TITLE OF PROJECT: Bacterial spot resistant pepper cultivar evaluation - 2006

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METHODS: Bell pepper cultivars were seeded in the greenhouse into 200 cell trays containing BM-3 growing media on 04 May 2006. They were transplanted on 12 June 2006 into a Brookston clay loam sand spot phase soil on the Ridgetown College research farm, with a row spacing of 1.0 m and in row spacing of 45 cm (22 222 plants/ha). There was a single row of plants per bed.

Weeds were controlled with a preplant incorporated treatment of Treflan. Weed escapes were controlled with cultivation and hoeing.

Nitrogen fertilizer was applied preplant at rate of 60 kg/ha actual N. Phosphorous and potassium applications were based on soil analysis.

European corn borers were controlled with sprays of Decis and Pounce. There were a total of 4 insecticides sprays applied.

The trial was irrigated with Netafim Streamline drip tubing. Irrigation scheduling was based on tensiometer values (turned on if soil water tension falls below -30 cb) and accumulated rainfall; a target of 1" per week was used

Aristotle was included as green standard cultivar. King Arthur was included as an early maturing comparison. Peppers were harvested until October 10.

DATA COLLECTION: Peppers were harvested according to Ontario processing standards: mature green peppers were a minimum 2 3/4" diameter with a 5% tolerance on color, and fully mature peppers were a minimum 2 ½" diameter with a 10% tolerance on color. At the first harvest (green only), samples were taken and the following assessment made:

a. fruit length: average length of 10 fruit per plot
b. fruit diameter: average diameter of 10 fruit per plot
c. wall thickness: average thickness of 10 fruit per plot

Data is sorted by descending total yields.

EXPERIMENTAL DESIGN AND DATA ANALYSIS: The trial was established in a randomized complete block design with four replications. A single plot consisted of 1 rows, 8 m in length with 1.0 m between the rows.

The data was statistically analysed using analysis of variance for a randomized complete block design. A protected LSD was used to separate the treatments with significant differences.

Table 1. Fruit ratings and green fruit characteristics of bacterial spot resistant peppers, Ridgetown College, 2006.

Cultivar	Source	Fruit length (cm)	Fruit Diameter (cm)	Wall Thickness (mm)	Average Fruit Weight (g)
Double Up	Sakata	9.0 bc	9.3 ab	7.1 a	264.3 a
Excursion II	A & C	9.8 a	9.0 b	6.8 ab	241.5 abc
Aristotle	Stokes	9.4 ab	9.4 ab	6.5 bc	254.1 ab
King Arthur	Stokes	9.4 ab	9.6 a	6.3 c	251.8 ab
ACX 270	A & C	9.3 abc	9.0 b	6.6 abc	236.4 bc
Snapper	Enza Zaden	8.6 c	9.0 b	5.8 d	216.7 c
LSD		0.66	0.36	0.43	23.8
C.V.		4.74	2.57	4.37	6.48
P- Value (0.05)		0.0313	0.0102	0.0005	0.0113

Table 2. Green fruit yields of bacterial spot resistant peppers. Ridgetown College, 2006.

Cultivar	Source	Green Fruit/ plant	Early Green Yield (t/ac)	Total Green Yield (t/acre)
Double Up	Sakata	7.7 a	5.4 a	10.85 a
Excursion II	A & C	7.1 a	4.2 b	9.95 ab
Aristotle	Stokes	7.1 a	4.6 ab	9.45 ab
King Arthur	Stokes	6.7 a	5.2 a	8.91 ab
ACX 270	A & C	6.6 a	4.1 b	8.60 b
Snapper	Enza Zaden	4.0 b	1.7 c	4.50 c
LSD		1.30	0.9	1.8
C.V.		13.1	13.9	13.9
P- Value (0.05)		0.0003	0.0001	0.0001