POTATO VARIETY DEVELOPMENT FUND REPORT
Chip Progress Report 2017

Potato Breeding
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The breeding program planted about 12,600 seedlings from 42 chipping crosses this year (details below). We saved 11077 of the seedlings planted, where the only clones discarded exhibited serious tuber defects, or very low/no yield. The parents Manistee, McBride, Hodag, MSR127-2 and AF5432-5 were used to bring in new blood. Innovator brings in resistance to the white cyst nematode, *Globodera pallida*, just in case we ever need it in NY.

Details for chipping crosses sown in 2017

Cross	Parents	approx planted	# saved
T1	Lamoka x NY158	400	326
T2	Lamoka x K27-1	400	382
T3	Lamoka x L2-12	300	110
T4	Lamoka x M18-2	400	354
T5	Manistee x K27-1	400	283
T6	Manistee x M18-2	400	357
T7	McBride x NY158	600	560
T8	McBride x K27-1	200	225
T9	McBride x M18-2	200	189
T10	NY152 x Atlantic	400	312
T11	NY152 x M18-2	600	519
T13	NY156 x M18-2	200	267
T14	NY157 x Atlantic	400	271
T16	NY157 x M18-2	200	163
T17	L1-7 x Atlantic	200	208
T18	L1-7 x Lamoka	200	129
T19	L1-7 x NY158	200	230
T20	L1-7 x K27-1	200	154
T21	L1-7 x M18-2	200	170
T22	L8-12 x Atlantic	200	161
T23	L8-12 x NY158	200	250
T24	L8-12 x K27-1	200	155
T27	L8-12 x M18-2	200	225
T28	M22-6 x K27-1	200	151
T29	M22-6 x NY158	200	310
T30	M22-6 x M18-2	100	315
T31	AF5432-5 x NY158	200	179
T32	AF5432-5 x K27-1	200	155
T33	AF5432-5 x M18-2	200	168
T34	MSR127-2 x NY158	200	191
T35	MSR127-2 x K27-1	200	164
T36	MSR127-2 x M18-2	200	195
T37	Hodag x NY158	200	165
T38	Hodag x K27-1	200	144
T41	Hodag x M18-2	200	158
T42	Innovator x Lamoka	600	464
T100	Waneta x Superior	400	377
T101	Andover x Waneta	400	198

T102	Andover x NY141	600	483
T103	Eva x H25-4	400	328
T104	F31-3 x NY141	400	374
T105	J110-12 x F31-3	600	558

We also planted 10057 four-hill plots of chipping clones in 2017. These plots represent the tubers from seedlings grown in 2016. 833 of the four hill plots were saved after harvest, based on visual assessment of tuber appearance and yield. All 833 will be chipped this winter, and the clones with good chip color will be replanted as 20-hill plots in 2018.

Details of four-hill chipping plots in 2017

Cross	**Parents**	**# planted**	**# saved**
S1	Andover x Lamoka	510	61
S2	Andover x K27-1	424	52
S4	NY140 x K27-1	552	36
S5	NY140 x K28-7	210	15
S6	NY140 x L14-4	419	20
S7	NY148 x Lamoka	389	31
S8	NY148 x J100-6	395	59
S9	NY148 x K27-1	251	44
S10	NY148 x K28-7	221	23
S12	NY152 x K27-1	50	6
S14	NY153 x H52-1	128	9
S15	NY153 x J100-6	398	37
S16	NY153 x K27-1	441	30
S18	NY156 x F31-3	377	20
S19	NY156 x K27-1	161	19
S21	NY157 x F31-3	305	24
S22	NY157 x J100-6	321	18
S23	NY157 x K27-1	223	15
S25	J15-7 x F31-3	347	35
S26	J15-7 x J100-6	275	16
S27	J15-7 x K27-1	395	37
S28	J15-7 x K28-7	219	27
S29	J17-1 x F31-3	219	11
S33	J112-2 x F31-3	262	18
S34	J112-2 x J100-6	341	17
S35	J112-2 x K27-1	413	25
S37	K31-4 x F31-3	367	36
S101	Andover x Waneta	360	18
S102	Andover x E48-2	317	18
S103	Andover x J100-6	112	10
S104	Ivory Crisp x Marcy	242	14
S105	Ivory Crisp x E48-2	413	32

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Freshmarket Progress Report 2017

Potato Breeding
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The breeding program planted about 7300 seedlings from 24 freshmarket crosses this year, as detailed below. We saved 6484 of the seedlings planted. With our white-fleshed crosses we're working to develop an attractive, early-maturing replacement for Superior. With our yellow-fleshed crosses, we're aiming for a replacement for Yukon Gold. With our red-skinned crosses, a replacement for Red Norland. One parent, in particular, is worth noting: MSN105-1 from Michigan State University. Some of its offspring have exceptionally smooth skin.

Details for freshmarket crosses sown in 2017

Cross	Parents	approx planted	# saved
T44	Innovator x NY160	200	111
T47	Chieftain x NY155	200	93
T48	Chieftain x NY160	200	192
T49	Chieftain x L26-6	200	179
T50	G. Butterball x NY149	400	377
T51	Red Magic x NY160	200	182
T52	Red Magic x L26-6	200	57
T54	NY159 x NY160	100	170
T56	NY161 x NY149	400	190
T58	C100-2 x NY155	200	191
T59	C100-2 x NY160	200	205
T60	C100-2 x L26-6	200	192
T61	G70-3 x NY149	400	419
T63	J34-1 x Blossom	200	211
T64	J34-1 x NY155	200	188
T65	J34-1 x NY160	200	250
T66	J34-1 x L26-6	200	141
T106	Blue Belle x NY155	800	570
T107	E43-10 x MSL211-3	400	539
T108	NY141 x MSN105-1	600	377
T109	NY146 x MSN105-1	600	597
T110	E43-10 x MSN105-1	600	519
T111	NY150 x MSQ176-5	200	253
T112	NY150 x F48-4	200	281

We also planted 6172 four-hill plots of freshmarket clones in 2017. These plots represent seedlings first grown in 2016. 238 of these four hill plots were saved after harvest, based on visual assessment of tuber appearance and yield. All will be replanted as 20-hill plots in 2018.

Details of four-hill freshmarket plots in 2017

Cross	Parents	# planted	# saved
S38	Andover x Superior	125	0
S39	Andover x NY141	222	11

S40	Andover x NY149	275	21
S43	Svart Valdres x NY141	180	4
S44	Svart Valdres x NY149	155	6
S45	Svart Valdres x J21-5	154	5
S47	Svart Valdres x H52-1	197	11
S48	NY140 x NY149	380	17
S49	NY140 x H52-1	253	19
S50	NY155 x Superior	241	9
S51	NY155 x NY141	152	10
S52	NY155 x NY149	113	5
S53	NY155 x F31-3	152	12
S54	NY155 x J21-5	90	2
S55	NY155 x K100-3	99	3
S59	J34-1 x J21-5	71	3
S60	J34-1 x K100-3	123	5
S61	K11-2 x Superior	184	4
S62	K11-2 x NY141	163	7
S63	K11-2 x NY149	363	25
S64	K11-2 x NY115	156	0
S66	K11-2 x K100-3	330	14
S67	K101-1 x Norland	107	3
S69	L26-6 x Norland	166	4
S74	L26-6 x K100-3	191	6
S75	L26-6 x J21-5	221	9
S76	L27-2 x J21-5	125	1
S77	L27-2 x Norland	325	5
S78	L27-2 x K100-3	113	7
S79	L29-3 x NY149	78	1
S80	L29-3 x F31-3	155	1
S200	Andover x NY141	205	5
S201	F31-2 x NY141	308	3