

**A REPORT OF THE
NATIONAL SUNFLOWER VARIETY REVIEW BOARD**



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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May 2007

The Association of Official Seed Certifying Agencies (AOSCA), National Sunflower Variety Review Board (NSFVRB), reviewed the following varieties on April 10, 2007, 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 state in which the seed is grown.

All variety information, including descriptions, claims and research data to support any claim was supplied to the NSFVRB by the applicants. The NSFVRB makes judgment regarding recommendation of varieties for inclusion in certification based on the data supplied. Beyond that, the NSFVRB 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 detail regarding the NSFVRB can be obtained from:

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Respectively submitted,

Jack Ingemansen, Chairman
National Sunflower Variety Review Board

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25042

25042 is a high-oleic sunflower B-line line developed by Advanta Pacific, LLC from a cross between two high oleic Advanta elite lines. Pedigree method was followed along with selection for high-oleic, oil content, good agronomics and PET1 sterility maintenance. The combining ability was tested in F5 generation. Subsequent selections were performed for high-oleic, oil content, Phomopsis reaction and uniformity. A single F6 selected plant was selfed to produce the first Breeder seed of 25042. This line is the maintainer of the cms analogous 15042. In comparison with HA 89, 25042 is 2 days later in blooming and 1 day later in maturity, similar in plant height, and has 2 fewer leaves. The leaves are a little larger and longer, wider than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentations, ascending attitude, crinkled surface and of green color. Ray flowers are yellow, 1.1 cm longer, and pappi are green. The head is similar in size, convex and ascending at maturity, containing 60 more seeds than HA89. Seeds show narrow-dark gray striping, are oblong, 5 mm. longer, and heavier. In comparison with HA 89, 25042 is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage and oil content are similar to HA 89. The oleic fatty-acid content in its oil is 89.8%. The sunflower line 25042 and its hybrids are considered of medium-early or medium 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 25042 are high-oleic and NuSun (mid-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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 25042 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. For present, application will not be made for P.V.P.

35049

35049 is a sunflower restorer line developed by Advanta Pacific, LLC, by incorporating IMI (imidazolinone) tolerance into an elite Advanta restorer line. 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 35049. Subsequent selections were performed for high oil content, Phomopsis reaction, good agronomics, total IMI tolerance, and height uniformity. This line is a recessive top branched restorer, homozygous for the Rf1 gene in Pet 1 cytoplasm. The line 35049 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 35049 are conventional (high linoleic) and NuSun (mid-oleic) oils. In comparison with RHA801, 35049 is 5 days later in blooming and 6 days later in maturity, 18 cm taller and has 5 fewer 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, convex and ascending at maturity, containing 50 more seeds than RHA801. Seeds are nearly solid black, broadly ovate, 3 mm longer, and heavier. In comparison with RHA801, 35049 has similar resistance to downy-mildew (races 2), is IMI tolerant, and is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage is around 1.1% lower, and oil content around 3.9% higher.

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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 35049 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. For present, application will not be made for P.V.P.

35050

The sunflower line 35050 was developed from a cross between two Advanta experimental R lines. Single seed descent (3 generations) method was followed along with selection for restoration, oil content, and downy-mildew (Race 4) resistance. F4 offspring were tested for combining ability. A single F6 plant from a selected offspring was selfed to produce next generations of 35050. It is a recessive branching restorer, homozygous for RF1 gene in CMS PET1 cytoplasm. It shows full branching with central head. Most of its hybrids are early and mid-early.

Subsequent selections were performed for oil content, earliness, short height, and uniformity. In comparison with RHA274, 35050 is 5 days earlier in flowering and 6 days earlier in maturity. It is 56 cm shorter, and has 5 fewer leaves. The leaves are slightly smaller, wider than long, cordate, acuminate, truncate, medium serrate, with intermediate indentation, descending, with rather crinkled surface, and light green (lighter than RHA274). The petiole is about 3 cm shorter. Ray flowers are yellow, slightly shorter and narrower than RHA274. The anthocyanin is not present on stigmas. The disk flower and pollen are yellow, and the pappi are green. The head is 1.5 cm smaller than RHA274, flat and of ascending attitude by maturity. Seeds are near solid black, broadly ovate, and close to RHA274 in size, but they are shorter and lighter (-1.0gr/100 seed). 35050 is resistant to downy mildew (Race 4) and to Phomopsis. It shows better resistance to lodging and neck breakage, lower hull percentage (-5%), and higher oil content (8.3%) than RHA274. The sunflower line 35050 and its hybrids are considered early and mid-early, so adapted to short and mid-season sunflower growing areas, especially of North Central of the U.S. The line is uniform and very stable. Outcrosses (if they show due to lack of isolation in seed increase) are easily identified, being taller, more vigorous, and generally single-headed plants.

Advanta Pacific, LLC is fully responsible for the respective sunflower inbred line maintenance and multiplication, preserving its genetic purity identity and seed quality. Breeder seed is produced under bags, and Foundation and Basic seed is increased under cages or in isolated plots. Production is conducted according to the seed certification regulations. If 35050 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. For present, application will not be made for P.V.P.

35052

35052 is a sunflower restorer line developed by Advanta Pacific, LLC, by incorporating the downy-mildew resistance gene PI7 into a proprietary elite restorer line. The conversion was finalized after five backcross generations, followed by three selfing and selection generations. A single BC5F3 selected plant was selfed to produce the first Breeder seed of 35052. Subsequent selections were performed for total downy mildew resistance (race 3), oil content, short height, Phomopsis reaction and uniformity. This line is a recessive fully branched restorer, homozygous for the Rf1 gene in PET 1 cytoplasm. In comparison with RHA801, 35052 is 7 days later in blooming and 8 days later in maturity, similar as plant height, and has 2 fewer leaves. The leaves are larger in size, wider than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentations, ascending attitude, crinkled surface and of green color. Ray flowers are yellow and pappi green. The central head is similar in size, convex and ascending at maturity, containing 50 more seeds than RHA801. Seeds are nearly solid black, broadly ovate, 5 mm. longer, and heavier. In comparison with RHA801, 35052 is resistant to downy mildew (Race 3), and is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage is similar to RHA801, and oil content around 4.1% higher. The sunflower line 35052 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 35052 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 identity and seed quality. The multiplication procedure comprises 3 generations (stages): 1. Breeder seed is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 35052 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. Application will not be made for P.V.P.

35053

35053 is a sunflower elite restorer line developed by Advanta Pacific, LLC. by selfing in a single-cross hybrid between two Advanta experimental R lines. Pedigree method was followed, along with selection for pollen fertility restoration, downy mildew resistance (Race 4), Phomopsis tolerance, and good agronomics. Subsequent selections were performed for oil content, shorter height, and uniformity. A single F6 plant was selfed to produce the first Breeder seed of 35053. This line is a recessive branched restorer (with large central head), homozygous for the Rf1 gene in PET 1 cytoplasm. The sunflower line 35053 and its hybrids are considered early and mid-early, so adapted to short and mid-season sunflower growing areas, especially of North Central of the U.S. The primary uses of hybrids produced with 35053 are conventional (h.linoleic) and NuSun (mid-oleic) oils. In comparison with RHA 801, 35053 is 1 day later in blooming and 2 days later in maturity, 5 cm shorter and has 2 fewer leaves. The leaves are larger in size, wider than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentations, ascending attitude, crinkled surface and of light - green color. Ray flowers are yellow and pappi green. The central head is 6.0 cm larger, convex and ascending at maturity, containing 255 more seeds than RHA801. Seeds are dark brown, narrowly ovate, similar in length, and heavier. In comparison with RHA801, 35053 is resistant to downy mildew (Race 4) and is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage is similar to RHA801, and oil content around 3.5% higher.

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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. The line's special traits (characteristics) are tested for each Breeder seed production. Production is conducted according to the seed certification regulations. If 35053 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. Application will not be made for P.V.P.

35054

35054 is a sunflower restorer line developed by Advanta Pacific, LLC, by incorporating the downy-mildew resistance gene PI6 into an Advanta elite restorer line. The conversion was finalized after 5 backcross generations, followed by three selfing and selection generations. A single BC5F3 selected plant was selfed to produce the first Breeder seed of 35054. Pedigree method was followed, along with selection for pollen fertility restoration, Phomopsis tolerance, and good agronomics. Subsequent selections were performed for oil content, short height, and uniformity. 35054 is a recessive fully branched restorer, homozygous for the Rf1 gene in PET 1 cytoplasm. The sunflower line 35054 and its hybrids are considered very early or early, so adapted to short and mid-season sunflower growing areas, especially in the North Central of the U.S.. The primary use of hybrids produced with 35054 are conventional (high linoleic) and NuSun (mid-oleic) oils. In comparison with RHA801, 35054 is 3 days earlier in blooming and 2 days earlier in maturity, 10 cm shorter and has 7 fewer leaves. The leaves are larger in size, wider than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentations, ascending attitude, crinkled surface and of green color. Ray flowers are yellow and pappi green. The central head is similar in size, convex and ascending at maturity, containing a similar amount of seed as RHA801. Seeds are nearly solid black, broadly ovate, similar in length, and heavier. In comparison with RHA801, 35054 is resistant to downy mildew (Race 4), and is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage is 1% less, and oil content around 2.1% higher than RHA801.

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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 35054 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. Application will not be made for P.V.P.

55471

55471 is a large seeded confection sunflower B-line line developed by Advanta Pacific, LLC from a cross between two Advanta confection elite lines. Pedigree method was followed along with selection for seed size, shape and color, good agronomics and PET1 sterility maintenance. The combining ability was tested in F6 generation. Subsequent selections were performed for seed size, shape and color, Phomopsis reaction and uniformity. A single F7 selected plant was selfed to produce the first Breeder seed of 55471. This line is the maintainer of the cms analogous 45471. The sunflower line 55471 and its hybrids are considered of medium 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 55471 are large confection seeds and kernels. In comparison with HA 292, 55471 is 2 days later in blooming and 1 day later in maturity, similar in plant height, and has 2 fewer leaves. The leaves are slightly larger in size, wider than long, cordate, acuminate, auriculate, finely serrate, with intermediate indentations, ascending attitude, crinkled surface and of green color. Ray flowers are sulfur-yellow, 1.1 cm longer, 2 mm wider, and pappi are green. The central head is similar in size, flat and ascending at maturity, containing 30 more seeds. Seeds are black and show narrow gray striping, are broadly ovate, similar in size, and heavier. In comparison with HA 292, 55471 is more resistant to lodging, neck breakage, and Phomopsis. Hull percentage is 2% higher.

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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 55471 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. For present, application will not be made for P.V.P.

65341

65341 is a confection sunflower restorer line, developed by Advanta Pacific, LLC from proprietary, very large and long seeded confection population. Pedigree method was used. Subsequent selections were performed for seed size, shape and color, Phomopsis reaction, good agronomics, and height uniformity. A single F6 selected plant was selfed to produce the first Breeder seed of 65341. This line is a recessive top branched restorer, homozygous for the Rf1 gene in Pet 1 cytoplasm. The confection sunflower line 65341 and its hybrids are considered of medium 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 65341 are confection seeds and kernels. In comparison with RHA294, 65341 is 2 days earlier in blooming and maturity, 25 cm shorter, and has 5 fewer leaves. The leaves are slightly larger in size, wider than long, cordate, acuminate, auriculate, finely serrate, with shallow indentations, ascending attitude, smooth surface and of light green color. Ray flowers are sulfur-yellow, a little longer and larger, and pappi are green. The central head is 8.0 cm larger, convex and ascending at maturity, containing 30 less seeds than RHA294. Seeds are gray and show narrow white stripes, oblong, 7 mm longer, and heavier. In comparison with RHA274, 65341 shows similar resistance to downy-mildew (races 2). 65341 is more resistant to lodging, neck breakage, and Phomopsis than RHA294. Hull percentage is around 1.3% higher.

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 is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots. Production is conducted according to the seed certification regulations. If 65341 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. Application will not be made for P.V.P.

65342

65342 is a confection sunflower restorer line developed by Advanta Pacific, LLC, by incorporating IMI (imidazolinone) tolerance into an elite Advanta large, long seeded confection restorer line. 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 65342. Subsequent selections were performed for seed size, shape and color, Phomopsis reaction, good agronomics, total IMI tolerance, and height uniformity.

This line is a recessive top branched restorer, homozygous for the Rf1 gene in Pet 1 cytoplasm. In comparison with RHA294, 65342 is 5 days later in blooming and 6 days later in maturity, 5 cm taller and has 5 fewer leaves. The leaves are a little larger and longer, cordate, acuminate, auriculate, finely serrate, with shallow indentations, ascending attitude, smooth surface and of light green color. Ray flowers are sulfur-yellow and pappi green. The central head is 8.0 cm larger, convex and ascending at maturity, containing 50 more seeds than RHA294. Seeds show narrow white stripes, oblong, 5 mm longer, and heavier. In comparison with RHA274, 65342 has similar resistance to downy-mildew (race 2). 65342 is IMI tolerant and is more resistant to lodging, neck breakage, and Phomopsis than RHA294. Hull percentage is around 2.1% lower.

Advanta Pacific, LLC is fully responsible for the respective sunflower inbred line maintenance and multiplication, preserving its genetic purity identity and seed quality. Multiplication procedure comprises 3 generations (stages): 1. Breeder seed is produced under bags, under direct Sunflower Breeder's supervision; 2. Foundation seed is produced under cages; 3. Basic seed is increased in isolated plots Production is conducted according to the seed certification regulations. If 65342 is accepted by official certifying agencies, certified seed will be first offered for sale in 2008. Application will not be made for P.V.P.

B0375HG

- 1) Hybrids utilizing B0375HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0375HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0375HG is to create high oleic or mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of B0375HG have been tested in North Dakota and France.
- 2) B0375HG is a high oleic oil type maintainer line. It blooms at 61 days, which is 6 days earlier than HA89, and matures at 104 days, which is 5 days later than HA89. B0375HG is 86 cm tall, which is 28 cm shorter than HA89. It has erect, medium sized, green, truncated leaves with medium serrations of intermediate depth. B0375HG has 22 leaves, which is 5 fewer than HA89. The leaves are 20 cm long and 18 cm wide, which is the same length and 3 cm narrower than the leaves of HA89. The sulfur yellow ray flowers are 64 mm long and 14 mm wide, which is the same length and width as the ray flowers of HA89. The medium sized, descending, convex head is 16 cm wide, which is 2 cm narrower than HA89. The broadly ovate, solid black seeds are 12 mm long and weigh 8.0 grams per 100 seeds, which is 2 mm longer and 3.1 grams heavier per 100 seeds than HA89. B0375HG yields 900 seeds per head, which is the same as HA89. The % oil content is 42.7%, which is 5.3% less than HA89.
- 3) B0375HG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0503HG

1. Hybrids utilizing the sterile analogue of B0503HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0503HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0503HG is to create high oleic or mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of B0503HG have been tested in North Dakota and France.
2. B0503HG is a high oleic oil type maintainer line. It blooms at 66 days, which is 1 day earlier than HA89, and matures at 106 days, which is 7 days later than HA89. B0503HG is 134 cm tall, which is 20 cm taller than HA89. It has erect, small sized, dark green, cordate leaves with medium serrations of intermediate depth. B0503HG has 25 leaves, which is 2 fewer than HA89. The leaves are 17 cm long and 17 cm wide, which are 3 cm shorter and 4 cm narrower than the leaves of HA89. The sulfur yellow ray flowers are 58 mm long and 12 mm wide, which is the 6 mm shorter and 2 mm narrower than the ray flowers of HA89. The medium sized, descending, convex head is 16 cm wide, which is 2 cm narrower than HA89. The oblong seeds are 12 mm long and weigh 4.6 grams per 100 seeds, which is 2 mm longer and 0.3 grams lighter per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. B0503HG yields 1,100 seeds per head, which are 200 seeds per head more than HA89. The % oil content is about 1.0% less than HA89. The oleic acid and linoleic acid percentages are 91.5% and 1.5%, respectively.
3. B0503HG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
4. 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.
5. Seed will be offered for sale in 2008.
6. No, an application will not be made for protection under the Plant Variety Protection Act.

B0632HG

1. Hybrids utilizing the sterile analogue of B0632HG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0632HG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0632HG is to create high oleic or mid-oleic oil type hybrids. Hybrid combinations of the sterile analogue of B0632HG have been tested in North Dakota and France.
2. B0632HG is a high oleic oil type maintainer line. It blooms at 60 days, which is 7 days earlier than HA89, and matures at 103 days, which is 4 days later than HA89. B0632HG is 108 cm tall, which is 6 cm shorter than HA89. It has ascending, medium sized, dark green, cordate leaves with medium serrations of intermediate depth. B0632HG has 20 leaves, which is 7 fewer than HA89. The leaves are 18 cm long and 18 cm wide, which are 2 cm shorter and 3 cm narrower than the leaves of HA89. The sulfur yellow ray flowers are 61 mm long and 11 mm wide, which is 3 mm shorter and 3 mm narrower than the ray flowers of HA89. The medium sized, descending, convex head is 16 cm wide, which is 2 cm narrower than HA89. The broadly ovate seeds are 11 mm long and weigh 5.8 grams per 100 seeds, which is 1 mm longer and 0.9 grams heavier per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. B0632HG yields 1,050 seeds per head, which are 150 seeds per head more than HA89. The % oil content is about 0.8% more than HA89. The oleic acid and linoleic acid percentages are 91.0% and 4.0%, respectively.
3. B0632HG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
4. 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.
5. Seed will be offered for sale in 2008.
6. No, an application will not be made for protection under the Plant Variety Protection Act.

B0641HM

- 1) Hybrids utilizing B0641HM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0641HM is to create high oleic or mid-oleic oil type hybrids. Hybrid combinations of B0641HM have been tested in North Dakota, France, Romania, and Hungary.
- 2) B0641HM is a top branching, high oleic oil type restorer line. It blooms at 60 days, which is 1 day later than RHA346, and matures at 90 days, which is 2 days earlier than RHA346. T0481HM is 108 cm tall, which is 21 cm shorter than RHA346. It has ascending, medium sized, green, cordate leaves with medium serrations of intermediate depth. T0481HM has 21 leaves, which is 8 fewer than RHA346. The leaves are 18 cm long and 18 cm wide, which are 5 cm shorter and 3 cm narrower than the leaves of RHA346. The yellow ray flowers are 62 mm long and 12 mm wide, which is 2 mm shorter and 4 mm narrower than the ray flowers of RHA346. The small sized, descending, flat head is 9 cm wide, which is 3 cm narrower than RHA346. Stigma anthocyanin coloration is medium intensity. The oblong seeds are 11 mm long and weigh 3.3 grams per 100 seeds, which is the same length and 0.2 grams lighter per 100 seeds than RHA274. The seeds are black with narrow, dark gray lateral and marginal stripes. T0481HM yields 325 seeds per head, which are 35 seeds per head less than RHA274. The % oil content is about 2.0% less than HA89. The oleic acid and linoleic acid percentages are 92.8% and 1.6%, respectively.
- 3) B0641HM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

T0481HM

- 1) Hybrids utilizing T0481HM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0481HM is to create high oleic oil type hybrids. Hybrid combinations of T0481HM have been tested in France, Romania, and Hungary.
- 2) T0481HM is a top branching, high oleic oil type restorer line. It blooms at 62 days, which is 3 days later than RHA346, and matures at 111 days, which is 19 days later than RHA346. T0481HM is 124 cm tall, which is 5 cm shorter than RHA346. It has horizontal, medium sized, green, cordate leaves with fine serrations of shallow depth. T0481HM has 19 leaves, which is 10 fewer than RHA346. The leaves are 20 cm long and 20 cm wide, which is 3 cm shorter and 1 cm narrower than the leaves of RHA346. The sulfur yellow ray flowers are 78 mm long and 20 mm wide, which is 14 mm longer and 4 mm wider than the ray flowers of RHA346. The small sized, descending, flat head is 15 cm wide, which is 3 cm wider than RHA346. Stigma anthocyanin coloration is medium intensity. The oblong seeds are 12 mm long and weigh 5.2 grams per 100 seeds, which is 1 mm longer and 1.7 grams heavier per 100 seeds than RHA274. The seeds are black with narrow, dark gray lateral and marginal stripes. T0481HM yields 360 seeds per head, which is the same as RHA274. The % oil content is about 1.4% less than RHA271. The oleic acid and linoleic acid percentages are 91.5% and 1.3%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0504LG

- 1) Hybrids utilizing B0504LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0504LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0504LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of B0504LG have been tested in Turkey, Spain, Romania, and Hungary.
- 2) B0504LG is a conventional linoleic oil type maintainer line. It blooms at 68 days, which is 1 day earlier than HA371, and matures at 112 days, which is 11 days later than HA371. B0504LG is 152 cm tall, which is 8 cm shorter than HA371. It has erect, medium sized, light green, cordate leaves with fine serrations of swallow depth. B0504LG has 26 leaves, which is 7 fewer than HA371. The leaves are 19 cm long and 18 cm wide, which are 3 cm longer and 6 cm wider than the leaves of HA371. The sulfur yellow ray flowers are 68 mm long and 16 mm wide, which is 3 mm longer and 1 mm wider than the ray flowers of HA371. The large sized, descending, convex head is 25 cm wide, which is 4 cm wider than HA371. The broadly ovate seeds are 11 mm long and weigh 4.6 grams per 100 seeds, which is the same length and 2.4 grams lighter per 100 seeds than HA371. The seeds are black with narrow, dark gray lateral and marginal stripes. B0504LG yields 675 seeds per head, which are 325 seeds per head less than HA371. The % oil content is 43.0%, which is about 5.0% less than HA89.
- 3) B0504LG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0529LG

1. Hybrids utilizing B0529LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0529LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0529LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of B0529LG have been tested in France.
2. B0529LG is a conventional linoleic oil type maintainer line. It blooms at 66 days, which is 1 day earlier than HA89, and matures at 123 days, which is 24 days later than HA89. B0529LG is 150 cm tall, which is 36 cm taller than HA89. It has ascending, medium sized, light green, cordate leaves with medium serrations of intermediate depth. B0529LG has 25 leaves, which is 2 fewer than HA89. The leaves are 20 cm long and 23 cm wide, which is the same length and 2 cm wider than the leaves of HA89. The sulfur yellow ray flowers are 55 mm long and 18 mm wide, which is 9 mm shorter and 4 mm narrower than the ray flowers of HA89. The medium sized, descending, convex head is 19 cm wide, which is 1 cm wider than HA89. The broadly ovate seeds are 12 mm long and weigh 5.9 grams per 100 seeds, which is 2 mm longer and 1.0 grams heavier per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. B0529LG yields 1,250 seeds per head, which is 350 seeds per head more than HA89. The % oil content is about 7.0% less than HA89.
3. B0529LG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
4. 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.
5. Seed will be offered for sale in 2008.
6. No, an application will not be made for protection under the Plant Variety Protection Act.

B0648LG

- 1) Hybrids utilizing B0648LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0648LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of B0648LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of B0648LG have been tested in Turkey, Spain, Romania, and Hungary.
- 2) B0648LG is a conventional linoleic oil type maintainer line. It blooms at 66 days, which is 1 day earlier than HA89, and matures at 116 days, which is 17 days later than HA89. B0648LG is 130 cm tall, which is 16 cm taller than HA89. It has ascending, medium sized, light green, cordate leaves with fine serrations of swallow depth. B0648LG has 23 leaves, which is 4 fewer than HA89. The leaves are 20 cm long and 20 cm wide, which is the same length and 1 cm narrower than the leaves of HA89. The sulfur yellow ray flowers are 64 mm long and 13 mm wide, which is the same length and 1 mm narrower than the ray flowers of HA89. The medium sized, descending, convex head is 19 cm wide, which is 1 cm wider than HA89. The broadly ovate seeds are 10 mm long and weigh 4.6 grams per 100 seeds, which is the same length and 0.3 grams heavier per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. B0648LG yields 1,450 seeds per head, which are 550 seeds more per head than HA89. The % oil content is about 5.0% less than HA89.
- 3) B0648LG is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

E0205LG

- 1) Hybrids utilizing E0205LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of E0205LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of E0205LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of E0205LG have been tested in Spain and Turkey.
- 2) E0205LG is a conventional linoleic oil type maintainer line. It blooms at 65 days, which is 2 day earlier than HA89, and matures at 94 days, which is 5 days earlier than HA89. E0205LG is 126 cm tall, which is 12 cm taller than HA89. It has horizontal, large sized, green, cordate leaves with fine serrations of shallow depth. E0205LG has 24 leaves, which is 3 fewer than HA89. The leaves are 27 cm long and 27 cm wide, which are 7 cm longer and 6 cm wider than the leaves of HA89. The sulfur yellow ray flowers are 65 mm long and 19 mm wide, which is the 1 mm longer and 5 mm wider than the ray flowers of HA89. The large sized, vertical, convex head is 26 cm wide, which is 5 cm wider than HA371. The broadly ovate seeds are 11 mm long and weigh 7.9 grams per 100 seeds, which is the same length and 0.9 grams heavier per 100 seeds than HA371. The seeds are black with narrow, dark gray lateral and marginal stripes. E0205LG yields 1,000 seeds per head, which is the same as HA371. The % oil content is about 7.6% less than HA89. The oleic acid and linoleic acid percentages are 33.9% and 56.5%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

H0209LG

- 1) Hybrids utilizing H0209LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of H0209LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of H0209LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of H0209LG have been tested in France, Romania, and Hungary.
- 2) H0209LG is a conventional linoleic oil type maintainer line. It blooms at 68 days, which is 1 day later than HA89, and matures at 99 days, which is the same as HA89. H0209LG is 116 cm tall, which is 2 cm taller than HA89. It has horizontal, medium sized, green, cordate leaves with medium serrations of intermediate depth. H0209LG has 27 leaves, which is the same as HA89. The leaves are 24 cm long and 25 cm wide, which are 4 cm longer and 4 cm wider than the leaves of HA89. The sulfur yellow ray flowers are 69 mm long and 14 mm wide, which is 5 mm longer and the same width as the ray flowers of HA89. The medium sized, erect, flat head is 18 cm wide, which is the same width as HA89. The elliptic seeds are 10 mm long and weigh 7.4 grams per 100 seeds, which is the same length and 2.5 grams heavier per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. H0209LG yields 1,000 seeds per head, which are 100 seeds more per head than HA89. The % oil content is about 0.2% less than HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

T0504LG

- 1) Hybrids utilizing T0504LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0504LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0504LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of T0504LG have been tested in France, Romania, and Hungary.
- 2) T0504LG is a conventional linoleic oil type maintainer line. It blooms at 66 days, which is 1 day earlier than HA89, and matures at 113 days, which is 14 days later than HA89. T0504LG is 118 cm tall, which is 4 cm taller than HA89. It has horizontal, medium sized, light green, cordate leaves with fine serrations of shallow depth. T0504LG has 23 leaves, which is 4 fewer than HA89. The leaves are 21 cm long and 22 cm wide, which are 1 cm longer and 1 cm wider than the leaves of HA89. The sulfur yellow ray flowers are 64 mm long and 14 mm wide, which is the same length and width as the ray flowers of HA89. The medium sized, descending, convex head is 22 cm wide, which is 4 cm wider than HA89. The broadly ovate seeds are 11 mm long and weigh 4.2 grams per 100 seeds, which is the same length and 0.7 grams lighter per 100 seeds than HA89. The seeds are black with narrow, dark gray lateral and marginal stripes. T0504LG yields 650 seeds per head, which are 250 seeds per head less than HA89. The % oil content is about 3.0 % less than HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

T0511LG

- 1) Hybrids utilizing T0511LG are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0511LG is to maintain its sterile analogue. The primary purpose of the sterile analogue of T0511LG is to create linoleic oil type hybrids. Hybrid combinations of the sterile analogue of T0511LG have been tested in France, Romania, and Hungary.
- 2) T0511LG is a conventional linoleic oil type maintainer line. It blooms at 67 days, which is the same as HA89, and matures at 107 days, which is 8 days later than HA89. T0511LG is 154 cm tall, which is 40 cm taller than HA89. It has ascending, large sized, green, cordate leaves with medium serrations of intermediate depth. T0511LG has 24 leaves, which is 3 fewer than HA89. The leaves are 25 cm long and 23 cm wide, which are 5 cm longer and 2 cm wider than the leaves of HA89. The sulfur yellow ray flowers are 66 mm long and 19 mm wide, which is 2 mm longer and 5 mm wider than the ray flowers of HA89. The medium sized, descending, convex head is 20 cm wide, which is 1 cm narrower than HA371. The broadly ovate seeds are 10 mm long and weigh 5.1 grams per 100 seeds, which is 1 mm shorter and 1.9 grams lighter per 100 seeds than HA371. The seeds are black with narrow, dark gray lateral and marginal stripes. T0511LG yields 1,050 seeds per head, which are 50 seeds per head more than HA371. The % oil content is 48%, which is the same as HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0319LM

- 1) Hybrids utilizing B0319LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0319LM is to create linoleic or mid-oleic type hybrids. Hybrid combinations of B0319LM have been tested in North Dakota and France.
- 2) B0319LM is a top branching, conventional linoleic oil type restorer line. It blooms at 61 days, which is 3 days earlier than RHA801, and matures at 102 days, which is 7 days later than RHA801. B0319LM is 122 cm tall, which is 10 cm taller than RHA801. It has ascending, medium sized, green, cordate leaves with coarse serrations of deep depth. B0319LM has 20 leaves, which is 6 fewer than RHA801. The leaves are 20 cm long and 22 cm wide, which are 2 cm longer and 4 cm wider than the leaves of RHA801. The sulfur yellow ray flowers are 50 mm long and 10 mm wide, which is 1 mm shorter and the same width of the ray flowers of RHA801. The small sized, descending, concave head is 9 cm wide, which is 2 cm narrower than RHA801. The narrowly ovate, solid black seeds are 9 mm long and weigh 3.7grams per 100 seeds, which is the same length and 0.2 grams heavier per 100 seeds than RHA801. B0319LM yields 400 seeds per head, which is the same as RHA801. The % oil content is 48.5%, which is 0.5% more than HA89.
- 3) B0319LM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0524LM

- 1) Hybrids utilizing B0524LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0524LM is to create linoleic oil type hybrids. Hybrid combinations of B0524LM have been tested in Turkey, Spain, Romania, and Hungary.
- 2) B0524LM is a top branching, conventional linoleic oil type restorer line. It blooms at 64 days, which is the same as RHA274, and matures at 90 days, which is 4 days earlier than RHA274. B0524LM is 136 cm tall, which is 20 cm taller than RHA274. It has horizontal, medium sized, green, cordate leaves with coarse serrations of deep depth. B0524LM has 24 leaves, which is 6 fewer than RHA274. The leaves are 20 cm long and 19 cm wide, which are 4 cm shorter and 5 cm narrower than the leaves of RHA274. The sulfur yellow ray flowers are 51 mm long and 13 mm wide, which is 7 mm shorter and 1 mm narrower than the ray flowers of RHA274. The small sized, descending, convex head is 12 cm wide, which is the same as RHA346. The narrowly ovate seeds are 10 mm long and weigh 2.6 grams per 100 seeds, which is the same length and 1.2 grams lighter per 100 seeds than RHA346. The seeds are black with narrow, dark gray lateral and marginal stripes. B0524LM yields 800 seeds per head, which is the same as RHA346. The % oil content is 47.4%, which is 0.6% less than HA89.
- 3) B0524LM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0623LM

- 1) Hybrids utilizing B0623LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0623LM is to create linoleic or mid-oleic oil type hybrids. Hybrid combinations of B0623LM have been tested in North Dakota and France.
- 2) B0623LM is a top branching, conventional linoleic oil type restorer line. It blooms at 60 days, which is 4 days earlier than RHA274, and matures at 88 days, which is 6 days earlier than RHA274. B0623LM is 102 cm tall, which is 14 cm shorter than RHA274. It has horizontal, medium sized, green, cordate leaves with medium serrations of intermediate depth. B0623LM has 20 leaves, which is 10 fewer than RHA274. The leaves are 21 cm long and 19 cm wide, which are 3 cm shorter and 5 cm narrower than the leaves of RHA274. The sulfur yellow ray flowers are 55 mm long and 14 mm wide, which is 3 mm shorter and the same width of the ray flowers of RHA274. The small sized, descending, flat head is 11 cm wide, which is the same as RHA274. Stigma anthocyanin coloration is weak intensity. The narrowly ovate seeds are 11 mm long and weigh 3.8 grams per 100 seeds, which is the same length and 0.3 grams heavier per 100 seeds than RHA274. The seeds are black with narrow, dark gray marginal stripes. B0623LM yields 450 seeds per head, which are 90 more seeds than RHA274. The % oil content is 50.8%, which is 2.8% more than HA89.
- 3) B0623LM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0642LM

- 1) Hybrids utilizing B0642LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0642LM is to create linoleic type hybrids. Hybrid combinations of B0642LM have been tested in Turkey, Spain, Romania, and Hungary.
- 2) B0642LM is a top branching, conventional linoleic oil type restorer line. It blooms at 63 days, which is 6 days earlier than RHA271, and matures at 90 days, which is 14 days earlier than RHA271. B0642LM is 140 cm tall, which is 19 cm shorter than RHA271. It has horizontal, medium sized, green, cordate leaves with coarse serrations of deep depth. B0642LM has 21 leaves, which is 6 fewer than RHA271. The leaves are 20 cm long and 18 cm wide, which are 7 cm shorter and 5 cm narrower than the leaves of RHA271. The sulfur yellow ray flowers are 60 mm long and 14 mm wide, which is the same length and 2 mm narrower than the ray flowers of RHA271. The small sized, descending, convex head is 11 cm wide, which is the same as RHA801. Stigma anthocyanin coloration is low intensity. The narrowly ovate seeds are 10 mm long and weigh 3.3 grams per 100 seeds, which is 1 mm longer and 0.2 grams lighter per 100 seeds than RHA801. The seeds are black with narrow, dark gray marginal and lateral stripes. B0642LM yields 470 seeds per head, which are 70 more seeds than RHA801. The % oil content is 48.4%, which is 0.4% more than HA89.
- 3) B0642LM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

B0644LM

- 1) Hybrids utilizing B0644LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of B0644LM is to create linoleic or mid-oleic oil type hybrids. Hybrid combinations of B0644LM have been tested in North Dakota, France, Romania, and Hungary.
- 2) B0644LM is a top branching, conventional linoleic oil type restorer line. It blooms at 69 days, which is the same as RHA271, and matures at 92 days, which is 12 days earlier than RHA271. B0644LM is 138 cm tall, which is 21 cm shorter than RHA271. It has ascending, large sized, green, cordate leaves with medium serrations of intermediate depth. B0644LM has 21 leaves, which is 6 fewer than RHA271. The leaves are 22 cm long and 23 cm wide, which are 5 cm shorter and the same width as the leaves of RHA271. The sulfur yellow ray flowers are 57 mm long and 12 mm wide, which is the 3 mm shorter and 4 mm narrower than the ray flowers of RHA271. The small sized, descending, convex head is 12 cm wide, which is 1 cm wider than RHA271. The narrowly ovate seeds are 11 mm long and weigh 4.1 grams per 100 seeds, which is 1 mm longer and 1.9 grams lighter per 100 seeds than RHA271. The seeds are solid medium brown, but there is a possibility of some lighter brown seeds coming from the centers of the head. B0644LM yields 600 seeds per head, which are 100 more seeds per head than RHA271. The % oil content is 48.0%, which is the same as HA89.
- 3) B0644LM is resistant to tribenuron-methyl. See Appendix 1 for herbicide resistance data.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

F0318LM

- 1) Hybrids utilizing F0318LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of F0318LM is to create linoleic oil type hybrids. Hybrid combinations of F0318LM have been tested in France, Romania, and Hungary.
- 2) F0318LM is a top branching oil seed restorer line. It blooms at 63 days, which is 1 day earlier than RHA274, and matures at 102 days, which is 8 days later than RHA274. F0318LM is 148 cm tall, which is 32 cm taller than RHA274. It has ascending, medium sized, green, cordate leaves with medium serrations of intermediate depth. F0318LM has 21 leaves, which is 7 fewer than RHA274. The leaves are 19 cm long and 22 cm wide, which are 5 cm shorter and 2 cm narrower than the leaves of RH274. The sulfur yellow ray flowers are 63 mm long and 15 mm wide, which is 5 mm longer and 1 mm wider than the ray flowers of RHA274. The small sized, descending, convex head is 13 cm wide, which is 2 cm wider than RHA274. Stigma anthocyanin coloration is weak intensity. The narrowly ovate seeds are 10 mm long and weigh 4.0 grams per 100 seeds, which is the same length and 0.2 grams heavier per 100 seeds than RHA346. The seeds are black, with narrow, dark gray lateral and marginal stripes. F0318LM yields 850 seeds per head, compared to 800 seeds per head for RHA346. The % oil content is about 3.0% less than HA89. The oleic acid and linoleic acid percentages are 29.4% and 60.0%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

S0075LM

- 1) Hybrids utilizing S0075LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of S0075LM is to create linoleic oil type hybrids. Hybrid combinations of S0075LM have been tested in France, Spain, Romania, and Hungary.
- 2) S0075LM is a top branching, conventional linoleic oil type restorer line. It blooms at 67 days, which is 2 days earlier than RHA271, and matures at 101 days, which is 3 days earlier than RHA271. S0075LM is 121 cm tall, which is 38 cm shorter than RHA271. It has horizontal, medium sized, green, rounded leaves with medium serrations of intermediate depth. S0075LM has 20 leaves, which is 7 fewer than RHA271. The leaves are 19 cm long and 19 cm wide, which are 8 cm shorter and 4 cm narrower than the leaves of RHA271. The sulfur yellow ray flowers are 74 mm long and 16 mm wide, which is 14 mm longer and the same width as the ray flowers of RHA271. The small sized, descending, flat head is 12 cm wide, which is 1 cm wider than RHA271. The broadly ovate seeds are 10 mm long and weigh 4.8 grams per 100 seeds, which is the same length and 1.2 grams lighter per 100 seeds than RHA271. The seeds are solid medium brown, but there is a possibility of some lighter brown seeds coming from the centers of the head. S0075LM yields 525 seeds per head, compared to 500 seeds per head for RHA271. The % oil content is 58.9%, which is 10.9% more than HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

T0476LM

- 1) Hybrids utilizing T0476LM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of T0476LM is to create linoleic oil type hybrids. Hybrid combinations of T0476LM have been tested in France, Romania, and Hungary.
- 2) T0476LM is a fully branched, conventional linoleic oil type restorer line. It blooms at 67 days, which is 3 days later than RHA801, and matures at 94 days, which is 1 day earlier later than RHA801. T0476LM is 131 cm tall, which is 19 cm taller than RHA801. It has horizontal, medium sized, light green, cordate leaves with fine serrations of shallow depth. T0476LM has 23 leaves, which is 3 fewer than RHA801. The leaves are 19 cm long and 22 cm wide, which is 1 cm longer and 4 cm wider than the leaves of RHA801. The sulfur yellow ray flowers are 71 mm long and 16 mm wide, which is 20 mm longer and 6 mm wider than the ray flowers of RHA801. The small sized, descending, convex head is 12 cm wide, which is 1 cm wider than RHA801. The broadly ovate, black seeds are 10 mm long and weigh 4.5 grams per 100 seeds, which is 1 mm longer and 1.0 grams heavier per 100 seeds than RHA801. T0476LM yields 390 seeds per head, which are 10 seeds less per head than RHA801. The % oil content is about 2.0% more than HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

U06TMLM

- 1) Hybrids utilizing U06TMLM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of U06TMLM is to create linoleic oil type hybrids. Hybrid combinations of U06TMLM have been tested in Turkey, Spain, Romania, and Hungary.
- 2) U06TMLM is a fully branched, conventional linoleic oil type restorer line. It blooms at 65 days, which is 1 day later than RHA801, and matures at 94 days, which is 1 day earlier than RHA801. U06TMLM is 137 cm tall, which is 25 cm taller than RHA801. It has ascending, large sized, green, cordate leaves with fine serrations of shallow depth. U06TMLM has 23 leaves, which is 3 fewer than RHA801. The leaves are 22 cm long and 23 cm wide, which are 6 cm longer and 7 cm wider than the leaves of RHA274. The yellow ray flowers are 54 mm long and 19 mm wide, which is 3 mm longer and 9 mm wider than the ray flowers of RHA801. The small sized, descending, flat head is 7 cm wide, which is 4 cm narrower than RHA801. Stigma anthocyanin coloration is weak intensity. The oblong seeds are 12 mm long and weigh 5.6 grams per 100 seeds, which is 3 mm longer and 2.1 grams heavier per 100 seeds than RHA801. The seeds are solid dark brown, but there is a possibility of some lighter brown seeds coming from the centers of the head. U06TMLM yields 400 seeds per head, which is the same as RHA801. The % oil content is 44.4%, which is 3.6% less than HA89. The oleic acid and linoleic acid percentages are 26.1% and 65.1%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

U06TTLM

- 1) Hybrids utilizing U06TTLM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of U06TTLM is to create linoleic oil type hybrids. Hybrid combinations of U06TTLM have been tested in Turkey, Spain, Romania, and Hungary.
- 2) U06TTLM is a fully branched, conventional linoleic oil type restorer line. It blooms at 67 days, which is 3 days later than RHA801, and matures at 96 days, which is 1 day later than RHA801. U06TTLM is 132 cm tall, which is 20 cm taller than RHA801. It has ascending, large sized, green, cordate leaves with coarse serrations of deep depth. U06TTLM has 27 leaves, which is 1 more than RHA801. The leaves are 23 cm long and 24 cm wide, which are 5 cm longer and 6 cm wider than the leaves of RHA274. The yellow ray flowers are 48 mm long and 16 mm wide, which is 3 mm shorter and 6 mm wider than the ray flowers of RHA801. The small sized, erect, convex head is 7.5 cm wide, which is 3.5 cm narrower than RHA801. The oblong seeds are 14 mm long and weigh 5.1 grams per 100 seeds, which is 5 mm longer and 1.6 grams heavier per 100 seeds than RHA801. The seeds are black with narrow, dark gray lateral and marginal stripes. U06TTLM yields 400 seeds per head, which is the same as RHA801. The % oil content is 46.7%, which is 1.3% less than HA89. The oleic acid and linoleic acid percentages are 30.1% and 59.8%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

U06VBHM

- 1) Hybrids utilizing U06VBHM are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of U06VBHM is to create high oleic or mid-oleic oil type hybrids. Hybrid combinations of U06VBHM have been tested in Turkey, Spain, Romania, and Hungary.
- 2) U06VBHM is a fully branched, high oleic oil type restorer line. It blooms at 55 days, which is 4 days earlier than RHA346, and matures at 88 days, which is 4 days earlier than RHA346. U06VBHM is 140 cm tall, which is 11 cm taller than RHA346. It has ascending, medium sized, green, cordate leaves with fine serrations of shallow depth. U06VBHM has 23 leaves, which is 6 fewer than RHA346. The leaves are 17 cm long and 16 cm wide, which are 6 cm shorter and 5 cm narrower than the leaves of RHA346. The sulfur yellow ray flowers are 74 mm long and 19 mm wide, which is 10 mm longer and 3 mm wider than the ray flowers of RHA346. The small sized, descending, convex head is 14 cm wide, which is 3 cm wider than RHA801. The oblong seeds are 12 mm long and weigh 4.0 grams per 100 seeds, which is 3 mm longer and 0.5 grams heavier per 100 seeds than RHA801. Stigma anthocyanin coloration is weak intensity. The seeds are black with narrow, dark gray lateral and marginal stripes. U06VBHM yields 400 seeds per head, which is the same as RHA801. The % oil content is 48.0%, which is the same as HA89. The oleic acid and linoleic acid percentages are 91.5% and 2.6%, respectively.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

U02W7

- 1) Hybrids utilizing U02W7 are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe. The primary purpose of U02W7 is to create linoleic oil type hybrids. Hybrid combinations of U02W7 have been tested in Turkey, Spain, Romania, and Hungary.
- 2) U02W7 is a top branching, conventional linoleic oil type restorer line. It blooms at 62 days, which is 2 days earlier than RHA801, and matures at 94 days, which is 1 day earlier than RHA801. U02W7 is 98 cm tall, which is 14 cm shorter than RHA801. It has ascending, small sized, green, cordate leaves with coarse serrations of intermediate depth. U02W7 has 23 leaves, which is 3 fewer than RHA801. The leaves are 14 cm long and 14 cm wide, which are 4 cm shorter and 4 cm narrower than the leaves of RHA801. The sulfur yellow ray flowers are 49 mm long and 13 mm wide, which is 2 mm shorter and 3 mm wider than the ray flowers of RHA801. The small sized, descending, flat head is 12 cm wide, which is 1 cm narrower than RHA801. The oblong seeds are 10 mm long and weigh 4.3 grams per 100 seeds, which is 1 mm shorter and 0.8 grams heavier per 100 seeds than RHA801. The seeds are black with narrow, dark gray lateral and marginal stripes. U02W7 yields 300 seeds per head, which are 100 seeds per head less than RHA801. The % oil content is 42.7%, which is 5.3% less than HA89.
- 3) No specific disease resistance or tolerance.
- 4) 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.
- 5) Seed will be offered for sale in 2008.
- 6) No, an application will not be made for protection under the Plant Variety Protection Act.

SA 315

SA 315 is a non-oilseed, downy mildew resistant maintainer selected by the pedigree method from the cross D99*4/789/335. Selection was for uniform plant type, self compatibility, and resistance to downy mildew. The male sterile component of SA 315 has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is SA 315A.

Hybrids involving SA 315 are adapted to major regions of North and South America. Hybrids utilizing SA 315 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 288, SA 315 is 1 day later to flower, 3 days earlier to reach physiological maturity, 5 cm shorter, has fewer leaves, similar in size, has longer and heavier seed. SA 315 has similar leaf color, similar head shape, and similar seed width as HA 288. SA 315 has gray and white striped seed compared to black and white striped seed of HA 288. Anthocyanin is present in the stigmas of SA 315.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 317

SA 317 is a non-oilseed maintainer selected by the pedigree method from the cross SA 398*3/317/R5. Selection was for uniform plant type, self compatibility and rust resistance. The male sterile component of SA 317 has cms PET 1 cytoplasm derived from *H. petiolaris* (French.). The cms designation is SA 317A.

Hybrids involving SA 317A are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 317 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 288, SA 317 is 2 days later to flower, 1 day later to reach physiological maturity, 28 cm taller, has longer and wider leaves, larger heads, flatter in head shape, and has longer, wider, and heavier seed. Leaf color and head attitude of SA 317 is similar to HA 288.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007

SA 443

SA 443 is a non-oilseed, downy mildew resistant, imdazolinone resistant maintainer selected by the pedigree method from the cross SA 440B/3/SA 420*2//789/335B. Selection was for uniform plant type, self compatibility, resistance to downy mildew, and resistance to imazamox herbicide. The male sterile component of SA 443 has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is SA 443A.

Hybrids involving SA 443 are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 443 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 288, SA 443 is 3 days later to flower, 2 days later to reach physiological maturity, 23 cm taller, has longer leaves, and has larger, heavier and longer seed. SA 443 has similar number of leaves, similar leaf color, and similar head position as HA 288.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 479

SA 479 is a non-oilseed, imidazolinone resistant maintainer selected by the pedigree method from the cross SA 398*4/SA 32B/IMI 292B. Selection was for uniform plant type, self-compatibility and resistance to imazamox herbicide. The male sterile component of SA 479 has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is SA 479A.

Hybrids involving SA 479 are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 479 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 288, SA 479 is 5 days later to flower, 7 days later to physiological maturity, 38 cm taller, has longer and wider leaves, has larger and flatter shaped heads, and has longer and wider seed. Leaf color of SA 479 is similar to leaves of HA 288. Seed of HA 288 is darker black in color compared to the dark brown and white seed of SA 479.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 944

SA 944 is a high oleic, imidazolinone resistant, oilseed maintainer selected by the pedigree method from the cross SA 470B*5/KSW. Selection was for uniform plant type, self compatibility, high oleic acid content (87.1%), and resistance to imazamox herbicide. The male sterile component of SA 944 has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is SA 944A.

Hybrids involving SA 944 are adapted to the major sunflower growing regions of North and South America. Hybrids utilizing SA 944 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 89, SA 944 is 5 days later to flower, 8 days later reach physiological maturity, 20 cm shorter, is similar in leaf color and leaf size, has longer and heavier seed, and has more seed per head. Heads of SA 944 are flatter in shape than heads of HA 89.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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.

SA 1570

SA 1570 is a high oleic oilseed maintainer selected by the pedigree method from the cross SA 1541B/SA 470B. Selection was for uniform plant type, self compatibility, and high oleic acid content (86.5%). The male sterile component of SA 1570 has cms PET 1 cytoplasm derived from *H. petiolaris* (French). The cms designation is SA 1570A.

Hybrids involving SA 1570 are adapted to the major sunflower growing regions of North and South America. Hybrids utilizing SA 1570 have been tested in North and South Dakota and Argentina.

Compared to the public line HA 89, SA 1570 is 7 days later flower, 10 days later to reach physiological maturity, 40 cm taller, has longer and wider leaves, and is similar in leaf color. Heads of SA 1570 are wider and flatter in shape than heads of HA 89. Seed of SA 1570 is longer and heavier than seed of HA 89. Seed color of SA 1570 is brown and white striped compared to the black and gray striped seed of HA 89.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 181R

SA 181R is a non-oil restorer from the cross SA 185R/SA 331R. Selection was for uniform plant type, self compatibility, and large seed. SA 181R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA 181R are adapted to major sunflower regions of North and South America. Hybrids utilizing SA 181R have been tested in North and South Dakota and Argentina.

Compared to the public line RHA 294, SA 181R is 1 day later to flower, 3 days later to reach physiological maturity, 5 cm taller, has more leaves, has longer, wider, heavier, and darker, seed, and has more upright heads. Leaf color and head size of SA 181R is similar to leaves and heads of RHA 294.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 293R

SA 293R is a non-oilseed restorer selected by the pedigree method from the cross 185R/TKY-2-B-4. Selection was for uniform plant type, self compatibility and long seed. SA 293R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA 293R are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 293R have been tested in North and South Dakota and in Argentina.

Compared to the public line RHA 294, SA 293R is 7 days later to flower, 8 days later to reach physiological maturity, 20 cm taller, and has longer and wider seed. Seed color of SA 293R has broader white stripes. Seed length of SA 293R is longer than seed of RHA 294. Head size of SA 293R is larger and flatter than heads of RHA 294.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 298R

SA 298R is a non-oilseed restorer selected by the pedigree method from the cross SA 293R/PR 78. Selection was for uniform plant type, self compatibility, and long seed. SA 298R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA 298R are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 298R have been tested in North and South Dakota and Argentina.

Compared to the public line RHA 294, SA 298R is 8 days later to flower, 10 days later to reach physiological maturity, has a flatter head shape, and has longer, wider, heavier, and darker seed. Leaf color of SA 298R is similar to leaf color of RHA 294.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007

SA 428R

SA 428R is a non-oilseed, imidazolinone resistant restorer selected by the pedigree method from the cross SA 370R/2/SA 334R/IMI 1577. Selection was for uniform plant type, self compatibility, and resistance to imazamox herbicide.

Hybrids involving SA 428R are adapted to major growing regions of North and South America. Hybrids utilizing SA 428R have been tested in North and South Dakota and Argentina.

Compared to the public line RHA 294, SA 428R is 2 days later to flower, 2 days later to reach physiological maturity, 8 cm taller, and has longer seed. Seed color of SA 428R is brown and white striped compared to the black and white striped seed of RHA 294. Leaf color, leaf size, head shape, and head attitude of SA 428R are similar to RHA 294.

Breeder's seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

SA 4964R

SA 4964R is a high oleic (88.3%), Imidazolinone resistant, oilseed restorer from the cross SA 556R/SA 406R. Selection was for uniform plant type, self compatibility, high oleic acid content, and resistance to Imidazolinone herbicide. SA 4964R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA 4964R are adapted to major sunflower growing regions of North and South America. Hybrids utilizing SA 4964R have been tested in North and South Dakota, and Argentina.

Compared to the public line RHA 274, SA 4964R is similar in seed color, seed size, head shape, head size, and leaf color. SA 4964R is 5 days later to flower, 3 days later to reach physiological maturity, 5 cm taller, and has greater seed weight than RHA 274. SA 4964R is resistant to Imidazolinone herbicide and is high oleic (88.3%).

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007

SA 6106R

SA 6106R is a high oleic, oilseed restorer selected from the cross SA 616R/ SA 406R. Selection was for uniform plant type, self compatibility; short height and high oleic acid content (88.9%). SA 6106R has upper stem branching controlled by a recessive gene, and genes for fertility restoration of PET 1 cytoplasm.

Hybrids involving SA 6106R are adapted to major sunflower growing regions of North America. Hybrids utilizing SA 6106R have been tested in North and South Dakota.

Compared to the public line RHA 274, SA 6106R is 5 days earlier to flower, 2 days earlier to reach physiological maturity, 28 cm shorter, has fewer and smaller leaves, and has leaves similar in color. Heads of SA 6106R are similar in size, more convex, and held more upright than heads of RHA 274. Seed color is similar to seed color of RHA 274. Seed weight and length of SA 6106R is greater than seed of RHA 274.

Breeders seed will be maintained by Seeds 2000 in nursery rows, 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 2007.

04-R011

04-R011 is a multi-headed, confectionery type, restorer line. It stands 122 cm tall with a flowering date of 68 days after emergence as compared to 110cm and 61 days RHA 294. 04-R011 will reach physiological maturity in 127 days compared to 121 days for RHA 294. 04-R011 is quick to emerge and stands very well. 04-R011 has a medium size head and a fairly upright neck. 04-R011 has larger leaves, similar leaf color and larger head size than RHA 294. Seed of 04-R011 is longer, darker, heavier, and larger than seed of RHA 294. No specific insect resistance or disease resistance claims are made. Breeders seed will be maintained by CHS in nursery rows, or in cages. Only 2 generations beyond breeders seed will be allowed for production of foundation seed. Application will not be made for protection under the Plant Variety Protection Act.