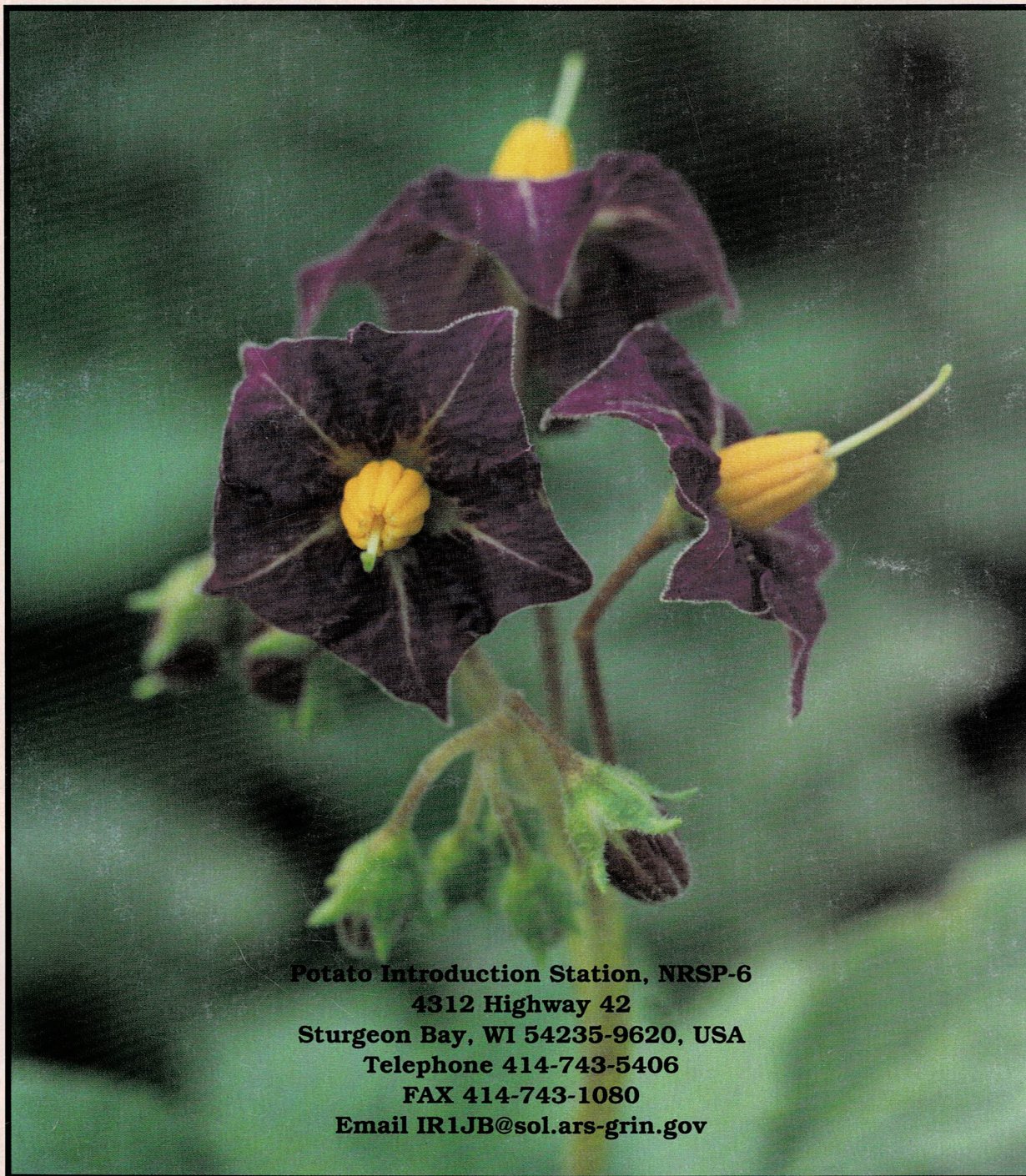


Inventory of Tuber-bearing *Solanum* Species

Catalog of Potato Germplasm - 1993

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INTRODUCTION:

The 1993 Revision. This is the 5th catalog of germplasm held at the US potato genebank. It supersedes earlier editions (Hanneman and Bamberg 1986, Ross and Rowe 1969, Ross and Rowe 1965, Anon 1958). This catalog differs from previous editions in several ways: Over 1,000 new items and 21 new taxa have been added since the 1986 version. Some taxonomic changes have occurred. In contrast to former editions, this catalog contains a listing of all seed and clonal stocks, including those which are not currently available for normal distribution. This publication provides only basic identification data. Evaluation data contained in the 1986 edition of this catalog has been greatly augmented with additional evaluation data available in electronic form. Extensive collection site data is also available in electronic form. You may obtain this information as hard copy or diskette by contacting this Station. Alternately, you may access the data directly through the US national germplasm computer network (Germplasm Resources Information Network, GRIN). For information regarding the latter, contact: GRIN/DBMU/NGRL/PSI, 4th floor, Bldg. 003, BARC-West, 10300 Baltimore Ave., Beltsville, MD, 20705-2350, USA; tel: 301-504-5318, fax: 301-504-5536. Additional copies of this catalog may be obtained by contacting this Station.

Contributing Data and Stocks. We request cooperators' assistance in improving our service. Please bring any errors you may find in this catalog or stocks received to our attention, and provide additional data which would improve incomplete records. When stocks are used in your research, kindly cite this genebank as the source of materials, and send us a copy of the publication. We also appreciate receiving unpublished screening results or other informal observations which might be useful to other cooperators. Finally, please bring to our attention the names of new potato workers who should be added to our mailing list.

This genebank is a safe central repository from which potato germplasm is freely available to all requesters worldwide. Those interested in donating stocks are encouraged to submit a proposal to this Station. Of special interest are materials which, 1) expand the genetic diversity of the collection, 2) are of widespread interest, and, 3) are not easily available from other sources. Thus, unselected populations of relatively rare species collected from their native habitats are of particular interest. Developed clones or populations which have unique characteristics which would make them of general interest as breeding or genetic stocks are also sought.

Requesting Stocks. Small samples are provided free of charge and postage paid to requesters worldwide for research, breeding or educational use. When ordering, pay careful attention to the following:

1. Double check lists of PI numbers for accuracy.
2. Be certain that all accessions requested are available in the desired form.
3. If you have special needs for larger samples than the standard quantities of 50 seeds or 3 in vitro plants, please check with us in advance.
4. Enclose required import permits, and instructions concerning special shipping procedures or needed documents.
5. Request clonal stocks shipments before December or after February to avoid freezing in transit.

Our personnel are familiar with most aspects of potato germplasm use, and we encourage questions related to handling and selection of the best materials for your work. We will also provide information about germplasm available in other international potato genebanks.

Tubers are no longer distributed. Populations are typically represented as botanical seeds. Clonal materials, such as cultivars, are maintained as pathogen-tested in vitro plantlets. However, requesters are encouraged to inquire about alternatives, as we will accommodate special needs to the extent possible. For example, samples of tubers to be used for educational purposes may be provided with the understanding that they are not intended for propagation.

Send requests to the address given on the cover of this publication. Faxed requests are welcomed, and small orders can be made by telephone. The basic purpose of this project is to provide germplasm to potato workers. Thus, we encourage cooperators to order as many accessions as they can profitably use in their work.

Taxonomy. The term "potato", as used here, refers to tuber-bearing relatives of the "white", or "Irish" potato. The following non-tuber-bearing species are considered to be closely associated, and are therefore included:

brevidens
ochranthum
lycopersicoides

fernandezianum
juglandifolium

etuberosum
sitiens (rickii)

Additional details of the evolution of taxonomic concepts in potato may be obtained in the review of Hawkes (1990). Cooperators should be aware that species relationships in potato have often been controversial (Spooner and Sytsma 1992). These relationships are currently being reexamined with more objective modern methods, and major changes may be forthcoming (Spooner et al., in press).

EXPLANATION OF TABLE 1

These species are all wild (uncultivated), except for *S. tuberosum* ssp. *tuberosum* and ssp. *andigena*, and *S. stenotomum* and *S. phureja*. Only ssp. *tuberosum* is cultivated outside of Latin America, the biological and cultural center of origin.

The table subheadings. The first order of organization in this table is the alphabetical listing of species. The convention of preceding putative natural hybrids with an "x" is not used. Species names have been assigned by professional *Solanum* taxonomists after examination of live plants growing at Sturgeon Bay. In cases of disagreement, the determination of the collector is favored. In some cases, satisfactory determinations are pending. These accessions are found under "unknown". In other cases, accessions have been recognized as new species for which a formal name has not yet been published. These are listed under "unpublished species". "Unknown" and "unpublished" species are at the end of the listing. Also, note that *S. albicans* has been raised from a subspecies of *S. acaule*, *S. vidaurrei* has been lowered to a subspecies of *S. gourlayi*, and *S. rickii* has been renamed *S. sitiens*.

The 1986 edition of this catalog also listed natural hybrids-- populations judged to exhibit the influence of a second species. These accessions have now been incorporated under the heading of the species judged to predominate. These and other atypical representatives of the designated species are distinguished by the symbol "+" used as a prefix to the availability code(s). For cooperators with special interest in such materials, these accessions are listed separately in Table 4, and putative constituent species are given.

Species with two or more subspecies have separate headings for each. Different ploidies within a species are also listed under separate headings. Immediately following the name (species, subspecies and authority), the standard abbreviation (Hawkes 1990) for the species name appears in parentheses. Following this is the sporophytic, or 2n chromosome number. The basic chromosome number (x) of the genus is 12, so ploidy always equals 2n/12 (e.g. 2n=6x=72). Next, the Endosperm Balance Number (EBN) (Johnston et al 1980) is given. This is often more important than ploidy for predicting crossability. Accessions with the same EBN are most likely to produce hybrids derived from an n gamete from each parent. Hawkes and Jackson (1992) provided a review of EBN concepts, and details may be obtained by contacting this Station.

Columnar Data

Plant Introduction number (PI) is the numbering system used for all US plant germplasm as the primary identifier. Higher numbers were assigned later, and usually indicate more recently acquired stocks. This unique, permanent 6-digit number is the most important identifier for referencing US potato germplasm.

Availability code (AVL) indicates the form and status in which the germplasm is available, as follows:

- S Botanical Seed in the great majority of cases is generated by random bulk sib-mating 20 parents. However, a few of the accessions so designated are represented as selfed seeds. Seed orders are usually filled within a few days of receipt.
- T Tissue is listed for accessions which have resisted sexual propagation, or were received as single genotypes of rare self incompatible species. Thus, these have been preserved in vitro. The number of genotypes within such accessions varies. Orders for in vitro tissue require about one month to fill, since buds must be subcultured on rapid growth medium. Shipping may also be delayed by cold weather.
- X Hybrids are typically the product of crossing the listed accession with a closely related accession of the same species. Such crosses usually were done as an alternative to a failed intra-accession seed increase. Thus one-half of the genetics of these accessions has been captured in the available hybrids. Inter-accession (X) hybrids are usually not listed when intra-accession forms (i.e., S or T) exist. Full detailed lists of inter-accession pedigrees are available upon request.
- H Herbarium specimens, while not germplasm per se, are closely associated with its characterization and use. Therefore, accessions for which herbarium specimens are now available for loan are denoted with "H". Cooperators are also invited to visit this station to conduct on-site study of the complete herbarium.
- ± This symbol preceding any of the above codes indicates that the accession is thought to be a natural hybrid or otherwise considered a somewhat atypical representative of the species under which it is listed. A separate listing of natural hybrids is given in Table 4.

As previously stated, this catalog lists all living stocks held at the genebank. Those accessions with no code in the AVL column were not available for distribution at the time of printing. Cooperators with interest in these accessions are asked to inquire about their current status.

Secondary ID. This identifier is the internationally recognized collector's code, composed of a prefix and number. The prefix identifies one or more collectors, often the participants in a specific expedition. The associated index number is meant to make the ID unique, but some duplication occurs in collections listed "s.n." (without number). This secondary ID usually serves to reference the germplasm with site of collection notes. However, for cases in which materials were received from other institutions without accompanying collector codes, the secondary ID is given as an institution prefix and number. A key to collector and institution prefixes is given in Appendix A.

Country of Origin (CTY) is the country in which the germplasm was collected. For wild species, this indicates the natural origin. For cultivated species, this usually indicates the country where collected (e.g. cultivated field or market). When stocks have been received from other institutions without record of natural origin, the country listed is the donor country. These are distinguishable as countries to which potato is not native, and by the fact that no further origin information is listed. Codes follow abbreviations of the International Standards Organization (ISO), Berlin, and a key is provided in Appendix B.

State of Origin (STA). This indicates the natural origin of the germplasm with respect to the largest political subdivision within country (i.e., State, Province, or Department), generalized here as "state". Appendix B provides a key for these abbreviations.

Latitude and Longitude (LAT and LON) are given in degrees and minutes separated by a period (.). Latitudes are listed as north (N) or south (S), while all longitudes are west (W). These coordinates are meant to identify the exact site of collection. However, when collection narratives are unclear, the coordinates listed pertain to the closest known landmark. For example, for an accession said to be collected "three kilometers from the town of El Pueblo" (direction unknown), the coordinates of the town are given.

Altitude (ALT). The altitude in meters of the natural origin of the accession. In cases where a range was provided in the collection notes, the lower limit is listed.

These last five fields, CTY, STA, LAT, LON, and ALT are intended to identify the germplasm with respect to geographic origin. Much additional information is on file for most of these collections, including detailed descriptions of localities and habitats. Such data may be obtained by contacting this Station.

EXPLANATION OF TABLE 2

Pathogen tested in vitro plantlets are available for the listed United States and foreign *tuberosum* cultivars. Descriptive and evaluation data for most of these clones is available in various publications. Cooperators with interest should contact this Station for details.

EXPLANATION OF TABLE 3

In many cases, potato germplasm has been manipulated or selected to have unique and important genetic characteristics. These characteristics may be of widespread and long term interest to other potato workers. Considerable time and expense were required to produce and maintain such stocks, making it impractical for these efforts to be duplicated by all interested colleagues. Such materials are candidates for the genetic stocks collection. Table 3 lists *tuberosum* haploids, meiotic mutants, haploid inducers, late blight differentials and RFLP mapping clones available as pathogen-tested in vitro plantlets.

EXPLANATION OF TABLE 4

All accessions are listed in Table 1, ordered by species name, and PI number, including those reputed to exhibit characteristics of a second species (i.e. natural hybrids). Table 4 is a separate listing of these natural hybrid accessions. Putative species constituents are given.

REFERENCES

- Anon. 1958. Inventory of Tuber-bearing *Solanum* species. Wis. Agr. Exp. Sta. Bull. 533. 40 p.
- Hanneman, R. E. Jr. and J. B. Bamberg. Inventory of Tuber-bearing *Solanum* species. Wis. Agr. Exp. Sta. Bull. 533. 68 p.
- Hawkes, J. G. 1990. The Potato: Evolution, Biodiversity and Genetic Resources. Belhaven Press, London. 259 p.
- Hawkes, J. G. and M. T. Jackson. 1992. Taxonomic and evolutionary implications of the Endosperm Balance Number hypothesis in potatoes. Theor. Appl. Genet. 84:180-185.

Johnston, S. A., Ton P. M. Den Nijs, S. J. Peloquin, and R. E. Hanneman, Jr. 1980. The significance of genic balance to endosperm development interspecific crosses. *Theor. Appl. Genet.* 57:5-7.

Spooner, D. M. and K. J. Sytsma. 1992. Reexamination of series relationships of Mexican and Central American wild potatoes (*Solanum* sect. *Petota*): Evidence from chloroplast DNA restriction site variation. *Syst. Bot.* 17:432-448.

Spooner, D. M., G. J. Anderson, and R. K. Jansen. 1993. Chloroplast DNA evidence for the interrelationships of tomatoes, potatoes, and pepinos. *Amer. J. Bot.* (In press.).

Ross, R. W. and P. R. Rowe. 1965. Inventory of Tuber-bearing *Solanum* species. *Wis. Agr. Exp. Sta. Bull.* 533. 73 p.

Ross, R. W. and P. R. Rowe. 1969. Inventory of Tuber-bearing *Solanum* species. *Wis. Agr. Exp. Sta. Bull.* 533. 68 p.

Table 1 - SOLANUM INTRODUCTIONS

PI	AVL	SECONDARY ID	CTY	STA	LAT	LON	ALT
S. abancayense Ochoa (abn), 2n=24, EBN=2							
442700	SH	OCH 7728	PER	APU	-	-	-
458403	±SH	OCH 9088	PER	APU	-	-	-
458404	±SH	OCH 9089	PER	APU	-	-	-
S. acaule ssp acaule Bitter (acl), 2n=48, EBN=2							
175395	SH	EBS 9	ARG	-	-	-	-
175396	SH	EBS 208A	ARG	-	-	-	-
186176	SH	EBS 540B	PER	-	-	-	-
195160	SH	CPC 528.7.1	PER	-	-	-	-
195161	SH	CPC 528.7.2	-	-	-	-	-
205507	SH	CPC 537.6	PER	CUZ	14.29 S	71.24 W	-
205508	SH	CPC 537.8	PER	CUZ	14.29 S	71.24 W	-
205520	SH	CPC 1167.1	ARG	-	-	-	-
205521	SH	CPC 1168.1	-	-	-	-	-
208856	SH	BRU 33	ARG	TUC	26.52 S	65.41 W	-
208874	SH	BRU 41	ARG	-	-	-	-
208875	SH	BRU 42	ARG	-	-	-	-
210029	SH	HJT 994	BOL	TAR	21.55 S	65.14 W	4000
210030	SH	HJT 1029	BOL	POT	19.38 S	65.04 W	4050
210033	SH	HJT 1086	PER	PUN	15.52 S	70.45 W	4200
217449	SH	SLU L	ARG	JUJ	23.35 S	65.20 W	4000
217450	SH	SLU 4114	ARG	JUJ	23.33 S	65.16 W	3950
230493	SH	OCH 2045	PER	PUN	15.50 S	70.02 W	3820
230529	SH	SWA 1	-	-	-	-	-
230530	SH	SWA 2	-	-	-	-	-
230554	SH	EBS s.n.	-	-	-	-	-
230555	SH	EBS 9	-	-	-	-	-
230556	SH	EBS 496	ARG	-	-	-	-
246504	SH	COR P.180	PER	PUN	15.41 S	70.31 W	3900
255501	SH	BRU 802	ARG	JUJ	23.35 S	65.12 W	4000
275124	SH	HJT 329	ARG	TUC	26.47 S	66.51 W	3000
275125	SH	HJT 344	ARG	JUJ	23.49 S	65.16 W	3700
275126	SH	HJT 353B	ARG	JUJ	23.43 S	65.17 W	3400
275127	SH	HJT 358	ARG	JUJ	23.13 S	65.42 W	4100
275128	SH	HJT 970	ARG	JUJ	27.07 S	65.28 W	3450
275129	SH	HJT 1582	PER	CUZ	14.10 S	71.06 W	3950
275130	SH	HJT 312	ARG	SAL	25.09 S	65.51 W	3400
275131	SH	HJT 1897	ARG	LR	28.57 S	67.42 W	2900
275132	SH	HJT 353A	ARG	JUJ	23.43 S	65.17 W	3400
310923	SH	UGN 4773	BOL	COC	17.16 S	66.18 W	-
310924	SH	UGN 5153	BOL	POT	-	-	-
310970	SH	ALN 64-1	BOL	-	-	-	-
320272	SH	HHR 3482	ARG	TUC	26.44 S	65.44 W	3000
320273	S	HHR 3717	ARG	SAL	25.10 S	65.46 W	2950
320274	SH	HHR 3740	ARG	SAL	25.09 S	65.52 W	3200
320275	SH	HHR 3813	ARG	JUJ	22.14 S	65.17 W	4125
320276	SH	HHR 3814	ARG	SAL	22.10 S	65.13 W	4400
320277	SH	HHR 3872	ARG	SAL	22.15 S	65.04 W	3200
320278	SH	HHR 3904	ARG	JUJ	22.57 S	65.23 W	3580
320280	SH	HHRO 3407	ARG	LR	28.58 S	67.42 W	3250
365307	SH	OCH S-39	PER	AYA	13.16 S	73.51 W	4160

PI	AVL	SECONDARY ID	CTY	STA	LAT	Lon	ALT
365309	SH	OCH S-55	PER	HUO	09.52 S	76.32 W	3800
365310	SH	OCH S-55	PER	-	-	-	-
435070	SH	OKA 4364B	ARG	JUJ	23.35 S	65.42 W	3800
472637	SH	HOF 1509	ARG	JUJ	23.33 S	64.57 W	-
472638	SH	HOF 1571	ARG	JUJ	24.28 S	65.33 W	3700
472639	SH	HOF 1584	ARG	JUJ	23.57 S	65.38 W	3650
472640	SH	HOF 1591	ARG	JUJ	56.88 S	98.35 W	3800
472641	SH	HOF 1607	ARG	JUJ	22.56 S	65.31 W	3550
472642	SH	HOF 1614	ARG	JUJ	22.15 S	65.25 W	3850
472643	SH	HOF 1620	ARG	SAL	22.20 S	65.14 W	4150
472644	SH	HOF 1624	ARG	JUJ	22.22 S	65.38 W	3650
472645	SH	HOF 1644	ARG	JUJ	23.13 S	65.42 W	4300
472646	SH	HOF 1658	ARG	JUJ	22.10 S	65.23 W	3700
472647	SH	HOF 1661	ARG	JUJ	22.14 S	65.18 W	4000
472648	SH	HOF 1685	ARG	JUJ	22.50 S	65.58 W	3600
472649	SH	HOF 1734	ARG	SAL	22.25 S	65.05 W	3640
472650	SH	HOF 1692	ARG	JUJ	23.04 S	66.54 W	4200
472651	SH	OKA 3687	ARG	JUJ	21.53 S	66.07 W	4000
472652	SH	OKA 3718	ARG	JUJ	21.52 S	66.10 W	4000
472653	SH	OKA 3720	ARG	JUJ	22.04 S	66.21 W	3700
472654	SH	OKA 3722	ARG	JUJ	22.06 S	65.49 W	3700
472655	SH	OKA 3784	ARG	SAL	25.08 S	65.52 W	3500
472656	SH	OKA 3878	ARG	JUJ	22.07 S	65.42 W	3550
472657	SH	OKA 3883	ARG	JUJ	22.07 S	65.42 W	3550
472658	SH	OKA 3884	ARG	JUJ	22.07 S	65.42 W	3550
472659	SH	OKA 3885	ARG	JUJ	22.08 S	65.44 W	3620
472660	SH	OKA 3889	ARG	JUJ	22.08 S	65.45 W	3590
472661	SH	OKA 3890A	ARG	JUJ	22.08 S	65.45 W	3590
472662	SH	OKA 3901	ARG	JUJ	22.08 S	65.45 W	3850
472663	SH	OKA 3907	ARG	JUJ	22.06 S	65.49 W	3720
472664	SH	OKA 3908	ARG	JUJ	21.53 S	66.07 W	4080
472665	SH	OKA 3909	ARG	JUJ	21.53 S	66.07 W	4080
472666	SH	OKA 3918	ARG	JUJ	21.53 S	66.02 W	4000
472667	SH	OKA 3920	ARG	JUJ	21.53 S	66.02 W	4000
472668	SH	OKA 3921	ARG	JUJ	21.53 S	66.02 W	4000
472669	SH	OKA 3922A	ARG	JUJ	21.53 S	66.02 W	4000
472670	SH	OKA 3923	ARG	JUJ	21.53 S	66.02 W	4000
472671	SH	OKA 3927	ARG	JUJ	21.53 S	66.02 W	4000
472672	SH	OKA 3928	ARG	JUJ	21.53 S	66.02 W	4000
472673	SH	OKA 3936	ARG	JUJ	21.55 S	66.09 W	3800
472674	SH	OKA 3944	ARG	JUJ	21.53 S	66.11 W	3700
472675	SH	OKA 3968	ARG	JUJ	21.53 S	66.11 W	3700
472676	SH	OKA 3982	ARG	JUJ	22.06 S	66.08 W	4000
472677	SH	OKA 3987	ARG	JUJ	22.18 S	66.02 W	3800
472678	SH	OKA 4005	ARG	JUJ	22.27 S	66.11 W	400
472679	SH	OKA 4015	ARG	JUJ	22.32 S	66.15 W	4200
472680	SH	OKA 4017	ARG	JUJ	22.32 S	66.15 W	4240
472681	SH	OKA 4026	ARG	JUJ	22.30 S	66.12 W	4020
472682	SH	OKA 4027A	ARG	JUJ	22.30 S	66.12 W	4020
472683	SH	OKA 4030A	ARG	JUJ	22.28 S	66.12 W	4000
472684	SH	OKA 4031	ARG	JUJ	22.28 S	66.12 W	4000
472685	SH	OKA 4043	ARG	SAL	24.39 S	66.12 W	3480
472686	SH	HOF 1841	ARG	JUJ	22.07 S	65.28 W	3450

PI	AVL	SECONDARY ID	CTY	STA	LAT	LON	ALT
472687	SH	HOF 1848	ARG	SAL	22.16 S	65.05 W	3350
472688	SH	HOF 1916	ARG	SAL	22.15 S	64.54 W	2960
472689	SH	HOF 1919	ARG	SAL	22.15 S	64.54 W	2900
472690	SH	HOF 1925	ARG	SAL	22.17 S	64.52 W	3220
472691	SH	HOF 1928	ARG	SAL	22.16 S	64.52 W	3200
472692	SH	HOF 1997	ARG	SAL	23.40 S	63.24 W	3090
472693	SH	HOF 2031	ARG	SAL	-	-	2800
472694	SH	HOF 2039	ARG	SAL	22.09 S	65.02 W	3350
472695	SH	HOF 2077	ARG	SAL	22.12 S	65.03 W	3000
472696	SH	HOF 2089	ARG	SAL	22.13 S	65.03 W	3490
472697	SH	HOF 2090	ARG	SAL	22.13 S	65.03 W	3300
472698	SH	OKA 4271	ARG	LR	28.42 S	67.50 W	3100
472699	SH	OKA 4359	ARG	JUJ	23.35 S	65.12 W	4000
472700	SH	OKA 4360	ARG	JUJ	23.35 S	65.12 W	4000
472701	SH	OKA 4377	ARG	JUJ	23.36 S	65.08 W	8200
472702	SH	OKA 4378	ARG	JUJ	22.09 S	65.17 W	3400
472703	SH	OKA 4380	ARG	JUJ	23.38 S	65.06 W	3100
472704	SH	OKA 4383B	ARG	JUJ	23.38 S	65.06 W	3100
472705	SH	OKA 4384A	ARG	JUJ	23.38 S	65.06 W	3100
472706	SH	OKA 4387	ARG	JUJ	23.38 S	65.06 W	3100
472707	SH	OKA 4393	ARG	JUJ	23.38 S	65.06 W	3100
472708	SH	OKA 4416	ARG	JUJ	-	-	3800
472709	SH	OKA 4418	ARG	JUJ	23.35 S	65.12 W	-
472710	SH	OKA 4423	ARG	JUJ	23.35 S	65.12 W	3880
472711	SH	OKA 4492A	ARG	JUJ	23.34 S	65.16 W	3900
472712	SH	OKA 4447	ARG	JUJ	23.09 S	65.05 W	3800
472713	SH	OKA 4458	ARG	JUJ	25.08 S	65.06 W	3800
472714	SH	OKA 4459A	ARG	JUJ	25.08 S	65.06 W	3800
472715	SH	OKA 4465	ARG	SAL	23.10 S	65.00 W	4400
472716	SH	OKA 4466	ARG	SAL	23.10 S	64.57 W	3900
472717	SH	OKA 4470	ARG	SAL	23.10 S	64.57 W	3900
472718	SH	OKA 4473	ARG	SAL	23.10 S	64.57 W	3200
472719	SH	OKA 4474	ARG	SAL	23.10 S	64.57 W	3600
472720	SH	OKA 4483	ARG	JUJ	23.11 S	65.03 W	4400
472721	SH	OKA 4484	ARG	JUJ	23.11 S	65.03 W	4400
472722	SH	OKA 4547	ARG	JUJ	23.10 S	65.27 W	3620
472723	SH	OKA 4548	ARG	JUJ	23.10 S	65.27 W	3620
472724	SH	OKA 4551	ARG	JUJ	22.58 S	65.26 W	3500
472725	SH	OKA 4552	ARG	JUJ	22.58 S	65.26 W	3500
472726	SH	OKA 4566	ARG	JUJ	22.58 S	65.26 W	3700
472727	SH	OKA 4575	ARG	JUJ	22.56 S	65.17 W	3600
472728	SH	OKA 4834	ARG	SAL	24.30 S	66.12 W	4350
472729	SH	OKA 4835	ARG	SAL	24.29 S	66.13 W	4300
472730	SH	OKA 4838	ARG	SAL	24.32 S	66.12 W	3900
472731	SH	OKA 4861	ARG	SAL	24.19 S	66.06 W	3800
472732	SH	OKA 4863	ARG	SAL	24.29 S	66.13 W	4300
472733	SH	OKA 4864	ARG	SAL	24.30 S	66.12 W	4100
472734	SH	OKA 4865	ARG	SAL	24.30 S	66.12 W	4000
472735	SH	OKA 4924	ARG	SAL	24.39 S	66.12 W	3480
472736	SH	OKA 5051B	ARG	SAL	25.20 S	65.50 W	2800
472737	SH	OKA 5363	ARG	JUJ	23.07 S	65.12 W	4000
472738	SH	OKA 5420	ARG	JUJ	22.58 S	65.26 W	3600
472739	SH	OKA 5431	ARG	JUJ	22.14 S	65.17 W	3900

PI	AVL	SECONDARY ID	CTY	STA	LAT	LON	ALT
472740	SH	OKA 5434	ARG	SAL	22.13 S	65.14 W	3500
472741	SH	OKA 5437	ARG	SAL	22.47 S	65.06 W	3300
472742	SH	OKA 5441	ARG	SAL	22.47 S	65.06 W	3300
472743	SH	OKA 5442B	ARG	SAL	22.47 S	65.06 W	3300
472744	SH	OKA 5458	ARG	JUJ	22.14 S	65.17 W	3980
472745	SH	OKA 5459	ARG	JUJ	22.14 S	65.17 W	3980
472746	SH	OKA 5496	ARG	JUJ	21.53 S	66.11 W	3800
472747	SH	OKA 5509	ARG	JUJ	21.53 S	66.11 W	3800
472748	SH	OKA 5510	ARG	JUJ	21.53 S	66.07 W	4000
472749	SH	OKA 5512	ARG	JUJ	21.57 S	66.03 W	3800
472750	SH	OKA 5515	ARG	JUJ	22.06 S	66.08 W	3800
472751	SH	OKA 5517	ARG	JUJ	22.28 S	66.12 W	4000
472752	SH	OKA 5528	ARG	JUJ	22.26 S	66.11 W	3950
472753	SH	OKA 5543	ARG	JUJ	23.52 S	65.48 W	3480
472754	SH	OKA 5591	ARG	SAL	24.19 S	66.07 W	3800
472755	SH	OKA 5693	ARG	TUC	26.46 S	65.45 W	2940
472756	SH	OKA 5694	ARG	TUC	26.46 S	65.45 W	2940
472757	SH	OKA 5696	ARG	TUC	26.46 S	65.45 W	2940
472758	SH	OKA 5704	ARG	TUC	26.46 S	65.45 W	2940
472759	SH	OKA 5731	ARG	JUJ	22.08 S	65.29 W	3500
472760	SH	OKA 5733	ARG	JUJ	22.08 S	65.29 W	3500
472761	SH	OKA 5753	ARG	JUJ	22.24 S	65.21 W	3900
472762	SH	OKA 5756	ARG	JUJ	22.19 S	65.21 W	3900
472763	SH	OKA 5757	ARG	JUJ	22.18 S	65.21 W	3900
472764	SH	OKA 5762	ARG	JUJ	22.10 S	65.27 W	3600
472765	SH	OKA 5773	ARG	JUJ	22.13 S	66.12 W	4120
472766	SH	OKA 5778	ARG	JUJ	22.15 S	66.19 W	3940
472767	SH	OKA 5784	ARG	JUJ	22.15 S	66.20 W	3900
472768	SH	OKA 5788	ARG	JUJ	22.15 S	66.21 W	3900
472769	SH	OKA 5801	ARG	JUJ	22.14 S	66.23 W	3800
472770	SH	OKA 5815	ARG	JUJ	22.09 S	65.17 W	3820
472771	SH	OKA 5816	ARG	SAL	22.14 S	65.13 W	4120
472772	SH	OKA 5820	ARG	SAL	22.15 S	65.13 W	3900
472773	SH	OKA 5832	ARG	SAL	22.16 S	65.12 W	3800
472774	SH	OKA 5955	ARG	JUJ	23.35 S	65.51 W	3700
472776	SH	OKA 6230	ARG	JUJ	22.13 S	65.15 W	4200
472777	SH	OKA 6309	ARG	SAL	22.22 S	65.04 W	3700
472778	SH	OKA 6732	ARG	JUJ	23.12 S	65.17 W	3500
472779	SH	OKA 6733	ARG	JUJ	23.06 S	65.10 W	3800
472780	SH	OKA 6735B	ARG	JUJ	23.06 S	65.10 W	3800
472781	SH	OKA 6741	ARG	JUJ	23.07 S	65.07 W	3800
472782	SH	OKA 6742	ARG	JUJ	23.07 S	65.07 W	3800
472783	SH	OKA 6750	ARG	JUJ	23.06 S	65.10 W	-
472784	SH	OKA 6759	ARG	JUJ	22.58 S	65.26 W	3600
472785	SH	OKA 6760	ARG	JUJ	22.58 S	65.26 W	3600
472786	SH	OKA 6761	ARG	JUJ	22.58 S	65.26 W	3600
472787	SH	OKA 6762	ARG	JUJ	22.58 S	65.26 W	3600
472788	SH	OKA 6765	ARG	JUJ	22.14 S	65.17 W	3850
472789	SH	OKA 6781B	ARG	JUJ	22.00 S	66.04 W	3800
472790	SH	OKA 6783	ARG	JUJ	22.17 S	66.02 W	3650
472791	SH	OKA 6794	ARG	JUJ	22.56 S	65.19 W	3700
472792	SH	OKA 6887	ARG	JUJ	23.06 S	65.10 W	3900
472799	SH	OKA 6081	ARG	LR	28.58 S	67.42 W	3050

Table 3 - GENETIC STOCKS

3.1 TUBEROSUM HAPLOIDS

ID	DESCRIPTION
GS 01	US-W 0001 Katahdin
GS 02	US-W 0004 Minn 20-20-34
GS 03	US-W 0042 Chippewa
GS 04	US-W 0357 Merrimack
GS 05	US-W 0457 White Rose
GS 06	US-W 0521 Cherokee
GS 07	US-W 0551 Chippewa
GS 08	US-W 0627 Russet Rural
GS 09	US-W 0651 Sequoia
GS 10	US-W 0706 Wis AG 231
GS 11	US-W 0725 Wis AG 231
GS 12	US-W 0730 Wis AG 231
GS 13	US-W 0973 Wis AG 231
GS 14	US-W 1664 Tawa
GS 15	US-W 1867 Saranac
GS 16	US-W 1887 Wis AG 231
GS 17	US-W 2225 Saco
GS 18	US-W 2236 Tawa
GS 19	US-W 2242 Wis AG 231
GS 20	US-W 2668 Katahdin
GS 21	US-W 3463 Merrimack
GS 22	US-W 3573 Katahdin
GS 23	US-W 4519 Merrimack
GS 24	US-W 4837 Merrimack

3.2 MEIOTIC MUTANTS

ID	DESCRIPTION
GS 25	US-W 5293.03
GS 26	US-W 5295.07
GS 27	US-W 5328.11
GS 28	US-W 5337.03
GS 34	US-W 9545.62
GS 35	US-W 9545.99

3.3 HAPLOID INDUCERS

ID	DESCRIPTION
GS 29	PHU 1.22
GS 30	IVP 101 Embryo Spot Marker
GS 31	IVP 035 Embryo Spot Marker
GS 32	IVP 048 Embryo Spot Marker