The Association of Official Seed Certifying Agencies (AOSCA), Sunflower Variety Review Board (SFVRB), reviewed the following varieties on May 27, 2022. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed 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 Sunflower Variety Review Board by the applicants. The Sunflower Variety Review Board makes judgments regarding recommendation of varieties for inclusion into certification based on the data supplied. Beyond that, the Sunflower 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 detail regarding the Sunflower Variety Review Board can be obtained from:

Sarah Wilbanks, Chief Executive Officer
Association of Official Seed Certifying Agencies
P.O. Box 174
Fayette, MO 65248

Phone: 309-736-0120
E-Mail: swilbanks@aosca.org

Respectfully submitted,

Ashley Koala, Chairman
Sunflower Variety Review Board
# 2022 AOSCA SUNFLOWER VARIETY REVIEW BOARD
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Sunflower

KHM0010B

1. KHM0010B is a imidazolinone tolerant oilseed maintainer line developed by the pedigree method of selection from the cross KLM8101B/KHE8123B. KLM8101B is a proprietary imidazolinone tolerant maintainer that has been described and previously approved by the NSVRB. KHE8123B is a high oleic, tribenuron-methyl tolerant proprietary line with preferred agronomic characteristics, that has been previously described and approved. CMS A line was produced using the backcross method. The pedigree method of selection was used for the development of KHM0010B. It is a bulk of F7 plants tracing back to a single F6 plant. Selection was based on uniform plant type, fatty acid profile, yield, self compatibility, seed size, seed color, and resistance to imidazolinone herbicide.

2. Hybrids utilizing KHM0010B are adapted to major sunflower growing regions of North America, and SE Europe: the hybrids will be primarily for vegetable oil.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): medium
   Branching Type: absent
   Distal Leaf Shape: broad triangular
   Leaf Attitude: low
   Leaf Color: dark green
   Ray Flowers: medium density, broad ovate
   Undulated, long
   Disk Flower Color: yellow
   Pollen Color: yellow
   Head Shape: flat
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: none or very weakly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None expected.

4. KHM0010B is tolerant to imidazolinone herbicide and Downy Mildew races that are controlled by the Pl6 and Pl17 genes.

5. Breeders seed will be maintained by Nuseed Americas in nursery rows under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for the production of foundation seed. Isolation and other requirements will be in accordance with the seed certification regulations of the state where it is produced.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☒ No

7. No plan for PVP at this time. Do not provide information to the PVP database.

Date this application was submitted: Mar 18, 2022 Date recommended by the VRB: May 27, 2022
1. KHM0778R is a high oleic, imidazolinone resistant, oilseed restorer line developed by the pedigree and backcross method of selection from the cross K12HM69R*5/KHE9415R. K12HM69R is a proprietary imidazolinone resistant line, previously described and approved by the NSVRB. KHE9415R is a proprietary line with preferred agronomic characteristics, derived from TX16. The pedigree and backcross method of selection was used for the development of KHM0778R. It is a bulk of BC4F7 plants tracing back to a single BC4F6 plant. Selection was based on uniform plant type, yield, fatty acid profile, self compatibility, seed size, seed color, resistance to Downy Mildew and resistance to imidazolinone herbicide.

2. Hybrids utilizing KHM0778R are adapted to Northern sunflower growing regions of North America, and SE Europe, the hybrids will be primarily for vegetable oil.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): medium
   Branching Type: present, overall
   Distal Leaf Shape: broad triangular
   Leaf Serration: medium
   Leaf Attitude: low
   Leaf Blistering: weak
   Leaf Color: medium green
   Ray Flower Color: medium yellow
   Ray Flowers: medium density, broad ovate
   Stigma Anthocyanin: present, weak
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: half-turned down with straight stem
   Pollen Color: yellow
   Seed Shape: ovoid wide
   Head Shape: weakly convex
   Seed Thickness: thin
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: absent
   Stripe Appearance: marginal: none or very weakly expressed, center: none or very weakly expressed, color: black

   List and describe variants and expected frequency. If none, state “none”.
   None expected.

4. KHM0778R is resistant to imidazolinone herbicide, and downy mildew races controlled by the Pl33 gene.

5. Breeders seed will be maintained by Nuseed Americas in nursery rows under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for the production of foundation seed. Isolation and other requirements will be in accordance with the seed certification regulations of the state where it is produced.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ○ No

7. No plan for PVP at this time. Do not provide information to the PVP database.

Date this application was submitted: March 18, 2022 Date recommended by the VRB: May 27, 2022
1. KLM0009B is a imidazolinone tolerant oilseed maintainer line developed by the pedigree method of selection from the cross KLM8101B/KHE8123B. KLM8101B is a proprietary imidazolinone tolerant maintainers that has been described and previously approved by the NSVRB. KHE8123B is a high oleic tribenuron-methyl tolerant proprietary line with preferred agronomic characteristics, that has been previously described and approved. CMS A line was produced utilizing the backcross method. The pedigree method of selection was used for the development of KLM0009B. It is a bulk of F7 plants tracing back to a single F6 plant. Selection was based on uniform plant type, yield, self compatibility, seed size, seed color, and tolerant to imidazolinone herbicide.

2. Hybrids utilizing KLM0009B are adapted to major sunflower growing regions of North America, and SE Europe: the hybrids will be primarily for vegetable oil.

3. Flowering (relatively early, medium, or late?): medium
Height (relatively short, medium or tall?): medium
Branching Type: absent
Distal Leaf Shape: broad triangular
Leaf Attitude: low
Leaf Color: dark green
Leaf Serration: coarse
Leaf Blistering: absent or very weak
Leaf Blistering: absent or very weak
Ray Flowers: medium density broad ovate undulated long
Pappi Color: green
Ray Flower Color: light yellow
Stigma Anthocyanin: absent
Undulated, long
Pollen Color: yellow
Head (neck) Attitude: half-turned down with curved stem
Seed Shape: elongated
Head Shape: flat
Seed Thickness: thin
Seed Outer Pericarp Color: black
Hypocotyl Anthocyanin: absent
Stripe Appearance: marginal: none or very weakly expressed, center: strongly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.
None expected.

4. KLM0009B is tolemat to imidazolinone herbicide and Downy Mildew races that are controlled by the P16 and P117 genes.

5. Breeders seed will be maintained by Nuseed Americas in nursery rows under bags, or by open pollination in isolated fields. Up to two generations beyond breeders seed will be allowed for the production of foundation seed. Isolation and other requirements will be in accordance with the seed certification regulations of the state where it is produced.

6. Certified seed is expected to first be available in: 2022
Certified seed production acreage can be published by AOSCA and certifying agencies.  ○ Yes  ○ No

7. No plan for PVP at this time. Do not provide information to the PVP database.

Date this application was submitted: March 18, 2022   Date recommended by the VRB: May 27, 2022
Sunflower

CI1701B

1. CI1701B is a linoleic oilseed maintainer and imidazolinone tolerant inbred developed by Agrigenetics Inc. D/B/A Mycogen Seeds, which derives from the backcross CN1701B*5/IMISUN-1.5XB. CN1701B is a Agrigenetics Inc. D/B/A Mycogen Seeds proprietary line used as the recurrent parent. IMISUN-1.5XB is a imidazolinone tolerant donor parent released by the USDA in 1998. Selections were made for plant characteristics most similar to CN1701B and expression of homozygous tolerance to imidazolinone. The backcrossing method was used in the development of CI1701B. It is a bulk of BC4F5 seed tracing back to a single BC4F4 selection. The sterile analog derives from the CMS PET1 cytoplasm following 4 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing CI1701B have been tested and are adapted to the growing regions of the North, Central and South of Argentina.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): medium
   Branching Type: absent
   Distal Leaf Shape: broad triangular
   Leaf attitude: medium
   Leaf Color: medium green
   Ray Flowers: medium density, narrow ovate, flat, long
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: weakly concave
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.

   None

4. CI1701B is a linoleic oil type, imidazolinone tolerant, maintainer line.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☑ Yes □ No

7. The variety is submitted for protection under the U.S. Plant Variety Protection and will not be offered for sales.

Date this application was submitted: March 14, 2022
Date recommended by the VRB: May 27, 2022
Sunflower
CIN757B

1. CIN757B is a linoleic oilseed maintainer and imidazolinone tolerant inbred developed by Agrigenetics Inc. D/B/A Mycogen Seeds, which derives from the backcross H115B*7/IMISUN-1.1XB. H115B is a Agrigenetics Inc. D/B/A Mycogen Seeds proprietary line used as the recurrent parent. IMISUN-1.1XB is an imidazolinone tolerant donor parent released by the USDA in 1998. Selections were made for plant characteristics most similar to H115B and expression of homozygous tolerance to imidazolinone.

The backcrossing method was used in the development of CIN757B. It is a bulk of BC6F1 seed tracing back to a single BC5F1 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing CIN757B have been tested and are adapted to the growing regions of the North, Central and South of Argentina.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular to rounded
   Leaf Serration: coarse
   Leaf Attitude: medium
   Leaf Blistering: weak
   Leaf Color: medium green
   Ray Flower Color: medium yellow
   Ray Flowers: medium density, narrow ovate
   flat, medium length
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: half-turned down with curved stem
   Pollen Color: orange
   Seed Shape: ovoid wide
   Head Shape: weakly concave
   Seed Thickness: medium
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: present, medium
   Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. CIN757B is a linoleic oil type, imidazolinone tolerant, maintainer line.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☑ Yes  ☐ No

7. The variety is submitted for protection under the U.S. Plant Variety Protection and will not be offered for sales.

Date this application was submitted: March 14, 2022  Date recommended by the VRB: May 27, 2022
1. 7PABD48R is a linoleic oil type imidazolinone tolerant restorer line developed by Pioneer Hi-Bred International that derives from the cross HS8117R/BT1-M1. HS8117R is a Pioneer proprietary line. BT1-M1 is a public line used as the donor for herbicide tolerance. Selections were made for imidazolinone tolerance, oil content, self-fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PABD48R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PABD48R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): very late  
Height (relatively short, medium or tall?): very tall  
Branching Type: present, only apical  
Distal Leaf Shape: broad triangular to rounded  
Leaf Attitude: medium  
Leaf Color: medium green  
Ray Flowers: medium density, narrow ovate  
Disk Flower Color: orange  
Pollen Color: orange  
Head Shape: weakly convex  
Seed Outer Pericarp Color: medium brown  
Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: white

List and describe variants and expected frequency. If none, state “none”.

None.

4. This variety is resistant to imidazolinone herbicide.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023  
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.  
AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: Mar 7, 2022  Date recommended by the VRB: Jul 21, 2022
Sunflower

7PABM11B

1. 7PABM11B is a linoleic oil type, imidazolinone tolerant, maintainer line developed by Pioneer Hi-Bred International that derives from the backcross HS9027B*3/USDPURSUIT. HS9027B is a Pioneer proprietary line. USDPURSUIT is a public line used as the donor for herbicide tolerance. Selections were made for imidazolinone resistance and recurrent parent traits. The pedigree method was used in the development of 7PABM11B. It is a bulk of BC3F8 seed tracing back to a single BC3F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PABM11B have been tested in and adapted to the growing regions of Southern Africa, Argentina, Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: narrow triangular to broad triangular
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: dense, narrow ovate
   Disk Flower Color: orange
   Pollen Color: orange
   Head Shape: weakly convex
   Seed Shape: rounded
   Seed Outer Pericarp Color: dark brown
   Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None.

4. This variety is tolerant to Imidazolinone.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
   Certified seed production acreage can be published by AOSCA and certifying agencies. Yes No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

INFORMATION BELOW FOR AOSCA INTERNAL USE ONLY

Date this application was submitted: March 4, 2022
Date recommended by the VRB: May 27, 2022
Sunflower
7PABV71B

1. 7PABV71B is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross PH591B/DH009. PH591B is a Pioneer proprietary line. DH009 is a derivative of the public line H55 from the ARC of South Africa. Selections were made for oil content, self-fertility, recessive branching, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method were used in the development of 7PABV71B. It is a bulk of F6 seed tracing back to a single F5 selection. The sterile analog derives from the CMS PET1 cytoplasm following 5 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PABV71B have been tested in and adapted to the growing regions of Southern Africa, Argentina, Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
Height (relatively short, medium or tall?): tall
Branching Type: absent
Distal Leaf Shape: broad triangular
Leaf Attitude: high
Leaf Color: medium green
Ray Flowers: dense, broad ovate
flat, short
Ray Flower Color: medium yellow
Stigma Anthocyanin: absent
Pappi Color: green
Disk Flower Color: orange
Head (neck) Attitude: half-turned down with curved stem
Pollen Color: orange
Seed Shape: rounded
Head Shape: weakly convex
Seed Thickness: medium
Seed Outer Pericarp Color: dark brown
Hypocotyl Anthocyanin: absent
Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.
None.

4. 7PABV71B claims no resistance to the common sunflower diseases and insect pests

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022 Date recommended by the VRB: May 27, 2022
Sunflower

7PACD38B

1. 7PACD38B is a linoleic oil type, imidazilinone tolerant, maintainer line developed by Pioneer Hi-Bred International that derives from the cross HS9036B*3/USDPURSUIT. HS9036B is a Pioneer proprietary line. USDPURSUIT is a public line used as the donor for herbicide tolerance. Selections were made for imidazilinone tolerance and recurrent parent traits. The pedigree method was used in the development of 7PACD38B. It is a bulk of BC3F8 seed tracing back to a single BC3F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PACD38B have been tested in and adapted to the growing regions of Southern Africa Argentina, Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
Height (relatively short, medium or tall?): tall
Branching Type: absent
Distal Leaf Shape: broad triangular
Leaf Attitude: high
Leaf Color: medium green
Leaf Serration: fine
Leaf Blistering: absent or very weak
Ray Flowers: dense, broad ovate
Ray Flower Color: medium yellow
Ray Flowers: flat, short
Papi Color: green
Disk Flower Color: orange
Head (neck) Attitude: half-turned down with curved stem
Pollen Color: orange
Seed Shape: ovoid elongated
Head Shape: weakly convex
Seed Outer Pericarp Color: dark brown
Hypocotyl Anthocyanin: absent
Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”. None.

4. This variety is tolerant to Imidazolinone.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022 Date recommended by the VRB: May 27, 2022
Sunflower

7PACF32B

1. 7PACF32B is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross PH539B/PH582B. Both PH539B and PH582B are Pioneer proprietary lines. Selections were made for oil content, self-fertility, recessive branching, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PACF32B. It is a bulk of F8 seed tracing back to a single F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 5 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PACF32B have been tested in and adapted to the growing regions of Southern Africa, Argentina, Central, Eastern, and Western Europe

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: dense, narrow ovate
   flat, medium length
   Disk Flower Color: yellow
   Pollen Color: orange
   Head Shape: weakly convex
   Seed Outer Pericarp Color: dark brown
   Stripe Appearance: marginal: none or very weakly expressed, center: none or very weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None.

4. 7PACF32B claims no resistance to the common sunflower diseases and insect pests

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☒ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022 Date recommended by the VRB: May 27, 2022
Sunflower
7PADA27B

1. 7PADA27B is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross DH009/RUMANO. DH009 is a derivative of the public line H55 from the ARC of South Africa. RUMANO is a maintained population from Eastern Europe. Selections were made for oil content, self-fertility, recessive branching, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PADA27B. It is a bulk of F8 seed tracing back to a single F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 5 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PADA27B have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): late
Height (relatively short, medium or tall?): very tall
Branching Type: absent
Distal Leaf Shape: \textit{narrow triangular to broad triangle
Leaf Serration: fine
Leaf Color: \textit{light green
Ray Flower Color: \textit{medium yellow
Ray Flowers: \textit{sparse, fusiform
Disk Flower Color: \textit{orange
Head (neck) Attitude: \textit{turned down with straight stem
Pollen Color: \textit{orange
Seed Shape: \textit{ovoid wide
Seed Outer Pericarp Color: \textit{dark brown
Hypocotyl Anthocyanin: \textit{present, weak
Stripe Appearance: \textit{marginal: weakly expressed, center: none or very weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.
None.

4. 7PADA27B claims no resistance to the common sunflower diseases and insect pests

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
Certified seed production acreage can be published by AOSCA and certifying agencies. \textit{Yes} \textit{No}

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022 Date recommended by the VRB: May 27, 2022
Sunflower

7PADW65R

1. 7PADW65R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross P119R/P.O.C. P119R is a Pioneer proprietary line. P.O.C is a maintained Pioneer oil population. Selections were made for oil content, self-fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PADW65R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PADW65R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): late

Height (relatively short, medium or tall?) : very tall

Branching Type: present, only apical

Distal Leaf Shape: broad triangular to rounded

Leaf Attitude: medium

Leaf Color: medium green

Ray Flowers: medium density, narrow ovate

flat, medium length

Disk Flower Color: orange

Pollen Color: orange

Head Shape: weakly convex

Seed Outer Pericarp Color: medium brown

Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.

None.

4. 7PADW65R claims no tolerance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023

Certified seed production acreage can be published by AOSCA and certifying agencies.  ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.

AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: Mar 7, 2022  Date recommended by the VRB: Jul 21, 2022
1. 7PADX91B is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross PH539B/PH582B. Both PH539B and PH582B are Pioneer proprietary lines Selections were made for oil content, self-fertility, recessive branching, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PADX91B. It is a bulk of F6 seed tracing back to a single F5 selection. The sterile analog derives from the CMS PET1 cytoplasm following 5 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PADX91B have been tested in and adapted to the growing regions of Southern Africa, Argentina, Central, Eastern, and Western Europe

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: narrow triangular to broad triangular
   Leaf Color: medium green
   Ray Flowers: medium density, narrow ovate
   Leaf Attitude: medium
   Leaf Serration: fine
   Leaf Blistering: absent or very weak
   Ray Flower Color: medium yellow
   Stigma Anthocyanin: absent
   Pappi Color: green
   Disk Flower Color: orange
   Pollen Color: orange
   Head Shape: weakly convex
   Seed Shape: rounded
   Seed Outer Pericarp Color: black
   Head (neck) Attitude: half-turned down with curved stem
   Seed Thickness: thick
   Hypocotyl Anthocyanin: present, medium
   List and describe variants and expected frequency. If none, state “none”. None.

4. 7PADX91B claims no resistance to the common sunflower diseases and insect pests

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022  Date recommended by the VRB: May 27, 2022
Sunflower

7PAQE41B

1. 7PAQE41B is a tribenuron-methyl tolerant oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the backcross 77PNWF24B*4/PH1031B. 7PNWF24B & PH1031B are all Pioneer proprietary lines. PH1031B is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PAQE41B. It is a bulk of BC3F4 seed tracing back to a single BC3F3 selection. The sterile analog derives from the CMS PET1 cytoplasm following 3 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PAQE41B have been tested in and are adapted to the growing regions of Southern, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular to acuminate
   Leaf Serration: medium
   Leaf Color: medium green
   Leaf Blistering: medium
   Ray Flowers: medium density, narrow ovate
   Stigma Anthocyanin: absent
   flat, medium length
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: turned down with straight stem
   Pollen Color: yellow
   Seed Shape: ovoid wide
   Head Shape: weakly convex
   Seed Thickness: thin
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: present, weak
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to Tribenuron-methyl tolerance

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower
7PAQJ19B

1. 7PAQJ19B is a linoleic oil type, imidazolinone tolerant maintainer line developed by Pioneer Hi-Bred International that derives from the crosses U0954LG/N0626LG/2/B0391LG/3/U0586LG/4/N0626LG. U0954LG, N0626LG, B0391LG & U0586LG are all Pioneer proprietary lines. B0391LG is tolerant to imidazolinone. Selections were made for imidazolinone tolerance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PAQJ19B. It is a bulk of F8 seed tracing back to a single F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 4 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing 7PAQJ19B have been tested in and are adapted to the growing regions of Southern, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
Height (relatively short, medium or tall?): short
Branching Type: absent
Distal Leaf Shape: narrow triangular Leaf Serration: medium
Leaf Attitude: high Leaf Blistering: weak
Leaf Color: medium green Ray Flower Color: medium yellow
Ray Flowers: medium density, narrow ovate flat, medium length
Stigma Anthocyanin: absent
Pappi Color: green
Disk Flower Color: orange Head (neck) Attitude: turned down with strongly curved sten
Pollen Color: yellow Seed Shape: ovoid wide
Head Shape: weakly convex Seed Thickness: medium
Seed Outer Pericarp Color: black Hypocotyl Anthocyanin: absent
Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.
None

4. This variety is tolerant to imidazolinone herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made.
AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
## Sunflower

### 7PCEM54R

1. **7PCEM54R** is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross HS8117RHO-2/HS8161R. Both HS8117RHO-2 & HS8161R are Pioneer proprietary lines. Selections were made for oil content, self fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PCEM54R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PCEM54R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

### Plant Characteristics

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering</td>
<td>very late</td>
</tr>
<tr>
<td>Height</td>
<td>very tall</td>
</tr>
<tr>
<td>Branching Type</td>
<td>present, predominantly apical</td>
</tr>
<tr>
<td>Distal Leaf Shape</td>
<td>broad triangular to rounded</td>
</tr>
<tr>
<td>Leaf Attitude</td>
<td>high</td>
</tr>
<tr>
<td>Leaf Color</td>
<td>medium green</td>
</tr>
<tr>
<td>Leaf Serration</td>
<td>medium</td>
</tr>
<tr>
<td>Leaf Blistering</td>
<td>medium</td>
</tr>
<tr>
<td>Ray Flowers</td>
<td>medium density, fusiform</td>
</tr>
<tr>
<td>Stigma Anthocyanin</td>
<td>absent</td>
</tr>
<tr>
<td>Pappi Color</td>
<td>green</td>
</tr>
<tr>
<td>Disk Flower Color</td>
<td>orange</td>
</tr>
<tr>
<td>Head (neck) Attitude</td>
<td>turned down with straight stem</td>
</tr>
<tr>
<td>Pollen Color</td>
<td>orange</td>
</tr>
<tr>
<td>Seed Shape</td>
<td>ovoid elongated</td>
</tr>
<tr>
<td>Head Shape</td>
<td>weakly convex</td>
</tr>
<tr>
<td>Seed Thickness</td>
<td>medium</td>
</tr>
<tr>
<td>Seed Outer Pericarp Color</td>
<td>dark brown</td>
</tr>
<tr>
<td>Hypocotyl Anthocyanin</td>
<td>present, strong</td>
</tr>
<tr>
<td>Stripe Appearance</td>
<td>marginal: strongly expressed, center: weakly expressed, color: white</td>
</tr>
</tbody>
</table>

List and describe variants and expected frequency. If none, state “none”.

None.

4. **7PCEM54R** claims no resistance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: **2022**

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

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Date this application was submitted: **Mar 7, 2022**

Date recommended by the VRB: **Jul 21, 2022**
1. 7PCRT80R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross 7PKVL42R/EC1673SLR. Both 7PKVL42R & EC1673SLR are Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant height, oil and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PCRT80R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PCRT80R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): very short
   Branching Type: present, predominantly apical
   Distal Leaf Shape: broad triangular
   Leaf Serration: fine
   Leaf Color: dark green
   Leaf Blistering: medium
   Ray Flowers: medium density, broad ovate
   Stigma Anthocyanin: absent
   Pappi Color: green
   Flat, medium length
   Disk Flower Color: orange
   Head (neck) Attitude: half-turned down with straight stem
   Pollen Color: yellow
   Seed Shape: ovoid wide
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: present, strong
   Stripe Appearance: marginal: none or very weakly expressed, center: none or very weakly expressed, color: black

   List and describe variants and expected frequency. If none, state “none”.

   None

4. This variety claims no resistance to the common sunflower diseases and insect pests.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower
7PDBU78R

1. 7PDBU78R is a tribenuron-methyl tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross U09RFSULM/7PKVL42R. Both U09RFSULM & 7PKVL42R are Pioneer proprietary lines. U09RFSULM is a tribenuron-methyl tolerant donor line. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant height, oil and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PDBU78R It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PDBU78R have been tested in and are adapted to the growing regions of the Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): short
   Branching Type: present, predominantly apical
   Distal Leaf Shape: broad triangular
   Leaf Attitude: high
   Leaf Color: medium green
   Ray Flowers: medium density, broad ovate
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: flat
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: weakly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☒ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower

7PEHW13R

1. 7PEHW13R is a tribenuron-methyl tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross 7PPDR59R/PH5045R. Both 7PPDR59R & PH5045R are Pioneer proprietary lines. PH5045R is a tribenuron-methyl tolerant donor line. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant height, oil and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PEHW13R It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET1 cytoplasm.

2. Hybrids utilizing 7PEHW13R have been tested in and are adapted to the growing regions of the Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): very short
   Branching Type: present, overall
   Distal Leaf Shape: broad triangular to rounded
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: dense, broad ovate
   flat, medium length
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: weakly convex
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: none or very weakly expressed, center: none or very weakly expressed

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☒ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
Sunflower

7PEKD82B

1. 7PEKD82B is tribenuron-methyl tolerant high oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the backcross PH1015B*5/B0503HG. PH1015B & B0503HG are all Pioneer proprietary lines. PH1015B is tribenuron-methyl tolerant donor and B0503HG is an oleic oil donor. Selections were made for tribenuron-methyl tolerance oleic oil type and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PEKD82B. It is a bulk of BC4F4 seed tracing back to a single BC3F3 selection. The sterile analog derives from the CMS PET1 cytoplasm following 3 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PEKD82B have been tested in and are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): very late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: narrow triangular to broad triangle
   Leaf Attitude: high
   Leaf Color: dark green
   Ray Flowers: medium density, narrow ovate
   Pollen Color: yellow
   Head Shape: weakly convex
   Seed Outer Pericarp Color: black
   Disk Flower Color: orange
   Ray Flower Color: medium yellow
   Leaf Serration: medium
   Leaf Blistering: weak
   Pappi Color: green
   Stigma Anthocyanin: absent
   Head (neck) Attitude: turned down with straight stem
   Seed Shape: ovoid wide
   Seed Thickness: medium
   Hypocotyl Anthocyanin: absent
   Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
1. 7PFDD90R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross HP2699R/HS8117R. Both HP2699R & HS8117R are Pioneer proprietary lines. Selections were made for oil content, self fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PFDD90R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PFDD90R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): very tall
   Branching Type: present, predominantly apical
   Distal Leaf Shape: broad triangular
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: medium density, narrow ovate
   Ray Flower Color: orange yellow
   longitudinal recurved, medium length
   Pappi Color: green
   Disk Flower Color: orange
   Pollen Color: orange
   Head Shape: weakly convex
   Seed Shape: ovoid elongated
   Seed Outer Pericarp Color: dark brown
   Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None.

4. 7PFDD90R claims no resistance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

   Date this application was submitted: Mar 7, 2022    Date recommended by the VRB: Jul 21, 2022
Sunflower

7PGTQ64R

1. 7PGTQ64R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross 7PPDR59R/T0866LM. Both 7PPDR59R & T0866LM are Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant stature, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PPLZ07R. It is a bulk of F7 seed tracing back to a single F6 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PGTQ64R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
Height (relatively short, medium or tall?): very short
Branching Type: present, overall
Distal Leaf Shape: broad triangular to rounded
Leaf Attitude: medium
Leaf Color: medium green
Ray Flowers: dense, narrow ovate
flat, medium length
Disk Flower Color: orange
Pollen Color: yellow
Head Shape: weakly convex
Seed Outer Pericarp Color: black
Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey

| List and describe variants and expected frequency. If none, state “none”. |
| None |

4. This variety claims no resistance to the common sunflower diseases and insect pests.

5. 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.

6. Certified seed is expected to first be available in: 2022

Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made.

AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
1. 7PHBG97R is a tribenuron-methyl tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross 7PLFC16R/7PKVL42R*5/USDHA458B/2/7PKVL42R*4/PH5016R. 7PKVL42R, PH5016R & 7PLFC16R are Pioneer proprietary lines. USDHA458B is a line developed by the U.S. DEPARTMENT OF AGRICULTURE (USDA). Selections were made for tribenuron-methyl tolerance, oil content and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PHBG97R It is a bulk of F4 seed tracing back to a single F3 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PHBG97R have been tested and are adapted to the growing regions of Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): short
   Branching Type: present, only apical
   Distal Leaf Shape: broad triangular to rounded
   Leaf Serration: medium
   Leaf Color: medium green
   Ray Flowers: dense, broad ovate
   flat, medium length
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: weakly convex
   Seed Shape: ovoid wide
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: weakly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerance to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☒ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
Sunflower
7PHHC00R

1. 7PHHC00R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross P324R/IMI. P324R is a Pioneer proprietary line. IMI is a public line used as the donor for herbicide tolerance. Selections were made for oil content, self-fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PHHC00R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PHHC00R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): very late Height (relatively short, medium or tall?): very tall Branching Type: present, predominantly apical Distal Leaf Shape: broad triangular to rounded Leaf Serration: fine Leaf Attitude: medium Leaf Blistering: weak Leaf Color: medium green Ray Flower Color: medium yellow Ray Flowers: medium density, broad ovate Pappi Color: green flat, medium length Stigma Anthocyanin: present, medium Ray Flowers: medium Pollen Color: orange Seed Shape: ovoid wide Head Shape: strongly convex Seed Thickness: thick Head (neck) Attitude: turned down with slightly curved stem Disk Flower Color: orange Seed Outer Pericarp Color: medium brown Hypocotyl Anthocyanin: present, medium Stripe Appearance: marginal: none or very weakly expressed, center: weakly expressed, color: grey

List and describe variants and expected frequency. If none, state “none”.

None.

4. 7PHHC00R claims no resistance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 7, 2022 Date recommended by the VRB: May 27, 2022
1. 7PJDN92R is a tribenuron-methyl tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross U14LGCLLM*4/7PFZD07R. Both U14LGCLLM & 7PFZD07R are Pioneer proprietary lines. 7PFZD07R is a tribenuron-methyl tolerant line. Selections were made for tribenuron-methyl tolerance, oil content and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PAJA76R. It is a bulk of BC3F4 seed tracing back to a single BC3F3 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PJDN92R have been tested and are adapted to the growing regions of the South and Eastern Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): short
   Branching Type: present, predominantly apical
   Distal Leaf Shape: broad triangular
   Leaf Serration: fine
   Leaf Color: dark green
   Ray Flowers: medium density, narrow ovate
   Leaf Blistering: absent or very weak
   Stigma Anthocyanin: absent
   Disk Flower Color: orange
   Head (neck) Attitude: inclined
   Pollen Color: yellow
   Seed Shape: ovoid elongated
   Seed Outer Pericarp Color: dark brown
   Hypocotyl Anthocyanin: present, medium
   Stripe Appearance: marginal: weakly expressed, center: none or very weakly expressed, color: brown

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☞ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower

7PKEG41B

1. 7PKEG41B is a linoleic oil type, imidazolinone tolerant, maintainer line developed by Pioneer Hi-Bred International that derives from the cross HS9089B/PH841BCL. HS9089B and PH841BCL are both Pioneer proprietary lines. PH841BCL is used as the donor for herbicide tolerance. Selections were made for imidazolinone tolerance, oil content, self-fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PKEG41B. It is a bulk of F8 seed tracing back to a single F7 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilising 7PKEG41B have been tested in and adapted to the growing regions of Southern Africa and Argentina

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular
   Leaf Serration: medium
   Leaf Color: medium green
   Leaf Blistering: absent or very weak
   Ray Flowers: dense, narrow ovate
   Ray Flower Color: medium yellow
   Stigma Anthocyanin: present, strong
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: turned down with slightly curved stem
   Pollen Color: orange
   Seed Shape: ovoid wide
   Seed Outer Pericarp Color: dark brown
   Hypocotyl Anthocyanin: present, medium
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: white

   List and describe variants and expected frequency. If none, state “none”.
   None.

4. This variety is tolerant to Imidazolinone.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 4, 2022 Date recommended by the VRB: May 27, 2022
1. **7PLHM71N** is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross HS8117R/AGS 8251. HS8117R is a Pioneer proprietary line. AGS 8251 is a commercially hybrid product from South Africa. Selections were made for oil content, self-fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PLHM71N. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PLHM71N have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): late
Height (relatively short, medium or tall?): tall
Branching Type: present, predominantly apical
Distal Leaf Shape: broad triangular to rounded
Leaf Attitude: medium
Leaf Color: medium green
Ray Flowers: medium density, narrow ovate
undulated, medium length
Disk Flower Color: orange
Pollen Color: orange
Head Shape: weakly convex
Seed Outer Pericarp Color: medium brown
Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: white

<table>
<thead>
<tr>
<th>List and describe variants and expected frequency. If none, state “none”.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
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</table>

4. 7PLHM71N claims no resistance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2023
Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: **Mar 7, 2022**
Date recommended by the VRB: **Jul 21, 2022**
Sunflower

7PMJY25R

1. 7PMJY25R is an imidazolinone tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross 7PKVL42R/5*USDHA458B/7PLFC16R. Both 7PLFC16R & 7PKVL42R are Pioneer proprietary lines. USDHA458B is a line developed by the U.S. DEPARTMENT OF AGRICULTURE (USDA). 7PLFC16R is CLHA + tolerant donor used as the donor for herbicide tolerance. Selections were made for imidazolinone tolerance, oil content and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PMJY25R. It is a bulk of F4 seed tracing back to a single F3 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PMJY25R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
Height (relatively short, medium or tall?): short
Branching Type: present, predominantly apical
Distal Leaf Shape: broad triangular to acuminate Leaf Serration: fine
Leaf Attitude: high Leaf Blistering: weak
Leaf Color: dark green Ray Flower Color: medium yellow
Ray Flowers: dense, broad ovate Stigma Anthocyanin: absent
flat, medium length Pappi Color: green
Disk Flower Color: orange Head (neck) Attitude: vertical
Pollen Color: yellow Seed Shape: ovoid wide
Head Shape: weakly convex Seed Thickness: thick
Seed Outer Pericarp Color: black Hypocotyl Anthocyanin: present, weak
Stripe Appearance: marginal: weakly expressed, center: strongly expressed, color: brown

List and describe variants and expected frequency. If none, state “none”.
None

4. This variety is tolerant to imidazolinone herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
Sunflower

7PMKR53B

1. 7PMKR53B is a tribenuron-methyl tolerant high oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the backcross of PH1023B *4/X3007LM. PH1023B & X3007LM are all Pioneer proprietary lines. PH1023B is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, oleic oil content, yield and recurrent parent trait, as assessed in hybrid combination.

The pedigree method was used in the development of 7PMKR53B. It is a bulk of BC3F3 seed tracing back to a single BC3F2 selection. The sterile analog derives from the CMS PET1 cytoplasm following 3 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PMKR53B have been tested and are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): short
   Branching Type: absent
   Distal Leaf Shape: narrow triangular to broad triangle
   Leaf Attitude: high
   Leaf Color: medium green
   Ray Flowers: medium density, broad ovate
   Leaf Serration: fine
   Leaf Blistering: absent or very weak
   Ray Flower Color: medium yellow
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: turned down with straight stem
   Pollen Color: yellow
   Head Shape: flat
   Seed Shape: ovoid wide
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey
   Stigma Anthocyanin: absent
   Hypocotyl Anthocyanin: present, medium

   List and describe variants and expected frequency. If none, state “none”.

   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☑ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022       Date recommended by the VRB: May 27, 2022
Sunflower

7PMQJ51B

1. 7PNNR32B is a tribenuron-methyl tolerant maintainer line developed by Pioneer Hi-Bred International that derives from the cross U0761LG/TH1015B. PH1015B & U0761LG are all Pioneer proprietary lines. PH1015B is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PNNR32B It is a bulk of F7 seed tracing back to a single F6 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing 7PMQJ51B have been tested and are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): very late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: narrow triangular to broad triangular
   Leaf Attitude: high
   Leaf Color: dark green
   Ray Flowers: medium density, broad ovate
   Pollen Color: yellow
   Head Shape: strongly convex
   Seed Outer Pericarp Color: black
   List and describe variants and expected frequency. If none, state "none".
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No
   Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
1. **7PPJG15R** is a tribenuron-methyl tolerant high oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T1483HM / 7PACJ80R. Both T1483HM & 7PACJ80R are Pioneer proprietary lines. 7PACJ80R is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant stature, fatty acid oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PPLZ07R. It is a bulk of F7 seed tracing back to a single F6 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PPJG15R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late  
Height (relatively short, medium or tall?): very short  
Branching Type: present, only apical  
Distal Leaf Shape: broad triangular to rounded  
Leaf Attitude: medium  
Leaf Color: dark green  
Ray Flowers: medium density, narrow ovate  
Head Shape: flat  
Disk Flower Color: orange  
Pollen Color: yellow  
Head (neck) Attitude: vertical  
Seed Shape: elongated  
Stripes Appearance: marginal: weakly expressed, center: weakly expressed, color: grey  
List and describe variants and expected frequency. If none, state “none”.  
None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022  
Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☘ No

7. Application for protection under the Plant Variety Protection Act will not be made. AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  
Date recommended by the VRB: May 27, 2022
Sunflower
7PPRC19B

1. 7PPRC19B is a tribenuron-methyl tolerant linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the backcross 7PVDC41B*4/7PBFL79B. 7PVDC41B and 7PBFL79B are Pioneer proprietary lines. 7PBFL79B is tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, oil content and recurrent parent traits. The pedigree method was used in the development of 7PPRC19B. It is a bulk of BC3F5 seed tracing back to a single BC3F4 selection. The sterile analog derives from the CMS PET1 cytoplasm following 3 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PPRC19B have been tested and are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): medium
   Branching Type: absent
   Distal Leaf Shape: broad triangular to acuminate
   Leaf Serration: medium
   Leaf Attitude: high
   Leaf Color: medium green
   Ray Flower Color: medium yellow
   Ray Flowers: medium density, broad ovate
   flat, medium length
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: turned down with straight stem
   Pollen Color: yellow
   Seed Shape: ovoid wide
   Seed Shape: weakly convex
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: present, medium
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

   Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower

7PRUR45B

1. 7PRUR45B is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the backcross N0626LG*4/U07STLM. N0626LG and U07STLM are all Pioneer proprietary lines. Selections were made oil content and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PRUR45B. It is a bulk of BC3F4 seed tracing back to a single BC3F3 selection. The sterile analog derives from the CMS PET1 cytoplasm following 3 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PRUR45B have been tested in and are adapted to the growing regions of Southern, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): short
   Branching Type: absent
   Distal Leaf Shape: broad triangular to rounded
   Leaf Attitude: high
   Leaf Color: light green
   Ray Flowers: medium density, narrow ovate
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: weakly convex
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.

   None

4. 7PRUR45B claims no resistance to the common sunflower diseases and insect pests.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
Sunflower
7PTKQ52R

1. 7PTKQ52R is a tribenuron-methyl tolerant high oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross 7PXLAL91R*5/ U09RFSULM. Both 7PXLAL91R & U09RFSULM are Pioneer proprietary lines and tribenuron-methyl tolerant lines. Selections were made for tribenuron-methyl tolerance, fatty acid oil content, yield and recurrent parent trait as assessed in hybrid combination. The pedigree method was used in the development of 7PAJA76R It is a bulk of BC4F4 seed tracing back to a single BC4F3 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PTKQ52R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): very short
   Branching Type: present, overall
   Distal Leaf Shape: broad triangular
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: medium density, narrow ovate
   undulated, long
   Ray Flower Color: medium yellow
   Stigma Anthocyanin: absent
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: half-turned down with straight stem
   Pollen Color: yellow
   Seed Shape: ovoid elongated
   Head Shape: strongly convex
   Seed Thickness: medium
   Seed Outer Pericarp Color: black
   Hypocotyl Anthocyanin: present, medium
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☒ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022 Date recommended by the VRB: May 27, 2022
Sunflower
7PUAS84B

1. 7PUAS84B is a tribenuron-methyl tolerant high oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross PH1015B/H1311LG. PH1015B & H1311LG are all Pioneer proprietary lines. PH1015B is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination.
The pedigree method was used in the development of 7PUAS84B. It is a bulk of F7 seed tracing back to a single F6 selection. The sterile analog derives from the CMS PET1 cytoplasm following 6 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing 7PUAS84B have been tested and are adapted to the growing regions of the Northern Plains of the U.S. and Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): very tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular to acuminate
   Leaf Attitude: high
   Leaf Color: medium green
   Ray Flowers: medium density, broad ovate
   Pollen Color: yellow
   Head Shape: flat
   Seed Outer Pericarp Color: black
   Disk Flower Color: orange
   Pollen Color: yellow
   Ray Flower Color: medium yellow
   Stigma Anthocyanin: absent
   Pappi Color: green
   Head (neck) Attitude: half-turned down with straight stem
   Seed Shape: ovoid wide
   Seed Thickness: thin
   Hypocotyl Anthocyanin: present, strong
   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
Sunflower

7PVLE35B

1. 7PVLE35B is a tribenuron-methyl tolerant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross PH1015B/T0916LG. PH1015B & T0916LG are all Pioneer proprietary lines. PH1015B is a tribenuron-methyl tolerant line used as the donor for herbicide tolerance. Selections were made for tribenuron-methyl tolerance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PVLE35B It is a bulk of F7 seed tracing back to a single F6 selection. The sterile analog derives from the CMS PET1 cytoplasm following 4 generations of backcrossing. It is homozygous dominant for single head.

2. Hybrids utilizing 7PVLE35B have been tested in and are adapted to the growing regions of Southern, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): tall
   Branching Type: absent
   Distal Leaf Shape: broad triangular to rounded
   Leaf Attitude: medium
   Leaf Color: light green
   Ray Flowers: medium density, broad ovate
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: strongly convex
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: grey
   Leaf Serration: medium
   Leaf Blistering: strong
   Ray Flower Color: medium yellow
   Stigma Anthocyanin: absent
   Pappi Color: green
   Head (neck) Attitude: half-turned down with straight stem
   Seed Shape: ovoid wide
   Seed Thickness: medium
   Hypocotyl Anthocyanin: present, strong
   List and describe variants and expected frequency. If none, state “none”. None

4. This variety is tolerant to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022   Date recommended by the VRB: May 27, 2022
1. 7PVPZ79R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross HP2699R/HS8119R. Both HP2699R & HS8119R are Pioneer proprietary lines. Selections were made for oil content, self fertility, acceptable plant stature and high yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PVPZ79R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilising 7PVPZ79R have been tested in and adapted to the growing regions of Southern Africa and Argentina.

3. Flowering (relatively early, medium, or late?): late
   Height (relatively short, medium or tall?): very tall
   Branching Type: present, predominantly apical
   Distal Leaf Shape: broad triangular to rounded
   Leaf Attitude: medium
   Leaf Color: medium green
   Ray Flowers: medium density, fusiform
   Undulated, medium length
   Disk Flower Color: orange
   Pollen Color: orange
   Head Shape: weakly convex
   Seed Outer Pericarp Color: dark brown
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: white

   List and describe variants and expected frequency. If none, state “none”.
   None.

4. 7PVPZ79R claims no resistance to the common sunflower diseases and insect pests.

5. 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 controlled bagging in nursery rows.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☑ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: Mar 7, 2022       Date recommended by the VRB: Jul 21, 2022
Sunflower
7PWML60R

1. 7PWML60R is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross F1164LM/U14LGCLLM. Both F1164LM & U14LGCLLM are Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant height, oil and yield, as assessed in hybrid combination. The pedigree method was used in the development of 7PCRT80R. It is a bulk of F10 seed tracing back to a single F9 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PWML60R have been tested and are adapted to the growing regions of the South and Eastern Europe.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): very short
   Branching Type: present, predominantly apical
   Distal Leaf Shape: narrow triangular to broad triangular
   Leaf Attitude: high
   Leaf Color: dark green
   Ray Flowers: sparse, narrow ovate
   Leaf Serration: medium
   Leaf Blistering: medium
   Pappi Color: green
   Disk Flower Color: orange
   Polen Color: yellow
   Head Shape: weakly convex
   Seed Shape: ovoid wide
   Seed Outer Pericarp Color: black
   Head (neck) Attitude: vertical
   Stigma Anthocyanin: absent
   Hypocotyl Anthocyanin: absent
   Ray Flower Color: medium yellow
   Flat, medium length
   Pollen: _a_b_s_e_n_t_
   Pappi: medium length
   Seed Outer Pericarp: black
   Hypocotyl: absent
   Ray: medium length
   Pollen: _a_b_s_e_n_t_
   Pappi: medium length
   Seed Outer Pericarp: black
   Hypocotyl: absent

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety claims no resistance to the common sunflower diseases and insect pests.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies.  ○ Yes  ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
1. 7PWNJ26R is a tribenuron-methyl tolerant linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross F1164LM/3*PH5039R/F1164LM/5*PH5039R. Both F1164LM & PH5039R are Pioneer proprietary lines. Selections were made for tribenuron-methyl tolerance, oil content and recurrent parent trait, as assessed in hybrid combination. The pedigree method was used in the development of 7PWNJ26R. It is a bulk of F4 seed tracing back to a single F3 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PJDN92R have been tested and are adapted to the growing regions of Europe.

3. | Flowering (relatively early, medium, or late?): very late |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Height (relatively short, medium or tall?): short</td>
</tr>
<tr>
<td>Branching Type: present, overall</td>
</tr>
<tr>
<td>Distal Leaf Shape: broad triangular to acuminate</td>
</tr>
<tr>
<td>Leaf Attitude: high</td>
</tr>
<tr>
<td>Leaf Color: dark green</td>
</tr>
<tr>
<td>Ray Flowers: medium density, narrow ovate</td>
</tr>
<tr>
<td>Pollen Color: yellow</td>
</tr>
<tr>
<td>Head Shape: strongly convex</td>
</tr>
<tr>
<td>Seed Outer Pericarp Color: dark brown</td>
</tr>
<tr>
<td>Stripe Appearance: marginal: weakly expressed, center: weakly expressed, color: brown</td>
</tr>
</tbody>
</table>

   List and describe variants and expected frequency. If none, state “none”.

   None

4. This variety is tolerance to tribenuron-methyl herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ⬜ Yes ⬜ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022       Date recommended by the VRB: May 27, 2022
Sunflower

7PYBK03R

1. 7PYBK03R is an imidazolinone tolerant oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross Ul2GDCLLM/T1068LM. Both Ul2GDCLLM & T1068LM are Pioneer proprietary lines. Ul2GDCLLM is CLHA + tolerant donor used as the donor for herbicide tolerance. Selections were made for imidazolinone tolerance, oil content, plant height and yield as assessed in hybrid combination. The pedigree method was used in the development of 7PYBK03R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PYBK03R have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): medium
   Height (relatively short, medium or tall?): medium
   Branching Type: present, overall
   Distal Leaf Shape: narrow triangular
   Leaf Attitude: high
   Leaf Color: medium green
   Ray Flowers: medium density, narrow ovate
   Undulated, medium length
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: weakly convex
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: strongly expressed, center: weakly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.

   None

4. This variety is tolerant to Imidazolinone herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ○ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022
**Sunflower**

**7PZLY47R**

1. 7PZLY47R is an imidazolinone tolerant oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross U14LGCLLM/7PHLQ23R. Both U14LGCLLM & 7PHLQ23R are Pioneer proprietary lines and are CLHA + tolerant lines. Selections were made for imidazolinone tolerance, oil content, plant height and yield as assessed in hybrid combination. The pedigree method was used in the development of 7PZLY47R. It is a bulk of F8 seed tracing back to a single F7 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.

2. Hybrids utilizing 7PZLY47R have been tested in and are adapted to the growing regions of Southern Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): early
   Height (relatively short, medium or tall?): very short
   Branching Type: present, overall
   Distal Leaf Shape: broad triangular to acuminate
   Leaf Attitude: high
   Leaf Color: dark green
   Ray Flowers: medium density, narrow ovate
   flat, medium length
   Disk Flower Color: orange
   Pollen Color: yellow
   Head Shape: flat
   Seed Outer Pericarp Color: black
   Stripe Appearance: marginal: strongly expressed, center: strongly expressed, color: grey

   List and describe variants and expected frequency. If none, state “none”.
   None

4. This variety is tolerant to Imidazolinone herbicide.

5. 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.

6. Certified seed is expected to first be available in: 2022
   Certified seed production acreage can be published by AOSCA and certifying agencies. ☐ Yes ☐ No

7. Application for protection under the Plant Variety Protection Act will not be made.
   AOSCA may provide descriptive information to the PVP database.

Date this application was submitted: March 10, 2022  Date recommended by the VRB: May 27, 2022