

USDA-ARS Sugarbeet Releases

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ABSTRACT

It wasn't until the 1920s, due to the curly top virus, that the USDA became significantly involved in sugarbeet breeding. Early efforts were located at Salt Lake City, UT and Riverside, CA. Additional stations were added at Salinas, CA; Beltsville, MD; Ft. Collins, CO; East Lansing, MI; and Fargo, ND. Since then, the breeding programs at the Riverside, Salt Lake City, and Beltsville stations have been closed. The first USDA releases were developed for curly top resistance. Since then, breeding responsibilities among USDA breeders have been for resistance to sugarbeet diseases and pests. Additional efforts have focused on breeding methods, bolting resistance, cytoplasmic male sterility, O-type maintainers, sugar and root yield, smooth roots, and integration of wild germplasm. The development of monogerm and cytoplasmic male sterile lines by USDA breeders were landmark achievements for the industry and are of world wide importance. Early releases (cultivar or hybrid) were for direct commercial use; however, recent efforts have been for parental lines and/or enhanced germplasm. Prior to 1955, releases were shared with the industry with little public documentation. From 1956 to 1970, releases were through the Beet Sugar Development Foundation (BSDF). Since 1971, an official USDA-ARS release document has been issued and signed by all involved agencies (USDA-ARS, BSDF, State Experiment Stations, etc). About half of the releases have been registered in Crop Science, with seed deposited in the National Seed Storage Laboratory at Ft. Collins, CO and documented in the Germplasm Resources Information Network (GRIN) data base. A listing of all releases (over 800), along with codes, citations and limited descriptions has been prepared. While it is difficult to quantify the impact USDA-ARS sugarbeet releases have had on industry, it is obvious that they are a major factor in the survival and stability of the sugarbeet industry.

Additional Key Words: disease resistance, monogerm, male sterility, storage, breeding locations, release notices and codes, citations.

INTRODUCTION

The establishment of the US sugarbeet industry in the late 1800s was solely dependent on imported sugarbeet cultivars, notably from Germany. The earliest USDA breeding and seed production efforts were at Schuyler, NE in 1890. This work was soon discontinued because of the ease of obtaining reasonably priced seed from Europe and the lack of knowledge in seed production.

In the 1920s, due to the catastrophic losses caused by the curly top virus, the USDA became significantly involved in sugarbeet breeding. These early USDA efforts were conducted at Salt Lake City, UT and Riverside, CA. USDA sugarbeet breeding stations were added later at Beltsville, MD; Ft. Collins, CO; Salinas, CA; East Lansing, MI; and Fargo, ND. Smog forced the relocation of the Riverside station to Salinas, CA in 1954. The Salt Lake City station was moved to Logan, UT in 1961 and then closed in 1983. Sugarbeet breeding at Beltsville, MD was discontinued following the retirement of Gerald Coe in 1985.

The first USDA release, US 1 (an open-pollinated, multigerm, curly top resistant cultivar), was released in 1931. This was followed by other curly top resistant cultivars (US 33, 1936; US 34, 1936; US 12, 1939 and US 22, 1942) and leaf spot resistant cultivars (US 217, 1936; US 200, 1940; US 201, 1940 and US 215, 1940). By this time there appeared to be a naturally established division between public and private breeders, with the private sugar-company breeders developing cultivars for production areas without severe disease problems and USDA breeders, with the cooperation of private breeders, developing disease-resistant cultivars for areas with disease problems. The division of breeding responsibilities among USDA breeders evolved with the disease problems of the station location: namely, Salinas for Curly Top, Virus Yellow, Cyst Nematode, Downy Mildew and more recently *Erwinia*, Powdery Mildew and Rhizomania resistances; Salt Lake City and later Logan for Curly Top resistance; Ft. Collins for Leaf Spot/Curly Top and Rhizomania resistances; Beltsville for Leaf Spot and *Aphanomyces* resistances; East Lansing for Leaf Spot and *Aphanomyces* resistances; and Fargo for Root Maggot and Storage Rot resistances.

In addition to disease resistance, USDA breeders have focused on breeding methods, bolting resistance, monogerm, cytoplasmic male sterility (cms), O-type maintainers, high combining ability for sugar content and root yield, smooth roots, and integration of germplasm from wild sources. The high priority placed on disease resistance made it difficult to also achieve incremental improvements

in high combining ability for sugar content and root yield. However, the development of monogerm (discovered in 1950) and cytoplasmic male sterile (discovered in 1945) lines by USDA breeders were landmark achievements for the industry and are of world wide importance.

Following the discovery of cytoplasmic male sterility, emphasis was placed on the development of hybrids. The first industry monogerm hybrid was developed by the Amalgamated Sugar Company in 1958 using monogerm cms females from the USDA. The first USDA hybrids, released in 1960, were for curly top and bolting resistance. During the following 20 years, hybrids were released by the Salinas, Beltsville, and East Lansing stations, in addition to the numerous disease resistant lines released from all breeding stations. Since the early 1970s, when domestic and foreign sugarbeet seed companies began marketing seed to sugarbeet growers, there has been a gradual transition of USDA breeding effort from cultivar development to the development of specialized germplasms, many of which have potential as parental components of hybrids. About the same time USDA-ARS policy shifted to a germplasm rather than variety development focus. Emphasis has been placed on germplasm enhancement, with the development of commercial hybrids becoming the responsibility of private sugarbeet breeding companies.

The methods of ARS releases have changed over time as follows:

- Before 1955: USDA (previously Bureau of Plant Industry) developed sugarbeet germplasms and shared them with the beet sugar industry. There are no records of how this was done.
- 1956-1970: Proposed ARS releases were published annually in the Sugarbeet Research Report (commonly referred to as Blue Book), published by the Beet Sugar Development Foundation (BSDF). Available seed was shared among those industry seed departments requesting samples, or the BSDF made an increase in Oregon, which was then shared among industry members. Seed samples of many, but not all, also were deposited in the National Seed Storage Laboratory (NSSL) for long term storage.
- 1971-present: For each seed release, an official ARS release document is signed and distributed to all parties involved in the development (USDA-ARS, BSDF, State Experiment Stations, etc). Most of these releases are deposited in the NSSL and many were registered in

Since 1987 seed samples of all releases registered in *Crop Science* must be deposited in the NSSL. A few *Crop Science* registrations were never released through official channels.

There is no official file of ARS releases. ARS administrators return the signed release document to the originator, whose responsibility is to distribute the release notice and retain the original signed copy. Until July 1994, there was no requirement or method for ARS releases to be assigned a PI number, have seed deposited in the NSSL, or to be included in the Germplasm Resources Information Network (GRIN). However, those releases that are registered in *Crop Science* have a PI number, seed in NSSL, and are in the GRIN data base. In addition, releases deposited in the NSSL and not registered in *Crop Science* are cataloged in the GRIN data base. Unfortunately, most of those that have not been deposited in the NSSL have been lost.

Two *Beta* (Beet) storage sites are within the USDA-ARS National Plant Germplasm System (NPGS): the NSSL at Ft. Collins, CO and the Western Regional Plant Introduction station (W-6) at Pullman, WA. The NSSL storage site is reserved for safety, backup, or long term storage, whereas the W-6 storage site is considered a working collection. When a user requests seed, it comes from and is processed through the W-6 station. Only when seed is lacking in the working collection is the safety collection at the NSSL tapped. Backup collection seed from the NSSL storage is used for seed regeneration when seed is depleted at the W-6 station. Efforts are under way 1) to insure that all accessions at the W-6 station (working collection) have a safety deposit in the NSSL and 2) to maintain adequate quantities of seed of all NSSL accessions in the working collection at Pullman.

Over the last four years, I have attempted to gather all release notices including those published in the Sugarbeet Research Report (Blue Book). I have been able to document over 800 USDA-ARS releases of sugarbeet cultivars or germplasm. These are listed in Table 2 by location of release, and year of release. A description of the abbreviations and codes used in Table 2 are found in Table 1. Table 2 also contains: 1) the NSSL, PI, and author Codes; 2) the *Crop Science* registration number and citation; and 3) a brief description of the release.

This paper is an attempt to bring to the reader a compilation and brief description of all ARS releases. It is hoped that this will be valuable to all those, both public and private, involved in sugarbeet breeding and improvement. While it is difficult to quantify the impact USDA-ARS sugarbeet releases have had on the sugarbeet industry, it is obvious that they have been a major factor in its survival and stability in the US and in the World.

Table 1. Codes and abbreviations used in Table 2.

ABBREVIATION	DESCRIPTION
Aa	Segregating for Male Sterility(Mendelian, AA = fertile, aa = sterile)
cms	Cytoplasmic Male Sterility(cms-XZ = ms cytoplasm, segregating for restorer genes)
O-type	CMS Non-restorer = maintainer line
Mm	Segregating monogerm (MM = multigerm, mm = monogerm)
Rr	Segregating for hypocotyl color (RR = red, rr = green)
S ^f	Self-fertile
S ^s	Self-sterile
Bb	Segregating for Biennial (BB = annual, bb = biennial)
Hsugar	High Sugar
SR	Smooth root
NB	Non-bolting tendency
4n	Tetraploid (4n = 36)
DISEASE RESISTANCE	
LS	Cercospora Leaf Spot
CT	Curly Top
Aphan	Aphanomyces
VY	Virus Yellow (includes BWYV & BYV)
Erw	Erwinia root rot
DM	Downy Mildew
Rhizoc	Rhizoctonia root rot
RZ	Rhizomania
PM	Powdery Mildew (Erysiphe)
Nema	Beet Cyst Nematode
Fus	Fusarium Stalk Blight
BM	Beet Mosaic Virus
Scler	<i>Sclerotium rolfsii</i>
St Resp	Storage Respiration
St Rot	Storage Rots
CITATION CODES	
CS	<i>Crop Science</i>
ASSBT	Proceedings or <i>Journal of American Society of Sugar Beet Technologists</i>
SBR	Sugarbeet Research (Blue Book)
AA	<i>Advances in Agronomy</i>

Table 2. USDA-Agricultural Research Service sugarbeet releases by location of release and year of release. All available codes (NSSL, PI and author), Crop Science registration numbers, citations, and brief descriptions are given. Numbers with W6 and A prefixes are Western and North Central Regional Plant Introduction numbers, respectively.

US NUMBERS						
YEAR REL	NSSL CODE	PI No	CROP SCI REG NO	CITATION	CODE	DESCRIPTION
1933				USDA Tech. Bul. 360	US 1	MM, CT
1936	4718	590580		USDA CIR 391	US 33	MM, CT, Hsugar
1936				USDA CIR 513	US 34	MM, CT
1937					US 217	MM, LS
1938				USDA CIR 513	US 10	MM, CT
1939					US 12	MM, CT
1939					US 14	MM, CT
1940					US 200	MM, LS
1940	103046	590678			US 201	MM, LS
1940					US 215	MM, LS
1940				ASSBT 2:165-168	US 200 x 215	MM, LS
1941				ASSBT 4:364-380	US 216	MM, LS, Aphan
1941				ASSBT 5:166-170	US 215 x 216	MM, Aa, LS, Aphan
1942				ASSBT 5:179-180	US 22	MM, CT
1948				ASSBT 5:179-180	US 22/2	MM, CT
1948	141993	590708		ASSBT 5:179-180	US 22/3	MM, CT
1954	4727			AA 7:89-139,1955	US 22/4	MM, CT, S ⁵
1948	W6 17103				US 41	MM, CT, (from US35 X US22/3)
1948				ASSBT 5:181-186	US 56	MM, CT, NB, DM
1949	4720	590582		ASSBT 5:181-186	US 56/2	MM, CT, NB, DM
1950	4719	590581		ASSBT 6:208	US 15	MM, CT, NB, DM
1952	4728	590586		ASSBT 7:384-386	US 75	MM, CT, NB, DM
1952					US 225	MM, LS
1952				ASSBT 6:209-217	US 226	MM, LS
1952					US 216 x 226	MM, LS, Aphan
1952					US 225 x 226	MM, LS,
1954	4721	590583			US 35	MM, CT, Hsugar
1954	4724	590584		ASSBT 8:64	US 35-0	MM, CT, Aa, Hsugar
1954				ASSBT 8:112-117	US 400	MM, LS, Aphan
1958					US 104	MM, CT, LS
1960	W6 17102				US 401	MM, LS, Aphan
1960				SRB 1960:8	US 401(4n)	MM, LS, Aphan, 4n
HYBRIDS						
1960				ASSBT 11:500-506	US H2	MM, CT, NB, [(NB1cms x NB3) x C663]
1960				ASSBT 11:500-506	US H3	MM, CT, NB, [(NB1cms x NB3) x C586]
1960				ASSBT 11:500-506	US H4	MM, CT, NB, [(NB1cms x NB2) x C586]
1960				ASSBT 11:500-506	US H5A	MM, CT, NB, [(NB1cms x NB4) x C586]
1960				ASSBT 11:500-506	US H5B	MM, CT, NB, [(NB1cms x NB4) x C663]

Table 2. (Continued)

						US NUMBERS (Continued)	
						HYBRIDS (Continued)	
YEAR REL	NSSL CODE	PI No	CROP SCI REG NO	CITATION	CODE	DESCRIPTION	
1964					US H6	MM, CT, NB, [(NB1cms x NB5) x C663]	
1964					US H7	mm, CT, NB, [(C562cms x C569) x C663]	
1964					US H7A	mm, CT, NB, [(C562cms x C546) x C264]	
1964					US H8	mm, CT, NB, [(C562cms x C569) x NB7]	
1968			1	CS 11:942	US H9A	mm, CT, VY, NB, [(C562cms x C569) x C13]	
1968			2	CS 11:942	US H9B	mm, CT, VY, NB, [(C562cms x C546) x C13]	
1971			3	CS 11:942	US H10A	mm, CT, VY, NB, [(C562cms x C569) x C17]	
1971			4	CS 11:942	US H10B	mm, CT, VY, NB, [(C562cms x C546) x C17]	
1968			5	CS 11:942	US H20	mm, LS, Aphan, [(SLC129cms x SLC133) x SP6322-0]	
1973			6	CS 14:340	US H21	mm, LS, Aphan, Hsugar [SP69550-01 x SP6322-0],	
1979					US H11	mm, CT, VY, NB, Erw, [(C562cms x C546) x C36]	
1981					US H23	mm, CT, LS, Aphan, [(SP6926-01 x EL45{SL133}) x EL40]	
1981					US H20A	mm, CT, LS, Aphan, [(EL44CMS {SLC129CMS} x EL45{SL133})xSP6822-0]	
SALT LAKE CITY RELEASES							
1950	4735	590811		ASSBT 6:191-194	SLC 003	MM, BB, BM, S ^F , O-type	
1950	4736	590812		ASSBT 6:191-194	SLC 003ms	MM, BB, BM, cms, (used as standard to test for O-type)	
1956	103027	590677		SBR 1956:6	SLC 15	mm, CT, S ^S	
1956	183488	590741			SLC 17		
1956	183489	590742		SBR 1956:6	SLC 18(5076)	mm, CT, S ^S , O-type	
1956	183490	590743		SBR 1956:6	SLC 19	mm, CT, S ^S	
1956	183491	590744		SBR 1956:6	SLC 20(8370)	mm, S ^S (from Klein E)	
1956	183492	590745			SLC 21		
1956	183493	590746		SBR 1956:6	SLC 22(8337)	mm, S ^S (from Klein Z)	
1956	183494	590747			SLC 23		
1956				SBR 1956:6	SLC 24	mm, S ^S , (F3 from CT(mm) x LSR(MM) US201)	
1956				SBR 1956:6	SLC 119	mm, LS, S ^F , (from US 216 x SLC 101)	
1956				SBR 1956:6	SLC 121(435)	mm, CT, S ^F , (from US 75 x SLC 600mm)	
1956	4729	590809			SLC 122	mm, CT, S ^F	

Table 2. (Continued)

SALT LAKE CITY RELEASES (Continued)						
YEAR	NSSL	PI No	CROP SCI	REG	CODE	DESCRIPTION
REL	CODE		REG	CITATION		
1956				SBR 1956:7	SLC 122-0	mm, CT, Aa, S ^F
1956	A 2654				SLC 122-19	mm, CT
1956	4730	590810		SBR 1956:7	SLC 122ms	mm, CT, cms
1968	182021	590740			SLC 133(7406)	mm, CT, rr
1968	182022				SLC 133(7409)	mm, CT, Erw, rr
1960	A 2663			SBR 1960:9	SLC 133(7401)	mm, CT, rr
1960	W6 17104			SBR 1960:10	SLC 133ms(7121)	mm, CT, cms, rr
1957				SBR 1957:5	SLC 34(5052)	mm, CT, S ^S
1957	183495	590748		SBR 1957:5	SLC 35	mm, CT, S ^S , Erw
1957				SBR 1957:5	SLC 35ms(9333)	mm, CT, cms
1957				SBR 1957:6	SLC 36-0	mm, CT, Aa, S ^S
1957				SBR 1957:6	SLC 123	mm, CT, S ^F
1957				SBR 1957:6	SLC 124	mm, LS, S ^F
1957	182011	590734			SLC 125(8506)	mm, CT, S ^F
1957				SBR 1957:6	SLC 125-0	mm, CT, Aa, S ^F
1957				SBR 1957:6	SLC 125ms	mm, CT, (F ₁ of SLC125)
1958	182012	590735			SLC 126(6573)	
1958	182013	590736		SBR 1958:9	SLC 127(6576)	mm, CT, S ^F , O-type, rr
1958	182014	590859		SBR 1958:8	SLC 128(0534)	mm, CT, S ^F , O-type, RR
1958	182015	590860			SLC 128cms(9147)	mm, CT, cms
1968	182016	590861		SBR 1960:9	SLC 129 (1523)	mm, CT, Aa, Erw, rr
1959				SBR 1960:9	SLC 129-0	mm, CT, Aa, O-type, rr
1968	182017	590862		SBR 1960:9	SLC 129cms(0166)	mm, CT, cms
1958				SBR 1958:7	SLC 340	MM, CT, 4n, S ^S
1958				SBR 1958:7	SLC 342	MM, CT, 4n, S ^S
1957				SRB 1957:5	CT5	MM, CT, Aa, S ^F
1958	W6 17106			SBR 1958:8	CT5aa	MM, CT, Aa
1958	A 2644				CT5mm	mm, CT
1961	A 2650 &	A 2649		SBR 1961:8	CT5(BC ₂)	mm, CT, O-type, rr
1960	A 2651			SBR 1960:8	CT5A-0	MM, CT, Aa, O-type, S ^F , rr
1961	4731	590587			CT5B	mm, CT, Aa
1961				SBR 1961:8	CT5(BC ₂)ms	mm, CT, rr, CMS
1958	4726	590585		ASSBT 10:525-543	CT7(SL5070 + 0)	MM, CT, Aa, S ^F
1961	182010	590733		ASSBT 10:525-543	CT8 (7827)(L8)	CT, Hsugar
1959	4722	590807		ASSBT 4:246-252	CT9	MM, CT, S ^F
1961	4723	590808		ASSBT 7:26-30	CT9ms	MM, CT, cms
1961	A 2648			SBR 1959:8	CT9A	MM, CT, RR
1959	A 2653			SBR 1959:7	SLC 91	mm, CT, 4n, O-type, S ^F
1959				SBR 1959:7	SLC 91ms	mm, CT, 4n, cms
1960				SBR 1960:7	SLC S-23	mm, LS, S ^F , rr
1960	W6 17105			SBR 1960:8	SLC 0410	MM, CT, Aa, (from US 201B), S ^S
1961	182018	590737			SLC 130(0506)	
1961	182019	590738			SLC 131(0206)	Erw
1961	182020	590739		SBR 1961:8	SLC 132	mm, CT, VY, Erw, rr
1961	4732				SLC 742	Tracy 2769, (CT susceptible check)
1961	4733	590588			Klein E	
1961	4734	590589			SLC 9470	BB, Munerati

Table 2. (Continued)

SALT LAKE CITY RELEASES (Continued)							
YEAR	NSSL REL	CODE	PI No	CROP SCI REG NO	CITATION	CODE	DESCRIPTION
1961					SBR 1961:7	SLC 14500	mm, BB, O-type
1961					SBR 1961:8	SLC 14500HO	mm, BB, cms
1978	29900				ASSBT 6:156-159	SLC 101	original monogerm from Oregon field in 1948
SALINAS RELEASES							
PARENT LINES							
1968	142000		590847	PL 1	CS 11:946-947	C562(0562)	mm, CT, NB, DM, S ^F , O-type, rr
1968	142001		590848	PL 2	CS 11:946-947	C562cms	mm, CT, NB, DM, cms
1968	98153		590648	PL 3	CS 11:946-947	C569	mm, CT, NB, DM, S ^F , O-type
1958					SBR, 1968:9	C8569HO	mm, CT, NB, DM, cms
1968	98155		590649	PL 4	CS 11:946-947	C546	mm, CT, NB, DM, Erw, S ^F , rr
1968	98144		590642	PL 5	CS 11:946-947	C13	MM, CT, VY, NB, DM, S ^S , rr
1971	98162		590654	PL 6	CS 11:946-947	C17	MM, CT, VY, NB, DM, S ^S , rr
1976	98145		590813	PL 10	CS 17:678	C563	mm, CT, NB, DM, S ^F , O-type, rr
1976	98147		590814	PL 11	CS 17:678	C563cms	mm, CT, NB, DM, cms
1976	98151		590647	PL 12	CS 17:678	C551	mm, CT, NB, DM, S ^F , O-type
1977	103055		590682	PL 13	CS 18:920	C36	MM, CT, VY, NB, DM, Erw, S ^S , rr
1977	103054		590681	PL 14	CS 18:920	C02	MM, CT, VY, NB, Erw, S ^S , rr
1980	162333		590857	PL 17	CS 22:454	C566	mm, CT, Fus, NB, S ^F , O-Type
1980	162334		590858	PL 18	CS 22:454	C566cms	mm, CT, Fus, NB, cms
1982						C566aa	mm, CT, Fus, NB, Aa, S ^F , O-type
1981	142027		590715	PL 23	CS 25:375	C37	MM, CT, VY, NB, DM, Erw, S ^S , rr
1982	188581		590757	PL 24	CS 25:376	C46	MM, CT, VY, NB, DM, Erw, PM, S ^S , Rr
1988	220742		590800			C46/2	MM, CT, VY, NB, DM, Erw, PM, S ^S , Rr
1985			512298	PL 25	CS 28:581	C309	mm, CT, VY, lettuce infectious yellows, Erw, DM, Aa, S ^F , O-type, Rr,
1985			512299	PL 26	CS 28:581	C309cms	mm, CT, VY, lettuce infectious yellows, Erw, cms, Rr
1994			560130	PL 33	CS 34:319	C762-17	mm, CT, VY, lettuce infectious yellows, NB, PM, Aa, S ^F , O-type, rr
1992			564757	PL 34	CS 34:319-320	C790-6	mm, CT, VY, NB, PM, Aa, S ^F , O-type, Rr
1992			564758	PL 35	CS 34:319-320	C790-15	mm, CT, VY, NB, PM, Aa, S ^F , O-type, Rr
1992			564759	PL 36	CS 34:319-320	C790-54	mm, CT, VY, NB, PM, Aa, S ^F , O-type, RR
GERMPLASM							
pre-1956					ASSBT 13:555-562	C361	MM, CT, NB, O-type, S ^S
pre-1956					ASSBT 13:555-562	C361HO	MM, CT, NB, cms
pre-1956					ASSBT 13:555-562	C66 (C366)	MM, CT, NB, Hsugar
pre-1956						C78	
pre-1956						C79	

Table 2. (Continued)

SALINAS RELEASES (Continued)					
GERMPLASM (Continued)					
YEAR REL	NSSL CODE	PI No	CROP SCI REG NO CITATION	CODE	DESCRIPTION
1954			ASSBT 8:88-89	C3504	MM, CT, NB, DM, S ^F
1954	98146	590643	ASSBT 11:500-506	NB1 (C502)	MM, CT, NB, DM, S ^F , O-type, rr
1954	103026	590676		NB1 (S20)	MM, CT, NB, DM, S ^F , O-type, (selfed 20 generations)
1988	206294		ASSBT 13:555-562	NB1 (C502)	MM, CT, NB, DM, S ^F , O-type, rr
1960	141995		ASSBT 13:555-562	NB1cms	MM, CT, NB, cms
1988	206291	590792	ASSBT 13:555-562	NB1cms	MM, CT, NB, cms
1960			ASSBT 13:555-562	NB2 (C511)	MM, CT, NB, DM, S ^F , O-type
1960	98143	590641	ASSBT 13:555-562	NB3 (C509)	MM, CT, NB, DM, S ^F
1960	98148	590644	ASSBT 13:555-562	NB4 (C554)	MM, CT, NB, DM, S ^F , O-type
1988	206296		ASSBT 13:555-562	NB4 (C554)	MM, CT, NB, DM, S ^F , O-type
1985	193633		ASSBT 11:500-506	NB1 X NB4	MM, CT, NB, cms
1986	206295		ASSBT 11:500-506	NB1 X NB4	MM, CT, NB, cms
1964	98149	590645	ASSBT 13:555-562	NB5 (C547)	MM, CT, NB, DM, S ^F , O-type
1964	98150	590646	ASSBT 13:555-562	NB7 (C539)	MM, CT, NB, DM, S ^F
1956			SBR 1956:7	C6554M1	MM, CT, NB, Aa, (C366aa x NB4)
1956			SBR 1956:8	C6554M2	MM, CT, NB, DM, Aa, (US75aa x NB4)
1956			SBR 1956:8	C688M	MM, CT, NB, Aa of US75
1956			ASSBT 13:555-562	C681M	MM, CT, NB, Aa of C366
1956			ASSBT 13:555-562	C586	MM, CT, NB, S ^S
1956			ASSBT 13:555-562	C585HO	MM, CT, NB, cms
1956			ASSBT 13:555-562	C585	MM, CT, NB
1956			ASSBT 13:555-562	C671	MM, CT, NB, S ^S , O-type
1957			ASSBT 13:555-562	C7507	mm, NB, S ^F , [S4 from (US22/3 x SLC101mm)]
1957			SBR 1957:7	C7507HO	mm, NB, cms
1957			SBR 1957:8	C7507H1	mm, NB, cms, (F1 of C7515 X C7507)
1957			ASSBT 13:555-562	C7515 (C515)	mm, CT, NB, O-type, (S5 from NB1 X SLC101mm)
1957			ASSBT 13:555-562	C7515HO	mm, NB, cms
1957			ASSBT 13:555-562	C7508	MM, CT, NB, PM, O-type, S ^F
1957			ASSBT 13:555-562	C7508HO	MM, CT, NB, PM, cms
1957			ASSBT 13:555-562	C787	MM, CT, NB, S ^S
1958			SBR 1958:9	C8507rr	mm, NB, (rr of C7507)
1958			SBR 1958:9	C8507cms rr	mm, NB, cms, (rr of C7507)
1958			ASSBT 13:555-562	C884	MM, LS, NB, S ^S
1959			ASSBT 13:555-562	C9561 (C561)	mm, CT, NB, DM, S ^F , O-type
1959			ASSBT 13:555-562	C9561HO	mm, CT, NB, cms
1959			SBR 1959:9	C9561H1	mm, CT, NB, cms, (F1 of C7515 X C9561)
1959			ASSBT 13:555-562	C951	MM, NB, O-type from C366
1959			ASSBT 13:555-562	C952	MM, CT, NB, S ^S , O-type, (from US 15)
1959			ASSBT 13:555-562	C953	MM, O-type from Klein E
1981	141994			043	MM, O-type from Klein E

Table 2. (Continued)

SALINAS RELEASES (Continued)						
<i>GERMPLASM (Continued)</i>						
YEAR	NSSL	CROP SCI		CITATION	CODE	DESCRIPTION
REL	CODE	PI No	REG NO			
1959				SBR 1959:9	C955	mm, CT, NB, S ^S
1960				SBR 1960:10	C0562H1	mm, CT, NB, cms, (F1 of 515 x C062)
1960				ASSBT 13:555-562	C663(C63)	MM, CT, NB, DM, Hsugar, S ^S
1961	142014	590713		SBR 1961:9	C163T (063T)	MM, CT, NB, 4n of C663
1962				SBR 1962: 8	C2563H1	mm, CT, NB, cms of (569 x C2563)
1962				ASSBT 13:555-562	C264 (C64)	MM, CT, NB, S ^S
1962				ASSBT 13:555-562	C2549	mm, CT, NB, S ^F
1963				ASSBT 13:555-562	C3550 (C550)	mm, CT, NB, O-type, S ^F
1963				ASSBT 13:555-562	C3550HO	mm, CT, NB, cms
1963				SBR 1963:9	C3550H1	mm, CT, NB, cms, (F1 of 563HO x C3550)
1963				ASSBT 13:555-562	C3505	mm, CT, NB, O-type, S ^F
1963				ASSBT 13:555-562	C330 (C30)	MM, VY, S ^S
1963				SBR 1963:9	C3425T	MM, CT, NB, 4n of (663 x NB7)
1964				ASSBT 13:555-562	C3534 (C534)	mm, CT, NB, O-type, S ^F
1964				ASSBT 13:555-562	C3534H4	mm, CT, NB, cms of (563HO x C3534)
1964				SBR 1964:8	C3539T	MM, CT, NB, 4n of NB7
1965				SBR 1965:7	C4633	mm, CT, NB, O-type
1965				SBR 1965:8	C4742 (C742)	MM, VY, S ^F
1965				SRB 1965:7	C5564 (C564)	mm, CT, NB, O-type
1966				SBR 1966:7	C5564HO	mm, CT, NB, cms
1981	142005				C564aa(1564AA)	mm, CT, NB, Aa, S ^F
1966				SBR 1966:7	C685T	MM, 4n, O-type, S ^S
1966				SBR 1966:7	C685TH0	MM 4n, cms
1966				SBR 1966:7	C534 (C03)	MM, VY, NB, S ^S
1967				SBR 1967:8	C613	MM, VY, NB, S ^S
1967				SBR 1967:9	C630T	MM, VY, NB, 4n, S ^S
1967				SBR 1967:9	C786T	MM, NB, Hsugar, 4n, S ^S
1967				SBR 1967:9	C7601	mm, CT, NB, S ^F
1967				SBR 1967:9	C7760	MM, CT, VY, NB, S ^F
1968				SBR 1968:A2	C713T	MM, CT, VY, 4n, S ^S
1968				SBR 1968:A2	C8535	mm, CT, S ^F
1969				SBR 1969:A1	C813 (C17)	MM, CT, VY, NB, S ^S
1971					C565	mm, CT, NB, O-type, S ^F
1971					C565cms	mm, CT, NB, cms
1976					C23	MM, CT, NB, Erw, S ^S
1976	103060	590831			Y18 (C18)	MM, VY, O-type, S ^S
1976	103061	590832			Y18cms	MM, VY, cms
1976	103063				Y20 (C20)	MM, VY, O-type, S ^S
1976	103059	590834			Y20cms	MM, VY, cms
1976	103024	590674			Y45 (C45)	MM, VY, PM, S ^S , (from The Netherlands)

Table 2. (Continued)

SALINAS RELEASES (Continued)						
<i>GERMPLASM (Continued)</i>						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1976	98156	590817	GP 3	CS 17:677-678	C85	MM, CT, NB, O-type, S ^S
1976	98157	590818	GP 4	CS 17:677-678	C85cms	MM, CT, NB, cms
1976	98161	590653	GP 5	CS 17:677-678	C321 (C21)	MM, CT, NB, composite, O-type, S ^S
1976			GP 6	CS 17:677-678	C17T	MM, CT, VY, NB, 4n, S ^S
1976	98152	590815	GP 7	CS 17:677-678	C522	mm, CT, NB, O-type, S ^F
1976	98154	590816	GP 8	CS 17:677-678	C522cms	mm, CT, NB, cms
1976			GP 9	CS 17:677-678	C536	mm, CT, NB, O-type, S ^F
1976			GP 10	CS 17:677-678	C536cms	mm, CT, NB, cms
1977	103070	590688	GP 17	CS 18:1099-1100	C773	MM, CT, VY, NB, Aa, S ^F , Rr
1977	103069	590835	GP 18	CS 18:1099-1100	C789	mm, CT, VY, NB, Aa, O-type, S ^F , Rr
1977	103068	590836	GP 19	CS 18:1099-1100	C789cms	mm, CT, VY, NB, cms, Rr
1977	103050	590679	GP 20	CS 18:1100-1101	C01	MM, VY, S ^S
1977	103065	590685	GP 21	CS 18:1100-1101	C31	MM, VY, NB, Erw, S ^S
1982					C31/4	MM, VY, NB, Erw, PM, S ^S
1984	188582	590758			C31/5 (C031/5)	MM, VY, NB, Erw, S ^S
1988	220740	590799			C31/6	MM, VY, NB, Erw, PM, S ^S , Rr
1977	103062	590683	GP 22	CS 18:1100-1101	C04	MM, VY, NB, S ^S
1977	103064	590684	GP 23	CS 18:1100-1101	C22	MM, CT, VY, NB, S ^S
1977			GP 24	CS 18:1100-1101	C10	MM, VY, NB, O-type, S ^S
1977	142021	590849	GP 25	CS 18:1100-1101	C718	mm, CT, NB, O-type, S ^F , rr
1977	142022	590850	GP 26	CS 18:1100-1101	C718cms	mm, CT, NB, cms, rr
1977			GP 27	CS 18:1100-1101	C705	mm, CT, VY, NB, O-type, S ^F , RR
1977			GP 28	CS 18:1100-1101	C705cms	mm, CT, VY, NB, cms, RR
1977	103071	590829	GP 29	CS 18:1100-1101	C706	mm, CT, VY, NB, O-type, S ^F
1977	103052	590830	GP 30	CS 18:1100-1101	C706cms	mm, CT, VY, NB, cms
1978	98158	590650			S303	mm, CT, 4n, S ^F
1978	98159	590651			0834 (C534)	VY, NB, (from The Netherlands)
1978	98160	590652			8420	4n, (Janasz from Poland)
1979	103028				8563 (S ₁₄)	mm, CT, NB, S ^F (selfed 14 generations)
1979	103066	590686			0740	mm, CT, Aa, O-type, S ^F , composite
1979	103067	590687			0741	mm, CT, Aa, O-type, S ^F , composite
1981					C547-S ₁₉	MM, CT, NB, O-type, S ^F , (selfed 19 generations)
1981	141999			CALIF AGR,18:2-4	C547cms	MM, CT, NB, cms, (21st backcross)
1981		590723			C554-S ₁₆	MM, Fus, NB, S ^F , (selfed 16 generations)
1981					C512-S ₁₅	MM, CT, NB, S ^F , (selfed 15 generations)

Table 2. (Continued)

SALINAS RELEASES (Continued)						
GERMPLASM (Continued)						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1981					C503-S ₁₈	MM, NB, DM, S ^F , (selfed 18 generations)
1981					C542	mm, S ^S , Swiss Chard
1981	141996	590709		ASSBT 13:555-562	C8503 (S ₁₈) ⁽¹⁵⁰³⁾	MM, NB, DM, (inbred of 0503), (selfed 18 generations)
1958	141997				C8503HO	MM, NB, DM, cms
1981	141998			ASSBT 8:241-246	0533	MM, (susceptible to alternaria leaf spot)
1981				ASSBT 13:555-562	C7569 (C569)	mm, CT, NB, O-type, S ^F
1981	142002			ASSBT 13:555-562	C8569HO	mm, CT, NB, cms of C569
1981	142006				C566aa (1566AA)	mm, CT, NB, Fus, Aa, S ^F
1981	142007				044 (C44)	VY, hybrid of [330(California) x 234(The Netherlands)]
1981	142008				051	MM, NB, O-type, S ^S
1981	142009				055	mm, CT, NB, S ^S
1981	142010				056	mm, S ^S
1981	142011	590710			039	CT, NB, 4n
1981	142012	590711			052T	MM, NB, 4n, O-type, (from US15)
1981	142013	590712			086T	MM, NB, 4n, Hsugar, (from US35/2)
1981	142015	590714			1401	MM, CT, NB, 4n of NB1, O-type
1981	142016				0405	MM, CT, NB, 4n, hybrid of (Janasz x NB1)
1981	142034				749-1	mm, VY, Aa, S ^F , composite
1981	142035				749-2	mm, VY, Aa, S ^F , composite
1981	142036				749-3	mm, VY, Aa, S ^F , composite
1981	142037				750-1	mm, VY, Aa, S ^F , composite
1981	142038				750-2	mm, VY, Aa, S ^F , composite
1981	142039				750-3	mm, VY, Aa, S ^F , composite
1981	142040				750-4	mm, VY, Aa, S ^F , composite
1981	142026				717 (C717)	MM, CT, VY, NB, DM, BM, S ^F
1982	188585	590761			C719	MM, CT, VY, NB, PM, BM, Erw, S ^F , rr
1982	188583	590759			C015 (C15)	MM, CT, VY, NB, PM, S ^S , (from US15)
1982					C41aa	mm, Aa, red flesh, (Detroit Dark Red)
1982	590676		GP 66	CS 22:698	C502-S ₂₅	MM, CT, NB, O-type, S ^F , rr, (selfed 25 generations)
1982	142004		GP 67	CS 22:698	C502aa(1502AA)	MM, Aa, S ^F
1982	142003		GP 68	CS 22:698	C512 (NB6)	MM, CT, NB, DM, S ^F , (selfed 15 generations)
1982	162335	590723	GP 69	CS 22:698	C554 (NB4)	MM, CT, NB, Fus, S ^F , (selfed 16 generations)
1981	142028	590716	GP 73	CS 22:900-901	C42	MM, CT, VY, NB, Erw, PM, S ^S
1978	103053	590680	GP 74	CS 22:900-901	C43	MM, CT, VY, NB, Erw, BM, S ^S , rr
1978	103025	590675	GP 75	CS 22:900-901	C32	MM, VY, BM, S ^S , Rr

Table 2. (Continued)

SALINAS RELEASES (Continued)						
GERMPLASM (Continued)						
YEAR REL	NSSL CODE	PI No	CROP SCI		CODE	DESCRIPTION
			REG NO	CITATION		
1978	103057	590825	GP 76	CS 22:900-901	C16 (Y17)	MM, VY, O-type, S ^S , rr
1978	103056	590826	GP 77	CS 22:900-901	C16cms	MM, VY, cms, rr
1978	103045	590827	GP 78	CS 22:900-901	C19 (Y19)	MM, VY, NB, O-type, S ^S
1978	103058	590828	GP 79	CS 22:900-901	C19cms	MM, VY, NB, cms
1981	142029	590853	GP 80	CS 22:900-901	C758	mm, CT, VY, NB, O-type, S ^F
1981	142030	590854	GP 81	CS 22:900-901	C758cms	mm, CT, VY, NB, cms
1978	142023	590851	GP 82	CS 22:900-901	C779	mm, CT, VY, NB, PM, O-type, S ^F , rr
1978	142024	590852	GP 83	CS 22:900-901	C779cms	mm, CT, VY, NB, PM, cms
1983	185474	590751	GP 88	CS 24:830	C35-1	MM, CT, VY, NB, Erw, PM, S ^S , rr
1983	185475	590752	GP 89	CS 24:830	C35-2	MM, CT, VY, NB, Erw, PM, S ^S
1983	185476	590753	GP 90	CS 24:830	C40	MM, CT, VY, S ^S , rr, (Erw susceptible check)
1984	188584	590760			Y26	MM, CT, VY, NB, Erw, PM, S ^S , (from US56/2)
1984	188586	590762			0747	MM, CT, VY, NB, Erw, Aa, S ^F
1984	188587	590865			0743	mm, CT, VY, NB, Erw, Aa, O-type, S ^F , Rr
1984	188588	590866			0743cms	mm, CT, VY, NB, Erw, cms, Rr
1984	188593				70026PL	MM, RZ, from Italy, S ^S , (Alba)
1984	188594				64308PL	MM, RZ, from Italy, S ^S , (Alba)
1985	220747	590804			C91 (Y41)	MM, CT, VY, NB, Erw, PM, S ^S , Rr
1985	220748	590805			C92 (Y52)	MM, CT, VY, NB, Erw, PM, S ^S , Rr
1982	142031	590717	GP 102	CS 27:371-372	C301	mm, Aa, lettuce infectious yellows, O-type, S ^F , RR
1982	142032			CS 27:371-372	C301cms	mm, lettuce infectious yellows, cms, RR
1984	206265	590779	GP 103	CS 27:371-372	C302	mm, CT, Aa, O-type, S ^F , Rr
1984				CS 27:371-372	C302cms	mm, CT, cms
1984	206266	590780	GP 104	CS 27:371-372	C303	mm, CT, lettuce infectious yellows, Aa, RR
1984				CS 27:371-372	C303cms	mm, CT, lettuce infectious yellows, cms
1984	206267	590781	GP 105	CS 27:371-372	C304	mm, CT, Aa, O-type, RR
1984				CS 27:371-372	C304cms	mm, CT, cms
1984	206268	590782	GP 106	CS 27:371-372	C305	mm, CT, Aa, Hsugar, O-type, S ^F , RR
1984				CS 27:371-372	C305cms	mm, CT, Hsugar, cms
1984	188589	590867	GP 107	CS 27:371-372	C306	mm, CT, Aa, lettuce infectious yellows, O-type, S ^F , Rr
1984	188590	590868		CS 27:371-372	C306cms	mm, CT, lettuce infectious yellows, cms
1984	188591	590869	GP 108	CS 27:371-372	C307	mm, CT, Aa, O-type, S ^F , Rr

Table 2. (Continued)

SALINAS RELEASES (Continued)						
GERMPLASM (Continued)						
YEAR REL	NSSL CODE	PI No	CROP REG NO	SCI CITATION	CODE	DESCRIPTION
1984	188592	590870		CS 27:371-372	C307cms	mm, CT, cms
1984	206269	590783	GP 109	CS 27:371-372	C308	mm, CT, Aa, O-type, S ^F , RR
1984				CS 27:371-372	C308cms	mm, CT, cms, RR
1984	206277	590784	GP 110	CS 27:371-372	C790-2	mm, Aa, O-type, S ^F , rr
1984	206279	590786	GP 111	CS 27:371-372	C790-41	mm, Aa, O-type, S ^F , Rr
1984	206280	590787	GP 112	CS 27:371-372	C790-42	mm, Aa, O-type, S ^F , Rr
1984	206281	590788	GP 113	CS 27:371-372	C790-55	mm, Aa, O-type, S ^F , Rr
1984	206282	590789	GP 114	CS 27:371-372	C790-65	mm, Aa, O-type, S ^F , rr
1984	206283	590790	GP 115	CS 27:371-372	C790-68	mm, Aa, O-type, S ^F , RR
1985	206278	590785	GP 116	CS 27:371-372	C790-25	mm, O-type, S ^F , rr
1985				CS 27:371-372	C790-25cms	mm, cms, rr
1985	206284	590875	GP 117	CS 27:371-372	C790-69	mm, O-type, S ^F , rr
1985				CS 27:371-372	C790-69cms	mm, cms, rr
1984	206287	590877	GP 118	CS 27:371-372	C796-22	mm, CT, VY, NB, Aa, O-type, S ^F
1984	206288	590878		CS 27:371-372	C796-22cms	mm, CT, VY, NB, cms
1986		515962				
			GP 122	CS 28:873-874	C310 (C5)	mm, CT, NB, Erw, PM, Aa, lettuce infectious yellows, S ^F , Rr
1986	206273				C310(C5)cms	mm, CT, Erw, PM, cms
1986	206274	590873			C310(C6)	mm, improved sugar and disease resistance
1986	206275	590874			C310(C6)cms	mm, cms
1986	206290	590791			F ₂ (Y54rr X B. maritima)	Sugarbeet x 59 accessions of B. maritima
1986		515963	GP 123	CS 28:873-874	C789/2	mm, CT, VY, NB, Erw, O-type, S ^F , Rr
1984		515964	GP 124	CS 28:873-874	C790	mm, NB, Aa, O-type, multiple disease resistance, S ^F , Rr
1984	206285	590876		CS 28:873-874	C790cms	mm, NB, multiple disease resistance, cms, Rr
1984		515965	GP 125	CS 28:873-875	C796	mm, NB, Aa, O-type, multiple disease resistance, S ^F , rr
1984	206289			CS 28:873-874	C796cms	mm, NB, multiple disease resistance, cms, rr
1988		520748	GP 129	CS 29:246	C600cms	MM, BB (doubled haploid), CT, NB, cms, rr
1965	230806	590806		ASSBT 14:75-78	C5600	MM, BB (doubled haploid), CT, NB, O-type, S ^F , rr
1979	103031			ASSBT 14:75-78	8600 (C5600)	MM, BB (doubled haploid), CT, NB, O-type, S ^F , rr
1988	220743	590801			C49	MM, CT, VY, NB, Erw, PM, S ^S , Rr
1990		565281			C49/2	MM, CT, VY, NB, Erw, PM, S ^S
1988	220745	590802			C54	MM, CT, VY, NB, Erw, PM, S ^S , Rr
1993		565282			C54/2 (Y54)	MM, CT, VY, NB, Erw, PM, S ^S
1988	220738	590797			C11T	MM, NB, Erw, PM, 4n, S ^S

Table 2. (Continued)

SALINAS RELEASES (Continued)					
GERMPLASM (Continued)					
YEAR REL	NSSL CODE	PI No	CROP REG NO	SCI CITATION	CODE DESCRIPTION
1988	220739	590798			C12T MM, NB, Erw, Hsugar, 4n, S ^S
1988	220746	590803			C70 Mm, VY, RZ(Rz) (from Holly), S ^F S ^S
1988					C311 mm, CT, NB, Erw, PM, Aa, RZ(Rz) (from Holly), S ^F
1989		538250	GP 132	CS 31:244-245	C28 MM, RZ, S ^S , (from PI 206407, chard like plant)
1991		560135	GP 138	CS 32:1297	C31-43 MM, VY, NB, Erw, PM, S ^S
1991		560136	GP 139	CS 32:1297	C31-89 MM, VY, NB, Erw, PM, S ^S
1988		538251	GP 140	CS 33:882-883	C48 MM, RZ (from <i>B. maritima</i>), Erw, S ^S
1988		564243	GP 141	CS 33:882-883	C50 MM, RZ (from <i>B. maritima</i>), S ^S
1989		560341	GP 142	CS 33:882-883	C58 MM, VY, Erw, PM, RZ (from <i>B. maritima</i>), S ^S , Rr
1992		565285	GP 147	CS 35:289-290	C859 Mm, CT, NB, RZ(Rz), Aa, O-type, S ^F , Rr
1989					C766-23 mm, Aa, O-type, S ^F , RR
1989					C313 mm, Aa, PM, lettuce infectious yellows, S ^F
1989					C790-92 mm, S ^F , rr
1989					C742-24 mm, Aa, O-type, S ^F , Rr
1988		583373	GP 150	CS 35:596-597	C39 MM, CT, VY, NB, Erw, PM, RZ(quantitative), S ^S , Rr
1988		560336	GP 151	CS 35:596-597	C39/R4 MM, CT, VY, NB, Erw, PM, RZ(quantitative), S ^S , Rr
1988		560337	GP 152	CS 35:596-597	C39/R4-6 MM, CT, VY, NB, Erw, PM, RZ(quantitative), S ^S , Rr
1992		560342	GP 153	CS 35:596-597	C47 MM, CT, VY, NB, Erw, PM, S ^S , Rr
1991		560131			C796-43 mm, CT, VY, NB, Erw, Aa, O-type, S ^F , rr
1991		560132			C767-46 mm, CT, VY, NB, Erw, O-type, S ^F , rr
1991		560133			C766-62 mm, CT, VY, NB, Erw, Aa, S ^F , rr
1991		560134			C312 mm, lettuce infectious yellows, Aa, S ^F , Rr
1992		560338	GP 154	CS 35:596-597	C47R MM, VY, Erw, PM, RZ(quantitative), S ^S , Rr
1992		560339	GP 155	CS 35:596-597	C93 MM, VY, Erw, PM, S ^S , Rr
1989		560340	GP 156	CS 35:596-597	C94 MM, Rhizoc, RZ(quantitative), S ^S , Rr
1992					C859cms Mm, CT, Fus, RZ(Rz), cms, Rr
1993		578079			C918 MM, Aa, S ^F , composite, RZ(Rz)
1993					C890 mm, Aa, S ^F , composite, RZ(Rz)
1993		578086			C76-43 MM, VY, NB, Erw, PM, RZ(Rz), S ^S
1993		578087			C76-89 MM, VY, NB, Erw, PM, RZ(Rz), S ^S

Table 2. (Continued)

SALINAS RELEASES (Continued)						
GERMPLASM (Continued)						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1993		578080			C909-34	MM, CT, NB, Erw, PM, RZ(Rz), S ^F
1993		578081			C909-37	MM, CT, NB, Erw, PM, RZ(Rz), S ^F
1993		578082			C911-4	Mm, CT, NB, Erw, PM, RZ(Rz), S ^F
1993		578083			C911-12	MM, CT, NB, Erw, PM, RZ(Rz), S ^F
1993		578084			C911-14	MM, CT, NB, Erw, PM, RZ(Rz), S ^F
1993		578085			C911-50	MM, CT, NB, Erw, PM, RZ(Rz), S ^F
1994					C78	MM, CT, VY, NB, Erw, PM, RZ(Rz), S ^S , Rr
1994					C80NB	MM, VY, NB, Erw, PM, RZ(Rz), S ^S , Rr
1994					C80	MM, VY, NB, Erw, RZ(Rz), S ^S , Rr
1994					C80-45	MM, VY, NB, Erw, RZ(Rz), S ^S , Rr
1994					C82	MM, VY, NB, Erw, RZ(Rz), S ^S , Rr
1995					C78/2	MM, CT, VY, NB, Erw, PM, RZ(Rz), S ^S
1995					C76-43-14	MM, VY, NB, RZ(Rz), S ^S
1995					C76-43-15	MM, VY, NB, Erw, PM, RZ(Rz), S ^S
1995					C76-89-5	MM, VY, NB, Erw, PM, RZ(Rz), S ^S
1995					C76-89-18	MM, VY, NB, Erw, PM, S ^S
1994					C79-1	MM, RZ(Rz) (Holly), S ^S , (in C37 background)
1994					C79-2	MM, RZ (WB 41), S ^S , (in C37 background)
1994					C79-3	MM, RZ (WB42), S ^S , (in C37 background)
1994					C79-4	MM, RZ (PI 206407), S ^S , (in C37 background)
1994					C79-5	MM, RZ (weed beet), S ^S , (in C37 background)
1994					C79-6	MM, RZ (Italy Sugarbeet), S ^S , (in C37 background)
1994					C79-7	MM, RZ (SES), S ^S , (in C37 background)
1994					C79-8	MM, RZ (<i>Beta maritima</i>), S ^S , (in C37 background)
1994					C79-9	MM, RZ (WB 151), S ^S , (in C37 background)

Table 2. (Continued)

SALINAS RELEASES (Continued)						
GERMPLASM (Continued)						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1994					C79-10	MM, RZ (WB 169), S ^S , (in C37 background)
1994					C79-11	MM, RZ (WB 258), S ^S , (in C37 background)
1995					C890-1	mm, RZ(Rz), Aa, O-type, S ^F , (in C790 background)
1995					C890-2/3	mm, RZ (WB 41/WB 42), Aa, S ^F , (in C790 background)
1995					C890-4	mm, RZ (PI 206407), Aa, S ^F , (in C790 background)
1995					C890-5	mm, RZ (weed beet), Aa, S ^F , (in C790 background)
1995					C890-6/7	mm, RZ (Italy,SES sugarbeet), Aa, S ^F , (in C790 background)
1995					C890-8	mm, RZ (<i>Beta maritima</i>), Aa, S ^F , (in C790 background)
1995					C890-9	mm, RZ (WB 151), Aa, S ^F , (in C790 background)
1995					C890-10/11	mm, RZ (WB 169, WB 258), Aa, S ^F , (in C790 background)
NEMATODE RESISTANCE RELEASES						
1958				ASSBT 13:555-562	C8503	MM, DM, nema tolerant
1958				SBR 1958:10	C8503HO	MM, DM, nema tolerant, cms
1963				SBR 1963:9	033-1	MM, nema tolerant, (C. Price)
1963				SBR 1963:9	019	MM, nema tolerant, (C. Price)
1963				SBR 1963:9	060-3	MM, nema tolerant, (C. Price)
1964				SBR 1964:9	010-7	MM, nema tolerant, (C. Price)
1964				SBR 1964:9	C057-15	MM, nema tolerant, (C. Price)
1966				SBR 1966:7	590-1	MM, nema tolerant (C. Price)
1979	103051				5942	nema, (The Netherlands)
1982	206292				N101-3	nema, (H. Savitsky)
1982	206293				N104-5	mm, nema, Aa (H. Savitsky)
1982	206311				NR1,2	nema, B. procumbent type plants, (McFarlane)
1982	176419		GP 86	CS 23:1021	H770	MM, nema, Bb, S ^F
1983					NR	nema, (55465 X 55458)
1983					NR	nema, (55235 X 55255)
1983					NRN7	nema, (55465 X 55458)
1983	206297	590793			NRN1 (NR1)	nema, (H. Savitsky)
1983	206298	590794			NRN2 (NR2)	nema, (H. Savitsky)
1992	565286				B883	MM, nema, S ^F , (homozygous NR from The Netherlands)
1992		578088	GP 159	CS 35:1129-1130	C604	MM, nema, S ^F

Table 2. (Continued)

SALINAS RELEASES (Continued)						
NEMATODE RESISTANCE RELEASES (Continued)						
YEAR	NSSL	CROP SCI		CITATION	CODE	DESCRIPTION
REL	CODE	PI No	REG NO			
1992					C605	MM, nema, S ^F
1992					C606	MM, nema, S ^F
1992					C607	MM, nema, S ^F
1993		565283	GP 157	CS 35:1129-1130	C603	MM, nema, S ^F
1993		565284	GP 158	CS 35:1129-1130	C603-1	MM, nema, S ^F
1994					C608	MM, Aa, nema, RZ(Rz), S ^F , Rr
1994					C609	MM, Aa, nema, RZ(Rz), S ^F , Rr
1995		586688	GP166	CS 36:469	M66	MM, root knot nema, (from WB 66, PI 546387)
1995					Mi-1	MM, root knot nema, (from PI 546426)
LOGAN RELEASES						
1965				SBR 1965:10	L13	mm, CT, O-type
1968	A 2631			SBR 1968:A5	L-3T	MM, CT, LS, Erw, 4n
1968	A 2632			SBR 1968:A5	L-4T	MM, CT, 4n
1968	A 2633			SBR 1968:A6	L-6T	MM, CT, 4n of CT5B
1968	A 2634			SBR 1968:A6	L-8T	MM, CT, Erw, PM, 4n of CT8
1968	A 2635			SBR 1968:A6	L-9T	mm, CT, 4n of CT9
1968	A 2636			SBR 1968:A6	L-9Tcms	mm, CT, 4n of CT9, cms
1968	A 2637			SBR 1968:A6	L-10T	MM, CT, 4n of CT9A
1968	A 2638			SBR 1968:A6	L-11T	MM, CT, 4n of (CT9 x CT5)
1968	A 2639			SBR 1968:A6	L-12T	MM, 4n of 289 (Hsugar line)
1968	A 2640			SBR 1968:A6	L-23T	mm, CT, 4n of SLC122-19
1968				SBR 1968:A6	L-28Tcms	mm, CT, 4n of SLC128cms, cms
1968	A 2641			SBR 1968:A6	L-33T	mm, CT, 4n of SLC133
1968	A 2642			SBR 1968:A6	L-33Tcms	mm, CT, 4n of SLC133cms, cms
1968	A 2643			SBR 1968:A6	L-53T	MM, CT, 4n of L53
1969				SBR 1969:A6	L-13cms	mm, CT, cms
1969	A 2666				AT4101	
1978	106708	590839	GP 31	CS 18:1101	L35	mm, High CT, O-type, S ^F , rr
1978	106709	590840	GP 32	CS 18:1101	L35cms	mm, High CT, cms, rr
1978	106710	590689	GP 33	CS 18:1101	L36	mm, CT, O-type, S ^F , rr
1978	106711	590841	GP 34	cs 18:1101	L53	MM, CT, O-type, S ^F , RR
1978	106712	590842	GP 35	CS 18:1101	L53cms	MM, CT, cms, RR
1978	106713	590690	GP 36	CS 18:1101	L19	MM, CT, Hsugar, S ^F , Rr
1978	106714	590691	GP 37	CS 18:1101	L37	MM, CT, S ^F , rr
1978	106715	590692	GP 38	CS 18:1101	L38	MM, CT, O-type, S ^F , rr
1978			GP 39	CS 18:1101-1102	L60	MM, LS, pollen fertile restorer, S ^F
1978	106716	590693	GP 40	CS 18:1101-1102	L61	mm, CT, pollen fertile restored, S ^F , rr
1981	162388	590725	GP 70	CS 22:698-699	L34	MM, CT, near O-type, S ^F , rr
1981	162389	590726	GP 71	CS 22:698-699	L40	MM, CT, O-type, S ^F
1981	162390	590727	GP 72	CS 22:698-699	L50	mm, CT, near O-type, S ^F , rr
1983	183524	590749			L8	CT, Hsugar

Table 2. (Continued)

FORT COLLINS RELEASES						
PARENT LINES						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1988		518779	PL 27	CS 28:1041-1042	AD-1	MM, Hsugar, S ^S
1988		518780	PL 28	CS 28:1041-1042	AD-2	MM, LS, Hsugar, S ^S
1988		518781	PL 29	CS 28:1041-1042	AD-3	MM, S ^F , Hsugar
1991		558513	PL 30	CS 32:1299	FC401	mm, LS, Rhizoc, O-type, S ^F , Rr
1991				CS 32:1299	FC401cms	mm, LS, Rhizoc, cms, Rr
1991		558514	PL 31	CS 32:1299	FC402	mm, LS, O-type, S ^F , Rr
1991				CS 32:1299	FC402cms	mm, LS, cms, Rr
1991		558515	PL 32	CS 32:1299	FC403	mm, Aphan, Rhizoc, O-type, S ^F
1991				CS 32:1299	FC403cms	mm, Aphan, Rhizoc, cms
GERMPLASM						
1961				SBR 1961:9	FC501	mm, LS, O-type, rr
1963	W6 17122			SBR 1963:11	FC502	mm, LS, O-type, rr
1963				SBR 1963:11	FC502cms	mm, LS, cms, rr
1963	W6 17123			SBR 1963:11	FC503	mm, LS, O-type, RR
1963	W6 17124			SBR 1963:12	FC503cms	mm, LS, cms, RR
1965	W6 17125			SBR 1965:9	FC505	mm, LS, O-type, rr
1965	W6 17126			SBR 1965:10	FC505cms	mm, LS, cms, rr
1965	W6 17127				FC601	
1965	W6 17128				FC601cms	
1965	W6 17131				FC601/1	
1966	W6 17132			SBR 1966:9	FC601/2	mm, CT, LS, Aa, O-type, Rr
1966	W6 17133			SBR 1966:10	FC601/2cms	mm, CT, LS, cms, Rr
1968	98270	590661	GP 1	CS 12:400	FC701	MM, Rhizoc, S ^S , RR
1968	W6 17136			SBR 1968:A3	FC701/2	MM, Rhizoc, S ^S , RR
1968	98271	590662	GP 2	CS 12:400	FC702	MM, Rhizoc, S ^S , Rr
1968				SBR 1968:A3	FC702/2	MM, Rhizoc, S ^S , Rr
1968	W6 17129			SBR 1968:A4	FC602	mm, CT, LS, O-type, rr
1968	W6 17130			SBR 1968:A4	FC602cms	mm, CT, LS, cms, rr
1969	W6 17142			SBR 1969:A4	FC903	MM, CT, LS, NB
1971	W6 17134				FC603	mm, CT, LS, O-type, S ^F , rr
1971	W6 17135				FC603cms	mm, CT, LS, cms, rr
1971	W6 17140				FC801	MM, CT, LS, Rhizoc, RR
1973	W6 17139				FC703/1	MM, Rhizoc, pseudo S ^F , rr
1974	W6 17137				FC701/5	MM, Rhizoc, pseudo S ^F , RR
1974	W6 17138				FC702/5	MM, Rhizoc, pseudo S ^F , Rr
1975	W6 17121				FC101	MM, St Rot
1975	W6 17117				FC102	MM, LS, St Rot
1975					FC103	MM, St Rot, St Resp
1975	W6 17118				FC104	MM, St Rot, St Resp
1975	W6 17119				FC105	MM, St Rot, St Resp, S ^S

Table 2. (Continued)

FORT COLLINS RELEASES						
GERMPLASM						
YEAR	NSSL	CROP SCI			CODE	DESCRIPTION
REL.	CODE	PI No	REG NO	CITATION		
1975	W6 17120				FC106	Mm, St Rot
1975					FC107	mm, St Rot
1976	98272	590663	GP 11	CS 17:678	FC701/4	MM, Rhizoc, S ^S , rr
1976	98273	590664	GP 12	CS 17:678	FC701/4(4x)	MM, Rhizoc, 4n, S ^S
1976	98265	590656	GP 13	CS 17:678	FC703	MM, Rhizoc, S ^S , Rr
1976	98266	590657	GP 14	CS 17:678	FC703(4x)	MM, Rhizoc, 4n, S ^S
1978	98165	590655	GP 41	CS 19:131	FC902	MM, CT, LS, Aa, S ^F
1978	98169	590823	GP 42	CS 19:131	FC504	mm, LS, O-type, rr
1978	98170	590824	GP 43	CS 19:131	FC504cms	mm, LS, cms, rr
1978	98164	590819	GP 44	CS 19:131	FC502/2	mm, LS, O-type, rr
1978	98163	590820	GP 45	CS 19:131	FC502/2cms	mm, LS, CMS, rr
1978		558505	GP 46	CS 19:131	FC506	mm, LS, O-type, rr
1978	98166	GP 47	CS 19:131	FC506cms	mm, LS, cms, rr	
1978		558506	GP 48	CS 19:131-132	FC604	mm, CT, LS, O-type
1978		558507	GP 49	CS 19:131-132	FC604cms	mm, CT, LS, cms
1978	98167	590821	GP 50	CS 19:131-132	FC605	mm, CT, LS, O-type
1978	98168	590822	GP 51	CS 19:131-132	FC605cms	mm, CT, LS, cms
1978	110274	590843	GP 52	CS 19:300	FC606	mm, CT, LS, O-type
1978	110273	590844	GP 53	CS 19:300	FC606cms	mm, CT, LS, CMS
1978	98268	590659	GP 54	CS 19:934-935	FC704	MM, Rhizoc, red flesh, RR
1978	98267	590658	GP 55	CS 19:935	FC702/4	MM, Rhizoc, S ^S , rr
1978	162351	590724	GP 56	CS 19:935	FC702/4(4x)	MM, Rhizoc, 4n, S ^S , Rr
1978	98269	590660	GP 57	CS 19:935	FC705	MM, Rhizoc, S ^S
1978	116207	590701	GP 58	CS 19:935	FC706	MM, Rhizoc, S ^S
1978	116208	590702	GP 59	CS 19:935	FC707	MM, Rhizoc, S ^S
1979	106034	590837	GP 60	CS 20:419	FC607	mm, CT, LS, O-type
1979	106035	590838	GP 61	CS 20:419	FC607cms	mm, CT, LS, cms
1980	116205	590845	GP 63	CS 21:802	FC708	mm, Rhizoc, O-type, S ^F
1980	116206	590846	GP 64	CS 21:802	FC708cms	mm, Rhizoc, cms
1981	117232	590703	GP 65	CS 22:454	FC702/6	MM, LS, Rhizoc, S ^S
1981	162331	590722	GP 84	CS 22:1275-1276	FC703/4	MM, LS, Rhizoc, S ^S , Rr
1982	176212	590729	GP 87	CS 23:601-602	FC711	MM, LS, Rhizoc, S ^S , Rr
1983	185482	590756	GP 91	CS 25:374	FC701/6	MM, LS, Rhizoc, pseudo S ^F , Rr
1983	185481	590755	GP 92	CS 25:374	FC702/7	MM, LS, Rhizoc, pseudo S ^F , Rr
1983	185480	590754	GP 93	CS 25:374	FC705/1	MM, LS, Rhizoc, pseudo S ^F , Rr
1985	194110	590766	GP 97	CS 26:213-214	FC712	MM, LS, Rhizoc, S ^S , Rr
1985	197097	590767	GP 98	CS 26:392	FC606(4x)	mm, CT, LS, 4n, S ^S
1985	197099	590871	GP 99	CS 26:392	FC607(4x)	mm, CT, LS, 4n, S ^S
1985	197098		GP 100	CS 26:392	FC606cms(4x)	mm, CT, LS, 4n, cms
1985	197096	590872	GP 101	CS 26:392	FC607cms(4x)	mm, CT, LS, 4n, cms
1986		506238	GP 119	CS 27:822	FC707(4x)	MM, Rhizoc, 4n, pseudo S ^F , RR
1988		518644	GP 126	CS 28:1039	FC609	mm; LS, O-type, S ^S , Rr
1988		518645	GP 127	CS 28:1039	FC609cms	mm, LS, cms, Rr
1987		518643	GP 128	CS 28:1039	FC709	MM, LS, Rhizoc, pseudo S ^F , Rr
1990		542971	GP 133	CS 31:494	FC710	MM, Rhizoc, pseudo S ^F , Rr

Table 2. (Continued)

FORT COLLINS RELEASES						
GERMPLASM						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1992		574627	GP 143	CS 35:291	FC716	MM, Rhizoc, cms-XZ, Rr
1992		574628	GP 144	CS 35:291	FC717	MM, Rhizoc, Rr
1992		574629	GP 145	CS 35:291	FC718	MM, Rhizoc, Rr
1992		574630	GP 146	CS 35:291	FC719	MM, Rhizoc, Hsugar (Polish), Rr
1992		574625	GP 148	CS 34:290	FC715	mm, LS, Rhizoc, O-type, pseudo S ^F
1992		574626	GP 149	CS 34:290	FC715cms	mm, LS, Rhizoc, cms
1992		584987	GP 164	CS 35:1721	FC404	mm, BB, O-type, S ^F , rr
1992		584988	GP 165	CS 35:1721	FC404cms	mm, BB, cms, rr
1995		591334	GP 167	CS 36:	FC725	MM, LS, Rhizoc, S ^S , Rr
1995		591335	GP 168	CS 36:	FC726	MM, LS, Rhizoc, S ^S
1995		591336	GP 169	CS 36:	FC728	MM, LS, Rhizoc, cms-XZ, S ^S
GENETIC STOCK						
1990		540886	GS-1	CS 31:248-249	Triplo 1	Trisomic for chromosome 1
1990		540887	GS-2	CS 31:248-249	Triplo 2	Trisomic for chromosome 2
1990		540888	GS-3	CS 31:248-249	Triplo 3	Trisomic for chromosome 3
1990		540889	GS-4	CS 31:248-249	Triplo 4	Trisomic for chromosome 4
1990		540890	GS-5	CS 31:248-249	Triplo 5	Trisomic for chromosome 5
1990		540891	GS-6	CS 31:248-249	Triplo 7	Trisomic for chromosome 6
1990		540892	GS-7	CS 31:248-249	Triplo 8	Trisomic for chromosome 7
1990		540893	GS-8	CS 31:248-249	Triplo 9	Trisomic for chromosome 8
1990			GS-9	CS 31:248-249	Triplo 9	Trisomic for chromosome 9
EAST LANSING RELEASES						
PARENTAL LINES						
1977	157299	590855	PL 19	CS 22:700	EL44	mm, CT, O-type
1977	157296	590856	PL 20	CS 22:700	EL44cms	mm, CT, cms
1981	157297	590719	PL 21	CS 22:700	EL40	MM, LS, Aphan, S ^S
1980	157298	590720	PL 22	CS 22:700	EL45/2	mm, CT, O-type
GERMPLASM RELEASES						
1961			SBR 1961:11		EL61B18-0	MM, LS, frost resistant
1961			SBR 1961:11		EL61B28-01	MM, S ^S
1961			SBR 1961:11		EL59B18-01	mm, S ^S
1961			SBR 1961:11		EL61G1-01	mm, LS, Aphan, O-type
1961			SBR 1961:12		EL61G1x02ms	mm, cms

Table 2. (Continued)

EAST LANSING RELEASES (Continued)						
GERMPLASM RELEASES (Continued)						
YEAR	NSSL	CROP SCI				
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1961				SBR 1961:12	EL61G2-01	mm, LS, Aphan, O-type
1961				SBR 1961:12	EL61G2x02ms	mm, cms
1961				SBR 1961:12	EL61G4-01	mm, LS, Aphan, O-type
1961				SBR 1961:12	EL61G4x02ms	mm, cms
1961				SBR 1961:13	EL60B-42	MM, LS, Aphan
1961				SBR 1961:13	EL60EL-80	MM, LS, Aphan, SR
1966	W6 17107			SBR 1966:10	EL33	mm, LS, Aphan, O-type
1966				SBR 1966:10	EL33 C1	mm, LS, Aphan, cms
1966	W6 17108			SBR 1966:11	EL35	mm, LS, Aphan, O-type
1966	W6 17109			SBR 1966:11	EL35 C1	mm, LS, Aphan, cms
1966				SBR 1966:11	EL66B15-0	MM, 4n of 02
1969	W6 17110			SBR 1969:A5	EL36	mm, O-type
1969	W6 17111			SBR 1969:A5	EL36 C2	mm, cms
1969				SBR 1969:A5	EL37	mm, Aphan, O-type
1969				SBR 1969:A6	EL37 C2	mm, Aphan, cms
1971	W6 17112				EL38	mm, O-type, high yield, S ^S , Rr
1971	W6 17113				EL38 C2	mm, cms, Rr
1972	W6 17114				EL39	MM, LS, Aphan, S ^S , Rr
1973					EL41	MM, LS, Aphan, S ^S
1977	157295	590718			EL45	mm, CT, O-type
1977	W6 17115				EL42	MM, LS, Aphan, Rhizoc, rr
1977	W6 17116				EL43	MM, LS, Aphan, Rhizoc, Rr
1979	157300	590721			EL46	MM, high TLWR
1984					EL48	mm, LS, Aphan, Rhizoc, O-type
1985	195503				EL40	lines 24 & 31, LS, Aphan, S ^S
1985	195504				EL40	lines 30 & 18, LS, Aphan, S ^S
1985	195505				EL40	lines 15 & 27, LS, Aphan, S ^S
1985	195506				EL40	lines 32 & 29, LS, Aphan, S ^S
1985	195507				EL40	lines 22 & 9, LS, Aphan, S ^S
1985	195508				EL40	lines 6 & 12, LS, Aphan, S ^S
1990					CR1-H	Mm, Bb, sulfonylurea resistant, near O-type, S ^F , Rr
1990					CR1-B	Mm, BB, sulfonylurea resistant, S ^F
1990					SR87	MM, LS, SR, S ^S , Rr
1992					SR80	MM, LS, Aphan, SR, S ^S , Rr
1993					EL49	MM, SR, S ^F , Rr
1994					EL50	mm, LS, near O-type, S ^S
GENETIC STOCK						
1987					REL-1	mm, BB, S ^F , good shoot regenerator

Table 2. (Continued)

FARGO RELEASES							
YEAR	NSSL REL	CODE	PI No	CROP SCI REG NO	CITATION	CODE	DESCRIPTION
1977	110271	590695	GP 15	CS 18:358		F1001	MM, St Rot (from USSR)
1977	110272	590696	GP 16	CS 18:358		F1002	MM, St Rot, Rhizoc
1982	173975	590728	GP 85	CS 23:193		F1003	MM, St Resp
1984	189785	590763	GP 94	CS 25:577		F1004	MM, St Rot, Rr
1984	189786	590764	GP 95	CS 25:577		F1005	MM, St Rot, rr
1984	189787	590765	GP 96	CS 25:577		F1006	MM, St Rot, RR
1986		510668	GP 120	CS 28:205-206		F1007	MM, St Resp, rr
1986		510669	GP 121	CS 28:205-206		F1008	MM, St Resp, rr
1988		527307	GP 130	CS 29:836		F1009	MM, St Resp, St Rot
1988		535818	GP 131	CS 30:429-430		F1010	MM, Hsugar, Rr
1988		555454	GP 134	CS 32:1079		F1011	MM, Hsugar, RR
1988		552532	GP 135	CS 32:1079		F1012	MM, Hsugar, Rr
1988		552533	GP 136	CS 32:1079		F1013	MM, Hsugar, Rr
1988		552534	GP 137	CS 32:1079		F1014	MM, Hsugar, Rr
1994		583778	GP 160	CS 35:947		y317	MM, from <i>B. maritima</i> cross, cms-XZ, Rr
1994		583779	GP 161	CS 35:947		y318	MM, from <i>B. maritima</i> cross, cms-XZ, Rr
1994		583780	GP 162	CS 35:947		y322	MM, from <i>B. maritima</i> cross, cms-XZ, Rr
1994		583781	GP 163	CS 35:947		y387	MM, from <i>B. maritima</i> cross, cms-XZ, Rr
BELTSVILLE RELEASES							
PARENTAL LINES							
1968	W6 17143		PL 7	CS 11:947		SP6322-0	MM, LS, Aphan, S ^S
1973	W6 17145		PL 8	CS 14:343		SP69550-0	mm, LS, Aphan, O-type, S ^F
1973	W6 17146		PL 9	CS 14:343		SP69550-01	mm, LS, Aphan, cms
1964	114616		PL 15	CS 21:637-638		SP6926-0	mm, LS, Aphan, O-type, S ^F
1964	114614	590698	PL 16	CS 21:637-638		SP6926-01	mm, LS, Aphan, cms
GERMPLASM RELEASES							
1956				SBR 1956:9		SP55206-0	MM, LS
1956				SBR 1956:9		SP5517-0	MM, LS, Aphan
1956				SBR 1956:10		SP55600-01	MM, LS, Aphan
1956				SBR 1956:10		SP5611-0	MM, LS
1956				SBR 1956:10		SP5510-0(WC6200)	MM, LS Hsugar
1956				SBR 1956:10		SP5512-0(WC6201)	MM, LS
1956				SBR 1956:10		SP557-0	MM, seedling vigor
1956				SBR 1956:11		SP558-0	MM, Aphan
1956				SBR 1956:11		SP566-0	mm, LS, Aphan
1956				SBR 1956:11		SP554-0	MM, LS, CT

Table 2. (Continued)

BELTSVILLE RELEASES (Continued)

GERMPLASM RELEASES (Continued)

YEAR	NSSL		CROP SCI			CODE	DESCRIPTION
	REL	CODE	PI No	REG NO	CITATION		
1956					SBR 1956:11	SP555-0	CT, LS, Aphan
1956					SBR 1956:11	SP5651-0	MM, CT, LS, Aphan
1957					SBR 1957:8	SP5713-0	MM, LS, synthetic
1957					SBR 1957:9	SP5714-0	MM, LS, synthetic
1957					SBR 1957:9	SP5716-0	MM, LS, Aphan, synthetic
1957					SBR 1957:9	SP571850-00	MM, LS, Aphan, botrytis resistant
1957					SBR 1957:9	SP5733-0	mm, LS, synthetic
1957					SBR 1957:9	SP5734-0	mm
1957					SBR 1957:10	SP571-0	MM, LS, CT
1957					SBR 1957:10	SP57102-0	MM, LS, CT
1958					SBR 1958:11	SP5831-0	mm, LS, Aphan
1958					SBR 1958:11	SP5834-0	mm, LS
1958					SBR 1958:11	SP5835-0	mm, LS, Aphan
1958					SBR 1958:11	SP5836-0	mm, LS
1958					SBR 1958:12	SP581-0	MM, LS, CT
1958					SBR 1958:12	SP586-0	MM, LS, CT
1959					SBR 1959:10	SP5931-0	mm, LS, Aphan
1959					SBR 1959:10	SP59300-0	mm, LS, Aphan
1959					SBR 1959:10	SP591-0	MM, LS, CT, Aphan
1959					SBR 1959:11	SP59E5-0	mm, LS
1960					SBR 1960:10	SP601000-0	mm, LS, Aphan, St Rot, S ⁵
1960					SBR 1960:11	SP6045-0	mm, LS, Aphan
1960					SBR 1960:11	SP60300-0	mm, LS, Aphan
1960					SBR 1960:11	SP5822-0	MM, LS, Aphan
1961					SBR 1961:10	SP6121-0	mm, LS, Aphan, O-type
1961					SBR 1961:10	SP6121-01	mm, LS, Aphan, cms
1961					SBR 1961:10	SP6161-0	mm, LS, Aphan
1961					SBR 1961:10	SP6162-0	mm
1961					SBR 1961:10	SP60194-01	mm, LS, Aphan, cms
1962					SBR 1962:9	SP6223-0	mm, LS, Aphan, O-type
1962					SBR 1962:9	SP6223-01	mm, LS, Aphan, cms
1963					SBR 1963:12	SP63194-0	mm, LS
1963					SBR 1963:13	SP63196-0	mm, NB
1963					SBR 1963:13	SP63624-0	mm, LS
1963					SBR 1963:13	SP6122-0	MM, LS, good quality
1963					SBR 1963:13	SP61151-0	MM, LS, good quality
1963					SBR 1963:13	SP6256-0	MM, LS, Aphan
1963					SBR 1963:14	SP6323-0	mm, LS, Aphan, O-type
1963					SBR 1963:14	SP6323-01	mm, LS, Aphan, cms
1964					SBR 1964:11	SP6423-0	mm, LS, Aphan, O-type

Table 2. (Continued)

BELTSVILLE RELEASES (Continued)						
GERMPLASM RELEASES (Continued)						
YEAR	NSSL	CROP SCI		CITATION	CODE	DESCRIPTION
REL	CODE	PI No	REG NO			
1964				SBR 1964:11	SP6423-01	mm, LS, Aphan, cms
1964				SBR 1964:11	SP6426-0	mm, near O-type
1964				SBR 1964:11	SP6426-01	mm, cms
1964				SBR 1964:11	SP64194-0	mm, LS, good quality
1964				SBR 1964:11	SP6427-0	MM, Aphan
1965				SBR 1965:12	65100-055	mm, LS, Aphan
1966				SBR 1966:12	SP663448-01	mm, LS, Aphan, cms
1966				SBR 1966:12	SP663465-01	mm, LS, Aphan, cms
1967				SBR 1967:12	SP661017-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:12	SP661018-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:12	SP661019-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:12	SP661020-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:12	SP661021-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:12	SP661022-0	MM, LS, CT, Hsugar, 4n, S ^S
1967				SBR 1967:13	SP661023-0	MM, LS, CT, 4n, S ^S
1967				SBR 1967:13	SP661024-0	MM, LS, CT, 4n, S ^S
1967				SBR 1967:13	SP661025-0	MM, LS, CT, 4n, S ^S
1967				SBR 1967:13	SP661026-0	MM, LS, CT, 4n, S ^S
1967				SBR 1967:14	SP67503-01	mm, LS, Aphan, cms
1967				SBR 1967:14	SP67519-01	mm, LS, Aphan, cms
1967				SBR 1967:15	SP67547-01	mm, LS, Aphan, cms
1967				SBR 1967:15	SP67550-01	mm, LS, Aphan, cms
1967				SBR 1967:15	SP67552-01	mm, LS, Aphan, cms
1967				SBR 1967:16	SP67555-01	mm, LS, Aphan, cms
1968				SBR 1968:A5	SP67599-0	mm, LS, Aphan, O-type
1968				SBR 1968:A5	SP67599-02	mm, LS, Aphan, cms
1969				SBR 1969:A4	SP67585-01	mm, cms
1969				SBR 1969:A4	SP683301-01	mm, cms
1970				SBR 1970:A4	SP7042-0	mm, LS, Aphan, O-type
1970				SBR 19970:A5	SP7042-01	mm, LS, Aphan, cms
1971					SP67547-0	mm, LS, Aphan, O-type
1971					SP69523-0	mm, LS, Aphan, O-type
1971					SP69523-01	mm, LS, Aphan, cms
1971					SP69543-0	mm, LS, Aphan, O-type
1971					SP69543-01	mm, LS, Aphan, cms
1971					SP69557-0	mm, LS, Aphan, O-type
1971					SP69557-01	mm, LS, Aphan, cms
1971					SP69588-0	mm, LS, Aphan, O-type
1971					SP69588-01	mm, LS, Aphan, cms
1971					SP6528-01	MM, LS, Aphan
1971					SP70514-01	mm, LS, Aphan, cms
1971					SP70618-01	mm, LS, Aphan, cms
1971	101304	590666			SP70641-0	mm, LS, Aphan,
1971	101303	590665			SP70641-01	mm, LS, Aphan, cms
1972					SP72553-01	mm, LS, Aphan, cms

Table 2. (Continued)

BELTSVILLE RELEASES (Continued)						
GERMPLASM RELEASES (Continued)						
YEAR	NSSL		CROP SCI			
REL	CODE	PI No	REG NO	CITATION	CODE	DESCRIPTION
1974					SP74513-01	mm, LS, Aphan, cms
1975					SP74571-02	mm, LS, Aphan, cms
1975					SP73461-00	MM, LS, SR
1977	101310	590672			SP73514-0	mm, LS, Aphan, O-type
1977	101311	590673			SP73514-01	mm, LS, Aphan, cms
1977	101307	590669			SP70682-0	mm, LS, Aphan, O-type
1977	101308	590670			SP70682-01	mm, LS, Aphan, cms
1977	101305	590667			SP76745-0	mm, LS, Aphan, O-type
1977	101306	590668			SP76745-01	mm, LS, Aphan, cms
1977	97657				SP74566-01	mm, LS, Aphan, cms
1977	101309	590671			SP70756-01	mm, LS, Aphan, cms
1977	W6 17147				SP73747-01	mm, LS, Aphan, cms
1978					SP74566-0	mm, LS, Aphan, O-type
1978	114613	590697			SP70756-0	mm, LS, Aphan, O-type
1978	W6 17148				SP73747-0	mm, LS, Aphan, O-type
1979	110260	590694			SP78564-0	mm, LS, Aphan, O-type
1979	110261				SP78564-01	mm, LS, Aphan, cms
1980	114615	590699	GP-62	CS 21:478	SP8030-0	MM, LS, Aphan, SR, S ^S
1983					SP82260-0	MM, LS, Aphan, S ^S
1983					SP79626-0	mm, LS, Aphan, O-type
1983					SP79626	mm, LS, Aphan, cms
1984					SP83301-00	MM, LS, Aphan, Rr
1985	199881	590772			SP85576-0	mm, LS, Aphan, O-type, rr
1985	199882				SP85576-01	mm, LS, Aphan, cms, rr
1985	199883	590773			SP85590-0	mm, LS, Aphan, O-type, rr
1985	199884				SP85590-01	mm, LS, Aphan, cms, rr ⁺
1985	199885	590774			SP85655-0	mm, LS, Aphan, O-type, RR
1985	199886				SP85655-01	mm, LS, Aphan, cms, RR
1985	199887	590775			SP85657-0	mm, LS, Aphan, O-type, rr
1985	199888				SP85657-01	mm, LS, Aphan, cms, Rr
1985	199879	590771			SP85320-0	mm, O-type, rr
1985	199880				SP85320-01	mm, cms, <i>B. maritima</i> cytoplasm, Rr
1985	199878	590770			SP85303-0	MM, LS, Aphan, resistant to Phytophthora, Rr
1985	199890	590777			SP85800-0	MM, high root yield, low non- sucrose solubles
1985	199877	590769			SP8541-0	MM, Sclerotium tolerant
1985	199876	590768			SP8540-0	MM, LS, Aphan, Sclerotium tolérant
1985	199889	590776			SP85700-0	MM, LS, Aphan, SR
1986	199891	590778			SP8531-0	MM, SR, Aphan, S ^S

Table 2. (Continued)

SALINAS RELEASES					
(SAVITSKY)					
YEAR	NSSL	CROP SCI			
REL	CODE	PI No	REG NO	CITATION	DESCRIPTION
1962				SBR 1962:8	S-23 mm, LS, NB, S ^F , rr
1962				SBR 1962:8	S-71 mm, CT, S ^S
1962				SBR 1962:8	S-201 MM, CT, 4n, vigorous, S ^S
1962				SBR 1962:9	S-202 MM, CT, 4n, S ^S
1962				SBR 1962:9	S-301 mm, CT, NB, 4n, S ^F
1962				SBR 1962:11	S-133 MM, Hsugar from Janasz (Polish), S ^S
1962				SBR 1962:11	S-203 MM, 4n of S-133, S ^S
1963				SBR 1963:10	S-132 MM, LS, 4n, S ^S
1963				SBR 1963:10	S-204 MM, LS, 4n, S ^S
1963				SBR 1963:10	S-302 mm, NB, 4n, S ^F
1964				SBR 1964:9	S-205 MM, LS, 4n, S ^S
1964				SBR 1964:9	S-206 MM, CT, LS, 4n, S ^S
1965				SBR 1965:9	S-63-9 MM, CT, LS, 4n, S ^S
1965				SBR 1965:9	S-63-11 MM, CT, LS, 4n, S ^S
1965				SBR 1965:9	S-63-12 MM, CT, LS, 4n, S ^S
1965				SBR 1965:9	S-63-13 MM, CT, LS, 4n, S ^S
1966				SBR 1966:8	S-5-333 MM, CT, 4n
1966				SBR 1966:8	S-5-200 MM, CT, 4n
1966				SBR 1966:8	S-5-800 MM, CT, 4n
1966				SBR 1966:8	S-4-900 MM, CT, 4n
1966				SBR 1966:9	S-4-903 MM, CT, 4n
1967				SBR 1967:9	S-127 mm, CT, 4n
1967				SBR 1967:10	S-235 MM, CT, 4n, S ^S
1967				SBR 1967:10	S-240 MM, CT, 4n, S ^S
1967				SBR 1967:10	S-242 MM, CT, 4n, S ^S
1967				SBR 1967:10	S-258 MM, CT, 4n, S ^S
1967				SBR 1967:10	S-560 mm, CT, 4n, S ^S
1967				SBR 1967:11	S-571 mm, CT, 4n, S ^S
1967				SBR 1967:11	S-572 mm, CT, 4n, S ^S
1967				SBR 1967:11	S-582 mm, CT, 4n, S ^S
1967				SBR 1967:11	S-610 MM, CT, 4n, S ^S
1967				SBR 1967:11	S-615 MM, CT, 4n, S ^S
1968				SBR 1968:A2	S-120 mm, 4n, S ^S
1968				SBR 1968:A2	S-507 MM, Hsugar, 4n, S ^S
1968				SBR 1968:A3	S-523 MM, CT, 4n, S ^S
1968				SBR 1968:A3	S-537 mm, LS, 4n
1968				SBR 1968:A3	S-640 MM, CT, 4n, S ^S
1968				SBR 1968:A3	S-938 MM, 4n, S ^S
1969				SBR 1969:A2	S-112 MM, CT, 4n, S ^S
1969				SBR 1969:A2	S-5-692-1 MM, Hsugar, 4n, S ^S

Table 2. (Continued)

SALINAS RELEASES (Continued)						
(SAVITSKY) (Continued)						
YEAR	NSSL	CROP SCI		CITATION	CODE	DESCRIPTION
REL	CODE	PI No	REG NO			
1969				SBR 1969:A2	S-5-692-2	MM, 4n, Hsugar, S ^S
1969				SBR 1969:A2	S-130	mm, CT, 4n, S ^F
1969				SBR 1969:A2	S-4-603	MM, CT, 4n, S ^S
1969				SBR 1969:A2	S-4-614	MM, CT, 4n, S ^S
1969				SBR 1969:A3	S-4-513	MM, CT, 4n, S ^S
1969				SBR 1969:A3	S-4-551	MM, CT, 4n, S ^S
1970				SBR 1970:A2	S-5-692-2	MM, 4n, Hsugar, S ^S
1970				SBR 1970:A2	S-5-3-519	MM, CT, 4n, S ^S
1970				SBR 1970:A2	S-5-4-563	mm, CT, 4n, S ^S
1970				SBR 1970:A2	S-5-4-971	MM, CT, LS, 4n, S ^S
1970				SBR 1970:A3	S-5-4-601	MM, CT, 4n, S ^S
1970				SBR 1970:A3	S-5-4-936	MM, 4n, Hsugar, S ^S
1970				SBR 1970:A3	S-4-929	MM, 4n, S ^S
1970				SBR 1970:A3	S-4-908	MM, CT, 4n, S ^S
1970				SBR 1970:A3	S-4-903	MM, CT, 4n, S ^S
1970				SBR 1970:A3	S-5-537-5	mm, LS, 4n
1971					S-5-4-501	mm, NB, 4n, S ^S