

UCCE SAN JOAQUIN COUNTY ASPARAGUS RESEARCH PROGRESS REPORT, 2011

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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 2011, the variety trial was harvested for the fourth year; we cut 35 times over an 80-day period from March 8th to May 27th. For the second year in a row, the line FCE4 x M256 ranked first in quality and second in total yield, out-yielded only by NJ 1031 (see Table 1). Other lines or varieties which out-yielded UC 157 were NJ 953, FCE2 x M256 and DePaoli. Lines with the largest spear size were Grande, Apollo, FCE4 x M256, and FCE1 x M256. In general, spear quality was fair to good; led by FCE4 x M256, F132 x MCE4, and DePaoli. Three varieties or lines displayed both higher yield and higher quality than UC 157. 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 F582 x MCE4, F181 x MCE4, and FCE7 x M120. In all, 21 observational varieties out-yielded UC157 this year. However, only eight observational varieties has spears quality rated higher than UC157. Seven varieties had both higher yield and higher quality ranking than UC 157. 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. 2011 ASPARAGUS CULTIVAR EVALUATION TRIAL
Klein Family Farms – Rindge Tract

(35 harvests over an 80-day period)
Replicated Green Lines

Cultivar	Yield lb/acre ¹		Average spear wt. (g) ¹		Spear quality ranking ²
NJ1031	7,790	a	27.5	bc	15
FCE4xM256	6,929	ab	28.7	ab	1
NJ953	6,928	ab	20.8	cd	16
FCE2xM256	6,472	abc	27.5	bc	6
De Paoli	6,141	abc	26.8	bcd	3
UC157 _{F1}	5,684	abc	27.5	bc	7
Pacific 2000	5,624	abc	20.7	cd	12
Grande	5,576	abc	35.7	a	10
NJ1019	5,501	abc	25.2	bcd	11
F582xM256	5,474	abc	27.8	bc	8
FCE1xM256	5,383	abc	28.7	ab	4
FCE3xM256	5,367	abc	24.5	bcd	5
FCE6xM256	5,333	abc	25.0	bcd	9
Apollo	4,969	bc	29.8	ab	14
Atlas	4,398	bc	26.8	bcd	13
F132xMCE4	3,752	c	19.6	d	2
Mean	5,708		26.4		
C.V. =	18.0%		10.7%		

¹ Numbers represent the mean of four observations. 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. 2011 ASPARAGUS CULTIVAR EVALUATION TRIAL
Klein Family Farms – Rindge Tract

35 harvests over an 80-day period
Observation Green Lines

Cultivar	Yield ¹ lb/acre	Average ¹ spear wt. (g)	Spear quality ²
F582 x MCE4	9,209	25.0	3
F181 x MCE4	8,723	27.4	6
FCE7 x M120	8,706	28.7	8
NJ 956	8,665	22.5	13
FCE5 x M256	8,434	25.5	12
F608 x MCE4	7,858	22.0	5
F597 x MCE4	7,732	25.0	2
F132 x MCE2	7,652	23.6	18
NJ 951	7,441	27.2	22
3 x Phy20	7,359	26.1	29
F189 x MCE4	7,307	27.6	1
FCE5 x A1	7,286	27.6	24
F586 x MCE1	7,231	26.8	17
F582 x A1	7,076	28.8	27
F172 x MCE4	7,005	26.4	4
FCE4 x A1	6,764	27.3	21
FCE7 x M256	6,533	26.4	16
F177 x MCE4	6,416	21.4	10
FCE1 x A1	6,347	25.4	20
F608 x MCE2	6,289	20.7	11
FCE3 x A1	6,229	24.1	23
UC 157	6,225	23.1	9
F583 x MCE4	6,046	30.5	7
F609 x MCE2	5,868	26.3	15
F597 x MCE2	5,137	24.0	19
FCE6 x A1	4,695	27.5	14
F600 x A1	4,665	20.7	26
73 X 22	4,024	21.2	28
74 X 22	3,814	30.2	30
Early California	2,998	21.1	25

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)