

Assuring Washington Cranberry Growers Access to Genetically Pure and Uniform Germplasm.

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World Class. Face to Face.

DNA – studies of WA beds

- 2008 -- Stevens DNA purity sampling
 - A lot of off-types
 - Low yield not always associated with off-type, but few high yield beds were off-types
 - Purity often declined following planting from pruning
 - Runners – greater tendency to be off-type than uprights
- 2009 -- Pilgrim DNA purity sampled

DNA – studies of WA beds

- 2009 -- Pilgrim DNA purity sampled
- 8 beds – original pilgrim plantings in WA 1980's to early 1990's
- 6 beds - runners vs. uprights
- 4 beds – trace change in purity over time when prunings used for new plantings

Purity of original Pilgrim plantings in WA 1980's to early 1990's

Location	type of sample	source of vines	date planted	% Pilgrim
Long Beach	uprights	WI or BC	1980's	50%
Long Beach	runners	WI or BC	1980's	0%
Grayland	uprights	BC	1980	0%
Grayland	uprights	BC	1982	0%
Long Beach	uprights	Dillion, BC	1991	66%
Long Beach	uprights	Dillion, BC	1991	85%
Long Beach	uprights	Dillion, BC	1991	85%
Chinook	uprights	Scott, WI	2000	88%

Not all pilgrims are Pilgrims: Know your vine source to start with!

Change in purity of Pilgrim over time when prunings are used for new plantings

Three case studies

85% Uprights → 0% Uprights → 25% uprights & 0% runners → 20% upright
→ 40% Uprights
→ 100% Upright

85% Uprights → 100% uprights → 0% uprights → 30% upright
& 0% runners & 0% runners & 50% runners

50% uprights → 0% Uprights
0% runners

- Hit and miss with % purity
- Need to take lots of samples
- Usually a loss of purity with each planting from runners.

Purity of Runners vs Uprights

Location	% pure Pilgrim	
	uprights	runners
Farm 1	100%	0%
Farm 2	0%	0%
Farm 3	33%	50%
Farm 4	25%	0%
Farm 5	100%	0%
Farm 6	50%	0%

Reasonably good chance that runners will be off type
These off-types may or may not be productive

Recommendations

- Mowed vines from Pilgrim beds with high DNA purity (see study details)
- Buy vines from certified sources outside of WA (none exist)
- Obtain vine from PCCRIF/WSU study and start own propagation bed.