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3-8-2013

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### Recommended Citation

Brown, Rebecca, "Cucumber Variety Trials 2012" (2013). *University of Rhode Island Vegetable Production Research Reports*. Paper 5.

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# CUCUMBER VARIETY TRIALS 2012

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**RESEARCH BULLETIN No. 2, 2013**

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**Agricultural Experiment Station**

of the

**University of Rhode Island**

**Kingston, RI, 02881, U.S.A., February, 2013**

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# Cucumber Variety Trials, 2012

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## Cucumber Trials

In 2012 we trialed both pickling cucumbers and slicing cucumbers. Both trials were grown from transplants; seeds were started in the greenhouse May 2 and transplants were put in the field May 30. The cucumber trials were grown on raised beds with black plastic mulch and drip irrigation. Pickling cucumber varieties were planted with 1 foot between plants in the row; slicing varieties were planted at 2-foot spacing. Harvest began June 29 and lasted until August 20. Slicing varieties were harvested 3x per week with only fruit of marketable size picked each day. Pickling varieties were harvested when the largest fruit in the plot reached “Kirby” size; all fruit down to gherkin size were harvested. Pickling cucumbers were graded by size.

The major pest problem in 2012 was striped cucumber beetles (*Acalymma vittatum*) and the associated bacterial wilt. The beetles emerged in mid-May and infested the transplants in the hardening-off area. Multiple applications of insecticides enabled us to limit the damage, but there was significant feeding on the leaves of the transplants, and abundant larval feeding on roots. The combination of bacteria and larval feeding led to death of many plants once fruiting began, and second-generation adult beetles damaged the cucumber fruit. We did see significant differences among varieties in the amount of fruit damage and plant death.

## Pickling Cucumbers

The white-fruited variety Salt and Pepper showed the best performance, followed by H-19 Little Leaf. This is not surprising, as these varieties have been shown to be unattractive to cucumber beetles in other trials. Salt and Pepper produced 416 fruit with only 6% culls. H-19 Little Leaf produced 365 fruit with only 5% culls; most culls were for shape. Both varieties had excellent plant survival and excellent tolerance to or avoidance of bacterial wilt. H-19 Little Leaf tended towards a smaller fruit size than the other varieties, but still produced 30% large fruit.

The third-place variety was Jackson. This traditional green variety produced 249 fruit with only 7% culls (primarily due to shape) despite being susceptible to bacterial wilt. Most of the fruit were produced within a 3-week period.

The other varieties in the trial showed a mixture of strengths and weaknesses that limited their ability to yield marketable fruit. Adam Gherkin was very attractive to the cucumber beetles and suffered severe wilt. Harmonie and Vertina were tolerant of bacterial wilt but beetle feeding on the fruit led to high levels of culls. Northern Pickling and Sassy had issues with both wilt and culls, Calypso struggled with wilt, and Eureka and Wealthy had small plants that yielded poorly.

**Table 1: Pickling cucumber trial data**

Variety	Source <sup>a</sup>	Plants <sup>b</sup>	Total Fruit	% culls	reason <sup>c</sup>	Fruit Size Distribution (%)				1st Hvst	Last Hvst	Bacterial Wilt <sup>d</sup>	Comments
						small	medium	large	XL				
<b>Adam Gherkin</b>	JSS	24	178	33	CB, often with shape	36.7	38.3	25.0	0.0	29-Jun	16-Jul	3.7	small plants; severe feeding damage
<b>Calypso</b>	High Mowing	26	159	14	shape	21.1	36.1	41.4	1.5	2-Jul	6-Aug	6.0	
<b>Eureka</b>	Harris	26	145	14	CB, often with shape	22.6	45.2	30.4	1.7	2-Jul	3-Aug	8.0	small plants
<b>H-19 Little Leaf</b>	JSS	30	365	5	shape	36.2	33.0	30.1	0.6	2-Jul	20-Aug	9.7	very healthy
<b>Harmonie</b>	JSS	27	207	46	CB and shape	25.0	37.5	35.9	1.6	29-Jun	3-Aug	7.3	small plants
<b>Jackson</b>	JSS	29	249	7	shape	25.8	30.9	40.7	2.5	2-Jul	1-Aug	4.7	
<b>Northern Pickling</b>	JSS	24	213	23	shape	17.3	39.5	39.5	3.7	29-Jun	3-Aug	5.0	
<b>Salt &amp; Pepper</b>	JSS	30	416	6	CB and shape	31.7	39.0	25.8	3.4	2-Jul	20-Aug	8.7	vigorous and healthy; white fruit
<b>Sassy</b>	Harris	27	183	27	CB and shape	22.7	40.3	37.0	0.0	2-Jul	10-Aug	7.3	
<b>Vertina</b>	JSS	26	152	35	CB, often with shape	24.5	53.2	22.3	0.0	29-Jun	1-Aug	8.0	small plants with low vigor
<b>Wealthy</b>	Harris	29	199	11	shape	27.4	41.5	30.5	0.6	29-Jun	30-Jul	7.3	small plants; some feeding damage

<sup>a</sup> JSS is Johnny's Selected Seeds

<sup>b</sup> Number of plants at flowering; all plots had 30 plants initially

<sup>c</sup> CB indicates cucumber beetle feeding damage on fruit. Feeding damage was often accompanied by shape distortion

<sup>d</sup> Bacterial wilt severity reflects the number of live, unwilted plants on July 18. The value is an average across 3 plots of 10 plants each.

### Slicing Cucumbers

The slicing cucumber fruit were heavily damaged by cucumber beetle feeding, leading to high cull rates. The OP variety Marketmore 76 continued to show the qualities that have made it a New England standard for so long. It had the highest yield and the lowest percentage of culls, and the vigorous vines resisted bacterial wilt. 'Dominator' and 'Mongoose' were second and third, respectively for yield, and the culled fruit were entirely due to beetle feeding. 'Darlington' and 'Marketmore 76' showed the best resistance to bacterial wilt, while 'Lisboa' showed the least.

Variety	Source	Plants	Total Fruit	% Culls	Bacterial Wilt	Peak Hvst
<b>14743324 SVR</b>	Siegers	28	121	53	7.0	July 2-9
<b>14763462 SVR</b>	Siegers	28	125	67	8.3	July 5-13
<b>14784719 SVR</b>	Siegers	29	172	65	9.0	July 5-9 and 23-25
<b>Boa</b>	Seedway	26	184	59	8.7	July 5 and 13-25
<b>Darlington</b>	Siegers	30	190	68	9.7	July 16-23
<b>Dominator</b>	Siegers	30	219	59	9.3	July 16-25
<b>Impact</b>	Siegers	30	165	55	9.0	July 5 and 16
<b>Lisboa</b>	Bejo	25	108	58	4.7	July 5
<b>Marketmore 76</b>	High Mowing	29	223	31	9.7	July 23
<b>Mongoose</b>	Siegers	30	215	53	9.3	July 16
<b>Python</b>	Seedway	28	171	49	8.0	July 9 and 16-25

THE BACTERIAL INFECTION OF FRESH EGGS

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BULLETIN 164

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Agricultural Experiment Station

OF THE

Rhode Island State College

KINGSTON, R. I., U. S. A., JANUARY, 1916

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