

Planting Date Recommendation for Pearl® ‘FL16.78-109’ and Pearl® ‘FL18.52-66’

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Summary

We evaluated three planting dates (Oct 10, 17, and 24) for Pearl® ‘FL16.78-109’ and Pearl® ‘FL18.52-66’ during the 2022-2023 season. Delaying planting date showed similar negative effects on yield for both cultivars. Yield reductions by delaying planting date were most significant in Nov–Dec, followed by Feb and Jan. Delaying planting date from Oct 10 to Oct 24 reduced marketable yields of ‘FL16.78-109’ and ‘FL18.52-66’ by 26% and 40%, respectively.

Compared to yield, planting date showed relatively small effects on fruit size and Brix. The results suggest that both pineberry cultivars should be planted as early as Oct 10 to avoid potential yield loss.

Pearl® ‘FL16.78-109’

‘FL16.78-109’ is the first white strawberry cultivar released from the UF strawberry breeding program. It is white with red achenes and a pink blush on the sun-side of the fruit when fully ripe. Its yield is 2/3 to ¾ as much as the standard varieties, with fruit size slightly smaller than Beauty. The plant is robust and is of average height and width but is denser than ‘Florida Brilliance’, with shorter stems.

Pearl® ‘FL18.52-66’

‘FL18.52-66’ is a new white strawberry cultivar selection. It has similar appearance to Pearl® but produces berries slightly earlier than Pearl® with fewer small non-marketable berries.

Methods

A replicated field experiment was conducted during the 2022-2023 season at the UF/IFAS GCREC in Balm, FL. We tested three planting dates, October 10, 17,

and 24, for two white strawberry cultivars, ‘FL16.78-109’ and ‘FL18.52-66’. Bare-root transplants were obtained from Crown Nursery (Red Bluff, CA). Plant spacing was 16” (16,335 plants/acre). Each treatment had four replicated plots with 16 plants per plot. Harvests were performed 22 times between November 21, 2022 and February 27, 2023.

Results

Yield – Cultivar effects (Table 1)

Both ‘FL16.78-109’ and ‘FL18.52-66’ showed a similar yield distribution pattern. Averaging among three planting dates, Nov–Dec, Jan, and Feb yields accounted for 8%, 22%, and 71% of the total marketable yield in ‘FL 16.78-109’, respectively, and 7%, 25%, and 68% of the total marketable yield in ‘FL18.52-66’, respectively. Their yields are also very similar (2239–2272 flats/acre).

Yield – Planting date effects (Table 1)

Overall, delaying planting date showed similar negative effects on yield for both cultivars. Yield reductions by delaying planting date were most significant in Nov–Dec, followed by Feb and Jan. Averaging across the two cultivars, delaying planting date reduced Nov–Dec, Jan, and Feb yields by up to 58%, 17%, and 37%, respectively (the bottom part of Table 1). ‘FL18.52-66’ suffered slightly greater yield loss than ‘FL16.78-109’ when planting date was delayed to Oct 24 (26% vs. 40% yield loss, the top part of Table 1). The results suggest that both pineberry cultivars should be planted as early as Oct 10 to avoid potential yield loss.

Table 1. Monthly and total-season marketable yields of ‘FL16.78-109’ and ‘FL18.52-66’ pineberry cultivars as affected by planting dates.

Cultivar	Planting date	Marketable yield (8-lb flat #/acre)			
		Nov-Dec	Jan	Feb	Total
‘FL16.78-109’	Oct 10	252 a	471 ab	1,981 a	2,704 a
	Oct 17	152 ab	443 b	1,523 ab	2,118 b
	Oct 24	120 bc	557 ab	1,316 bc	1,994 bc
‘FL18.52-66’	Oct 10	220 a	693 a	1,864 a	2,778 a
	Oct 17	173 ab	520 ab	1,566 ab	2,260 ab
	Oct 24	76 c	486 ab	1,116 c	1,679 c
		Average data			
‘FL16.78-109’		175	490	1,607	2,272
‘FL18.52-66’		157	567	1,516	2,239
	Oct 10	236 a	582	1,923 a	2,741 a
	Oct 17	162 b	482	1,545 b	2,189 b
	Oct 24	98 c	522	1,216 c	1,836 c

Means in a column followed by the same letter are not significantly different (Tukey-Kramer test, $p \leq 0.05$)

Fruit size – Cultivar effects (Table 2)

Both ‘FL16.78-109’ and ‘FL18.52-66’ produced the largest berries in Jan (21.2–23.0 g/berry), followed by Feb (20.2–21.9 g/berry) and Nov– Dec (14.4–15.0 g/berry). ‘FL18.52-66’ produced 8% to 9% larger berries than ‘FL16.78-109’ in Jan and Feb. The average berry size throughout the season was 8% greater for ‘FL18.52-66’ than for ‘FL16.78-109’.

Fruit size – Planting date effects (Table 2)

The effect of planting date on fruit size varied during the growing season. Averaging across the two cultivars, by delaying planting date, fruit size decreased slightly in Nov– Dec (3%–4%) and Jan (1%–8%) but increased slightly (3%–6%). The variable effect of planting date on fruit size is due probably to the trade-off between fruit size and number and the shift in fruit production waves.

Table 2. Average fruit size of ‘FL16.78-109’ and ‘FL18.52-66’ pineberry cultivars as affected by planting dates.

Cultivar	Planting date	Fruit size (g/berry)			Total
		Nov-Dec	Jan	Feb	
‘FL16.78-109’	Oct 10	14.7	20.9	19.5	19.1
	Oct 17	14.9	22.1	20.1	20.0
	Oct 24	15.3	20.5	21.0	20.4
‘FL18.52-66’	Oct 10	15.4	24.5	20.7	20.9
	Oct 17	13.9	22.9	21.7	21.1
	Oct 24	13.9	21.5	23.3	22.1
		Average data			
‘FL16.78-109’		15.0	21.2	20.2	19.8
‘FL18.52-66’		14.4	23.0	21.9	21.4
	Oct 10	15.0	22.7	20.1	20.0
	Oct 17	14.4	22.5	20.9	20.5
	Oct 24	14.6	21.0	22.1	21.2

Fruit Brix – Cultivar effects (Table 3)

Both ‘FL16.78-109’ and ‘FL18.52-66’ had the highest fruit Brix values in Jan (8.83–8.18 °Brix), followed by Dec (7.49–7.69 °Brix) and Feb (7.10–7.18 °Brix). Fruit Brix values were similar in the two cultivars throughout the growing season.

Fruit Brix – Planting date effects (Table 3)

The effect of planting date on fruit Brix varied during the growing season. Averaging across the two cultivars, by delaying planting date, fruit Brix decreased slightly in Nov– Dec (3%–4%) but increased slightly in Jan (2%–6%) and (7%–9%). The reduction in fruit Brix is due probably to the source–sink relationship.

Table 3. Total soluble solids content (Brix) of ‘FL16.78-109’ and ‘FL18.52-66’ pineberry cultivars as affected by planting dates.

Cultivar	Planting date	Soluble solids content (°Brix)		
		Dec 22	Jan 23	Feb 20
‘FL16.78-109’	Oct 10	8.35	8.55	6.65
	Oct 17	7.23	9.03	6.93
	Oct 24	6.93	9.08	7.25
‘FL18.52-66’	Oct 10	7.98	8.80	7.23
	Oct 17	7.80	8.88	7.40
	Oct 24	7.28	9.73	7.38
		Average data		
‘FL16.78-109’		7.69	8.83	7.10
‘FL18.52-66’		7.49	9.18	7.18
	Oct 10	7.79	8.79	6.79
	Oct 17	7.45	8.94	7.24
	Oct 24	7.54	9.30	7.39

Takeaways

Both Pearl® 'FL16.78-109' and Pearl® 'FL18.52-66' should be planted as early as Oct 10 to avoid potential yield loss.

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