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Asparagus Cultivar Evaluation

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Abstract

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.

Disciplines

Agricultural Science | Agriculture

Asparagus Cultivar Evaluation

Vince Lawson, extension vegetable specialist

Introduction

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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.

Acknowledgments

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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.