCLeland	NCStateUniv	20	2	1	16
25	NCDixon	NCStateUniv	20	3	3	19
26	Wis.SMR 18	Univ. Wis.	20	6	2	12
27	NCLexingtonPrh	NCStateUniv	20	4	2	18
28	Classy	HarrisMoran	20	3	3	12
29	Powerpak	Seminis	20	5	2	12
30	EX0450-6143	Seminis	21	5	2	14
31	Crispina(Parth	Nunhems	21	5	4	16
32	BallerinaPrth	Nunhems	21	6	3	14
33	Starex	Baker Seeds	21	4	1	12
34	Exp04-2759	Bejo Seeds	22	4	1	12
35	Cates	Nunhems	22	4	1	13
36	Feisty	HarrisMoran	22	4	1	15
37	Crispina	Nunhems	23	2	1	13
38	HMX-5406	HarrisMoran	23	6	3	10
39	NCMoriah	NCStateUniv	24	6	3	11
40	Coolgreen	Seminis	26	6	5	12
41	Ballerina	Nunhems	27	4	1	11
42	NCLeland(Parth	NCStateUniv	29	5	3	15
	CV (%)		22	31	91	15
	Mean		19	4	2	14
	LSD (5%)		7	2	3	3

^z After storage at room temperature for 8 days in open kraft paper bags.

^y Shriveling & disease rated 0-9 (0=none, 1-3=slight, 4-6=moderate, 7-9=advanced).

^x Firmness after storage using Magness-Taylor fruit punch tester.

Correlation (Weight loss w/ shriveling)=0.21*; (Weight loss w/ firmness)=-0.62**

Table 16. Stage 3 spring pickle trial - bloater resistance data (cultigens are ranked by bloater resistance).^z

Rank	Cultivar or line	Seed source	Total bloater damage	Balloon	Lens	Honey- comb
1	NCLonghurst	NCStateUniv	0	0	0	0
2	NCLexingtonPrh	NCStateUniv	0	0	0	0
3	NCLeland(Parth	NCStateUniv	0	0	0	0
4	Exp04-2759	Bejo Seeds	1	1	0	1
5	Raleigh	NCStateUniv	2	0	1	1
6	Ballerina	Nunhems	3	0	1	1
7	NCLonghurstPrh	NCStateUniv	3	3	0	0
8	Starex	Baker Seeds	4	3	0	1
9	Feisty	HarrisMoran	4	3	1	0
10	Crispina(Parth	Nunhems	5	2	0	3
11	Johnston	NCStateUniv	5	3	1	1
12	Exp05-6828	Bejo Seeds	5	4	1	0
13	Calypso	NCStateUniv	5	2	3	1
14	Wis.SMR 18	Univ. Wis.	5	4	0	1
15	Wainwright	Nunhems	5	5	0	1
16	Pershing	Nunhems	6	6	0	0
17	NCDuplin(56x57	NCStateUniv	6	3	1	3
18	NCLexington	NCStateUniv	6	3	1	2
19	NCLeland	NCStateUniv	7	7	0	0
20	Vlaspik	Seminis	7	4	1	2
21	Sumter	ClemsonUniv	7	6	1	1
22	NCDawson(G5x52	NCStateUniv	7	7	1	0
23	HMX-5406	HarrisMoran	8	4	1	3
24	Crispina	Nunhems	8	6	0	2
25	BallerinaPrth	Nunhems	9	7	1	1
26	Coolgreen	Seminis	9	7	3	0
27	Classy	HarrisMoran	10	9	0	2
28	Vlasstar(10489	Seminis	11	7	0	3
29	H-19	Seminis	11	9	0	1
30	NCMerritt	NCStateUniv	11	4	5	2
31	NCDavie(54x55)	NCStateUniv	11	8	1	3
32	Exp05-6838	Bejo Seeds	12	9	2	2
33	EX0450-6143	Seminis	12	10	0	2
34	Atlantis	Bejo Seeds	12	9	1	3
35	Powerpak	Seminis	12	12	0	1
36	Rocket	Baker Seeds	13	11	1	1
37	NCDixon	NCStateUniv	13	11	0	2
38	NCMoriah	NCStateUniv	15	9	1	5
39	Exp05-6819	Bejo Seeds	16	14	1	0
40	NCDenton(G5x55	NCStateUniv	17	15	0	2
41	Cates	Nunhems	18	17	0	1
42	NCDanbury	NCStateUniv	20	13	4	2
43	CV (%)		80	106	233	148
44	Mean		8	6	1	1
45	LSD (5%)		11	10	3	3
	CV (%)		80	106	233	148
	Mean		8	6	1	1
	LSD (5%)		11	10	3	3

^z Data are means of 2 harvests, 5 fruits/cultigen.
Fruits tested in 5 gal. pails purged with 100% CO₂.

Table 17. Stage 3 spring pickle trial - bloater resistance data (cultigens are ranked by total bloater + defect resistance).^z

Rank	Cultivar or line	Seed source	Bloaters + defects	Total bloater damage	Total defects	Blossom -end defects	Placen -tal hollow	Soft center
1	NCLonghurst	NCStateUniv	0	0	0	0	0	0
2	NCLexingtonPrh	NCStateUniv	0	0	0	0	0	0
3	NCLeland(Parth	NCStateUniv	0	0	0	0	0	0
4	Raleigh	NCStateUniv	3	2	2	0	2	0
5	Exp04-2759	Bejo Seeds	4	1	3	2	1	0
6	Starex	Baker Seeds	4	4	0	0	0	0
7	NCLonghurstPrh	NCStateUniv	5	3	2	0	0	2
8	Crispina(Parth	Nunhems	5	5	1	1	0	0
9	Calypto	NCStateUniv	5	5	0	0	0	0
10	Feisty	HarrisMoran	6	4	2	0	2	0
11	Ballerina	Nunhems	6	3	3	0	0	3
12	Exp05-6828	Bejo Seeds	6	5	1	1	0	0
13	Sumter	ClemsonUniv	7	7	0	0	0	0
14	NCLexington	NCStateUniv	8	6	1	0	1	0
15	Johnston	NCStateUniv	8	5	3	0	3	0
16	NCLeland	NCStateUniv	8	7	1	0	0	1
17	Wis.SMR 18	Univ. Wis.	8	5	3	0	3	0
18	HMX-5406	HarrisMoran	8	8	1	0	1	0
19	Crispina	Nunhems	9	8	1	0	0	1
20	NCDuplin(56x57	NCStateUniv	10	6	4	0	4	0
21	Coolgreen	Seminis	10	9	1	1	0	0
22	Pershing	Nunhems	10	6	5	0	5	0
23	Wainwright	Nunhems	11	5	6	2	3	1
24	BallerinaPrth	Nunhems	11	9	2	0	1	1
25	NCDavie(54x55)	NCStateUniv	12	11	1	0	1	0
26	NCDawson(G5x52	NCStateUniv	12	7	5	1	3	1
27	Classy	HarrisMoran	12	10	2	0	2	0
28	Exp05-6838	Bejo Seeds	12	12	0	0	0	0
29	Vlaspik	Seminis	12	7	5	0	5	0
30	Powerpak	Seminis	12	12	0	0	0	0
31	H-19	Seminis	13	11	2	0	2	0
32	NCMerritt	NCStateUniv	13	11	2	0	0	2
33	Atlantis	Bejo Seeds	13	12	1	0	1	0
34	Vlasstar(10489	Seminis	15	11	4	3	0	1
35	EX0450-6143	Seminis	15	12	3	0	1	2
36	Rocket	Baker Seeds	15	13	1	0	0	1
37	NCDixon	NCStateUniv	15	13	1	0	1	0
38	NCMoriah	NCStateUniv	16	15	1	0	1	0
39	Exp05-6819	Bejo Seeds	16	16	0	0	0	0
40	NCDenton(G5x55	NCStateUniv	19	17	3	0	3	0
41	NCDanbury	NCStateUniv	20	20	0	0	0	0
42	Cates	Nunhems	21	18	3	0	3	0
CV (%)			70	80	138	469	164	315
Mean			10	8	2	0	1	0
LSD (5%)			11	11	4	2	3	2

^z Data are means of 2 harvests, 5 fruits/cultigen.
Fruits tested in 5 gal. pails purged with 100% CO₂.

Table 18. Stage 3 spring pickle trial - sex expression and vine data (cultigens are ranked by gynoeceious rating).

Rank	Cultivar or line	Seed source	Gyn. rating ^z	Vine size ^y	Vine color ^x
1	Exp05-6828	Bejo Seeds	9	8	7
2	Crispina(Parth	Nunhems	9	7	7
3	Exp04-2759	Bejo Seeds	9	7	6
4	Johnston	NCStateUniv	9	7	8
5	BallerinaPrth	Nunhems	9	7	6
6	Rocket	Baker Seeds	9	7	7
7	Vlasstar(10489	Seminis	9	6	5
8	Exp05-6819	Bejo Seeds	9	7	5
9	Cates	Nunhems	9	7	7
10	Ballerina	Nunhems	9	7	8
11	Crispina	Nunhems	9	6	8
12	Wainwright	Nunhems	8	7	8
13	Exp05-6838	Bejo Seeds	8	7	7
14	Atlantis	Bejo Seeds	8	7	7
15	EX0450-6143	Seminis	8	7	7
16	Starex	Baker Seeds	8	7	5
17	HMX-5406	HarrisMoran	8	7	6
18	Vlaspik	Seminis	8	6	7
19	Raleigh	NCStateUniv	7	7	7
20	Powerpak	Seminis	7	7	5
21	Feisty	HarrisMoran	7	6	8
22	NCMoriah	NCStateUniv	7	6	8
23	Pershing	Nunhems	7	6	8
24	Classy	HarrisMoran	6	7	7
25	NCMerritt	NCStateUniv	6	6	8
26	Calypso	NCStateUniv	6	5	6
27	NCDawson(G5x52	NCStateUniv	5	7	8
28	NCDavie(54x55)	NCStateUniv	4	6	7
29	NCLexington	NCStateUniv	4	5	6
30	NCDenton(G5x55	NCStateUniv	4	7	8
31	NCDanbury	NCStateUniv	4	6	7
32	NCDuplin(56x57	NCStateUniv	4	5	7
33	Coolgreen	Seminis	4	5	7
34	Sumter	ClemsonUniv	4	6	8
35	NCDixon	NCStateUniv	4	6	6
36	Wis.SMR 18	Univ. Wis.	4	6	4
37	H-19	Seminis	4	5	7
38	NCLexingtonPrh	NCStateUniv	3	6	5
39	NCLeland(Parth	NCStateUniv	3	6	5
40	NCLeland	NCStateUniv	3	5	6
41	NCLonghurst	NCStateUniv	3	4	5
42	NCLonghurstPrh	NCStateUniv	3	6	5
CV (%)			18	15	12
Mean			6	6	7
LSD (5%)			2	2	1

^z Gynoeceious rating (1 = androeceious, 2-3 = andromonoceious, 4-6 = monoceious, 7-8 = predominately gynoeceious, 9 = gynoeceious).

^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/ gynoeceious rating) = 0.53**; (Yield w/ vine size) = 0.49**

Table 19. Stage 3 spring pickle trial - disease data (cultigens are ranked by average disease resistance).^z

Rank	Cultivar or line	Seed source	Downy mildew
1	NCLexingtonPrh	NCStateUniv	2.0
2	NCLeland(Parth	NCStateUniv	2.3
3	Cates	Nunhems	2.7
4	BallerinaPrth	Nunhems	3.0
5	NCLonghurstPrh	NCStateUniv	3.0
6	Crispina(Parth	Nunhems	3.3
7	Wainwright	Nunhems	3.3
8	NCDawson(G5x52	NCStateUniv	3.7
9	Rocket	Baker Seeds	4.0
10	Feisty	HarrisMoran	4.0
11	NCMoriah	NCStateUniv	4.0
12	Exp04-2759	Bejo Seeds	4.3
13	Calypso	NCStateUniv	4.3
14	Ballerina	Nunhems	4.7
15	Vlaspik	Seminis	4.7
16	Powerpak	Seminis	4.7
17	Pershing	Nunhems	4.7
18	Classy	HarrisMoran	4.7
19	Crispina	Nunhems	5.0
20	HMX-5406	HarrisMoran	5.0
21	Exp05-6828	Bejo Seeds	5.3
22	EX0450-6143	Seminis	5.3
23	Starex	Baker Seeds	5.3
24	Raleigh	NCStateUniv	5.3
25	NCMerritt	NCStateUniv	5.3
26	NCDavie(54x55)	NCStateUniv	5.3
27	NCDenton(G5x55	NCStateUniv	5.3
28	Vlasstar(10489	Seminis	5.7
29	Exp05-6819	Bejo Seeds	5.7
30	Exp05-6838	Bejo Seeds	5.7
31	Atlantis	Bejo Seeds	5.7
32	Johnston	NCStateUniv	6.0
33	NCDanbury	NCStateUniv	6.0
34	NCDixon	NCStateUniv	6.0
35	NCLexington	NCStateUniv	6.3
36	NCLeland	NCStateUniv	6.3
37	NCDuplin(56x57	NCStateUniv	6.7
38	Sumter	ClemsonUniv	7.0
39	NCLonghurst	NCStateUniv	7.0
40	Coolgreen	Seminis	7.3
41	Wis.SMR 18	Univ. Wis.	7.3
42	H-19	Seminis	8.0
	CV (%)		17.6
	Mean		5.0
	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) = 0.05^{ns}

Table 20. 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	Exp04-2759	Bejo Seeds	10.3	8.7	10.5	13.2
2	Wainwright	Nunhems	10.3	8.5	12.3	12.6
3	Starex	Baker Seeds	10.2	8.4	17.5	16.8
4	Vlaspik	Seminis	10.1	8.2	12.4	12.4
5	Crispina	Nunhems	9.8	8.0	16.6	16.2
6	Ballerina	Nunhems	9.6	7.9	17.1	17.1
7	Exp05-6828	Bejo Seeds	9.5	8.2	14.2	14.7
8	Rocket	Baker Seeds	9.4	7.9	14.1	13.3
9	Powerpak	Seminis	9.2	7.7	17.4	16.4
10	Atlantis	Bejo Seeds	9.2	7.7	17.6	17.3
11	Cates	Nunhems	9.1	7.6	20.0	18.1
12	HMX-5406	HarrisMoran	9.0	7.5	17.4	16.6
13	Exp05-6819	Bejo Seeds	9.0	7.8	16.6	17.3
14	Vlasstar(10489	Seminis	8.9	7.6	16.3	18.8
15	Classy	HarrisMoran	8.8	7.6	17.9	19.2
16	NCDawson(G5x52	NCStateUniv	8.7	7.5	18.1	17.1
17	Johnston	NCStateUniv	8.6	7.1	18.2	19.9
18	EX0450-6143	Seminis	8.4	7.1	18.2	18.7
19	Feisty	HarrisMoran	8.2	7.1	16.1	18.1
20	NCMoriah	NCStateUniv	8.0	6.9	18.6	18.6
21	Raleigh	NCStateUniv	8.0	6.8	20.6	19.4
22	Pershing	Nunhems	7.8	6.8	20.8	21.0
23	NCDanbury	NCStateUniv	7.8	6.7	15.3	19.5
24	Exp05-6838	Bejo Seeds	7.3	6.4	22.2	21.6
25	NCDavie(54x55)	NCStateUniv	7.2	6.4	20.9	23.4
26	NCDenton(G5x55	NCStateUniv	7.2	6.3	25.9	25.9
27	NCMerritt	NCStateUniv	6.8	5.9	27.0	25.9
28	Sumter	ClemsonUniv	6.3	5.6	21.8	23.8
29	Crispina(Parth	Nunhems	6.3	5.5	23.0	20.3
30	NCDixon	NCStateUniv	6.3	5.7	20.7	22.3
31	BallerinaPrth	Nunhems	6.3	5.5	25.9	23.4
32	Calypso	NCStateUniv	6.2	5.5	25.5	25.5
33	NCLexington	NCStateUniv	6.0	5.4	26.5	27.3
34	NCDuplin(56x57	NCStateUniv	5.8	5.2	23.7	26.4
35	H-19	Seminis	5.6	5.0	29.0	29.1
36	NCLeland	NCStateUniv	5.6	5.0	29.9	28.8
37	NCLonghurst	NCStateUniv	5.5	4.9	32.1	31.5
38	NCLexingtonPrh	NCStateUniv	5.1	4.5	29.4	25.9
39	Coolgreen	Seminis	4.1	3.8	34.6	35.4
40	Wis.SMR 18	Univ. Wis.	4.0	3.6	36.6	35.0
41	NCLonghurstPrh	NCStateUniv	3.9	3.5	32.8	29.4
42	NCLeland(Parth	NCStateUniv	3.8	3.3	31.7	29.8
	CV (%)		14.0	12.3	17.8	16.3
	Mean		7.6	6.5	21.5	21.5
	LSD (5%)		1.7	1.3	6.2	5.7

^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) = 0.94**
Correlation (Yield with ARI1) = -0.78**

**Summer (Stage 4) Pickling Cucumber Trial
2006**

Todd C. Wehner and Tammy L. Ellington

The stage 4 summer pickle trial was not harvested due to poor emergence.

Slicing Cucumbers

Preliminary (Stage 1) Slicing Cucumber Trial 2006

Experiment Design

1. A randomized complete block with 2 replications of pickle cultivars and breeding lines (collectively referred to as cultigens) was grown.
2. Plots were single 5 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 26 April, and harvested 2 times
29 June and 6 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:

01	Cherokee 7	Clemson Univ.
02	NC-59	NCState Univ.
03	Dasher II	Seminis
04	Marketmore 86	Cornell Univ.
05	NC-63	NCState Univ.
06	WS-3048	Western Seed

Table 21. Stage 1 spring slicer trial - yield data (cultigens are ranked by number of marketable fruits per plot).

Rank	Cultivar or line	Seed source	No. fruits per plot			% cull	Fruit per plant
			Mark- able	Total	Early (OSize)		
1	Cherokee 7	Check	52	76	14	30	2.5
2	NC-59	NCState Univ.	47	60	17	22	2.0
3	Dasher II	Seminis	45	58	14	23	1.9
4	Marketmore 86	Cornell Univ.	35	60	12	40	2.0
5	Marketmore 76	Check	35	41	3	15	1.4
6	Ashley	Check	34	48	5	27	3.1
7	Poinsett 83F	NCState Univ.	33	57	9	42	1.9
8	WS-3048	Western Seed	33	51	10	35	1.7
9	Poinsett 76	Cornell Univ.	33	42	10	21	1.7
10	NC-63	NCState Univ.	30	69	17	55	2.3
11	WS-3050	Western Seed	30	45	11	34	1.8
12	NC-58	NCState Univ.	28	51	9	44	2.6
13	WS-3049	Western Seed	23	42	6	46	1.6
14	NC-62	NCState Univ.	21	49	12	57	1.6
15	Straight 8	Check	21	36	6	41	1.5
16	Marketmore 85	Cornell Univ.	18	30	4	40	1.3
	CV (%)		18	19	38	15	19
	Mean		32	51	8	36	1.9
	LSD (5%)		12	21	8	11	0.8

Correlation (Total yield with % culls) = 0.22^{ns}

Table 22. Stage 1 spring slicer trial - fruit and disease data (cultigens are ranked by fruit length).

Rank	Cultivar or line	Seed source	LD ratio	Length (in.)	Diam. (in.)	Frst.Wt. (lb.)	Disease rating	
							DM	Anth.
1	WS-3050	Western Seed	4.3	9.4	2.2	2.5	1.0	0.5
2	WS-3048	Western Seed	4.0	8.8	2.2	2.8	2.0	0.0
3	WS-3049	Western Seed	4.1	8.6	2.1	2.6	2.0	1.5
4	NC-63	NCState Univ.	3.7	8.4	2.3	2.6	3.0	1.0
5	Marketmore 86	Cornell Univ.	3.8	8.3	2.2	2.5	4.0	0.0
6	Marketmore 85	Cornell Univ.	3.9	8.3	2.1	2.5	4.5	3.0
7	NC-62	NCState Univ.	3.9	8.2	2.1	2.4	3.5	1.0
8	Poinsett 83F	NCState Univ.	3.6	8.0	2.2	2.0	4.5	0.0
9	Cherokee 7	Check	3.9	7.9	2.1	2.1	2.0	0.0
10	Dasher II	Seminis	3.6	7.9	2.2	2.3	5.0	1.0
11	NC-58	NCState Univ.	4.1	7.7	1.9	2.0	3.0	0.0
12	Straight 8	Check	3.7	7.5	2.1	2.0	6.5	3.0
13	Poinsett 76	Cornell Univ.	4.2	7.4	1.7	1.5	2.0	0.0
14	NC-59	NCState Univ.	3.2	7.0	2.2	2.3	1.5	0.5
15	Ashley	Check	3.9	6.8	1.8	1.3	4.5	2.0
16	Marketmore 76	Check	4.2	6.1	1.4	0.8	4.5	1.5
CV (%)			5	7	7	17	29	155
Mean			3.9	7.9	2.0	2.1	3.3	0.9
LSD (5%)			0.4	1.2	0.3	0.8	2.1	3.1

^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 (Total yield with DM rating) = -0.13^{ns}

Table 23. Stage 1 spring slicer trial - fruit quality data (cultigens are ranked by average fruit quality).

Rank	Cultivar or line	Seed source	Average quality ^z	Shape ^z	Color ^y	Seed- cell ^z	Overall impres- sion ^z
1	WS-3048	Western Seed	7.5	8	8	7	8
2	WS-3049	Western Seed	7.5	8	8	7	8
3	Marketmore 86	Cornell Univ.	7.2	8	7	7	8
4	Marketmore 85	Cornell Univ.	7.0	8	8	7	7
5	WS-3050	Western Seed	7.0	7	8	7	8
6	NC-63	NCState Univ.	7.0	7	9	7	8
7	NC-62	NCState Univ.	6.8	7	9	7	7
8	NC-58	NCState Univ.	6.8	7	9	8	7
9	Dasher II	Seminis	6.8	7	7	6	8
10	Cherokee 7	Check	6.5	6	7	7	7
11	NC-59	NCState Univ.	6.2	7	7	5	7
12	Poinsett 83F	NCState Univ.	5.7	6	8	6	5
13	Poinsett 76	Cornell Univ.	5.7	6	8	5	6
14	Marketmore 76	Check	5.7	4	6	8	5
15	Ashley	Check	5.5	6	7	5	6
16	Straight 8	Check	4.5	5	3	6	3
	CV (%)		8	11	9	17	11
	Mean		6.5	7	7	6	6
	LSD (5%)		1.1	2	1	2	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 (Total yield with average quality) = 0.10^{ns}

Table 24. Stage 1 spring slicer trial - primary and secondary fruit defects in replications 1 and 2 (cultigens ranked by fruit quality).^z

Rank	Cultivar or line	Seed source	Average quality	Primary defects		Secondary defects	
				Rep 1	Rep 2	Rep 1	Rep 2
1	WS-3048	Western Seed	7.5	K	K	K	T
2	WS-3049	Western Seed	7.5	K	K	K	T
3	Marketmore 86	Cornell Univ.	7.2	K	K	G	T
4	Marketmore 85	Cornell Univ.	7.0	K	M	H	H
5	WS-3050	Western Seed	7.0	K	K	G	H
6	NC-63	NCState Univ.	7.0	K	K	T	D
7	NC-62	NCState Univ.	6.8	K	K	T	H
8	NC-58	NCState Univ.	6.8	K	K	T	K
9	Dasher II	Seminis	6.8	K	K	K	K
10	Cherokee 7	Check	6.5	K	M	M	T
11	NC-59	NCState Univ.	6.2	K	K	H	H
12	Poinsett 83F	NCState Univ.	5.7	D	K	T	H
13	Poinsett 76	Cornell Univ.	5.7	K	K	H	H
14	Marketmore 76	Check	5.7	M	M	T	T
15	Ashley	Check	5.5	K	M	T	T
16	Straight 8	Check	4.5	M	W	H	T
CV (%)			8				
Mean			6.5				
LSD (5%)			1.1				

^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 25. Stage 1 spring slicer trial - selection indexes (cultigens ranked by SWI1).^z

Rank	Cultivar or line	Seed source	SWI1	SWI2	Mark. yield	Early yield	Fruit shape	Seed cell	Over -all
1	Cherokee 7	Check	12.6	10.6	52	14	6	7	7
2	NC-59	NCState Univ.	12.0	10.4	47	17	7	5	7
3	Dasher II	Seminis	12.0	10.5	45	14	7	6	8
4	Marketmore 86	Cornell Univ.	10.4	9.5	35	12	8	7	8
5	NC-63	NCState Univ.	10.0	9.2	30	17	7	7	8
6	WS-3048	Western Seed	10.0	9.2	33	10	8	7	8
7	WS-3050	Western Seed	9.2	8.4	30	11	7	7	8
8	Poinsett 83F	NCState Univ.	9.1	8.0	33	9	6	6	5
9	Poinsett 76	Cornell Univ.	9.1	8.0	33	10	6	5	6
10	Ashley	Check	8.8	7.7	34	5	6	5	6
11	NC-58	NCState Univ.	8.6	7.9	28	9	7	8	7
12	Marketmore 76	Check	8.5	7.2	35	3	4	8	5
13	NC-62	NCState Univ.	8.1	7.8	21	12	7	7	7
14	WS-3049	Western Seed	8.0	7.7	23	6	8	7	8
15	Marketmore 85	Cornell Univ.	7.0	6.9	18	4	8	7	7
16	Straight 8	Check	6.5	5.9	21	6	5	6	3
	CV (%)		11	9	18	38	11	17	11
	Mean		9.4	8.4	32	8	7	6	6
	LSD (5%)		2.1	1.7	12	8	2	2	2

^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).

Correlation (Total yield with SWI1) = 0.76**

Correlation (Total yield with SWI2) = 0.74**

Observational (Stage 2) Slicing Cucumber Trial 2006

The stage 2 slicer trial was not run this year.

Spring (Stage 3) Slicing Cucumber Trial 2006

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 26 April, and harvested 6 times (Mondays and Thursdays) between 19 June and 6 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:

01	NC-Stratford	NCStateUniv
02	Dasher II	Seminis
03	Talladega	Seminis
04	Thunder	Seminis
05	Speedway	Seminis
06	G83xNC-62	NCStateUniv
07	G83xNC-63	NCStateUniv
08	PX147-10896	Seminis

Table 26. 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	Dasher II	Seminis	136	259	41	21	26
2	NC-Stratford	NCStateUniv	127	233	41	24	26
3	G83xNC-62	NCStateUniv	116	193	47	19	20
4	General Lee	HarrisMoran	113	208	45	16	26
5	Speedway	Seminis	111	195	48	16	24
6	Talladega	Seminis	107	224	36	23	25
7	Panther	Nunhems	106	208	37	25	26
8	Stonewall	HarrisMoran	103	181	40	26	26
9	Impact	WesternSeed	98	179	42	24	26
10	Thunder	Seminis	91	191	37	22	26
11	PX147-10896	Seminis	91	205	37	17	26
12	G83xNC-59	NCStateUniv	91	202	33	24	26
13	G83xNC-63	NCStateUniv	83	211	33	17	12
14	Intimidator	Seminis	83	164	42	17	25
15	Poinsett 76	CornellUniv	82	206	33	14	26
16	Cherokee 87	Check	78	185	32	23	25
17	NC-Sunshine	NCStateUniv	72	133	36	33	25
18	Ashley	Check	68	118	48	13	15
19	WS-3047	WesternSeed	63	134	31	34	26
20	PX147-10885	Seminis	63	158	28	30	26
21	HMX-4453	HarrisMoran	59	132	32	25	26
22	Marketmore 76	Check	56	112	43	13	26
23	NUN-2004	Nunhems	56	146	25	35	26
24	G83xNC-58	NCStateUniv	51	174	20	31	26
	CV (%)		41	27	22	30	5
	Mean		88	181	37	23	24
	LSD (5%)		59	80	13	11	2

Correlation (Marketable yield with % culls) = -0.22^{ns}

Table 27. 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	NC-Stratford	NCStateUniv	26	13	79	34	123	52	145	63	181	78
2	Thunder	Seminis	18	9	62	33	113	60	150	79	165	87
3	Talladega	Seminis	17	7	60	27	136	61	151	67	188	83
4	PX147-10896	Seminis	18	9	57	29	126	61	159	78	175	86
5	Dasher II	Seminis	16	6	57	22	133	52	159	62	203	78
6	Intimidator	Seminis	21	12	46	28	84	49	113	73	143	90
7	NC-Sunshine	NCStateUniv	14	10	43	32	85	63	103	79	119	90
8	NUN-2004	Nunhems	10	6	42	28	73	51	100	69	130	90
9	G83xNC-63	NCStateUniv	7	3	42	19	87	41	112	53	167	79
10	Speedway	Seminis	18	9	38	19	97	50	125	65	163	85
11	G83xNC-62	NCStateUniv	2	1	32	15	74	37	110	57	154	79
12	Cherokee 87	Check	15	8	30	16	93	50	132	70	160	85
13	G83xNC-58	NCStateUniv	5	3	29	16	80	46	112	64	137	79
14	G83xNC-59	NCStateUniv	2	1	27	10	76	33	113	54	151	73
15	PX147-10885	Seminis	3	2	20	12	67	41	87	53	114	70
16	Impact	WesternSeed	4	2	18	10	76	41	128	77	151	89
17	General Lee	HarrisMoran	8	4	18	10	84	40	124	60	154	76
18	Panther	Nunhems	6	2	17	6	85	39	121	57	156	75
19	Stonewall	HarrisMoran	5	2	16	8	85	43	111	59	144	77
20	HMX-4453	HarrisMoran	2	1	9	7	50	37	91	68	107	81
21	WS-3047	WesternSeed	2	1	6	5	49	36	79	61	106	80
22	Poinsett 76	CornellUniv	0	0	3	1	31	14	81	41	130	64
23	Ashley	Check	0	0	1	1	27	21	50	42	82	68
24	Marketmore 76	Check	0	0	1	0	14	11	39	39	53	54
CV (%)			80	79	56	43	34	20	29	17	29	12
Mean			9	5	31	16	81	43	112	62	143	79
LSD (5%)			12	6	29	12	46	14	53	18	68	16

Correlation (Marketable yield with yield in harvests 1-2) = 0.59**

Correlation (Marketable yield with % of yield in harvests 1-2) = 0.29*

Table 28. 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	Speedway	Seminis	7.3	7	8	8	7
2	Impact	WesternSeed	7.3	7	9	8	7
3	Marketmore 76	Check	7.3	7	8	8	7
4	G83xNC-59	NCStateUniv	7.2	8	8	6	8
5	General Lee	HarrisMoran	7.2	7	7	7	7
6	Stonewall	HarrisMoran	7.1	7	8	7	7
7	G83xNC-62	NCStateUniv	6.9	7	8	8	6
8	Talladega	Seminis	6.8	7	9	6	7
9	Dasher II	Seminis	6.8	7	8	7	7
10	G83xNC-63	NCStateUniv	6.8	7	9	6	7
11	HMX-4453	HarrisMoran	6.7	7	8	6	7
12	WS-3047	WesternSeed	6.7	6	8	7	7
13	Thunder	Seminis	6.6	7	8	6	6
14	Panther	Nunhems	6.6	6	7	7	7
15	NC-Stratford	NCStateUniv	6.4	6	8	6	7
16	Intimidator	Seminis	6.4	7	7	7	6
17	G83xNC-58	NCStateUniv	6.3	6	8	7	6
18	PX147-10885	Seminis	6.2	7	8	6	6
19	PX147-10896	Seminis	6.1	6	8	7	5
20	Poinsett 76	CornellUniv	6.0	6	8	6	5
21	Ashley	Check	6.0	6	7	7	6
22	NC-Sunshine	NCStateUniv	5.8	5	9	7	5
23	Cherokee 87	Check	5.7	6	7	6	5
24	NUN-2004	Nunhems	5.6	5	7	5	6
	CV (%)		10.8	15	7	13	16
	Mean		6.6	7	8	7	6
	LSD (5%)		1.2	2	1	1	2

^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) = 0.19^{ns}

Table 29. 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.)	Defect1°			Defect2°		
						2	4	6	2	4	6
1	Speedway	Seminis	9.0	1.9	0.65	K	K	K	H	T	H
2	Impact	WesternSeed	8.1	2.0	0.70	K	H	K	T	T	D
3	Marketmore 76	Check	7.5	1.7	0.66	L	G	K	T	T	H
4	G83xNC-59	NCStateUniv	7.6	2.0	0.65	K	K	H	H	T	K
5	General Lee	HarrisMoran	8.2	1.9	0.65	H	K	K	K	T	T
6	Stonewall	HarrisMoran	8.1	1.9	0.66	G	K	K	K	T	H
7	G83xNC-62	NCStateUniv	8.2	2.0	0.73	K	K	K	T	T	T
8	Talladega	Seminis	8.1	1.9	0.69	D	K	K	H	G	D
9	Dasher II	Seminis	7.9	1.9	0.66	K	H	K	T	T	T
10	G83xNC-63	NCStateUniv	8.2	2.0	0.67	H	K	K	K	T	T
11	HMX-4453	HarrisMoran	7.3	2.0	0.63	H	K	K	K	T	H
12	WS-3047	WesternSeed	8.0	1.9	0.65	C	K	D	G	G	K
13	Thunder	Seminis	7.9	2.0	0.68	K	T	K	T	H	T
14	Panther	Nunhems	7.4	1.9	0.59	K	K	K	H	T	T
15	NC-Stratford	NCStateUniv	7.5	2.0	0.61	K	T	H	H	H	D
16	Intimidator	Seminis	7.5	1.9	0.63	K	D	K	H	T	T
17	G83xNC-58	NCStateUniv	8.1	1.8	0.63	H	T	K	K	H	T
18	PX147-10885	Seminis	7.7	1.9	0.64	D	K	C	H	D	T
19	PX147-10896	Seminis	7.4	1.9	0.60	T	D	H	H	H	D
20	Poinsett 76	CornellUniv	7.1	1.9	0.59	H	H	K	T	T	H
21	Ashley	Check	7.4	1.7	0.54	H	G	M	T	T	T
22	NC-Sunshine	NCStateUniv	7.7	1.9	0.57	D	D	H	K	H	D
23	Cherokee 87	Check	7.7	2.0	0.63	M	M	M	H	T	T
24	NUN-2004	Nunhems	7.1	1.9	0.55	D	D	K	H	H	H
CV (%)			5.6	5.8	11.25						
Mean			7.8	1.9	0.64						
LSD (5%)			0.7	0.2	0.12						

^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 30. Stage 3 spring slicer trial - fruit keeping ability data (cultigens are ranked by % weight loss).

Rank	Cultivar or line	Seed source	Weight loss (%) ^z	Rating (0 - 9) ^y		Firm- ness (lb.) ^x
				Shriv- eling	Rots & disease	
1	Speedway	Seminis	12	4	2	18
2	Impact	WesternSeed	14	3	1	17
3	Marketmore 76	Check	14	4	1	14
4	G83xNC-59	NCStateUniv	13	3	1	16
5	General Lee	HarrisMoran	11	3	2	16
6	Stonewall	HarrisMoran	12	3	1	16
7	G83xNC-62	NCStateUniv	18	4	4	14
8	Talladega	Seminis	14	2	1	18
9	Dasher II	Seminis	12	3	1	18
10	G83xNC-63	NCStateUniv	13	3	2	14
11	HMX-4453	HarrisMoran	21	2	3	17
12	WS-3047	WesternSeed	12	2	1	17
13	Thunder	Seminis	12	4	2	19
14	Panther	Nunhems	11	3	1	17
15	NC-Stratford	NCStateUniv	18	4	1	15
16	Intimidator	Seminis	15	3	1	19
17	G83xNC-58	NCStateUniv	12	3	1	15
18	PX147-10885	Seminis	13	4	2	15
19	PX147-10896	Seminis	13	4	2	14
20	Poinsett 76	CornellUniv	13	4	3	16
21	Ashley	Check	13	3	1	18
22	NC-Sunshine	NCStateUniv	14	4	1	14
23	Cherokee 87	Check	14	3	1	18
24	NUN-2004	Nunhems	20	5	2	13
	CV (%)		26	34	82	8
	Mean		14	3	2	16
	LSD (5%)		6	2	2	2

^z After storage at room temperature for 8 days in open kraft paper bags.

^y Shriveling & disease rated 0-9 (0=none, 1-3=slight, 4-6=moderate, 7-9=advanced).

^x Firmness after storage using Magness-Taylor fruit punch tester.

Correlation (Weight loss with shriveling) = 0.24*

Correlation (Weight loss with firmness) = -0.11^{ns}

Table 31. 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	Thunder	Seminis	9	62	33	7	7
2	PX147-10896	Seminis	9	57	29	6	8
3	Impact	WesternSeed	9	18	10	6	7
4	Intimidator	Seminis	9	46	28	7	7
5	Speedway	Seminis	9	38	19	5	6
6	Talladega	Seminis	8	60	27	8	6
7	Stonewall	HarrisMoran	8	16	8	7	6
8	WS-3047	WesternSeed	8	6	5	6	6
9	Dasher II	Seminis	8	57	22	7	7
10	General Lee	HarrisMoran	8	18	10	7	7
11	Panther	Nunhems	8	17	6	6	6
12	PX147-10885	Seminis	7	20	12	6	8
13	NUN-2004	Nunhems	7	42	28	6	7
14	NC-Stratford	NCStateUniv	7	79	34	5	5
15	G83xNC-63	NCStateUniv	6	42	19	6	6
16	Cherokee 87	Check	6	30	16	6	6
17	NC-Sunshine	NCStateUniv	6	43	32	4	5
18	G83xNC-62	NCStateUniv	5	32	15	6	6
19	G83xNC-58	NCStateUniv	5	29	16	6	6
20	G83xNC-59	NCStateUniv	5	27	10	6	6
21	HMX-4453	HarrisMoran	4	9	7	6	6
22	Marketmore 76	Check	4	1	0	6	7
23	Ashley	Check	4	1	1	5	5
24	Poinsett 76	CornellUniv	4	3	1	5	7
	CV (%)		18	56	43	17	17
	Mean		7	31	16	6	6
	LSD (5%)		2	29	12	2	2

^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) = 0.25*

Table 32. Stage 3 spring slicer trial - disease ratings (cultigens ranked by average disease resistance).²

Rank	Cultivar or line	Seed source	Downy mildew
1	HMX-4453	HarrisMoran	4.7
2	Thunder	Seminis	5.0
3	NC-Stratford	NCStateUniv	5.0
4	Poinsett 76	CornellUniv	5.0
5	Stonewall	HarrisMoran	5.3
6	G83xNC-58	NCStateUniv	5.3
7	Impact	WesternSeed	5.7
8	Talladega	Seminis	5.7
9	G83xNC-63	NCStateUniv	5.7
10	Intimidator	Seminis	6.0
11	Dasher II	Seminis	6.0
12	PX147-10885	Seminis	6.0
13	G83xNC-62	NCStateUniv	6.0
14	G83xNC-59	NCStateUniv	6.0
15	Ashley	Check	6.0
16	PX147-10896	Seminis	6.7
17	Speedway	Seminis	6.7
18	Panther	Nunhems	6.7
19	Cherokee 87	Check	6.7
20	NC-Sunshine	NCStateUniv	6.7
21	WS-3047	WesternSeed	7.0
22	General Lee	HarrisMoran	7.0
23	Marketmore 76	Check	7.3
24	NUN-2004	Nunhems	8.0
25	CV (%)		16.0
26	Mean		6.1
27	LSD (5%)		1.6
	CV (%)		16.0
	Mean		6.1
	LSD (5%)		1.6

² 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) = 0.09^{ns}

Table 33. 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	NC-Stratford	NCStateUniv	6.2	5.6	9.0	7.6
2	Dasher II	Seminis	5.9	5.4	9.1	8.6
3	Talladega	Seminis	5.7	5.2	9.8	9.1
4	Thunder	Seminis	5.5	5.1	10.1	9.1
5	Speedway	Seminis	5.2	4.9	9.8	11.0
6	G83xNC-62	NCStateUniv	5.2	4.8	10.0	10.3
7	G83xNC-63	NCStateUniv	5.1	4.7	10.5	10.0
8	PX147-10896	Seminis	5.1	4.6	13.3	12.4
9	G83xNC-59	NCStateUniv	4.9	4.6	10.6	11.2
10	Impact	WesternSeed	4.9	4.6	9.7	10.5
11	Stonewall	HarrisMoran	4.9	4.6	10.5	11.3
12	General Lee	HarrisMoran	4.9	4.5	11.0	12.2
13	Intimidator	Seminis	4.8	4.5	12.4	11.6
14	Panther	Nunhems	4.6	4.3	13.3	13.8
15	NC-Sunshine	NCStateUniv	4.3	4.1	15.1	14.5
16	Poinsett 76	CornellUniv	4.3	4.0	15.1	14.6
17	G83xNC-58	NCStateUniv	4.3	4.0	13.7	12.5
18	Cherokee 87	Check	4.3	4.0	16.1	15.3
19	HMX-4453	HarrisMoran	4.2	3.9	12.6	12.9
20	PX147-10885	Seminis	4.1	3.9	15.0	14.9
21	NUN-2004	Nunhems	3.8	3.7	18.0	17.1
22	WS-3047	WesternSeed	3.8	3.6	14.8	16.1
23	Marketmore 76	Check	3.7	3.5	14.4	16.7
24	Ashley	Check	3.7	3.4	16.0	16.7
	CV (%)		16.7	15.2	24.7	23.3
	Mean		4.7	4.4	12.5	12.5
	LSD (5%)		1.3	1.1	5.1	4.8

^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) = 0.85**

Correlation (Marketable yield with ARI1) = -0.53**

Summer (Stage 4) Slicing Cucumber Trial 2006

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The stage 4 summer slicer trial was not harvested due to poor emergence.