

2002 Executive Summary Report to the Ontario Processing Vegetable Growers

Project Title: Processing Vegetable Cultivar Evaluation

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Objectives: To evaluate new cultivars of snap beans, sweet corn and peppers for their suitability for processing vegetable production under growing and climatic conditions of southwestern Ontario and to aid in the introduction of superior cultivars to the Ontario processing industry. To provide field support for processing tomato cultivar evaluation managed by Mr. Loewen (University of Guelph, Ridgeway College).

Methodology: Field experiments were carried out on a Fox sandy loam soil at the Greenhouse and Processing Crops Research Centre, Harrow, Ont. Cultivars of each crop were arranged using a randomized complete block design with 3 or 4 replicates. The trials were managed according to normal cultural practices used in southwestern Ontario. Data on plant stand, maturity, yield, quality, disease resistance and plant growth characteristics were collected. The trials were watered by overhead sprinkler irrigation as required during the growing season.

Results:

Snap Beans. Trials were conducted to evaluate large sieve size, standard cutting and slicing types and small sieve size, whole pack types. Nine large sieve and 15 small sieve cultivars were tested. Soil conditions at seeding were ideal for this trial. Some plants were lost due to sand blasting shortly after emergence. The high temperatures and heat stress after planting also affected plant stands. Plant growth was set back and plant vigour was poor to fair throughout the growing season. High day and night temperatures at flowering caused blossom drop and the plants to shut down flower production. Yields were low and well below average. Overall pod quality was good. There was a mild infection of anthracnose in the trial but not enough to affect yields. Warrior (6.2 tons/ac) and HMX 0944 (Harris Moran, 6.0 tons/ac) had the highest yields of the standard types. Both have attractive, smooth, dark green pods. Warrior was 4 days later than HMX 0944. In the small sieve types, Ex 08190503 (Semini's Seeds, 5.0 tons/ac) had the best yield with most pods being in the 4 sieve size class. It has dark green, large diameter, uniform pods. Lexus (late, medium green, 4.5 tons/ac) and WBG 1023 (Semini's Seeds, early wax, 4.3 tons/ac) performed well with most beans being in the 1 to 3 sieve size class. Carlo (4.8 tons/ac) has also performed well as a standard small sieve size green bean.

Sweet Corn. Ten super sweet (Sh2) cultivars were evaluated. The trial had good germination (took about 7 days) and good plant stands. Yields for most cultivars, were as good as, or better than average. There was an infection of northern corn blight in the latter part of the season. Stewart's wilt was present but not significant. HMX 8392 (Harris Moran, 10.3 tons/ac), a late yellow and Polaris (10.0 tons/ac), a main season bicolour, were top performers. Polaris and HMX 8392 were also the top cultivars in the fresh market trial and Polaris was the top yielder in the 2001 processing trial (9.5 tons/ac).

Bell Peppers. Thirteen cultivars were evaluated. The continued heat/drought stress during the growing season resulted in many fruit (both green and red) to become cheesed or flat shaped. There was very little blossom end rot; most culls were sunburned or small. Cultivars with large, vigorous plant types had less sun scald than those with smaller plants. There was very little disease pressure in the trial. Fruit seemed to mature and begin to turn red quickly, but colour uniformity was not real good in most varieties. Conquest has shown consistent good yields and quality in green and red harvests in the two years it has been tested. Crusader had a high yield and appeared to show good heat tolerance. 4 Star, Defiance and Aristotle X3R performed well again this year.

Tomatoes. Field support for processing tomato cultivar evaluation was provided to Mr Steve Loewen, University of Guelph, Ridgetown College by managing the tomato cultivar trial at Harrow. Thirty six cultivars were included.