Brussels Sprouts Variety Trials and Topping Study, 2010

Objectives

1) compare the productivity and marketable yields of five varieties of Brussels sprouts
2) determine the effects of topping Brussels sprouts (removing the apical meristem) on marketable yield of sprouts.

Methods

We evaluated five (5) cultivars of Brussels sprouts in Summer 2010. They were planted in a randomized complete block design with five reps; twelve plants per plot. Plants were spaced 18 inches apart within a single row on 30 inch raised beds covered with black plastic embossed mulch for weed control. Plants were seeded June 18 in 72-cell plug trays and transplanted into the field on July 14. Bacillus thuringiensis (Dipel) was applied on July 31 and August 17 to manage caterpillars. In each plot, half of the plants (6) were topped when lowest sprouts were 0.5 inches in diameter; and the other half were left un-topped. Topping was done on Sept 17, and lower leaves were trimmed to improve air circulation at that time.

Cultivar	Days to Maturity	Seed Source
Churchill	90	Johnny's Selected Seeds
Diablo	110	Johnny's Selected Seeds
Oliver	100	Stokes Seeds
Jade Cross	95	Stokes Seeds
Royal Marvel	85	Harris Seeds

Brussels sprouts were harvested and data were collected on November 12. Loppers were used to cut off the main stem, and top leaves were removed. For each plant, the following data were collected:

- **Marketable stem length** (length of stem with sprouts 2-4cm diameter)
- **Number of lateral stems** at the base of plant (if present)
- For each plant, we noted whether it possessed any of the following defects: **small at top** (where sprouts were underdeveloped at the top of the stem), **puffy at top** (where sprouts were loose and puffy at the top of the stem), and **puffy at base** (sprouts were loose and puffy at the base of the stem).

Results - Varieties

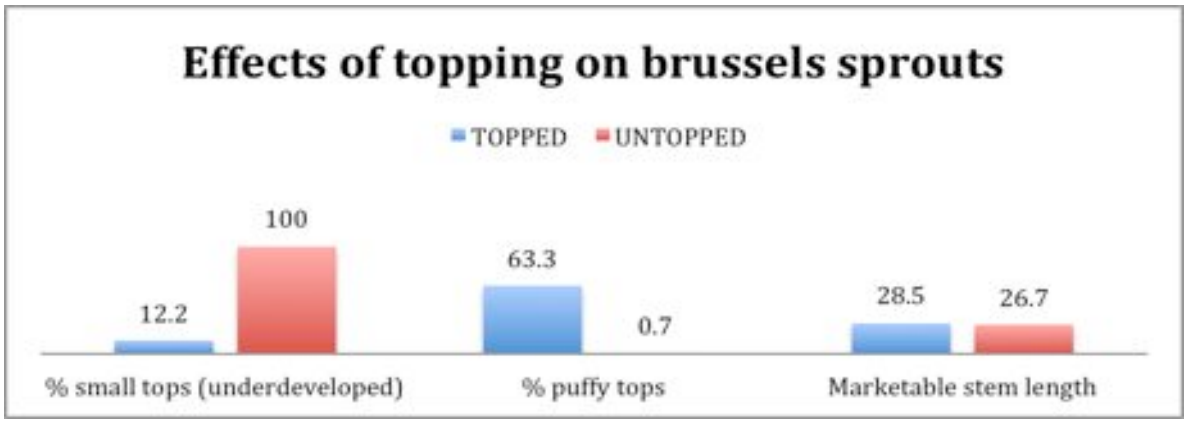
Marketable stem length was very similar between varieties, ranging from 20-27cm. Jade Cross and Oliver had significantly shorter marketable stems than Churchill and Royal Marvel. Churchill showed a tendency to produce lateral stems at the base of plants, an undesirable trait. The tendency to produce puffy sprouts at the base of plants was also associated with variety, with this trait being very common with Churchill and Jade Cross. Diablo and Oliver showed significantly less of this trait. Varieties did not differ in percentage of undeveloped (small) tops or percentage of puffy sprouts at tops of stems. See photos, last page.

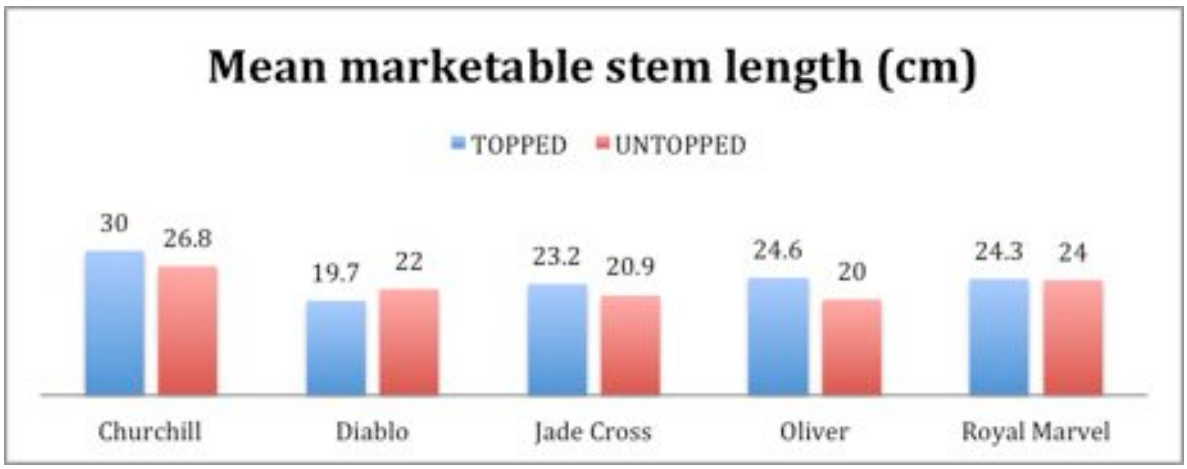
	Mean Marketable Stem Length (cm)		Mean No. Lateral Stems		Mean % with puffy bases	
Churchill	26.82	a	1.34	a	64	a
Diablo	21.97	ab	0.10	b	2	c
Jade Cross	20.90	b	0.20	b	73	a
Oliver	19.99	b	0.03	b	8	bc
Royal Marvel	23.98	ab	0.21	b	39	b

Results – Effects of Topping

Topping plants when the largest sprouts were approximately 0.5 inches in diameter (Sept 17, 2010) had significant impact on the development of tops. Topping greatly reduced the percentage of underdeveloped tops, but increased the percentage of puffy tops. Topping slightly increased marketable stem length (approximately 2cm).

Most varieties appeared to have a positive response to topping, with the exception of Diablo. This may have been because we topped on a single date, which may have been slightly early (or late) for particular varieties.






Topped
Untopped
Diablo
Churchill
Jade Cross
Royal Marvel
Oliver