

Effects of Length of Blossom Removal on Production of Albion and Seascape Dayneutral Strawberries

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Dayneutral strawberry plants have the capacity to flower and fruit continuously during the growing season. For many years, we have recommended that growers remove the blossom clusters from dayneutral strawberry plants for the first six weeks after planting to allow the crowns to establish before they fruit. We wanted to find out if this 6-week period could be reduced, decreasing costs and potentially improving productivity.

Trials were established in May 2007 to examine the effects of 4, 6 and 8 weeks of blossom removal following planting on the yield, berry size and time of harvest in the first and second picking years of dayneutral strawberries. The trials were located at the University of Guelph Research Stations in Cedar Springs and New Liskeard. Seascape was planted in New Liskeard, and Albion and Seascape were planted in Cedar Springs. Twenty-plant plots were established in twin rows with 20cm between plants and 30cm between rows on raised beds at 2m centers. The beds were covered with 1.0 mil black polyethylene mulch. All plots received regular drip irrigation. Fertilizer was applied through the drip system. Cultural practices were adapted to the local soil and climate. In New Liskeard the plants were covered with straw mulch and a 1.5 oz/sq yd floating row cover for the winter. A 1.0 oz/sq yd floating row cover was used in Cedar Springs.

Fruit was harvested from a 1-metre section of each plot twice weekly in the first and second year. Fruit was sorted into unmarketable and marketable (regularly shaped fruit with a diameter greater than 1.5 cm and no rot). The marketable fruit was weighed and counted, and berry weights were calculated.

In the planting year at Cedar Springs, there were no significant effects on either the yield or berry weight of Albion and Seascape (Table 1). However, the yield and berry weight of Albion *tended* to increase as the length of blossom removal increased. The *trend* was the opposite for Seascape, as both the total and marketable yield tended to decrease as the blossom removal period increased.

As the time from bloom to harvest is around 30 days, you would expect to harvest sooner with a shorter blossom removal period. This was the case in the cooler climate in New Liskeard but not in Cedar Springs. In New Liskeard, the first harvest started 27 to 34 days after the end of blossom removal (Table 2). In Cedar Springs, the first harvests of Seascape all occurred at the same time regardless of the length of blossom removal. Higher temperatures in Cedar Springs may have delayed flower initiation in the treatments with 4 and 6 weeks of blossom removal. If this had not happened, perhaps the yields of these treatments would have been even higher.

The length of blossom removal in the planting year had no effect on yields or berry size in the second picking year in Cedar Springs (data not shown), however

there were effects in the second year in New Liskeard (Table 2). The shortest period of blossom removal in 2007 resulted in the highest yields and berry size in Seascape in 2008 in New Liskeard.

In summary, when the blossom clusters were removed for only four weeks after planting, Seascape yields were not reduced in either Cedar Springs or New Liskeard. This should reduce costs and, provided it is not too hot, result in earlier harvests. Perhaps it is possible to decrease the length of blossom removal even further especially if large-crowned plants are available. A trial is planned for 2011 comparing the effects of crown size at planting and the length of blossom removal on production of dayneutral strawberries.

Table 1. Days to harvest, yields and berry weights in the first picking year in Cedar Springs.¹

Cultivar	Blossoms removed for ³	Days to harvest ²	Yield (kg/m)		Average berry weight (g)
			Total	Marketable	
Seascape	4 weeks	85	4.0	2.9	14.8
	6 weeks	85	3.9	2.7	15.0
	8 weeks	86	3.7	2.6	15.7
	Average	85 a	3.9 a	2.8 a	15.2 b
Albion	4 weeks	94	2.1	1.6	15.7
	6 weeks	89	2.3	1.6	16.4
	8 weeks	97	2.4	1.8	16.4
	Average	93 b	2.3 b	1.7 b	16.2 a

Table 2. Results for the first and second picking year for **Seascape** in New Liskeard.¹

Blossoms removed for ³	1 st picking year				2 nd picking year		
	Days to harvest ²	Yield (kg/m)		Av. berry weight (g)	Yield (kg/m)		Av. berry weight (g)
		Total	Marketable		Total	Marketable	
4 weeks	62 a	1.1 a	0.6 a	11.3 a	4.4 a	3.0 a	10.8 a
6 weeks	75 b	1.1 a	0.6 a	10.0 b	3.8 ab	2.5 b	10.3 ab
8 weeks	83 c	1.0 a	0.5 a	9.9 b	3.3 b	2.2 b	10.1 b

¹ Values within columns with different letters are significantly different.

² Calculated from the planting date to the first harvest date.

³ Blossoms removed in the first year only.

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