

UCCE SAN JOAQUIN COUNTY ASPARAGUS RESEARCH PROGRESS REPORT, 2010

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2007 UCCE ASPARAGUS CULTIVAR EVALUATION TRIAL

This trial established with one-year-old crowns in March of 2007 at Klein Family Farms, on Rindge Tract near Stockton, California. Asparagus lines included were from the breeding programs of UC Riverside, Rutgers University, California Asparagus Seed and Transplants, Aspara Pacific Ltd. and Brock Seed Company. The trial contains forty-four lines in total; sixteen in replicated blocks of green asparagus varieties, and twenty-nine in the observational block of green varieties.

The crowns were grown at a fumigated nursery site with loamy sand soil near Manteca. At planting, the one-year-old crowns were placed just over 8" apart within the row on 5.5 foot beds (center to center), for a plant population equivalent to 11,647 plants per acre. Stand establishment was evaluated during the summer of 2007 and was good to excellent for all varieties. The soil type at the trial site on Rindge Tract is an Egbert Muck.

In 2010, the variety trial was harvested for the third year; we cut 31 times over a 77-day period from March 8th to May 24th. Among the replicated lines, FCE4 x M256 ranked first in quality and second in total yield, out-yielded only by FCE2 x M256 (see Table 1). Lines with the largest spear size were Grande, Atlas, FCE4 x M256, FCE1 x M256 and FCE2 x M256. In general, spear quality was fair to good; led by FCE4 x M256, FCE3 x M256, and DePaoli. Data on all replicated varieties are presented in [Table 1](#).

In the observational block of the trial, where twenty-nine varieties are evaluated only in a single row plot, the highest yielding lines were NJ951, F189 x MCE4, FCE7 x M120, and FCE5 x M256. In all, eighteen observational varieties out-yielded UC157 this year. Likewise, eighteen observational varieties has spears quality rated higher than UC157. See [Table 2](#) for all observational results; note that data from the observational trial should be viewed with less confidence than replicated data.

Table 1. 2010 ASPARAGUS CULTIVAR EVALUATION TRIAL
Klein Family Farms – Rindge Tract

(31 harvests – 77 days)
Replicated Green Lines

Cultivar	Yield lb/acre ¹		No. spears ¹ per acre		Average spear wt. (g) ¹		Spear quality ranking ²
FCE2xM256	6,685	a	107,153	ab	27.9	bc	6
FCE4xM256	6,044	ab	91,895	ab	29.7	ab	1
NJ953	6,044	ab	137,785	a	19.9	de	16
FCE6xM256	5,969	ab	114,652	ab	23.3	bcde	10
De Paoli	5,862	ab	105,663	ab	25.5	bcde	3
NJ1031	5,689	ab	103,426	ab	25.0	bcde	13
UC157 _{F1}	5,218	ab	88,168	b	26.6	bcd	9
NJ1019	5,008	ab	90,964	ab	24.8	bcde	11
Grande	5,003	ab	64,641	b	35.5	a	8
Pacific 2000	4,879	ab	110,671	ab	20.5	cde	12
FCE3xM256	4,847	ab	92,478	ab	23.9	bcde	2
FCE1xM256	4,687	ab	73,959	b	28.2	bc	5
Apollo	4,442	ab	71,979	b	27.9	bc	15
Atlas	4,390	ab	65,946	b	30.2	ab	14
F582xM256	4,292	ab	76,405	b	25.5	bcde	7
F132xMCE4	3,102	b	76,754	b	18.4	e	4
Mean	5,126		91,554		25.9		
C.V. =	23.6%		19.9%		10.6%		

¹ Numbers represent the mean of four observations, except for the following varieties for which the number represents the least-squares mean of three observations: DePaoli, Atlas, Pacific 2000, and FCE6 x M256. Means followed by the same letter are not significantly different according to Tukey-Kramer method ($\alpha = 0.05$)

² Spear quality ratings based primarily on head tightness. Varieties ranked based on daily quality ratings averaged over the entire season (1 = highest quality)

Table 2. 2010 ASPARAGUS CULTIVAR EVALUATION TRIAL
Klein Family Farms – Rindge Tract

(31 harvests – 77 days)
Observation Green Lines

Cultivar	Yield ¹ lb/acre	No. spears ¹ per acre	Average ¹ spear wt. (g)	Spear quality ²
NJ951	9,017	140,236	29.2	21
F189xMCE4	8,817	121,134	33.0	1
FCE7xM120	7,625	121,600	28.4	7
FCE5xM256	7,350	140,236	23.8	12
NJ956	7,189	129,520	25.2	22
3xPHY20	7,065	143,031	22.4	24
F597xMCE4	6,891	118,805	26.3	4
F582xMCE4	6,714	127,191	23.9	3
F181xMCE4	6,421	109,021	26.7	2
FCE4xA1	6,393	115,077	25.2	20
F586xMCE1	6,388	102,032	28.4	11
F172xMCE4	6,279	99,703	28.6	5
F132xMCE2	6,267	117,873	24.1	14
FCE1xA1	6,237	116,475	24.3	19
F582xA1	6,114	104,362	26.6	25
FCE5xA1	5,977	108,555	25.0	28
F177xMCE4	5,836	119,736	22.1	8
F608xMCE4	5,490	125,793	19.8	6
FCE3xA1	5,034	109,952	20.8	17
F608xMCE2	4,535	74,544	27.6	16
F597xMCE2	4,530	73,612	27.9	9
F583xMCE4	4,518	80,601	25.4	13
F600xA1	4,452	94,112	21.5	26
FCE7xM256	4,386	70,817	28.1	18
FCE6xA1	4,360	69,885	28.3	10
F609xMCE2	4,145	82,464	22.8	15
Early California	3,895	63,828	27.7	23
73x22	3,676	82,464	20.2	27
74x22	3,495	60,101	26.4	29

¹ Data are from a single plot and should be viewed with less confidence than replicated data.

² Spear quality ratings based primarily on head tightness. Varieties ranked based on daily quality ratings averaged over the entire season (1 = highest quality)