

Asparagus Cultivar Evaluation - 2003

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The asparagus 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, Iowa (southeast), and observational plantings on ISU Research Farms at Kanawha (north central), Lewis (southwest) and Sutherland (northwest). The Fruitland trial location provided a coarse sandy soil with supplemental irrigation. Conversely, all of the observational plantings were located on fine-textured loam soils and relied on rainfall for moisture. Standard culture practices were followed at all sites. At harvest spears were snapped-off at ground level when 8" to 12" tall and trimmed to an 8" length before grading and weighing. The trial evaluates several all-male hybrids including *Gijnlim* and the 'Jersey' cultivars. *Apollo, Atlas, Grande, U.C. 157, Mary Washington* and *Purple Passion* are dioecious cultivars that contain both male and female plants.

Table 1 presents a cultivar performance summary from the replicated planting at Fruitland while Table 2 presents a yield summary from the observational plantings at Kanawha, Lewis and Sutherland. *Jersey Supreme, Grande, Jersey Deluxe, Jersey Giant* and *Atlas* have performed well at all locations producing good yields and spear quality. The following cultivars were noted to occasionally have 'open' or 'rough' spear tips during harvest: *Gijnlim, Jersey Gem, Jersey Deluxe* and *UC 157*. *Purple Passion, Atlas* and *Grande* produced some of the largest average spear weights while *Mary Washington, UC 157* and *Gijnlim* produced the smallest average spear weights. *Purple Passion* tended to produce fewer, but bigger, spears than the other cultivars.

Based on yield potential and spear quality I would recommend the all-male hybrids *Jersey Supreme* and *Jersey Giant* for new Iowa plantings. *Jersey General, Jersey King* and *Jersey Knight* have also shown good spear quality but lesser yield potential. *Grande* and *Atlas* should be considered as alternatives to *UC 157* because of their plant vigor and larger spear size, but note that they are dioecious hybrids and the plantings will contain both male and female plants and have the associated volunteer asparagus seedling problem. *Purple Passion* with its rather unique large purple spears is well suited for specialty or niche markets.

Materials and Methods - Fruitland

Planting: Greenhouse grown seedling transplants set in field May 26, 1995.
Plot Design: RCB, 3 reps. Plot = one row of 15 plants spaced 12" apart, rows 5' apart.
Culture: A no-tillage system utilizing herbicides for weed control. Old fern growth is mowed off in the spring and 400 lbs/acre 14-14-14 fertilizer applied before spear emergence. At the end of harvest 50 lbs/acre nitrogen applied. Overhead irrigation supplied as needed. Soil type = loamy sand.
Pesticides: Karmex, Sencor, Poast, Gramoxone herbicide. Pounce, Sevin XLR insecticide.

Table 1. Asparagus cultivar marketable yield summary from replicated trial, Fruitland, Iowa.

Cultivar	1998-2003	1998-2003	2003	2003
	Avg Annual Yield, lbs/acre	Avg Wt of 8" Spear, grams	Yield lbs/acre	Avg. Spear Wt - grams
Grande	4,068	19.2	3,413	16.1
Jersey Gem	4,019	19.9	5,155	16.9
Jersey Supreme	3,994	17.0	3,970	15.1
Jersey Deluxe*	3,694	20.1	4,341	16.7
Jersey Giant	3,640	17.1	4,287	16.0
Atlas	3,570	19.6	3,032	17.8
Jersey General	3,325	19.0	3,601	17.2
UC 157 F1	3,245	16.0	2,406	15.0
Apollo	3,112	18.6	2,818	17.2
Gijnlim	2,853	14.9	2,116	12.7
Jersey Knight	2,819	17.9	3,529	18.3
Purple Passion*	2,698	28.2	3,255	27.8
Jersey King	2,658	19.0	2,948	17.6
<i>AVG.</i>	<i>3,361</i>	<i>19.0</i>	<i>3,452</i>	<i>17.3</i>

*Jersey Deluxe & Purple Passion planted 1997, first harvest in 1999.

Table 2. Asparagus cultivar yield summary from observational plantings at Kanawha, Lewis and Sutherland. Average annual marketable yield from five seasons: 1998-2002.

Cultivar	Kanawha		Lewis		Sutherland	
	Lbs/acre	Avg Spear Wt-grams	lbs/acre	Avg Spear Wt-grams	lbs/acre	Avg Spear Wt-grams
Jersey Supreme	3,400	19.5	3,776	18.4	2,101	19.9
Jersey Deluxe*	4,758	17.5	2,914	17.0	1,363	21.0
UC 157 F1	2,286	21.0	2,760	16.3	3,442	20.1
Gijnlim	2,794	18.8	3,497	17.5	2,174	24.0
Grande	2,434	20.4	3,496	26.7	1,932	28.2
Jersey Gem	2,863	22.1	2,587	19.8	1,397	22.6
Purple Passion*	2,959	24.1	2,826	25.9	844	27.8
Atlas	2,750	23.0	2,634	23.6	1,082	22.0
Jersey Giant	2,583	19.0	2,085	19.2	1,694	22.2
Jersey King	2,929	22.2	2,325	21.3	616	18.9
Mary Washington	2,215	16.8	1,847	15.8	1,923	18.3
Apollo	2,198	19.3	2,346	18.6	1,207	22.6
Jersey Knight	1,562	19.1	1,070	17.9	2,002	20.2
Jersey General*	2,878	18.9	2,341	18.1	694	20.2
<i>AVG.</i>	<i>2,758</i>	<i>20.1</i>	<i>2,607</i>	<i>19.7</i>	<i>1,605</i>	<i>22.0</i>

Jersey Deluxe*, Purple Passion*, Jersey General* = yield from four harvest seasons: 1999-2002.