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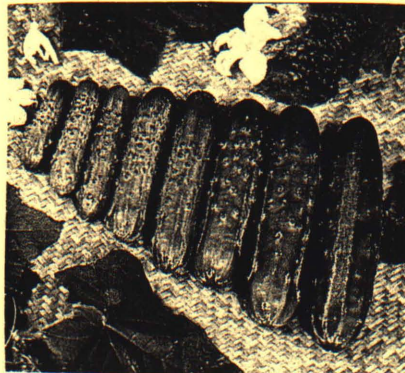
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PICKLING CUCUMBER EVALUATION - 1997

Richard L. Hassell, Cindy Wallace, and Ken Scaife



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PICKLING CUCUMBER EVALUATION - 1997

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Objective: To evaluate performance and quality of cucumber breeding lines for the hand-picked pickling cucumber market. Ten cultivars or advanced breeding lines from commercial seed companies were tested under northern Ohio growing conditions at the OARDC Vegetable Crops Branch near Fremont.

Methods: Broadcast applications of 500 lb/A of 0-14-42 and 120 lb/A of 34-0-0 were incorporated into a conventionally tilled, sandy loam seedbed. The trial was planted on June 17 with a John Deere model 71 Flexi-planter equipped with Kincaid cone-type seed distributing units. Seeds were placed approximately two inches apart in the row and one inch deep. Each seed entry was planted over four replications in a randomized complete block design, with plots consisting of two 30 inch rows, 30 feet long. A pre-emergence herbicide of 4 qt/A Alanap and 2 qt/A Prefar was band-sprayed after planting. Mechanical cultivation and hand-hoeing controlled weeds that emerged later in the season. The plot was hand-thinned to space plants nine inches apart in the row. An additional 70 lb/A of N was knifed into the soil on July 8 as 28% UAN solution. Standard recommendations were followed for disease and insect control through the growing season. Irrigation was not necessary as rainfall was adequate. An area measuring 20 ft. X 5 ft. (two 30 inch rows) in each replication for every cultivar was hand-harvested twice per week beginning on July 28, providing nine total harvests. The cucumbers were hand-graded and sized using a commercial sizer. Fruits were classed into the diameters shown below. Measurements of fruit length, diameter, seed cavity size and observational notes were taken from representative samples (Table 11).

<u>Size</u>	<u>Diameter (inches)</u>
1A	0 - 13/16
1B	13/16 - 1 1/16
2A	1 1/16 - 15/16
3A	1 1/2 - 1 13/16
3B	1 13/16 - 2
4	greater than 2

Discussion and Results: The trial progressed well during the vegetative stage, although cool temperatures delayed the first harvest by several days. No serious disease or insect problems were observed. July and August temperatures were cooler than average. Harvest numbers 2, 3, 6, and 8 (see attached tables) were preceded by several days of cool weather, which resulted in lower yields as compared to the other harvests which were preceded by more seasonal temperatures. Northwest Ohio growers reported average to above average yields in 1997 with an abundance of number 1 and 2 sized pickles. Cultivars which showed promise based on yield and quality observations included Patton Classic, Vlasset, FMX 5020 (performed well early), and XPH 1903.

	June	July	August
Rainfall (in.)	4.64	2.53	4.08
Temperature			
Average min.	57.4	58.7	54.9
Average max.	78.3	81.2	77.5
Average	67.8	70.2	66.2
Average (long-term)	69.1	72.8	70.7

Acknowledgement: Appreciation is extended to the following seed companies for sponsoring this project: Asgrow, Harris Moran, Sun Seeds, and Ferry-Morse.

Table 1: Cucumber Trial 1997

<i>Harvest No.1 Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	261	33	87	316	152	196	0	0	1045
XPH 1903	Asgrow	316	33	76	392	152	272	0	0	1241
XPH 8406	Asgrow	163	22	103	489	49	54	11	0	691
HMX 5472	Harris Moran	294	44	120	294	196	283	0	0	1231
HMX 3469	Harris Moran	229	22	65	425	283	1100	327	0	2451
Patton Classic	Sun Seeds	289	5	54	479	343	495	174	0	1839
SRQ 3534 Classic	Sun Seeds	474	22	44	343	367	436	93	0	1679
Continental	Ferry-Morse Seed	174	27	55	501	196	261	38	0	1252
FMX 5020	Ferry-Morse Seed	201	5	16	419	365	768	267	0	2041
sbq 1641	Sun Seeds	446	33	22	207	267	501	354	27	1857
	mean	285	25	64	367	227	437	126	3	

Seeded: June 17, 1997
Harvested: July 28, 1997

Table 2: Cucumber Trial 1997

<i>Harvest No.2</i> <i>Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	109	11	142	261	33	54	32	22	664
XPH 1903	Asgrow	131	33	87	229	0	0	142	0	622
XPH 8406	Asgrow	152	44	180	381	27	49	16	0	849
HMX 5472	Harris Moran	120	109	261	887	0	0	0	0	577
HMX 3469	Harris Moran	120	33	142	174	65	305	22	0	861
Patton Classic	Sun Seeds	185	55	65	147	5	11	16	0	484
SRQ 3534 Classic	Sun Seeds	223	76	98	191	11	22	5	0	626
Continental	Ferry-Morse Seed	174	60	44	147	27	54	16	0	522
FMX 5020	Ferry-Morse Seed	207	16	87	158	76	200	294	180	1218
sbq 1641	Sun Seeds	316	82	98	103	44	120	11	0	774
	mean	174	52	120	188	29	82	55	20	

Seeded: June 17, 1997

Harvested: July 31, 1997

Table 3: Cucumber Trial 1997

<i>Harvest No.3 Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	1013	33	152	773	599	1503	806	577	5456
XPH 1903	Asgrow	817	87	316	1372	1187	1241	468	76	5564
XPH 8406	Asgrow	675	125	283	1165	795	1329	436	82	4890
HMX 5472	Harris Moran	1252	109	196	1361	904	795	174	0	4791
HMX 3469	Harris Moran	904	76	163	937	980	1307	436	359	5162
Patton Classic	Sun Seeds	1007	5405	201	1192	708	822	87	0	9422
SRQ 3534 Classic	Sun Seeds	1187	60	185	1002	762	779	218	93	4286
Continental	Ferry-Morse Seed	800	71	419	1356	408	555	136	27	3772
FMX 5020	Ferry-Morse Seed	1644	65	147	621	594	931	604	310	4916
sbq 1641	Sun Seeds	926	49	147	604	577	904	370	120	3697
	mean	1023	608	221	1038	751	1017	374	164	

Seeded: June 17, 1997

Harvested: August 4, 1997

Table 4: Cucumber Trial 1997

<i>Harvest No.4</i> <i>Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	207	142	174	44	22	0	174	0	763
XPH 1903	Asgrow	403	142	218	183	44	109	0	0	1199
XPH 8406	Asgrow	147	98	120	60	16	16	44	0	501
HMX 5472	Harris Moran	305	207	207	109	22	44	0	0	894
HMX 3469	Harris Moran	218	131	163	87	33	54	76	0	762
Patton Classic	Sun Seeds	359	55	49	11	0	27	16	0	517
SRQ 3534 Classic	Sun Seeds	250	71	82	65	11	0	0	327	806
Continental	Ferry-Morse Seed	528	60	60	142	16	33	60	0	899
FMX 5020	Ferry-Morse Seed	332	109	82	82	11	11	44	27	698
sbq 1641	Sun Seeds	310	87	55	27	22	38	54	22	615
	mean	306	110	121	91	20	33	47	38	

Seeded: June 17, 1997
 Harvested: August 7, 1997

Table 5: Cucumber Trial 1997

<i>Harvest No.5 Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	468	44	152	1067	599	773	218	0	3321
XPH 1903	Asgrow	501	98	403	1383	874	904	490	0	4653
XPH 8406	Asgrow	457	71	261	1187	632	1002	321	98	4029
HMX 5472	Harris Moran	675	98	457	1514	751	610	131	218	4454
HMX 3469	Harris Moran	545	152	305	1339	643	926	65	0	3975
Patton Classic	Sun Seeds	468	87	272	1149	479	702	98	0	3255
SRQ 3534 Classic	Sun Seeds	408	98	218	555	485	828	185	22	3132
Continental	Ferry-Morse Seed	359	136	370	904	359	449	114	82	2773
FMX 5020	Ferry-Morse Seed	604	98	180	969	539	615	343	44	3392
sbq 1641	Sun Seeds	637	98	299	1192	327	751	354	196	3527
	mean	512	98	292	1159	536	756	232	66	

Seeded: June 17, 1997

Harvested: August 11, 1997

Table 6: Cucumber Trial 1997

<i>Harvest No.6 Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	457	54	174	120	44	44	44	54	991
XPH 1903	Asgrow	849	44	163	76	76	131	131	0	1470
XPH 8406	Asgrow	506	98	93	87	22	44	60	22	932
HMX 5472	Harris Moran	479	163	142	11	33	44	22	0	894
HMX 3469	Harris Moran	261	120	142	65	0	22	0	0	610
Patton Classic	Sun Seeds	256	65	71	82	16	60	0	22	572
SRQ 3534 Classic	Sun Seeds	343	71	76	125	0	38	0	33	686
Continental	Ferry-Morse Seed	316	60	76	185	87	60	54	0	838
FMX 5020	Ferry-Morse Seed	218	71	158	109	49	22	11	0	638
sbq 1641	Sun Seeds	381	98	125	82	33	44	22	22	807
	mean	407	84	122	94	36	51	34	15	

Table 7: Cucumber Trial 1997

<i>Harvest No.7</i> <i>Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	839	44	87	610	196	283	316	54	2429
XPH 1903	Asgrow	1906	44	131	534	152	392	381	44	3584
XPH 8406	Asgrow	1655	44	103	479	212	544	256	60	3353
HMX 5472	Harris Moran	1427	33	76	381	294	272	98	0	2581
HMX 3469	Harris Moran	762	33	87	446	316	457	207	120	2428
Patton Classic	Sun Seeds	790	49	147	735	425	376	185	142	2849
SRQ 3534 Classic	Sun Seeds	555	55	152	621	261	387	365	82	2478
Continental	Ferry-Morse Seed	555	76	229	604	354	376	185	87	2466
FMX 5020	Ferry-Morse Seed	724	49	98	555	310	522	207	76	2541
sbq 1641	Sun Seeds	1024	44	120	664	359	479	250	65	3005
	mean	1024	47	123	563	288	409	245	73	

Seeded: June 17, 1997

Harvested: August 18, 1997

Table 8: Cucumber Trial 1997

Harvest No.8 Cultivar	source	Harvest sizing in lb/a								
		culls	1A	1B	2A	2B	3A	3B	4	Total
Vlasset	Asgrow	163	44	33	109	65	76	76	0	566
XPH 1903	Asgrow	370	65	65	65	22	44	44	0	675
XPH 8406	Asgrow	512	87	71	44	33	27	54	142	970
HMX 5472	Harris Moran	283	109	44	196	44	131	131	0	938
HMX 3469	Harris Moran	163	55	44	76	0	65	174	0	577
Patton Classic	Sun Seeds	163	71	114	71	60	65	60	0	604
SRQ 3534 Classic	Sun Seeds	196	76	93	114	54	71	71	44	719
Continental	Ferry-Morse Seed	310	49	120	103	65	120	71	0	838
FMX 5020	Ferry-Morse Seed	201	60	65	114	0	38	22	0	500
sbq 1641	Sun Seeds	283	76	82	136	33	11	27	33	681
	mean	264	69	73	103	38	65	73	22	

Seeded: June 17, 1997

Harvested: August 21, 1997

Table 9: Cucumber Trial 1997

<i>Harvest No.9 Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	<i>Total</i>
Vlasset	Asgrow	359	55	109	261	33	65	33	0	915
XPH 1903	Asgrow	708	44	185	261	54	33	44	0	1329
XPH 8406	Asgrow	577	44	125	785	22	44	0	0	1597
HMX 5472	Harris Moran	381	76	196	240	44	33	76	0	1046
HMX 3469	Harris Moran	229	87	174	229	22	54	44	0	839
Patton Classic	Sun Seeds	191	125	234	299	27	60	0	33	969
SRQ 3534 Classic	Sun Seeds	250	71	180	250	27	38	38	0	854
Continental	Ferry-Morse Seed	267	120	283	305	54	49	27	0	1105
FMX 5020	Ferry-Morse Seed	191	71	169	272	54	16	0	0	773
sbq 1641	Sun Seeds	354	49	158	256	76	33	0	0	926
	mean	351	74	181	316	41	43	26	3	

Seeded: June 17, 1997

Harvested: August 25, 1997

Table 10: Cucumber Trial 1997

<i>Total Harvest Cultivar</i>	<i>source</i>	<i>Harvest sizing in lb/a</i>								<i>Total Ton/a</i>
		<i>culls</i>	<i>1A</i>	<i>1B</i>	<i>2A</i>	<i>2B</i>	<i>3A</i>	<i>3B</i>	<i>4</i>	
Vlasset	Asgrow	3776	460	1110	3561	1743	2994	1699	707	8
XPH 1903	Asgrow	6001	590	1644	4595	2561	3126	1700	120	10
XPH 8406	Asgrow	4844	633	1339	4477	1808	3109	1198	404	9
HMX 5472	Harris Moran	5216	948	1699	4193	2288	2212	632	218	9
HMX 3469	Harris Moran	3431	709	1285	3778	2342	4290	1351	479	9
Patton Classic	Sun Seeds	3708	5917	1207	4165	2063	2618	636	197	10
SRQ 3534 Classic	Sun Seeds	3886	600	1128	3599	1878	2599	975	601	8
Continental	Ferry-Morse Seed	3483	659	1656	4247	1566	1957	701	196	7
FMX 5020	Ferry-Morse Seed	4322	544	1002	3299	1998	3123	1792	637	8
sbq 1641	Sun Seeds	4677	616	1106	3271	1738	2881	1442	485	8
	mean	4334	1168	1318	3919	1999	2891	1213	404	9

Seeded: June 17, 1997

Total Harvests: 9

Table 11: Fruit Quality

<i>Cultivar</i>	<i>source</i>	<i>Fruit Length (mm)</i>	<i>Fruit width (mm)</i>	<i>L/D Ratio (Size 2)</i>	<i>Seed Cavity Width (mm)</i>	<i>Spine Color</i>	<i>External Color</i>	<i>comments</i>
Vlasset	Asgrow	87.23	28.33	3.08	14.95	white	dk green	prominent warts, blocky, uniform
XPH 1903	Asgrow	98.18	32.53	3.02	18.97	white	md green	fairly smooth with few warts, blocky, uniform
XPH 8406	Asgrow	90.93	29.78	3.05	16.73	white	md green	fairly smooth, tarpered to blossom end, short, not impressive
HMX 5472	Harris Moran	98.38	28.16	3.49	16.44	white	md green	some striped, long, restricted at blossom end
HMX 3469	Harris Moran	93.76	28.80	3.26	17.43	white	md green	warty, restricted at stem end, not very uniform
Patton Classic	Sun Seeds	101.05	29.86	3.38	15.59	white	md green	warty, uniform, blocky fruit
SRQ 3534 Classic	Sun Seeds	91.68	29.73	3.08	16.81	white	md green	blocky, straight, some tapered to blossom end
Continental	Ferry-Morse Seed	96.56	31.98	3.02	19.59	white	md green	fairly smooth, some strips, blocky
FMX 5020	Ferry-Morse Seed	91.95	30.38	3.03	18.05	white	md green	long, uniform, tapered toward stem end
sbq 1641	Sun Seeds	91.10	31.67	2.88	18.19	white	md green	blocky, fairly short, not impressive
	mean	94.08	30.12	3.13	17.28			

Seeded: June 17, 1997

Total Harvests: 9

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