

International Asparagus Cultivar Trial

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INTRODUCTION

This study was organized in 1986 by Dr. Mike Nichols, Massey University, Palmerston North, New Zealand. It is being conducted using the same 11 cultivars at 42 sites worldwide: 11 in Europe, 3 in Africa, 8 in Asia, 7 in Australia/New Zealand, 3 in South America and 10 in North America. There are 6 locations in the United States: Prosser, WA, Davis and Stockton, CA, Raleigh, NC, New Brunswick, NJ and Yuma/Maricopa, AZ. The purpose of the study is evaluating the performance of the same cultivars over widely differing environmental conditions to assist in future cultivar selection.

MATERIALS AND METHODS

Seeds were rinsed in a 10% sodium hypochlorite solution and pre-germinated in moist paper towels at 27° C. Germinants were planted into Speedling Model 150 polystyrene trays in a 50:50 peat:vermiculite media to which 3 kg m⁻³ gypsum had been added. Seedlings were watered as required with fertilizer containing 125 mg l⁻¹ N, 15 mg l⁻¹ P, 15 mg l⁻¹ K, plus trace elements. Eight-week-old seedlings were transplanted into shallow (5-6") furrows on 20 April 1987 at the Yuma Mesa Agricultural Center. Plots were established at the Maricopa Agricultural Center on 11 May 1987. The experiment is a randomized complete block with 4 replications at Yuma and 2 at Maricopa. Each plot contains 25 plants, spaced 1 foot apart within the row, with 4 feet between rows. Plants were irrigated as needed and 200 lb N/A applied.

RESULTS

To ensure establishment of the young crowns, plots were not harvested in 1988. First harvest in Yuma was on 10 Feb 1989; results of a 3-week harvest are reported in Table 1. If the trends evident for UC 157 and Jersey Giant continue, those two cultivars could exceed 1.5 ton/A in this first year. Larac and Tainan No. 1 also appear to be well-adapted; they are yielding well early in the season. Generally, the northern European cultivars do not perform well in our hot desert environment.

Table 1. International Asparagus Cultivar Trial Early Yield (2/10 - 3/2/89) at Yuma, AZ

<u>Cultivar</u>	<u>Country</u>	<u>Total Biomass/ha</u>		<u>Yield/hectare</u> <u>8-20 mm diam. <8 mm</u>				<u>Crates/A</u> <u>(30 lb.)</u>
		<u>no.</u> <u>(000)</u>	<u>wt.</u> <u>(Kg)</u>	<u>no.</u> <u>(000)</u>	<u>wt.</u> <u>(Kg)</u>	<u>no.</u> <u>(000)</u>	<u>wt.</u> <u>(Kg)</u>	
UC 157	USA (CA)	127.0	1829	78.4	975	41.8	219	28.9
Lucullus 310	W. Germany	104.9	782	17.4	160	35.1	183	4.8
Lucullus 234	W. Germany	66.7	725	32.1	348	18.1	95	10.3
Cito	France	92.1	886	30.8	325	17.4	97	9.6
Larac	France	90.2	1099	41.3	461	17.6	102	13.7
Gynlim	Netherlands	86.8	917	37.7	391	33.2	173	11.5
Franklim	Netherlands	34.9	263	9.7	101	11.0	58	3.0
Jersey Giant	USA (NJ)	135.4	1754	81.2	924	43.3	217	27.4
Del Monte 361	USA (WA)	67.8	659	25.4	276	27.7	127	8.2
Largo 17-3	Spain	109.4	969	38.8	360	43.9	220	4.3
Tainan No.1	Taiwan	83.8	949	42.0	465	32.3	153	13.8
