A REPORT OF THE

NATIONAL SUNFLOWER VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

JUNE 2008

NATIONAL SUNFLOWER VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(May 2008)

The Association of Official Seed Certifying Agencies (AOSCA) National Sunflower Variety Review Board (NSFVRB), reviewed the following varieties on April 8, 2008, in Fargo, North Dakota. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Certifying Agency of the jurisdiction in which the seed is grown.

All variety information, including descriptions, claims, and research data to support any claim was supplied to the National Sunflower Variety Review Board by the applicants. The National Sunflower Variety Review Board makes judgment regarding recommendation of varieties for inclusion in certification based on the data supplied. Beyond this, the National Sunflower Variety Review Board takes no position on the accuracy or truthfulness of any description or claim made by the applicants.

Further information on current procedures, application forms, and details regarding the National Sunflower Variety Review Board can be obtained from:

Chet Boruff, Chief Executive Officer
Association of Official Seed Certifying Agencies
1601 52nd Ave., Ste 1
Moline, IL 61265

Phone: 309-736-0120
Fax: 309-736-0115
E-Mail: **cboruff@aosca.org**

Respectively submitted,

Dale Williams, Chairman
National Sunflower Variety Review Board

2008 AOSCA SUNFLOWER NVRB
TABLE OF CONTENTS

Applicant	Page	Variety Name
Pioneer Hi-Bred International, Inc.	46	B0531LM
Pioneer Hi-Bred International, Inc.	47	B0650HG
Pioneer Hi-Bred International, Inc.	48	B0651LM
Pioneer Hi-Bred International, Inc.	49	B0701LG
Pioneer Hi-Bred International, Inc.	50	F05DGLG
Pioneer Hi-Bred International, Inc.	51	H0111LG
Pioneer Hi-Bred International, Inc.	52	H0555LM
Pioneer Hi-Bred International, Inc.	53	N0248LG
Pioneer Hi-Bred International, Inc.	54	N0626LG
Pioneer Hi-Bred International, Inc.	55	T0456LM
Pioneer Hi-Bred International, Inc.	56	T0502LG
Pioneer Hi-Bred International, Inc.	57	T0514LG
Pioneer Hi-Bred International, Inc.	58	T0527HG
Pioneer Hi-Bred International, Inc.	59	T0533HG
Pioneer Hi-Bred International, Inc.	60	T0605LG
Pioneer Hi-Bred International, Inc.	61	T0632HG
Pioneer Hi-Bred International, Inc.	62	U07STLM
Pioneer Hi-Bred International, Inc.	63	U07TZHM
Pioneer Hi-Bred International, Inc.	64	U07VFBM
Seeds 2000, Inc.	65	SA2409R
Seeds 2000, Inc.	66	SA430R
Seeds 2000, Inc.	67	SA436
Seeds 2000, Inc.	68	SA445
Seeds 2000, Inc.	69	SA6166R

25045

25045 is a high-oleic, downy-mildew resistant, IMI (imidazolinone herbicide) tolerant oil seed sunflower B-line, resulted from converting the Advanta line 25017 into an IMI tolerant line, after 5 generations of back-cross followed by 3 selfing generations. The IMI tolerance source used was IMISUN-1, released by the USDA-ARS in 1998. 25017 is a B line developed by Advanta from a complex B-line population (335/91). Pedigree method was followed along with selection for good agronomics, earliness, oil content, oleic percentage, IMI tolerance and PET1 sterility maintenance. The general and specific combining ability was tested in F5 and F6, respectively. It is an inbred line in normal cytoplasm and a sterility maintainer for cms PET1 sterility. Subsequent selections were performed for earliness, shorter stature and oil content. Outcrosses due to pollen contamination and seed mixture can be easily identified, being taller or shorter in most cases. In comparison with HA89, 25045 is 1 day earlier in blooming and 2 days earlier in maturity. It is 15 cm taller and has 2 more leaves. The leaves are similar in size to HA89, narrower than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentation, and horizontal attitude, smooth surface and of green color. Ray flowers are yellow, 3 mm longer the check. The disk flowers and pollen are yellow and pappi are green. The head is 2.5 cm larger in diameter than HA89, convex and ascending at maturity, containing more seeds (40) than HA89. Seeds are black with narrow dark-gray stripes, broadly ovate, 2 mm longer and heavier (1.5g/100s), similar hull percentage and almost 1% higher in oil content than HA89. Its oleic level is over 89%. 25045 is more resistant to lodging, neck breakage, and Phomopsis. It is a herbicide (IMI, Beyond) tolerant line. 25045 and its hybrids are considered early and mid-early, so adapted to short and mid season sunflower growing areas of the North Central U.S. and Canada, especially on weedy grounds. The primary uses of the hybrids produced with 25045 are mid-oleic (Nusun) and high-oleic oils. Advanta Pacific, LLC is fully responsible for the respective sunflower inbred line maintenance and multiplication, preserving its genetic purity identity and seed quality. The multiplication procedure comprises 3 generations (stages): 1. Breeder seed (produced under bags, under the direct Sunflower Breeder's supervision), 2. Pre-basic, and 3. Basic seed. Both Pre-basic and Basic seeds are produced under cages or in isolated plots. If 25045 is accepted by official certifying agencies, certified seed will be first offered for sale in 2009. For present, application will not be made for P.V.P.

35056

35056 is an oil seed sunflower restorer line developed by Advanta Pacific, LLC, by incorporating IMI (imidazolinone) tolerance, sourced from the public line IMISUN-2 into an elite Advanta restorer line (35019). The conversion was finalized after four backcross generations, followed by three selfing and selection generations. A single BC4F3 selected plant was selfed to produce the first Breeder seed of 35056. This line is a recessive top branched restorer, homozygous for the Rf1 gene in Pet 1 cytoplasm. Subsequent selections were performed for high oil content, Phomopsis reaction, good agronomics, total IMI tolerance, and height uniformity. The line is uniform and very stable. Outcrosses can be easily identified, being taller, more vigorous, and generally single-headed plants. The sunflower inbred line 35056 is an IMI (imidazolinone) tolerant, recessive top branched R line. It is a restorer line for CMS PET 1 sterility. In comparison with RHA801, 35056 is 5 days later in blooming and 6 days later in maturity, 15 cm taller and has 4 more leaves. The leaves are similar in size, wider than long, cordate, acuminate, auriculate, finely serrate, with shallow indentations, ascending attitude, smooth surface and of green color. Ray flowers are yellow and pappi green. The central head is 8.0 cm larger, flat and ascending at maturity, containing 40 more seeds than RHA801. Seeds are solid dark gray, oblong, 3 mm longer, and heavier. In comparison with RHA801, 35056 has similar resistance to downy-mildew (races 2), is IMI tolerant, and is more resistant to lodging, neck breakage, Phomopsis, and Verticillium. Hull percentage is 1.1% lower, and oil content around 4% higher. The sunflower line 35056 and its hybrids are considered of medium or medium-late maturity, so adapted to mid and long season sunflower growing areas in North Central and High Plains of the U.S. The primary uses of hybrids produced with 35056 are conventional (high linoleic) and NuSun (mid-oleic) oils. Advanta Pacific, LLC is fully responsible for the respective sunflower inbred line maintenance and multiplication, preserving its genetic purity and seed quality. The multiplication procedure comprises 3 generations (stages): 1. Breeder seed (produced under bags, under the direct Sunflower Breeder's supervision), 2. Pre-basic, and 3. Basic seed. Both Pre-basic and Basic seeds are produced under cages or in isolated plots. If 35056 is accepted by official certifying agencies, certified seed will be first offered for sale in 2009. For present, application will not be made for P.V.P.

39050

39050 is an oil seed sunflower restorer line developed by Advanta Pacific, LLC, by incorporating IMI (imidazolinone) tolerance, sourced from the public line IMISUN-2 into an elite Advanta restorer line (R551). The conversion was finalized after 5 backcross generations, followed by 3 selfing and selection generations. A single BC5F3 selected plant was selfed to produce the first Breeder seed of 39050. This line is a recessive fully branched restorer, homozygous for the Rf1 gene in Pet 1 cytoplasm. Subsequent selections were performed for Phomopsis reaction, good agronomics, total IMI tolerance, and height uniformity. The line is uniform and very stable. Outcrosses can be easily identified, being taller, more vigorous, and generally single-headed plants. The sunflower inbred line 39050 is an IMI (imidazolinone) tolerant, recessive fully branched R line. It is a restorer line for CMS PET 1 sterility. In comparison with RHA801, 39050 is 7 days later in blooming and 6 days later in maturity, 5 cm taller and has 6 more leaves. The leaves are similar in size, wider than long, cordate, acuminate, auriculate, finely serrate, with shallow indentations, ascending attitude, smooth surface and of green color. Ray flowers are yellow and pappi green. The central head is 8.0 cm larger, flat and ascending at maturity, containing 70 more seeds than RHA801. Seeds are light brown, oblong, similar in length, and heavier. In comparison with RHA801, 39050 has similar resistance to downy-mildew (races 2), is IMI tolerant, and is more resistant to lodging, neck breakage, Phomopsis, and Verticillium. Hull percentage is similar, and oil content 1.9% higher. The sunflower line 39050 and its hybrids are considered of medium or medium-late maturity, so adapted to mid and long season sunflower growing areas in North Central and High Plains of the U.S, especially on weedy grounds. The primary uses of hybrids produced with 39050 are conventional (high linoleic) and NuSun (mid-oleic) oils. Advanta Pacific, LLC is fully responsible for the respective sunflower inbred line maintenance and multiplication, preserving its genetic purity and seed quality. The multiplication procedure comprises 3 generations (stages): 1. Breeder seed (produced under bags, under the direct Sunflower Breeder's supervision), 2. Pre-basic, and 3. Basic seed. Both Pre-basic and Basic seeds are produced under cages or in isolated plots. If 39050 is accepted by official certifying agencies, certified seed will be first offered for sale in 2009. For present, application will not be made for P.V.P.

00-R196RT

00-R196RT is a multi-headed, rust tolerant, confectionery type, restorer line. It stands 99 cm tall with a flowering date of 60 days after emergence as compared to 58 days after emergence of RHA 294. 00-R196RT reaches physiological maturity in 122 days as compared to 116 days of RHA 294. 00-R196RT has a medium sized head on a droopy neck and stalk. 00-R196RT has yellow ray flowers 86 mm long and 14 mm wide. It has upper and middle branching that is not as profuse as RHA 294. The achenes are 21 mm long. Achenes are black with on occasional white margin. 00-R196RT has been extensively tested in the main production areas of North Dakota. Its primary use will be as a parent line in hybrids that are bred for the confectionery sunflower industry. No specific insect resistance claims are made. Breeder seed and Foundation seed will be maintained by CHS Inc. exclusively. Breeder seed will be increased from under bag or cage from testcross bulked rows. Foundation seed increases will be produced from bulked breeder seed in 1-5 acre isolations. Hybrids will only be produced from this foundation seed. Seed of hybrids using this inbred would be available for sale for 2008 planting season. Application will not be made for protection under the Plant Variety Protection Act.

CF502

CF502 is a non-oil seed maintainer selected by the pedigree method from a cross between CF9000 and a large seeded Spanish confection. Selection was for uniform plant type, self-compatibility, and large seed. The male sterile component of CF502 has cms PET-1 cytoplasm derived from H. Petiolaris (French). The cms designation is CF502A. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids involving variety CF502 are adapted to the major sunflower growing regions of North America. Hybrids of CM502 have been tested in North and South Dakota and Minnesota.

The primary purpose of hybrid CF502 will be human consumption.

Compared to the public line HA292, CF502 is three days earlier to flower and three days earlier to reach physiological maturity.CF502 is 30 cm taller, similar in leaf and flower color. Head of CF502 is erect and flat, seed is black with a white stripe along its side.

Breeders seed will be maintained by Hagen Seed under bags in the nursery or open pollinated isolated fields or cages. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Hybrids using CF502 will be offered for sale in 2008.

Application will not be made for P.V.P.

CF505

CF505 is a non-oil seed maintainer selected by the pedigree method from a cross between CF9000 and a large seeded Spanish confection. Selection was for uniform plant type, self-compatibility, and large seed. The male sterile component of CF505 has cms
PET-1 cytoplasm derived from H. Petiolaris (French). The cms designation is CF505A. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids involving variety CF505 are adapted to the major sunflower growing regions of North America. Hybrids utilizing CF505 have been tested in North and South Dakota, Minnesota, and Canada.

The primary purpose of hybrid CF505 will be human consumption.

Compared to the public line HA292, CF505 is approximately 10 cm shorter, similar in leaf color and has a large single head which is horizontal at maturity. HA292 has a smaller head and is more erect at maturity. CF505 seed is larger, wider with a white stripe over dark grey to black. CF505 is four days earlier to flower and reach physiological maturity and its flower color is orange yellow.

Breeders seed will be maintained by Hagen Seed in nursery rows under bags or by open pollination in isolated fields or cages. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Hybrids using CF505 will be offered for sale in 2008.

Application will not be made for P.V.P.

CF51

CF51 is a non-oil seed maintainer selected by the pedigree method from a cross between CF9000 and a large confection variety from Spain. Selection was made for uniformity and self-compatibility. The male sterile component of CF51 has cms PET-1 cytoplasm derived from H. Petiolaris (French). The cms designation is CF51A. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids involving variety CF51 are adapted to the major sunflower growing regions of North America and have been tested in Minnesota and North Dakota.

Compared to the public line HA292, CF51 is one day earlier to bloom and reaches physiological maturity three days earlier than HA292. CF51 is 20 cm taller, similar in leaf color, and has a large single head which is horizontal at maturity. Seeds of CF51 are dark brown, longer, larger, and heavier than HA292. CF51 ha a small white stripe on its margin and is heart-shaped. Flower color is orange yellow.

Breeders seed will be maintained by Hagen Seed under bags or by open pollination in isolated fields and cages. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Hybrids using CF51 will be offered for sale in 2008.

Application will not be made for P.V.P.

CM3000

CM3000 is a non-oil restorer developed by the pedigree method from a cross of CM1100 and a Spanish confectionary variety. Selection was made for large seed, self-compatibility, pollen fertility, and restoration. CM3000 is homozygous for the Rf1 gene for fertility restoration in PET-1 cytoplasm. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids utilizing CM3000 are adapted to the major sunflower growing regions of North America and have been tested in Minnesota and North Dakota.

The primary purpose of hybrid CF505 will be human consumption.

CM3000 has a single head which is descending at maturity, has brown to black seed with a light tan stripe on its edge, has orange flowers and blooms two days earlier than RHA293.

Breeders seed will be maintained by Hagen Seed in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Certified seed of hybrids using CM3000 will be offered for sale in 2008.

Application will not be made for P.V.P.

CM3200

CM3200 is a non-oil restorer line developed by the pedigree method from a cross of CM1100 and a large seeded Spanish variety. Selection was made for pollen fertility, restoration, large seed, and good plant characteristics. CM3200 is a single-headed homozygous for the Rf1 gene for restoration in PET-1 cytoplasm. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids utilizing CM3200 are adapted to the major sunflower growing regions of North America and have been tested in Minnesota and North Dakota.

The primary purpose of hybrid CF505 will be human consumption.

Compared to the public line RHA293, CM3200 is similar in height and leaf color, has larger and longer seed, blooms and matures three days earlier. Seed of CM3200 is dark grey to black with a narrow white stripe, its head is horizontal at maturity and flower color is yellow.

Breeders seed will be maintained by Hagen Seed in nursery rows under bags or by open pollination in isolated fields and cages. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Certified seed of hybrids using CM3200 will be offered for sale in 2008.

Application will not be made for P.V.P.

CM5500

CM5500 is a non-oil restorer selected by the pedigree method from a cross of CM1100 and a Spanish sunflower variety. Selection was made for uniform plant type, self-compatibility, large seed, and good agronomical characteristics. CM5500 is a single-headed confectionary restorer, homozygous for the Rf1 gene for fertility restoration in PET-1 cytoplasm. Line designation of each application was developed by self pollinating for a minimum of 12 generations to obtain stability and good confectionary characteristics.

Hybrids utilizing CM5500 are adapted to the major sunflower growing regions of North America and have been tested in Minnesota and North Dakota.

Compared to the public line RHA293, CM5500 is four days earlier to bloom and four days earlier to physiological maturity, has brown to black striped seed, is 10 cm taller and has larger and heavier seed. Leaf color is similar to RHA293 and flower color is yellow. Head of CM5500 is vertical at maturity.

Breeders seed will be maintained by Hagen Seed in nursery rows under bags in nursery rows or isolated fields and cages. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where the seed is grown.

Certified seed of hybrids using CM5500 will be offered for sale in 2008.

Application will not be made for P.V.P.

409B

409B is a linoleic oilseed maintainer selected by the pedigree method from the cross CM303/195 27 01. CM303 was released by Agriculture Canada Morden Manitoba Research Station in 1975. 195 27 01 is a Mycogen Seeds proprietary line. Final selection was made for uniformity with emphasis on short plant height for the development of short statured hybrids. The male-sterile component of 409B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is 409A.

Hybrids utilizing 409B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

409B has similar days to flower and maturity of HA89 (medium maturing). The most noticeable feature of 409B is its shorter height, approximately 22 cm less than HA 89, and also less than most other maintainer lines. 409B's head bend tends to be less than HA89, often 75- 90° from the vertical stem. Seed is about 10 mm in length, and mostly black with narrow gray stripes. Ray flowers are yellow. Other distinguishing features include a short internode, green pappi, and no presence of anthocyanin on the stigmas.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of 409B sterile and maintainer increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using 409B was first offered for sale in 1998. Application will not be made for PVP.

85457B

85457B is a high oleic confection maintainer selected by the pedigree method from the cross H641B//29B[2]/HA350B. H641B and 29B are proprietary lines and HA350B a public line released in 1985 from NDSU-ARS. Final selection was made for increased seed size with emphasis on improved root quality for the development of commercial confection hybrids. The male-sterile component of 85457B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is 85457A.

Hybrids utilizing 85457B are adapted to the major sunflower growing regions of North and South America, used primarily for the in-shell market

Noticeable distinguishing features of 85457B relative to HA292 are shorter plant height (31 cm less) and reduced internode length. Days to flower and maturity are 2 and 3 days later than HA292. Ray flowers are orange-yellow, pappi and stigmas show no expression of anthocyanin. Seeds have gray and white stripes (gray stripes are lighter in color than sister line ON1153B). Late emerging plants can grow 25-30 cm taller than earlier emerged plants under high plant populations, which are sometimes mistakenly interpreted as genetic height segregation or off type plants.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using 85457B will be offered for sale in 2008. Application will not be made for PVP.

C8283B

C8283B is a linoleic oilseed maintainer selected by the pedigree method from the proprietary cross 504/NS22. Final selection was made for uniformity with emphasis on short plant height and early maturity for the development of short statured hybrids for short growing seasons. The male-sterile component of C8283B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is C8283A.

Hybrids utilizing C8283B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

C8283B primary distinguishing feature is its orange-yellow ray flower color. It is approximately 7 cm shorter and noticeably earlier than HA 89, about 5 and 6 days less to flower and maturity. Seed is approximately 10 mm in length, mostly black with prominent dark gray striping. Other distinguishing features include rust colored pappi and a medium expression of anthocyanin on the stigmas.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. . Foundation certification of C8283B sterile and maintainer increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using C8283B was first offered for sale in 1999. Application will not be made for PVP.

CI1151R

CI1151R is a confection restorer derived from the backcross pedigree CN1151R[6]//H282R[2]//IMI-4R Final BC6F4 backcross derivation was selected for plant characteristics most similar to the recurrent parent CN1151R and expression of homozygous resistance to imidazolinone herbicide. CI1151R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing CI1151R are adapted to the major sunflower growing regions of North and South America, Europe, and will be used primarily for dehulling or in-shell confection market.

CI1151R is resistant to imidazolinone herbicides. It is 5 and 7 days later flowering and maturing than the recurrent parent CN1151R, and 9 and 12 days later than RHA294. Leaves of CI1151R have deep margin indentations and crinkled leaf surface. It is fully branched, and has a relatively tall height, approximately 45 cm taller than RHA294. CI1151R seeds are longer, wider and have fewer lateral stripes than RHA294; and yellow ray flower petals are noticeably fused to give a tube like appearance.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CI1151R will be offered for sale in 2009. Application will not be made for PVP.

ClN117R

CIN117R is a linoleic oilseed restorer derived from the backcross pedigree H117R[4]/IMISUN-2R. H117R is a Mycogen proprietary parent. IMISUN-2R is an imidazolinone resistant donor parent released by the USDA in 1998. The final BC4F5 derivation was selected for plant characteristics most similar to the recurrent parent H117R and expression of homozygous resistance to imidazolinone herbicide. CIN117R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing CIN117R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

CIN117R is a fully branching linoleic restorer line resistant to imidazolinone herbicides. It is 6 and 7 days later flowering and maturing than the recurrent parent H117R, and 9 and 7 days later than RHA274. CIN117R has rust colored pappi, intermediate expression of stigma anthocyanin, yellow ray flower color, and similar ray flower length with approximately 3-4 mm less width than RHA274. CIN117R is approximately 10 cm shorter with larger leaves compared to RHA274. Seeds of CIN117R are short, plump, and brown with fine white marginal stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of CIN117R increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using CIN117R was first offered for sale in 2006. Application will not be made for PVP.

CIN683B

CIN683B is a linoleic oilseed maintainer inbred derived from the backcross pedigree C8283B[4]/IMISUN-1.5XB. C8283B is a Mycogen proprietary line used as the recurrent parent. IMISUN-1.5XB is a imidazolinone reistant donor parent released by the USDA in 1998. The final BC4F4 derivation was selected for plant characteristics most similar to C8283B and expression of homozygous resistance to imidazolinone. The male-sterile component of CIN683B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CIN683A.

Hybrids utilizing CIN683B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

CIN683B is similar in appearance to its recurrent parent C8283B but flowers 5 days later and is resistant to imidazolinone herbicides. Seed is approximately 10 mm in length, mostly black with prominent dark gray striping. Other distinguishing features include orange-yellow ray flower color, rust colored pappi, and medium expression of anthocyanin on the stigmas. CIN683B is approximately 10 cm shorter height than HA89, with more upright head, and similar days to flower and maturity. Leaves are approximately 4 and 2.5 cm shorter and narrower than HA89.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CIN683B will be offered for sale in 2008. Application will not be made for PVP.

CIN807B

CIN807B is a linoleic oilseed maintainer inbred derived from the backcross pedigree H807B[5]/IMISUN-1.1XB. H807B is a Mycogen proprietary line used as the recurrent parent. IMISUN-1.1XB is a imidazolinone reistant donor parent released by the USDA in 1998. The final BC5F4 derivation was selected for plant characteristics most similar to H807B and expression of homozygous resistance to imidazolinone. The male-sterile component of CIN807B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CIN807A.

Hybrids utilizing CIN807B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

CIN807B is similar in appearance to its recurrent parent H807B but flowers 4 days later, is 8 cm taller, and resistant to imidazolinone herbicides. CIN807B has green colored pappi, no stigma anthocyanin, yellow shorter and wider ray flowers, and approximately 4-5 cm more height than HA89. Days to flower and maturity is slightly later than HA89, head attitude and leaf size are similar. CIN807B's oil content is consistently higher than HA89 by 3-4%. Seed is approximately 9 mm in length, mostly black with narrow dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CIN807B will be offered for sale in 2009. Application will not be made for PVP.

CIN809B

CIN809B is a linoleic oilseed maintainer inbred derived from the backcross pedigree H809B[5]/IMISUN-1.5XB. H809B is a Mycogen proprietary line used as the recurrent parent. IMISUN-1.5XB is a imidazolinone reistant donor parent released by the USDA in 1998. The final BC5F4 derivation was selected for plant characteristics most similar to H809B and expression of homozygous resistance to imidazolinone. The male-sterile component of CIN809B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CIN809A.

Hybrids utilizing CIN809B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

CIN809B is similar in appearance, days to flower and maturity, and height as its recurrent parent H809B, but has resistance to imidazolinone herbicides. CIN809B has yellow ray flowers, green colored pappi, and no stigma anthocyanin. Plant height is approximately 2 cm taller than HA89, leaf and ray flower lengths and widths are shorter and narrower. CIN809B is approximately 2 and 3 days earlier flowering and maturing. Seed is approximately 9 mm in length, mostly black with narrow dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CIN809B will be offered for sale in 2008. Application will not be made for PVP.

CN1151R

CN1151R is a linoleic confection restorer selected by the pedigree method derived from the cross H282R[1]/24643.2R. H282R and 2643.2R are Mycogen Seeds proprietary lines. CN1151R is a composite of F7 seed derived from a single F6 plant and was selected for large seed size and improved root quality. CN1151R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing CN1151R are adapted to the major sunflower growing regions of North and South America, and Europe and will be used primarily for the in-shell confection market.

CN1151R is fully branched, and averages 14 cm taller in plant height, flowers 3 days later, and physiologically matures 2 days later than RHA294. Leaves of CN1151R are cordate, have deep margin indentations and a crinkled leaf surface. Seeds of CN1151R are longer, wider, and have fewer lateral stripes compared to RHA294. Pappi and stigmas do not have anthocyanin. Flower petals on CN1151R are yellow and fused into a tube, giving the flower a distinctive appearance.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of CN1151R increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using CN1151R was first offered for sale in 2002. Application will not be made for PVP.

CN1701B

CN1701B is a linoleic oilseed maintainer selected by the pedigree breeding method derived from the cross H535B//105B/108B. Parents of the cross are all Mycogen proprietary B-lines. CN1701B is a derivation of a bulked F7 family selected for uniformity from a single F6 plant. The male-sterile component of CN1701B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CN1701A.

Hybrids utilizing CN1701B are adapted to the major sunflower growing regions of North America, Europe, and Argentina and will be used primarily for vegetable oil.

CN1701B is a medium height inbred approximately 35 cm taller than HA89 and 4 days later flowering. Head bend is more excessive to about 125-130° from the vertical stem. CN1701B has yellow ray flowers, rust colored pappi and only a weak expression of anthocyanin on the stigmas. Ray flower length is similar but approximately 3 mm wider than HA89. Leaf width is similar to HA89 with only slightly shorter length. Seed hull color is nearly solid black.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN1701B will be offered for sale in 2008. Application will not be made for PVP.

CN2343B

CN2343B is a linoleic oilseed maintainer inbred selected by the pedigree breeding method derived from the cross H807B/H1028B. H807B and H1028B are Mycogen Seeds proprietary lines. CN2343B is a derivation of a bulked F7 family selected for uniformity from a single F6 plant. The male-sterile component of CN2343B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is CN2343A.

Hybrids utilizing CN2343B were tested in replicated trials ND, SD, KS and CO in multiple years, and are adapted to the major sunflower growing regions of North America and Europe and will be used primarily for vegetable oil.

CN2343B is a linoleic oilseed maintainer with yellow ray flowers, green colored pappi, no stigma anthocyanin, and plant height approximately 23 cm taller than HA89. Ray flowers are obviously longer and wider; days to flower and maturity about 1 and 4 later than HA89. Head attitude is similar; leaves are slightly smaller. CN2343B's oil content is consistently 5-6 % higher than HA89. Seed is nearly solid black with narrow dark gray striping and less broadly ovate than HA89.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN2343B was first offered for sale in 2006. Application will not be made for PVP.

CN3115B

CN3115B is a linoleic confection maintainer selected by the pedigree method from the cross 10313B/29B//H223B. Parents of the cross are Mycogen Seeds proprietary lines. Final F6 family selection was made for uniformity with emphasis on improved seed size. The male-sterile component of 3115B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CN3115A.

Hybrids utilizing CN3115B are adapted to the major sunflower growing regions of North and South America, used primarily for the in-shell market

Noticeable distinguishing features of CN3115B vs. HA 292 are increase in plant height by 43 cm, 4 days later to flower, obviously larger seed size, and improved late season plant health. The bracts at R3-R4 will express a very light green color and darken to normal green as plant matures. Ray flowers are yellow. Leaves are smaller and darker green than HA 292. CN3115B can produce bifurcated heads at low frequencies under stressed environments. Seeds are mostly dark brown with no stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN3115B will be offered for sale in 2008. Application will not be made for PVP.

CN3199B

CN3199B is a linoleic confection maintainer selected by the pedigree method from the cross 10313B/29B//H223B. Parents of the cross are Mycogen Seeds proprietary lines. Final F6 family selection was made for uniformity with emphasis on improved seed size. The male-sterile component of CN3199B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is CN3199A.

Hybrids utilizing CN3199B are adapted to the major sunflower growing regions of North and South America, used primarily for the in-shell market

Noticeable distinguishing features of CN3199B vs. HA 292 are increase in plant height by 46 cm, 6 days later to flower, obviously larger seed size, and improved late season plant health. The bracts at R3-R4 will express a very light green color and darken to normal green as plant matures. Ray flowers are yellow, and noticeably shorter and narrower than HA292. Leaves are smaller and darker green than HA 292. CN3199B can produce bifurcated heads at low frequencies under stressed environments. Seeds are elliptic shaped, mostly dark brown with gray marginal stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN3199B will be offered for sale in 2009. Application will not be made for PVP.

CN5110R

CN5110R is a linoleic confection restorer selected by the pedigree method from the cross 24643R/H282R. H282R and 24643R are Mycogen Seeds proprietary lines. The final F7 family selection was made for uniformity with emphasis on improved root quality and increased seed size. CN5110R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing CN5110R are adapted to the major sunflower growing regions of North and South America and will be used primarily for the in-shell confection market.

CN5110R averages 11 cm taller in plant height, flowers and matures 4 days later than RHA294, and is fully branched. Leaves are obviously large with intermediate margin indentations. Pappi and stigmas do not have anthocyanin. Ray flowers are yellow, uniquely fused into tubes, and are longer than most other R-lines. Seeds of CN5110R are large, plump, and dark color with fine white marginal and lateral stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN5110R will be offered for sale in 2009. Application will not be made for PVP.

CN5190R

CN5190R is a linoleic confection restorer selected by the pedigree method from the cross 613017R/07710R//613073R. Parents of the cross are all Mycogen Seeds proprietary lines. Final selection was made for uniformity with emphasis on increased seed size for use in development of commercial confection hybrids. CN5190R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing CN5190R are adapted to the major sunflower growing regions of North and South America and will be used primarily for the in-shell confection market.

CN5190R is a fully branching restorer line 5 and 4 days later flowering and maturing, and only about 3 cm taller than the comparison RHA294. Pappi and stigmas do not have anthocyanin. CN5190R leaves and flower ray petals are obviously longer and wider (especially ray petals) compared to RHA294 and most other R-lines. Seeds of CN5190R are exceptionally long, dark color, with white marginal stripes and fine lateral white stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN5190R will be offered for sale in 2009. Application will not be made for PVP.

CN7479B

CN7479B is a linoleic oilseed maintainer selected by the pedigree breeding method derived from the cross H535B//H757B/H1028B. Parents of the cross are all Mycogen Seeds proprietary B-lines. CN7479B is a derivation of a bulked F7 family selected for uniformity from a single F6 plant. The male-sterile component of CN7479B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is CN7479A.

Hybrids utilizing CN7479B were tested in replicated trials ND, SD, KS and CO in multiple years, and are adapted to the major sunflower growing regions of North America and Europe and will be used primarily for vegetable oil.

CN7479B is a medium short height inbred approximately 11 cm taller than HA89 and approximately 5 days later to flower and maturity. CN7479B has green colored pappi, no stigma anthocyanin, and noticeably shorter and narrower yellow ray flowers and leaves compared to HA89. CN7479B's oil content is 6-7% higher than HA89.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using CN7479B will be offered for sale in 2009. Application will not be made for PVP.

H115B

H115B is a high oleic confection maintainer selected from Mycogen Seeds B-line population derived from intercrossing proprietary early generation B-lines over 3 generations. Final selection was made for uniformity with emphasis on improved plant health and homozygous expression of high oleic fatty acid. The male-sterile component of H115B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is H115A.

Hybrids utilizing H115B are adapted to the major sunflower growing regions of North and South America, used primarily for the hulling market.

H115B flowers about 2 days earlier than HA292 and is slightly taller. Ray flowers are yellow, pappi and stigmas have no anthocyanin. Leaves are obviously smaller but darker green than HA292. The seed size of H115B is smaller in size (10 mm long) and oval in shape compared to HA292B, and black with marginal and lateral white stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of H115B increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using H115B will be offered for sale in 2003. Application will not be made for PVP.

OI1601B

OI1601B is a high oleic oilseed maintainer inbred derived from the backcross pedigree H251B[3]/IMISUN-1.5XB. H251B is a Mycogen high oleic proprietary line used as the recurrent parent. IMISUN-1.5XB is an imidazolinone reistant donor parent released by the USDA in 1998. The final BC3F6 derivation was selected for plant characteristics most similar to H251B and homozygous expression for imidazolinone resistance. The male-sterile component of OI1601B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is OI1601A.

Hybrids utilizing OI1601B are adapted to the major sunflower growing regions of North America and Europe and will be used primarily for vegetable oil.

OI1601B is similar in appearance to its recurrent parent H251B but flowers 2 days later, is approximately 6 cm taller, and resistant to imidazolinone herbicides. OI1601B is about 13 cm taller than HA89, slightly later flowering, with more head bend at maturity. Ray flowers are yellow, and shorter and wider than HA89. Leaves are noticeably shorter in length and width compared to HA89. Pappi are rust colored and stigmas show a strong expression of anthocyanin. Seed hull color is more dark gray than black.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown.. Certified Seed of hybrids using OI1601B will be offered for sale in 2008. Application will not be made for PVP.

OID263R

OID263R is a high oleic restorer derived from the cross OND163R/OIN163R. OND163R and OIN163R are Mycogen proprietary high oleic isolines contributing downy milder resistance (Pl7) and imidazolinone resistance, respectively. OID263R is a F6 bulk derived from a single F5 plant selected for homozygous expression of downy mildew and imidazolinone resistance. OID263R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing OID263R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

OID263R is a fully branching high oleic oilseed restorer line resistant to all known North American races of downy mildew, and imidazolinone herbicides. It is 5 and 7 days later flowering and maturing than RHA274. OID263R has rust colored pappi, intermediate expression of stigma anthocyanin, and yellow ray flowers with length and width approximately 4-5 mm shorter and 1-2 mm narrow than RHA274. OID263R is approximately 14 cm shorter in height with larger leaves compared to RHA274. Seeds of OID263R are short, plump, and brown with fine white marginal stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using OID263R will be offered for sale in 2009. Application will not be made for PVP.

OIN163R

OIN163R is a high oleic oilseed restorer derived from the backcross pedigree H1063R[5]//H117R[1]/IMISUN-2R. H1063R is a Mycogen proprietary parent and high oleic isoline of H117R. IMISUN-2R is a imidazolinone resistant donor parent released by the USDA in 1998. The final BC5F4 deriviation was selected for plant characteristics most similar to the recurrent parent H1063R and expression of homozygous resistance to imidazolinone herbicide. CIN117R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing OIN163R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

OIN163R is a fully branching high oleic restorer line resistant to imidazolinone herbicides. It is 7 and 9 days later flowering and maturing than RHA274. OIN163R has rust colored pappi, intermediate expression of stigma anthocyanin, and yellow ray flowers approximately 4-5 mm shorter length and similar width of RHA274. It is approximately 23 cm shorter in height with slightly larger leaves compared to RHA274. Seeds of OIN163R are short, plump, and brown with fine white marginal stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of OIN163R increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using OIN163R was first offered for sale in 2006. Application will not be made for PVP.

OIN483B

OIN483B is a high oleic oilseed maintainer inbred derived from the backcross pedigree C8283B[3]/H251B// C8283B[4]/IMISUN-1.5XB. C8383B and H251 are Mycogen proprietary lines used as the recurrent and high oleic donor parents, respectively. IMISUN-1.5XB is a imidazolinone reistant donor parent released by the USDA in 1998. The final BCF5 derivation was selected for plant characteristics most similar to C8283B and homozygous expression of high oleic and imidazolinone resistant traits. The male-sterile component of OIN483B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is OIN483A.

Hybrids utilizing OIN483B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

OIN483B is similar in appearance to its recurrent parent C8283B but flowers 2 days later, is high oleic and resistant to imidazolinone herbicides. Other distinguishing features include orange-yellow ray flower color, rust colored pappi, and medium expression of anthocyanin on the stigmas. OIN483B is approximately 7 cm shorter height than HA89, with more upright head, and 3 days earlier flowering. Seed is approximately 10 mm long, mostly black with prominent dark gray stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using OIN483B will be offered for sale in 2008. Application will not be made for PVP.

OIN587R

OIN587R is a high oleic oilseed restorer derived from the backcross pedigree 687R[4]//IMISUN-2R/HO274570R. 687R and HO274570R are Mycogen proprietary oilseed restorers used as the recurrent linoleic parent and high oleic donor parent, respectively. IMISUN-2R is an imidazolinone resistant donor parent released by the USDA in 1998. The final BC4F5 derivation was selected for plant characteristics most similar to 687R and homozygous expression for high oleic fatty acid and resistance to imidazolinone herbicide. OIN587R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing OIN587R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

OIN587R is a fully branching high oleic restorer line resistant to imidazolinone herbicides. Its days to flower and maturity are similar to the recurrent parent 687R, but seed color is dark gray rather than black like 687R. It is 2 and 4 days later to flower and maturity than RHA801. OIN587R has yellow ray flowers, rust colored pappi and weak expression of stigma anthocyanin. Its short plant height can be characterized as dwarf in stature (25 cm shorter than RHA801). Leaves are longer and wider than RHA801with longer ray flowers and similar width. Seed length is noticeably shorter than most R-line seed.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using OIN587R will be offered for sale in 2008. Application will not be made for PVP.

ON1152R

ON1152R is a high oleic confection restorer selected by the pedigree method from the cross DY3//948R/H417R. 948R and H417R are Mycogen Seeds proprietary lines. DY3 (Israel OP) is a public line made available by NDSU and USDA-ARS. The final F6 family selection was made for increased seed size and plant uniformity. ON1152R has the gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing ON1152R are adapted to the major sunflower growing regions of North and South America and will be used primarily for the in-shell confection market.

ON1152R is a single headed (non-branching) high oleic confection restorer line, averaging 20 cm taller, and 3 and 5 days later flowering and maturing compared to RHA294. Ray flowers are yellow, pappi and stigmas do not have anthocyanin. Seeds of ON1152R are large in size and length, dark color, with fine white marginal and lateral stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON1152R will be offered for sale in 2009. Application will not be made for PVP

ON1153B

ON1153B, a high oleic confection maintainer selected by the pedigree method from the cross H641B//29B [2]/HA350B. H641B and 29B are Mycogen Seeds proprietary lines. HA350B is a public line released in 1985 from NDSU and USDA-ARS. Final selection was made for increased seed size with emphasis on improved root quality for the development of commercial confection hybrids. The male-sterile component of ON1153B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is ON1153A.

Hybrids utilizing ON1153B are adapted to the major sunflower growing regions of North and South America, used primarily for the in-shell market

Noticeable distinguishing features of ON1153B relative to HA292 are shorter plant height and reduced internode length. Days to flower and maturity are 5 and 6 days later than HA292. Ray flowers are orange-yellow, pappi and stigmas show no expression of anthocyanin. Seeds have gray and white stripes. Late emerging plants can grow 25-30 cm taller than earlier emerged plants under high plant populations, which are sometimes mistakenly interpreted as genetic height segregation or off type plants.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Foundation certification of ON1153B increases were initially approved by the Illinois Crop Improvement Association prior to hybrid seed sales. Certified Seed of hybrids using ON1153B was first offered for sale in 2005. Application will not be made for PVP.

ON1224B

ON1224B is a oleic oilseed maintainer inbred derived from the backcross pedigree H807B[4]/HO50887B. H807B and HO50887B are Mycogen proprietary line used as the recurrent and high oleic donor parents, respectively. The final derivation was selected for plant characteristics most similar to H807B and homozygous expression of high oleic fatty acid. The male-sterile component of ON1224B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is ON1224A.

Hybrids utilizing ON1224B were tested in replicated trials in ND, SD, KS and CO in multiple years, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON1224B is similar in appearance to its recurrent parent H807B but flowers 2-3 days earlier. ON1224B has green pappi and no stigma anthocyanin, shorter and wider yellow ray flowers, and approximately 4 cm less height than HA89. Days to flower and maturity are approximately 5 and 6 days earlier than HA89, head attitude and leaf size are similar. ON1224B's oil content is approximately 6% more than HA89. Seed is approximately 10 mm long, mostly black with narrow dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON1224B will be offered for sale in 2008. Application will not be made for PVP.

ON1225B

ON1225B is a high oleic oilseed maintainer inbred derived from the backcross pedigree H809B[4]/HO50887B. H809B and HO50887B are Mycogen proprietary lines used as the recurrent and high oleic donor parents, respectively. The final derivation was selected for plant characteristics most similar to H809B and homozygous expression of high oleic fatty acid. The male-sterile component of ON1225B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is ON1225A.

Hybrids utilizing ON1225B were tested in replicated trials in multiple years in ND, SD, KS and CO, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON1225B is similar in appearance to its recurrent parent H809B but flowers about 3 days earlier, is 8 cm shorter, and high oleic. ON1225B has yellow ray flowers, green colored pappi, and no anthocyanin on the stigmas. ON1225B is approximately 4 cm shorter than HA89, leaf and ray flower lengths and widths are noticeably shorter and narrower, and days to flower and maturity 5 and 7 days earlier. Seed is approximately 10 mm long, mostly black with narrow dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON1225B will be offered for sale in 2008. Application will not be made for PVP.

ON2343B

ON2343B is a oleic oilseed maintainer inbred derived from the backcross pedigree CN2343B[5]/H251B. CN2343B and H251B are Mycogen proprietary lines used as the recurrent parent and high oleic donor, respectively. The final BC5F4 family was selected for plant characteristics most similar to CN2343B and homozygous expression of high oleic fatty acid. The male-sterile component of ON2343B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is ON2343A.

Hybrids utilizing ON2343B were tested in replicated trials in ND, SD, KS and CO. in multiple years, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON2343B is a high oleic isoline of CN2343B with similar appearance but 1-2 days later flowering. ON2343B has green colored pappi, no stigma anthocyanin, and plant height approximately 21 cm taller than HA89. Ray flowers are obviously longer and wider, and days to flower and maturity about 2 and 4 later than HA89. Head attitude and leaf size are similar. ON2343B's oil content is consistently 4-5% higher than HA89. Seed is approximately 10 mm long, mostly black with narrow gray striping and less broadly ovate than HA89.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON2343B will be offered for sale in 2008. Application will not be made for PVP.

ON2509B

ON2509B is a high oleic oilseed maintainer derived from the backcross pedigree 409B[2]/H251B. 409B and H251B are Mycogen proprietary oilseed restorers used as the recurrent linoleic parent and high oleic donor parent, respectively. The final BC2F5 derivation was selected for plant characteristics most similar to 409B and homozygous expression for high oleic fatty acid. The male-sterile component of ON2509B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is ON2509A.

Hybrids utilizing ON2509B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON2509B is similar in appearance to its recurrent linoleic parent 409B but is approximately 4 cm taller with more head bend. ON2509B's plant height is approximately 75 cm and obviously shorter than most other conventional maintainer lines. Head bend tends to be less than HA89, approximately 85-95° from the vertical stem. Other distinguishing features include a short internode, green pappi, and no presence of anthocyanin on the stigmas. Seed is high oleic. Ray flower color is yellow. Seed is approximately 9 mm long and mostly black with dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON2509B will be first offered for sale in 2009. Application will not be made for PVP.

ON3403B

ON3403B is a high oleic oilseed maintainer selected by the pedigree method from the cross H383B//H1028B/234B. The oilseed parents H383B, H1028B and 234B are Mycogen Seeds proprietary maintainer inbreds. ON3403B was increased from a bulk of an F6 family, selected for uniform height and maturity, derived from a single F5 plant. The male-sterile component of ON3403B has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is ON3403A.

Hybrids utilizing ON3403B are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON3403B is a medium height high oleic oilseed maintainer that is approximately 25 cm taller and 3 and 4 days later in flowering and maturing than HA89. Head bend is more excessive to about 130 -140° from the vertical stem. ON3403B has green pappi and does not have stigma anthocyanin. Ray flowers are relatively large, 14 and 6 mm longer and wider than HA89, seed color is darker, more black than gray, slightly longer, and less broadly ovate.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON3403B will be offered for sale in 2009. Application will not be made for PVP.

ON7321R

ON7321R is a high oleic oilseed restorer derived from the backcross pedigree CN1321R[3]/HO274570R. CN7321R and HO274570R are Mycogen proprietary oilseed restorers used as the recurrent linoleic parent and high oleic donor parent, respectively. The final derivation is a BC3F7 bulk tracing to a single BC3F6 plant selected for plant characteristics most similar to CN1321R and homozygous expression for high oleic fatty acid. ON7321R is fully branched with gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing ON7321R were tested in replicated trials in multiple years in ND, SD, KS and CO, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ON7321R's phenotype is very similar to the recurrent parent CN7321R, except for its expression of high oleic rather than linoleic fatty acid. ON7321R days to flower and maturity are approximately 6 and 7 days later than RHA801, respectively. It has rust colored pappi and expresses stigma anthocyanin. ON7321R is the same plant height as RHA801; ray flower petals are noticeably shorter and narrower. Seed length is slightly shorter with seed color similar to RHA 801.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ON7321R will be offered for sale in 2009. Application will not be made for PVP.

OND163R

ONDl63R is a high oleic oilseed restorer derived from the backcross pedigree H1063R[3]///H117R//H752R[3]/HA337B. H1063R (recurrent parent), H117R and H752R are Mycogen proprietary restorer parent lines and HA337B is a Downy Mildew resistant donor parent that carries the PL 7 resistance gene released by the USDA-ARS in 1986. The final derivation is a BC3F7 bulk tracing to a single BC3F6 plant selected for plant characteristics most similar to H1063R and homozygous expression of high oleic content and downy mildew resistant traits. OND163R has recessive gene for branching and gene for fertility restoration of the PET1 [H. petiolaris (French)] cytoplasm of A-line seed parents.

Hybrids utilizing OND163R were tested in replicated trials in multiple years in ND, SD, KS and CO, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

OND163R is a fully branching high oleic restorer line resistant to all known North American races of downy mildew. It is 6 and 7 days later flowering and maturing than RHA274, respectively. OND163R has rust colored pappi, intermediate expression of stigma anthocyanin, and approximately 5 mm narrower ray flower width of RHA274 with similar length. OND163R is approximately 20 cm shorter in height with larger leaves compared to RHA274. Seeds of OND163R are 8 mm long, plump, and brown with narrow white marginal stripes.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using OND163R will be offered for sale in 2008. Application will not be made for PVP.

ONN283B

ONN283B is a high oleic oilseed maintainer inbred derived from the backcross pedigree C8283B[3]/H251B. C8283B and H251 are Mycogen proprietary lines used as the recurrent and high oleic donor parents, respectively. The final BC3F5 derivation was selected for plant characteristics most similar to C8283B and homozygous expression of high oleic trait. The male-sterile component of ONN283B has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is ONN283A.

Hybrids utilizing ONN283B were tested in replicated trials in multiple years in ND, SD, KS and CO, and are adapted to the major sunflower growing regions of North America and East Europe and will be used primarily for vegetable oil.

ONN283B is similar in appearance to its recurrent parent C8283B but flowers 2 days later, has slightly more head bend and plant height, and is high oleic. Other distinguishing features include orange-yellow ray flower color, rust colored pappi, and expression of anthocyanin on the stigmas. ONN238B is noticeably shorter and earlier than HA89, 6 cm less height, and 3 and 5 days earlier flowering and maturing. Head attitude is more upright than HA89. Seed is approximately 9 mm in length, mostly black with prominent dark gray striping.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ONN283B will be offered for sale in 2008. Application will not be made for PVP.

ONN687R

ONN687R is a high oleic restorer derived from the backcross pedigree 687R[3]/HO274570R. 687R and HO274570R are Mycogen proprietary oilseed restorers used as the recurrent linoleic parent and high oleic donor parent, respectively. The final BC3F5 derivation was selected for plant characteristics most similar to 687R and homozygous expression for high oleic fatty acid. ONN687R has recessive gene for full branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing ONN687R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

ONN687R's phenotype is very similar to the recurrent parent 687R, except for its expression of high oleic rather than linoleic fatty acid. ONN687R days to flower and maturity are approximately 3 and 5 days later than RHA801, respectively. It has rust colored pappi and weak expression of stigma anthocyanin. Its short plant height can be characterized as dwarf in stature (23 cm shorter than RHA801). Leaves and ray flower petals are longer and wider than RHA801. Seed length is noticeably short with nearly solid black outer pericarp.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ONN687R will be offered for sale in 2008. Application will not be made for PVP.

ONN757B

ONN757B is a high oleic oilseed maintainer derived from the backcross pedigree H757B[4]/234B. H757B and 234B are Mycogen Seeds proprietary inbreds used as the linoleic recurrent and high oleic donor parents, respectively. ONN757B originated as a composite of seed from a BC4F5 line that traces to a single BC4F4 plant. The male-sterile component of ONN757A has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is ONN757A.

Hybrids utilizing ONN757B are adapted to the major sunflower growing regions of North and South America, and Europe. Hybrids of ONN757B have been tested in North and South Dakota, Argentina, France, and Hungary.

ONN757B is an inbred line of similar general appearance and height to the public line HA300. However, ONN757B flowers approximately 3 days earlier, has a noticeably narrower ray flower width, darker brown anther tube pigment, darker yellow disk flower pigment, and head that is less convex than HA 300 at flowering. ONN757B has a narrower leaf canopy than HA300 due to shorter petioles. Seed of ONN757B is nearly solid black and generally narrower and longer than HA300.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ONN757B will first be offered for sale in 2008. Application will not be made for PVP.

ONN947R

ONN947R is a high oleic restorer derived from the backcross pedigree U9247R[3]/HO274570R. U9247R and HO274570R are Mycogen proprietary oilseed restorers used as the recurrent linoleic parent and high oleic donor parent, respectively. The final BC3F5 derivation was selected for plant characteristics most similar to U9247R and homozygous expression for high oleic fatty acid. ONN947R has recessive branching and gene for fertility restoration of the PET1 [*H. petiolaris* (French)] cytoplasm of A-line seed parents.

Hybrids utilizing ONN947R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.

ONN947R's phenotype is very similar to the recurrent parent U9247R, except for its expression of high oleic rather than linoleic fatty acid. ONN947R is much later than RHA801, flowering and maturing 10 and 13 days later. It has rust colored pappi, and weaker expression of stigma anthocyanin compared to RHA801. Its short plant height can be characterized as dwarf in stature (22 cm shorter than RHA801). Leaves and ray petal width are similar in size to RHA801, but ray flower length is noticeably shorter by approximately 9 mm. Seed length is obviously short with nearly solid black outer pericarp.

Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown. Certified Seed of hybrids using ONN947R will be offered for sale in 2009. Application will not be made for PVP.

B0531LM

B0531LM is a linoleic oil type restorer line. Hybrids utilizing B0531LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0531LM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, B0531LM, have been tested in the USA, Romania, Hungary, Ukraine and France.

B0531LM is a fully branched, linoleic oil type restorer line. Compared to the public line RHA274, B0531LM blooms 6 days later and matures 4 days later. It is about 18 cm taller than RHA801, has leaves that are slightly larger and darker green. The leaves are also triangular in shape compared to the cordate leaves of RHA274. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed size and shape is similar to RHA274. B0531LM has seed that are all black with faint marginal and lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

B0650HG

B0650HG is an oleic oil type maintainer line. Hybrids utilizing the sterile analogue of B0650HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0650HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0650HG is to create oleic and mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of B0650HG have been tested in the USA, Romania, Hungary and France.

B0650HG is a high oleic oil type maintainer line. Compared to the public line HA341, it blooms 15 days earlier and matures 6 days earlier. Compared to the public line HA89, it is 14 cm taller and has larger, green cordate leaves, with slightly concave heads. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is longer and heavier than HA89, but with a similar color and striping. B0650HG has seed that are black with distinct grey marginal and lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009. An application will not be made for protection under the Plant Variety Protection Act.

B0651LM

B0651LM is a linoleic oil type restorer line. Hybrids utilizing B0651LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0651LM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, B0651LM, have been tested in the USA, Romania, Hungary, Ukraine and France.

B0651LM is a fully branched, linoleic oil type restorer line. Compared to the public line RHA801, it blooms 2 days earlier and matures 4 days earlier, is 10 cm taller, and has slightly larger sized cordate leaves. The ray flowers are medium yellow in color and the disc flowers are yellow. The elliptic seed is slightly longer and heavier than that of RHA801. The seed size and shape is similar to RHA274. B0651LM has seed that are all black with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009. An application will not be made for protection under the Plant Variety Protection Act.

B0701LG

B0701LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of B0701LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0701LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0701LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of B0701LG have been tested in the USA, Romania, Hungary, Ukraine and France.

B0701LG is a linoleic oil type maintainer line. Compared to the public line HA371, it blooms 2 days later and matures 5 days earlier. The line is 52 cm taller than HA89 and has smaller, darker green cordate leaves. The ray flowers of B0701LG are shorter and wider than those of HA89. The seed is slightly longer, similar in shape, but lighter than HA89, and with a similar color and striping. B0701LG has seed that are black with distinct grey marginal and lateral stripes. B0701LG is resistant to ExpressR brand Tribenuron-methyl herbicide.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.An application will not be made for protection under the Plant Variety Protection Act.

F05DGLG

F05DGLG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of F05DGLG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of F05DGLG is to maintain its sterile analogue. The primary purpose of the sterile analogue of F05DGLG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of F05DGLG have been tested in the USA, Romania, Hungary and France.

F05DGLG is a linoleic oil type maintainer line. Compared to the public line HA89, F05DGLG blooms 4 days earlier and matures 6 days later, is about 38 cm taller, and has a slightly more pendulous head habit. The leaves are dark green, relative to the normal green of HA89. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter and narrower but heavier in weight than HA89. The seed color is very similar to RHA274, all black with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009. An application will not be made for protection under the Plant Variety Protection Act.

H0111LG

H0111LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of H0111LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of H0111LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of H0111LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of H0111LG have been tested in the USA, Ukraine, Hungary and France.

H0111LG is a linoleic oil type maintainer line. Compared to the public line HA89, H0111LG blooms 7 days earlier and matures 2 days earlier, is about 58 cm taller, has larger leaves and a smaller head diameter. The ray flowers are medium yellow in color and the disc flowers are yellow. The head is slightly concave. The seed is of similar size and shape but heavier than HA89. The seeds are black with distinct grey marginal and lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009. An application will not be made for protection under the Plant Variety Protection Act.

H0555LM

H0555LM is a linoleic oil type restorer line. Hybrids utilizing H0555LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of H0555LM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, H0555LM, have been tested in the USA, Romania, Hungary, Ukraine and France.

H0555LM is a top branching, linoleic oil type restorer line. Compared to the public line RHA274, H0555LM blooms 5 days earlier and matures similarly, and is about 28 cm taller. The leaves are also triangular in shape compared to the cordate leaves of RHA274 and are smaller in size. The ray flowers are sulfur yellow, with yellow disk flowers. There is anthocyanin in the stigmas of the disc and ray flowers. The seed size and shape is similar to RHA274. H0555LM has seed that are light brown with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.An application will not be made for protection under the Plant Variety Protection Act.

N0248LG

N0248LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of N0248LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of N0248LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of N0248LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of N0248LG have been tested in the USA, Romania, Turkey and Spain.

N0248LG is a linoleic oil type maintainer line. Compared to the public line HA89, N0248LG blooms 3 days earlier and matures 4 days earlier, is about 14 cm taller, has larger leaves and a more erect head habit. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter but heavier in weight than HA89. The seed color is very similar to HA89, black with distinct grey stripes both marginally and laterally.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.An application will not be made for protection under the Plant Variety Protection Act.

N0626LG

N0626LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of N0626LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of N0626LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of N0626LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of N0626LG have been tested in the USA, Romania, Turkey and Spain.

N0626LG is a linoleic oil type maintainer line. Compared to the public line HA89, N0626LG blooms 11 days earlier and matures 3 days earlier, is about 20 cm taller, has similar sized leaves that are lighter in color. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is longer and wider and of a similar weight and color and striping as HA89. N0626LG has seed that are black with distinct grey marginal and lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009. An application will not be made for protection under the Plant Variety Protection Act.

T0456LM

T0456LM is a linoleic oil type restorer line. Hybrids utilizing T0456LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0456LM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, T0456LM, have been tested in the USA, Romania, Hungary, and France.

T0456LM is a fully branched, linoleic oil type restorer line. Compared to the public line RHA801, T0456LM blooms 6 days later and matures 9 days later, is about 28 cm taller, has larger leaves and convex heads. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed size and shape is similar to RHA274. T0456LM has seed that are brown with no visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

T0502LG

T0502LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0502LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0502LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0502LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of T0502LG have been tested in the USA, Romania, Hungary and France.

T0502LG is a linoleic oil type maintainer line. Compared to the public line HA371, T0502LG blooms 4 days later and matures 7 days later, has slightly larger leaves and a more pendulous head habit. T0502LG is about 24 cm taller than HA89. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter and narrower and heavier than HA371. The seed color is very similar to RHA274, all black with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

T0514LG

T0514LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0514LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0514LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0514LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of T0514LG have been tested in the USA, Romania, Hungary and France.

T0514LG is a linoleic oil type maintainer line. Compared to the public line HA303, T0514LG blooms 4 days earlier and matures 4 days later, is about 40 cm taller, has wider leaves and a similar head habit. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter and a heavier than HA303. The seed color is very similar to HA303, black with distinct grey lateral and marginal stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

T0527HG

T0527HG is an oleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0527HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0527HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0527HG is to create oleic and mid-oleic oil type hybrids.. Hybrid combinations of the sterile analogue of T0527HG have been tested in the USA, Romania, Hungary and France.

T0527HG is a high oleic oil type maintainer line. Compared to the public line HA89, T0527HG blooms 11 days and matures 5 days earlier, is about 2 cm taller, has smaller leaves and an erect head habit. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter and fatter and heavier than HA89. The seed color is very similar to RHA274, all black with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

T0533HG

T0533HG is a high oleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0533HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0533HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0533HG is to create oleic and mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of T0533HG have been tested in the USA, Romania, Hungary and France.

T0533HG is a high oleic oil type maintainer line. Compared to the public line HA89, T0533HG blooms 8 days earlier and matures similarly, is about 9 cm taller, has darker leaves and a more erect head habit. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter but heavier than HA89. The seed color is very similar to HA89, all black with distinct grey stripes, that occur only laterally.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.An application will not be made for protection under the Plant Variety Protection Act.

T0605LG

T0605LG is a linoleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0605LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0605LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0605LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of T0605LG have been tested in the USA, Romania, Hungary and France.

T0605LG is a linoleic oil type maintainer line. Compared to the public line HA89, T0605LG blooms 1 day later and matures 11 days later, is about 60 cm taller, has larger leaves and a more erect head habit. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter but heavier than HA89. The seed color is very similar to RHA274, all black with none or faintly visible stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

T0632HG

T0632HG is a high oleic oil type maintainer line. Hybrids utilizing the sterile analogue of T0632HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0632HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0632HG is to create oleic and mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of T0632HG have been tested in the USA, Romania, Hungary and France.

T0632HG is a high oleic oil type maintainer line. Compared to the public line HA89, T0632HG blooms 9 days earlier and matures 3 days earlier, is about 20 cm taller, and has significantly longer ray flowers. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed is shorter and narrower but heavier than HA89. The seed color is very similar to HA89, black with distinct grey stripes, where the lateral stripes are quite pronounced.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

U07STLM

U07STLM is a linoleic oil type restorer line. Hybrids utilizing U07STLM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.
The primary purpose of U07STLM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, U07STLM, have been tested in the USA, Romania, Turkey and Spain.

U07STLM is a top-branching with central head, linoleic oil type restorer line. Compared to the public line RHA801, U07STLM blooms 5 days earlier and matures 1 day earlier, is about 10 cm taller, has larger leaves and shorter ray flowers. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed size and shape is similar to RHA801. U07STLM has seed that are black with distinctly strong grey marginal & lateral stripes, similar to RHA361.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

U07TZHM

U07TZHM is a high oleic oil type restorer line. Hybrids utilizing U07TZHM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.
The primary purpose of U07TZHM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, U07TZHM, have been tested in the USA, Romania, Turkey and Spain.

U07TZHM is a fully branched, high oleic oil type restorer line. Compared to the public line RHA381, U07TZHM blooms 4 days later and matures 7 days later, is about 11 cm taller, has larger leaves that are smooth with no crinkling. The ray flowers are medium yellow in color and the disc flowers are yellow. There is anthocyanin in the disk and ray flowers. The seed is elliptic in shape is longer than RHA381. U07TZHM has seed that are black with distinct grey marginal & lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.An application will not be made for protection under the Plant Variety Protection Act.

U07VFBM

U07VFBM is a linoleic birdseed/oil type restorer line. Hybrids utilizing U07VFBM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of U07VFBM is to restore fertility to hybrids when crossed to sterile female inbreds. Hybrid combinations utilizing the restorer male, U07VFBM, have been tested in the USA, Romania, Hungary, and Turkey.

U07VFBM is a fully branched, linoleic birdseed/oil type restorer line. Compared to the public line RHA381, U07VFBM blooms similarly but matures 10 days later, is about 25 cm taller, and has larger leaves. The ray flowers are medium yellow in color and the disc flowers are yellow. The seed size is longer than RHA381, but similar in shape. U07VFBM has seed that are dark grey with distinct white marginal & lateral stripes.

Pioneer Hi-Bred International will be responsible for the maintenance of all seed stocks. Foundation seed will be produced in open pollinated field increases in isolation as prescribed by the state where the seed is grown. A maximum of two generations beyond breeder seed will be allowed. Breeder seed will originate from cage isolations or, on occasion, from controlled bagging in nursery rows. Seed will be offered for sale in 2009.

An application will not be made for protection under the Plant Variety Protection Act.

SA2409R

SA2409R is a high oleic (90.7%), imidazolinone resistant, oilseed restorer selected from the cross SA219R/SA556R. Selection was for uniform plant type, self-compatibility, high oleic acid content, and resistance to imazamox herbicide. SA2409R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA2409R are adapted to major sunflower growing regions of North and South America and Europe. Hybrids utilizing SA2409R have been tested in North and South Dakota, Argentina, and Turkey.

Compared to the public line RHA274, SA2409R is 3 days later to flower and reach physiological maturity, similar in height, has fewer leaves, has larger leaves, and has similar leaf color. Ray flower color of SA2409R is yellow, similar to RHA294. Heads of SA2409R are larger in size and are held in a more upright position than heads of RHA274. Seeds of SA2409R are similar in size and solid black in color, but are heavier than seed of RHA274.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.

If accepted, seed will first be offered for sale in 2009. Application will not be made for PVP.

SA430R

SA430R is a non-oilseed, imidazolinone resistant restorer selected by the pedigree method from the cross SA370*2/SA334/2/SA147/IMI9607. Selection was for uniform plant type, self- compatibility, and resistance to imazamox herbicide. SA430R has upper stem branching controlled by a recessive gene, and genes for restoration of PET 1 cytoplasm.

Hybrids involving SA430R are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA430R have been tested in North and South Dakota, and Argentina.

Compared to the public line RHA294, SA430R is 2 days earlier to flower, 4 days earlier to reach physiological maturity, similar in height and number of leaves, has larger leaves, has a larger and flatter shaped head, and has a more upright head position. Ray flower color of SA430R is yellow, similar in color to ray flowers of RHA 294. Seed of SA430R is black and white striped similar to RHA294, but longer and heavier than seed of RHA294.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, under bags or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.

If accepted, seed will first be offered for sale in 2009. Application will not be made for PVP.

SA436

SA436 is a non-oilseed, high oleic, imidazolinone resistant maintainer selected by the pedigree method from the cross SA440/HO336. Selection was for uniform plant type, self-compatibility, high oleic acid content (88.1%), and resistance to imazamox herbicide. The male sterile component of SA436 has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is SA436A.

Hybrids involving SA436 are adapted to major sunflower growing regions of North and South America and Europe. Hybrids utilizing SA436 have been tested in North and South Dakota, Argentina, and Hungary.

Compared to the public line HA288, SA436 is 1 day later to flower, 2 days later to reach physiological maturity, 10 cm taller, has similar leaf size, has more leaves, has larger heads, flatter in shape, and has seed shorter in length but greater in width. Ray flower color of SA436 is yellow, similar to ray flower color of HA288. Seed color and striping of SA436 is black and white striped, similar to seed of HA288.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.

If accepted, seed will first be offered for sale in 2009. Application will not be made for PVP.

SA445

SA445 is a non-oilseed, imidazolinone resistant, downy mildew resistant maintainer selected by the pedigree method from the cross SA420B/2/SA440B/7835B. Selection was for uniform plant type, self compatibility, downy mildew resistance, and resistance to imazamox herbicide. The male sterile component of SA445 has cms PET 1 cytoplasm derived from H. petiolaris (French). The cms designation is SA445A.

Hybrids involving SA445 are adapted to major sunflower growing regions of North and South America, and Europe. Hybrids utilizing SA445 have been tested in North and South Dakota, Argentina, and Hungary.

Compared to the public line HA288, SA445 is 3 days later to flower and reach physiological maturity, 15 cm taller, has more leaves, has larger leaves, has larger heads, and has longer, larger, and heavier seed. Ray flowers of SA445 are yellow, similar to ray flower color of HA288. SA445 has similar leaf color as HA288, and has similar black and white striped seed as HA288.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.

If accepted, seed will first be offered for sale in 2009. Application will not be made for PVP.

SA6166R

SA6166R is an imidazolinone resistant, oilseed restorer selected from the cross SA616R/2/SA556R/SA406R. Selection was for uniform plant type, self-compatibility, and resistance to imazamox herbicide. SA6166R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA6166R are adapted to major sunflower growing regions of North and South America and Europe. Hybrids utilizing SA6166R have been tested in North and South Dakota, Argentina, and Turkey.

Compared to the public line RHA274, SA6166R is 2 days later to flower and reach physiological maturity, 29 cm shorter, has fewer leaves, has similar size leaves, and has a larger head and a more upright head position. Ray flower color of SA6166R is yellow in color, similar to RHA274. The solid black seed color and seed length of SA6166R are similar to seed of RHA274. Seed shape of SA6166R is broader in width than seed of RHA274. Seed weight of SA6166R is greater than seed weight of RHA274.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.

If accepted, seed will first be offered for sale in 2009. Application will not be made for PVP.