

Asparagus Cultivar Evaluation

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Introduction

The asparagus cultivar trial was initiated in 1995 to evaluate the growing number of new hybrids for yield potential and suitability to Iowa growing conditions. The trial consists of a replicated planting at the Muscatine Island Research Farm, Fruitland (southeast Iowa), and observational plantings on ISU Research Farms at Kanawha (north central), Lewis (southwest) and Sutherland (northwest). Growing conditions at Fruitland include irrigation and a coarse sandy soil. The three observational locations are non-irrigated and have fine-textured loamy soils. Asparagus plots were planted with one year old crowns in rows 5 feet apart in 1996. Standard cultural practices were followed. Harvest and data collection started in 1998. Spears are harvested (snapped-off at ground level) when eight to 11 inches tall and are trimmed to an eight inch length before grading and weighing. Data presented are of marketable yield only. The trial evaluates 11 all-male hybrids including *Geynlim*, *Greenwich* and the 'Jersey' cultivars. *Apollo*, *Atlas*, *Grande*, *U.C. 157* and *Purple Passion* are standard (dioecious) hybrids with both male and female plants.

Results and Discussion

Table 1 presents a cultivar performance summary from all locations for year 2000. Table 2 presents a yield history of each cultivar for 1998 - 2000 at the Armstrong Research Farm, Lewis. *Jersey Supreme*, a new 'Jersey' male hybrid from Rutgers University, has produced high yields of good quality, medium-sized spears at all locations. *Grande*, a dioecious hybrid from California Asparagus Seed and Transplants, also has been an impressive yielder although its spear size may be

too large for some commercial markets. Other cultivars showing strong yield potential include *Atlas*, *Jersey Gem*, *UC 157*, *Jersey Giant*, *Jersey Jewel* and *Jersey Deluxe*. *Jersey Knight*, one of the more popular all-male hybrids because of its reported Fusarium tolerance and high spear quality has had surprisingly low yields in this trial for unknown reasons. But keep in mind asparagus is a perennial crop and performance needs to be looked at over several years; these trial plantings are still young. During harvest *Purple Passion* was noted to produce fewer, but larger (average weight 28 grams – Table 1), spears than the other cultivars. Along with *Purple Passion*, *Grande* has produced the largest average spear weights and *Mary Washington*, *UC 157* and *Geynlim* the smallest average spear weights. The following cultivars have been noted to occasionally have spears with 'open' or 'rough' tips at harvest: *Geynlim*, *Greenwich*, *Jersey Jewel*, *Jersey Gem* and *Jersey Deluxe*.

Based on yield potential and spear quality I would recommend the male hybrids *Jersey Supreme* or *Jersey Giant* for new Iowa plantings. *Grande* (large spears) and *Atlas* should also be considered for planting but will contain female plants and have the associated volunteer asparagus seedling problem. *Purple Passion*, with its unique large purple spears, is an interesting specialty cultivar.

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Table 1. 2000 asparagus yield summary for Fruitland, Kanawha, Lewis and Sutherland.

Cultivar	Avg Spear Wt - g	Fruitland lbs/acre	Kanawha lbs/acre	Lewis lbs/acre	Sutherland lbs/acre
Jersey Supreme	20	4,718	4,221	4,415	1,858
Grande	25	5,604	2,800	3,865	2,292
Jersey Jewel	20	3,198	4,923	2,879	3,267
UC 157	18	4,104	2,883	3,480	3,498
Jersey Deluxe	20	3,360	5,320	3,522	1,676
Geynlim	19	3,145	2,626	4,000	3,177
Atlas	23	4,661	3,913	3,016	1,033
Jersey Gem	22	4,372	3,063	2,586	1,393
Jersey Giant	21	4,159	2,955	2,026	2,061
Jersey General	20	3,790	3,526	2,469	749
Purple Passion	28	2,382	3,849	3,318	735
Apollo	21	4,130	3,004	2,264	879
Mary Washington	17	--	2,953	2,503	2,221
Jersey King	22	3,027	2,518	2,261	457
Jersey Knight	19	3,272	1,616	1,176	2,045
Jersey Prince	19	2,890	1,834	2,552	733
Greenwich	19	3,459	1,618	1,521	1,329

Avg Spear Wt (grams) = average of all four locations.

Harvest Dates: Fruitland 4/21-5/25; Kanawha 4/27-6/1; Lewis 4/22-5/20; Sutherland 4/24-5/26.

Table 2. Asparagus cultivar yield summary at Armstrong Research Farm, Lewis, Iowa.

Cultivar	2000 Yield lbs/acre	1999 Yield lbs/acre	1998 Yield lbs/acre	Total Yield* lbs/acre	Avg Spear Wt - g
Jersey Supreme	4,415	1,341	2,642	8,398	18.2
Grande	3,865	1,303	3,322	8,490	27.6
Jersey Jewel	2,879	406	2,004	5,289	15.8
UC 157	3,480	512	2,597	6,589	16.6
Jersey Deluxe**	3,522	900	--	4,422	16.8
Geynlim	4,000	863	1,977	6,840	17.1
Atlas	3,016	1,126	2,206	6,348	24.8
Jersey Gem	2,586	1,376	2,097	6,059	19.8
Jersey Giant	2,026	883	1,171	4,080	19.0
Jersey General**	2,469	1,092	--	3,561	17.9
Purple Passion**	3,318	1,124	--	4,442	25.4
Apollo	2,264	869	2,185	5,318	19.0
Mary Washington	2,503	473	1,456	4,432	15.5
Jersey King	2,261	955	1,608	4,824	21.5
Jersey Knight	1,176	322	603	2,101	17.9
Jersey Prince	2,552	1,159	1,510	5,221	19.9
Greenwich	1,521	745	1,557	3,823	19.0

* Total Yield = 1998 + 1999 + 2000.

** Jersey General, Jersey Deluxe and Purple Passion planted in 1997, all other cultivars planted in 1996.

Harvest Dates: 2000 - 4/22-5/20; 1999 - 4/29-5/19; 1998 - 4/20-5/12.