REGISTRATION OF VR74-410-2 AND VR1492-1 PEA GERMPLASM

(Reg. Nos. GP 19 to 20)

J. M. Kraft and R. A. Giles

Two canner pea (Pisum sativum L.) breeding lines, VR74-410-2 (Reg. No. GP 19) and VR1492-1 (Reg. No. GP 20), were released jointly by the USDA-SEA and the Washington State Univ., Agric. Res. Center in 1979. Both lines have white flowers and are unique in being immune to pea seedborne virus (PbMV) and also resistant to Fusarium oxysporum f. sp. pisi race 1 (common wilt) and race 2 (liner wilt). They are both more resistant to the pea root rot complex of eastern Washington than ‘Dark Skin Perfection.’

The parentage of VR74-410-2 is Wisconsin 7105 Ï “Wasatch” × PI 149165. Wisconsin 7105, released by the Univ. of Wisconsin, is resistant to PbMV and is a selection from a cross between ‘New Season’ × PI 198835. Wasatch is a large-seeded, ‘Early Perfexion’ type cultivar from Rogers Brothers Seed Company. Plant Introduction No. 140165 is a purple-flowered line with seedling resistance to Fusarium root rot.

The parentage of VR1492-1 is Wisconsin 7105 × Geneva 059-81. Geneva 059-81, a release from the Geneva Exp. Stn., Cornell Univ., has purple flowers, yellow cotyledons, and reduced stipules. It is resistant to races 1, 2, and 5 of F. oxysporum f. sp. pisi and is tolerant to root rot, VR7401492-1 is double-triple-podded, blooms at the 14th node, and has wrinkled seeds. It is resistant to races 1, 2, and 059-81. Geneva 059-81, a release from the Geneva Exp. Stn., Cornell Univ., has purple flowers, yellow cotyledons, and reduced stipules. It is resistant to races 1, 2, and 5 of F. oxysporum f. sp. pisi and is tolerant to root rot.

REGISTRATION OF SJVF-1 SAFFLOWER GERMPLASM

(Reg. GP No. 14)

C. A. Thomas, L. H. Zimmerman, and A. L. Urie

SJV-1 safflower (Carthamus tinctorius L.) was released in 1978 by USDA-SEA. It is resistant to lettuce mosaic, verticillium wilt, incited by Verticillium dahliae Kleb., fusarium wilt, incited by Fusarium oxysporum f. sp. carthami, and phytophthora root and hypocotyl rot, incited by Phytophthora drechsleri Tucker. The line has striped hull seed.

LMVF-1 arose from crosses of the breeding lines Nebraska 4051 (N 4051), VR 14154, and VFR-1. N 4051 has high yielding ability, a vigorous growth habit, and verticillium and fusarium wilt resistance. Its seed has normal hull and low oil percentage. VR 14154 has verticillium wilt resistance and its seed has purple striped hull with high oil percentage. VFR-1 is a selection out of N 4051.

In greenhouse tests at Beltsville, Md., artificial inoculation of LMVF-1 with lettuce mosaic incites a mild necrosis that is not lethal. In field tests at Yuma, Ariz., and Davis and Shafter, Calif., under conditions of natural infection, LMVF-1 has shown a high level of resistance to lettuce mosaic, phytophthora root rot, and verticillium and fusarium wilts.

LMVF-1, closely related to VFR-1 germplasm, offers combined resistance to four diseases, the vigorous growth habit of N 4051, and striped hull seeds. Seed can be obtained from the Applied Plant Pathology Laboratory, Plant Protection Institute, Beltsville Agric. Res. Center, Beltsville, MD 20705.

REGISTRATION OF THREE SUGARBEET GERMPLASM LINES

(Reg. Nos. GP 17 to GP 19)

R. T. Lewellen, I. O. Skoyen, and J. S. McFarlane

Three self-fertile, random-mating sugarbeet (Beta vulgaris L.) populations were developed by AR-SEA-USDA, in cooperation with the Sugar Beet Development Foundation and the California Beet Growers Association, Ltd. They were released in June 1977. These populations have been tested at Salinas and Brawley, CA, both as lines and as components of experimental hybrids. Bona fide sugarbeet breeders and geneticists may obtain small quantities of seed upon written request to R. T. Lewellen, U. S. Agricultural Research Station, P. O. Box 5098, Salinas, CA 93915.

C773 (Reg. No. GP 17) is a self-fertile, multigerm, random-mating population that segregates at about 50% for genetic male sterility (m). It has mixed red and green hypocotyls. In 1967, the male-sterile segregates from the breeding lines S1 (NBI × C294) × C13 and S1 (NB1 × C294) × C294 were used as females in a series of crosses with five self-fertile, multigerm lines developed in the virus-yellows resistance breeding program at Salinas. NB1 and C13 have been released previously. C254 is a self-fertile, yellows-resistant breeding line derived from a Dutch source. After an initial cycle of selfing, the population was advanced two times in isolation plots by harvesting seed from the randomly mated m × m segregates. In 1972, half-sib families were evaluated for yield performance in a replicated field trial that was inoculated with virus yellow (beet yellows virus, BYV, and beet western yellow virus, BWyV). C773 was synthesized from plants of remnant seed from the four half-sib families that had the highest gross sugar yield.

C773

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>Male-sterile segregates from the breeding lines S1 (NBI × C294) × C13 and S1 (NB1 × C294) × C294 were used as females in a series of crosses with five self-fertile, multigerm lines developed in the virus-yellows resistance breeding program at Salinas. NB1 and C13 have been released previously. C254 is a self-fertile, yellows-resistant breeding line derived from a Dutch source. After an initial cycle of selfing, the population was advanced two times in isolation plots by harvesting seed from the randomly mated m × m segregates. In 1972, half-sib families were evaluated for yield performance in a replicated field trial that was inoculated with virus yellow (beet yellows virus, BYV, and beet western yellow virus, BWyV). C773 was synthesized from plants of remnant seed from the four half-sib families that had the highest gross sugar yield.</td>
</tr>
</tbody>
</table>

REGISTRATION OF LMVF-1 SAFFLOWER GERMPLASM

(Reg. GP No. 14)

C. A. Thomas, L. H. Zimmerman, and A. L. Urie

LMVF-1 safflower (Carthamus tinctorius L.) was released in 1978 by USDA-SEA. It is resistant to lettuce mosaic, verticillium wilt, incited by Verticillium dahliae Kleb., fusarium wilt, incited by Fusarium oxysporum f. sp. carthami, and phytophthora root and hypocotyl rot, incited by Phytophthora drechsleri Tucker. The line has striped hull seed.

LMVF-1 arose from crosses of the breeding lines Nebraska 4051 (N 4051), VR 14154, and VFR-1. N 4051 has high yielding ability, a vigorous growth habit, and verticillium and fusarium wilt resistance. Its seed has normal hull and low oil percentage. VR 14154 has verticillium wilt resistance and its seed has purple striped hull with high oil percentage. VFR-1 is a selection out of N 4051.

In greenhouse tests at Beltsville, Md., artificial inoculation of LMVF-1 with lettuce mosaic incites a mild necrosis that is not lethal. In field tests at Yuma, Ariz., and Davis and Shafter, Calif., under conditions of natural infection, LMVF-1 has shown a high level of resistance to lettuce mosaic, phytophthora root rot, and verticillium and fusarium wilts.

LMVF-1, closely related to VFR-1 germplasm, offers combined resistance to four diseases, the vigorous growth habit of N 4051, and striped hull seeds. Seed can be obtained from the Applied Plant Pathology Laboratory, Plant Protection Institute, Beltsville Agric. Res. Center, Beltsville, MD 20705.

REGISTRATION OF THREE SUGARBEET GERMPLASM LINES

(Reg. Nos. GP 17 to GP 19)

R. T. Lewellen, I. O. Skoyen, and J. S. McFarlane

Three self-fertile, random-mating sugarbeet (Beta vulgaris L.) populations were developed by AR-SEA-USDA, in cooperation with the Sugar Beet Development Foundation and the California Beet Growers Association, Ltd. They were released in June 1977. These populations have been tested at Salinas and Brawley, CA, both as lines and as components of experimental hybrids. Bona fide sugarbeet breeders and geneticists may obtain small quantities of seed upon written request to R. T. Lewellen, U. S. Agricultural Research Station, P. O. Box 5098, Salinas, CA 93915.

C773 (Reg. No. GP 17) is a self-fertile, multigerm, random-mating population that segregates at about 50% for genetic male sterility (m). It has mixed red and green hypocotyls. In 1967, the male-sterile segregates from the breeding lines S1 (NBI × C294) × C13 and S1 (NB1 × C294) × C294 were used as females in a series of crosses with five self-fertile, multigerm lines developed in the virus-yellows resistance breeding program at Salinas. NB1 and C13 have been released previously. C254 is a self-fertile, yellows-resistant breeding line derived from a Dutch source. After an initial cycle of selfing, the population was advanced two times in isolation plots by harvesting seed from the randomly mated m × m segregates. In 1972, half-sib families were evaluated for yield performance in a replicated field trial that was inoculated with virus yellow (beet yellows virus, BYV, and beet western yellow virus, BWyV). C773 was synthesized from plants of remnant seed from the four half-sib families that had the highest gross sugar yield. |