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Strawberry Cultivar Trial

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Abstract

This project was designed to evaluate 18 strawberry cultivars for their adaptation and fruit quality in Iowa. Cultivar selection is an important component of successful strawberry production and this evaluation provides information about recently released cultivars and germplasm of interest to commercial growers and homeowners.

Keywords

Horticulture

Disciplines

Agricultural Science | Agriculture | Horticulture

Strawberry Cultivar Trial

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Introduction

This project was designed to evaluate 18 strawberry cultivars for their adaptation and fruit quality in Iowa. Cultivar selection is an important component of successful strawberry production and this evaluation provides information about recently released cultivars and germplasm of interest to commercial growers and homeowners.

Materials and Methods

2004. Plots were established on May 10 with 15 plants set 18 in. apart within the row and rows were spaced 4 ft apart. Runner plants were allowed to develop a 2-ft-wide matted row. Plants were mulched with 4 in. of straw for winter protection in December. The experimental design was a randomized complete block with three replications.

2005. Straw mulch was removed on April 5 and plants were fertilized with nitrogen (N) (34-0-0) to provide sufficient N for plant growth and development for growing on a coarse sandy soil. Unusually warm spring temperatures were conducive to early strawberry plant growth. Late spring freezes occurred on May 2 (28°F), May 3 (23°F) and May 4 (27°F). Overhead irrigation for frost protection was not available and many primary flowers were killed. Plants were harvested June 13–27 and the planting was renovated using conventional practices on June 30.

2006. Straw mulch was raked off plants on April 15 and nitrogen (46-0-0) applied to plots at 25 lb N/acre. A light frost (31°F) occurred on April 26, but plants were protected by a spun-bonded polyester plant cover. Strawberries were harvested June 6–23 after which plots were renovated and Dacthal herbicide applied.

Results and Discussion

Overall, yields were low in both years due to weather and other unknown factors. Late spring frosts in 2005 destroyed many of the primary flowers. In 2006 the straw mulch was kept in place until April 15 to delay flowering, and plants in matted rows were covered with spun-bonded polyester during periods of possible frost. However, yields still did not improve compared with 2005. Early season cultivars like Northeastern, Evangeline, and Honeoye seemed to be most affected producing few of the large primary berries and reducing yield and average berry size (Table 1). A few cultivars stood out with favorable attributes. Jewel and Canoga have been top performers producing the best yields of attractive, larger-sized berries. The 88.74.1 and Cabot were also interesting because of their large berry size. The project will be continued in 2007 to obtain additional information in another growing season.

Acknowledgments

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Table 1. Strawberry cultivar yield and berry size for 2005 and 2006, Fruitland, IA.

Cultivar	2005 Yield lb/acre	2006 Yield lb/acre	Total yield lb/acre	2005 Avg. berry wt – lb	2006 Avg. berry wt – lb
Jewel	6,212	11,363	17,575	9.1	10.6
Canoga	8,464	6,360	14,824	8.5	10.9
Cavendish	7,366	7,349	14,715	11.7	10.9
St. Pierre	7,416	6,657	14,073	9.3	10.1
91.80.2	6,890	7,055	13,945	9.9	9.9
88.74.1	7,511	6,347	13,858	21.8	14.1
Darselect	7,033	6,512	13,545	10.0	8.7
Seneca	6,942	6,482	13,424	12.1	9.7
Ovation	6,484	6,084	12,568	10.6	9.9
Eros	6,992	4,280	11,272	11.1	10.0
Allstar	5,726	5,472	11,198	6.9	9.7
Cabot	4,955	5,043	9,998	11.8	13.8
Honeoye	3,208	6,135	9,343	6.4	7.7
Brunswick	3,086	5,954	9,040	8.2	8.9
Clancy	2,262	6,359	8,621	6.9	8.8
E9.A5.13	1,917	4,038	5,955	6.1	8.6
Evangeline	3,924	1,913	5,837	6.7	5.3
Northeastern	270	2,844	3,114	6.1	6.2
Average	5,370	5,903	11,273	10.0	10.0

Table 2. Cultivar observations and comments.

Cultivar	Observations and comments
Jewel	Pleasant strawberry flavor, fairly firm, good uniform size, and appearance
Canoga	Attractive glossy red berries, firm texture
Cavendish	Berries firm with good shape but tended to be bicolored—red and white
St. Pierre	Nice uniform berry shape, bright red color
91.80.2	Firm attractive berries, prominent seed
88.74.1	Very large irregularly shaped berries, plant produced few runners
Darselect	Light red berry color similar to Allsweet, good flavor
Seneca	Berries exceptionally firm, tart
Ovation	Attractive uniformly-shaped berries had good flavor
Eros	Light red color, fairly firm, noted a lot of grey mold in 2006
Allstar	Light red coloration, irregular globular shape but great flavor
Cabot	Large berries with nice shape and appearance, slow runner formation
Honeoye	Dark red berries, tart
Brunswick	Soft dark red berries with rounded shape
Clancy	Dark red berries, attractive and firm
E9.A5.13	Soft small berries, pronounced skin cracking after rain
Evangeline	Dark red small berries with pointed shape
Northeastern	Small berries but nice uniform shape