

**Project Report for 2006**  
Cranberry Varieties Trials

**Title:** Cranberry Varieties Trials

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**Title:** Evaluation of new cranberry varieties for the Pacific Northwest.

**Justification:**

As cranberry growers plant new acreage or replant existing beds, they want to select varieties that are 1) adapted to the growing region, and 2) high-yielding. Since 1998, the price paid to growers for their cranberries has fallen dramatically. During this industry-wide economic slump, a number of growers are replanting unproductive beds. Currently, Stevens is the variety of choice because of its high yield potential, larger fruit and good color. Based on data obtained from the present genotype planting (13 varieties and 3 selections), both Pilgrim and Gryleski #1 are now being planted commercially in this area. Selecting a variety that takes fewer years to reach full production might help growers recover the investment in new and/or replanted beds. While consistent year-to-year high yields are important, so are the reactions to insect pests and diseases.

Selecting a variety (or varieties) with pest resistance or some level of tolerance may reduce the overall requirements for pesticides and hence lower the cost of production and increase return per acre. Besides yield, the suitability of a variety for the fresh fruit market is a very important criterion for many growers in Grayland. This is a function of fresh fruit keeping quality and ease of dry harvesting. For the fresh fruit industry in Grayland to continue, it is imperative that superior varieties for the fresh fruit market be developed. The goal of this project is to evaluate genotypes for low levels of field and storage rot with good yield and ease of dry harvesting.

**Objectives:**

1. Maintain the new replicated planting on the Pacific Coast Cranberry Research Farm in Long Beach with 9 new genotypes and 2 standard varieties.
2. Gather data on vine cover, upright density and initial fruit quality.

**Results:**

*Objective 1) Maintain the new replicated planting on the Pacific Coast Cranberry Research Farm in Long Beach with 9 new genotypes and 2 standard varieties.*

A field planting, using a randomized complete block design was planted in summer 2003. Vines were obtained from Nick Vorsa's breeding program at Rutgers University (njs98-23, njs95-37, cnj96-44-83, cnj97-105-4, cnj95-20-20, cnj93-9-42, cnj93-13-100, njs98-65, njs98-28) and from an old cultivar trial in Wisconsin (BE4, AR2, BAIN FAVORITE #1). Pilgrim and Stevens (DNA tested) from Rutgers were used for comparisons. Plots were maintained using standard horticultural practices.

*Objective 2) Gather data on variety performance.*

Vines are beginning to come into full production. Yield, fruit size, color and rot, and vine disease data were collected (Table 1, 2, 3). Based on these parameters, none of the germplasm selections has yet to distinguish itself as being superior to the current varieties in production. Several lines, however, look very promising for yield, size and color. At least two more years of data gathering will be needed before we can make recommendations.

Table 1. Fruit size, yield and percent rot at harvest cranberry variety trials – Long Beach, Washington

Variety	Fruit Size (g/fruit)		Bbl/acre		% rot at harvest	
	2005	2006	2005	2006	2005	2006
NJS98-23	2.03 abc	1.87 abc	77 c	126 ab	6.43 a	1.94 a
NJS95-37	1.44 bcd	1.48 d	85 c	189 A	2.49 a	0.48 a
CNJ97-105-4	2.03 abc	2.09 a	23 c	74 bc	1.50 a	2.82 a
CNJ96-44-83	1.89 abc	1.78 bcd	54 c	149 abc	4.70 a	1.65 a
CNJ95-20-20	1.57 a-d	1.44 f	32 c	181 ab	2.98 a	1.22 a
CNJ93-9-42	1.62 a-d	1.53 ef	61 c	187 ab	4.13 a	1.17 a
CNJ93-13-100	1.40 cd	1.52 ef	46 c	136 abc	1.21 a	1.18 a
BE4	1.20 d	1.23 g	150 b	217 a	2.22 a	0.68 a
AR2	1.91 abc	1.69 bc	16 c	223 a	9.10 a	1.02 a
Bain Favorite #1	2.08 a	1.89 bc	46 c	178 ab	3.15 a	0.71 a
Pilgrim	2.14 a	1.89 bc	257 a	202 ab	5.49 a	0.65 a
Stevens		1.62 def	3 c	49 c		4.24 a
NJS98-65	2.11 a	1.93 b	11 c	201 ab	3.03 a	0.69 a
NJS98-28	1.58 a-d	1.65 def	27 c	171 ab	4.26 a	3.06 a

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Table 2. Fruit percent rot at storage and percent monkey-facing cranberry variety trials – Long Beach, Washington

Variety	% fruit rot 6 weeks storage	% poorly – pollinated fruit (monkey-faces)
njs98-23 ‘Crimson Queen’	0.3 ab	5.0 a
njs95-37	0.3 ab	0.2 cd
cnj97-105-4 ‘Mullica Queen’	0 b	0 d
cnj96-44-83	0.4 ab	1.4 bcd
cnj95-20-20	0 b	1.8 bc
cnj93-9-42	0.2 b	0.6 cd
nj93-13-100	1.2 ab	0.2 cd
BE4	0.4 ab	0.2 cd
AR2	0.5 ab	0.3 cd
Bain Favorite #1	1.2 ab	2.4 b
Pilgrim	0.2 b	1.2 bcd
Stevens	1.5 ab	0.4 cd
njs98-65	0.4 ab	0.1 d
njs98-28	2.2 a	0.9 bcd

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Table 3. Rose bloom and fruit color - cranberry variety trials – Long Beach, Washington

Variety	# Rose bloom infested uprights/ 16 m2	% fruit dark red August 21, 2006	% fruit yellow August 21, 2006
njs98-23 ‘Crimson Queen’	28 abc	85 a	0 b
njs95-37	14 bc	27 b	7 b
cnj97-105-4 ‘Mullica Queen’	5 bc	10 b	10 b
cnj96-44-83	81 a	90 a	0 b
cnj95-20-20	19 bc	82 a	2 b
cnj93-9-42	13 bc	27 b	30 ab
nj93-13-100	59 abc	72 a	30 ab
BE4	75 ab	15 b	25 b
AR2	3 c	2 b	32 ab
Bain Favorite #1	53 abc	0 b	37 ab
Pilgrim	66 abc	0 b	63 a
Stevens	5 c	3 b	0 b
njs98-65	26 abc	20 b	5 b
njs98-28	21 abc	70 a	2 b

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)