The Association of Official Seed Certifying Agencies (AOSCA) Sunflower Variety Review Board (SFVRB), reviewed the following varieties on April 23, 2015, in Fargo, North Dakota. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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Association of Official Seed Certifying Agencies  
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Moline, IL 61265

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Respectfully submitted,

Ronald Larson, Chairman  
Sunflower Variety Review Board
## 2015 AOSCA SUNFLOWER VRB
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Page</th>
<th>Variety Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS, Inc.</td>
<td>1</td>
<td>B06-0284-6</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>2</td>
<td>T1333HG</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>3</td>
<td>U12KTSUBM</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>4</td>
<td>U14KZIMLM</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>5</td>
<td>U14LGCLLM</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>6</td>
<td>U1355CLLG</td>
</tr>
<tr>
<td>Pioneer Genetique</td>
<td>7</td>
<td>U1467SUBG</td>
</tr>
</tbody>
</table>
B06-0284-6 is a non-oilseed maintainer line developed through pedigree selection. It has been developed by a cross of CHS maintainer lines B912/B225.

B06-0284-6 is a bulk of F6 plants derived from a single F5 plant. Selections were made for uniform plant type, self-compatibility, seed size, and seed color.

B06-0284-6 has been extensively tested and grown in the major sunflower productions of North Dakota, Minnesota, and South Dakota.

B06-0284-6 is a non-oilseed maintainer line developed through pedigree selection. It has been developed by a cross of CHS maintainer lines B912/B225. B06-0284-6 is a bulk of F6 plants derived from a single F5 plant. Selections were made for uniform plant type, self-compatibility, seed size, and seed color.

B06-0284-6 has been extensively tested and grown in the major sunflower productions of North Dakota, Minnesota, and South Dakota.

Flowering (relatively early, medium, or late?): medium
Height (relatively short, medium or tall?): medium
Branching type: absent,
Distal Leaf Shape: broad triangular to rounded
Leaf Serration: medium
Leaf Attitude: medium
Leaf Blistering: medium
Leaf Color: dark green
Ray Flower Color: orange yellow
Ray Flowers: dense, broad ovate
Stigma Anthocyanin: present, weak
strongly recurved to back of head, medium length
Pappi Color: green
Disk Flower Color: orange
Head (neck) Attitude: turned down with strongly curved stem
Pollen Color: orange
Seed Shape: ovoid wide
Receptacle Shape: strongly convex
Seed Thickness: medium
Seed Outer Pericarp Color: black
Hypocotyl color: present, weak
Stripe Appearance: marginal: none or weakly expressed center: none or weakly expressed color: white

State expected variants or other varietal information not described above:

No specific disease or herbicide tolerance is claimed.

Seedstock will be maintained by CHS INC. Seed will be increased under bagged heads in nursery rows or in isolation cages. Up to 2 generations beyond breeder’s seed will be allowed for increase by open pollination in 2 mile isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where the seed is grown.

Seed will be offered for sale in 2016. Certified seed acres can be posted by AOSCA

Application to PVP will not be submitted.

INFORMATION BELOW FOR AOSCA INTERNAL USE ONLY
Date this application was submitted: Feb 27, 2015
Date recommended by the VRB: Aug 10, 2015

Association of Official Seed Certifying Agencies
Sunflower

T1333HG

1. T1333HG is an oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross T0243HG/U0553LG/T0032LG. T0243HG, U0553LG & T0032LG are all Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant height, oil & fatty acid content and yield, as assessed in hybrid combination.

The pedigree method was used in the development of T1333HG. It is a bulk of F8 seed tracking 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 utilizing T1333HG 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?): medium
   Height (relatively short, medium, or tall?): medium
   Branching type: absent,
   Distal Leaf Shape: broad triangular to rounded
   Leaf Attitude: medium
   Leaf Color: light green
   Ray Flowers: medium density, broad ovate
   leaf, medium length
   Ray Flower Color: medium green
   Stigma Anthocyanin: absent,
   Pappi Color: green
   Disk Flower Color: orange
   Head (neck) Attitude: half-turned down with straight stem
   Pollen Color: other
   Seed Shape: ovoid wide
   Receptacle Shape: weakly convex
   Seed Thickness: medium
   Seed Outer Pericarp Color: black
   Hypocotyl color: absent,
   Stripe Appearance: marginal: strongly expressed
center: strongly expressed
color: grey

State expected variants or other varietal information not described above:

Hypocotyl anthocyanin is absent

4. T1333HG 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 first expected to be available in 2015. Please do not publish certified seed production acreage.

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

Date this application was submitted: Feb 24, 2015
Date recommended by the VRB: Jun 9, 2015

INFORMATION BELOW FOR AOSCA INTERNAL USE ONLY
U12KTSUBM is a linoleic birdseed/oil type, tribenuron-methyl resistant, restorer line developed by Pioneer Hi-Bred International that derives from the cross U07VFBM/B0642LM//U06VAHM///B0627LM. U07VFBM, B0642LM, U06VAHM & B0627LM are Pioneer proprietary lines. B0642LM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination.

The pedigree method was used in the development of U12KTSUBM. It is a bulk of F10 seed tracing back to a single

Hybrids utilizing U12KTSUBM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

### Flowering (relatively early, medium, or late?): medium
### Height (relatively short, medium or tall?): medium
### 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
### Ray Flowers: flat, medium length
### Disk Flower Color: yellow
### Pollen Color: other
### Receptacle Shape: strongly convex
### Seed Outer Pericarp Color: white
### Stripe Appearance: marginal: strongly expressed; center: strongly expressed; color: grey

State expected variants or other varietal information not described above:

Hypocotyl anthocyanin is weak.

This variety is resistant to tribenuron-methyl herbicide.

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

Certified seed is first expected to be available in 2015. Please do not publish certified seed production acreage.

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

Information below for AOSCA internal use only

Date this application was submitted: Feb 25, 2015  
Date recommended by the VRB: Jun 9, 2015

Association of Official Seed Certifying Agencies  
2015 SUNFLOWER VRB
U14KZIMLM is a linoleic oil type, imidazolinone resistant, restorer line developed by Pioneer Hi-Bred International that derives from the cross U09MYHM/U11TTIMLM. U11TTIMLM derives from the cross U07TDLML/09WRIMLM. And U09WRIMLM derives from B0642LM/SANAY. U09MYHM, U07TDLML & B0642LM are all Pioneer proprietary lines. SANAY is a commercial sold hybrid from Syngenta. Selections were made for imidazolinone resistance, oil content, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination.

The pedigree method was used in the development of U14KZIMLM. 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.

Hybrids utilizing U14KZIMLM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering (relatively early, medium, or late?)</td>
<td>medium</td>
</tr>
<tr>
<td>Height (relatively short, medium or tall?)</td>
<td>medium</td>
</tr>
<tr>
<td>Branching type</td>
<td>present, predominantly apical</td>
</tr>
<tr>
<td>Distal Leaf Shape</td>
<td>narrow triangular to broad triangular</td>
</tr>
<tr>
<td>Leaf Attitude</td>
<td>medium</td>
</tr>
<tr>
<td>Leaf Color</td>
<td>medium green</td>
</tr>
<tr>
<td>Ray Flowers</td>
<td>medium density, fusiform</td>
</tr>
<tr>
<td>Disk Flower Color</td>
<td>yellow</td>
</tr>
<tr>
<td>Pollen Color</td>
<td>other</td>
</tr>
<tr>
<td>Receptacle Shape</td>
<td>flat</td>
</tr>
<tr>
<td>Seed Outer Pericarp Color</td>
<td>black</td>
</tr>
<tr>
<td>Stripe Appearance</td>
<td>marginal: none or weakly expressed center: none or weakly expressed</td>
</tr>
<tr>
<td>Leaf Serration</td>
<td>medium</td>
</tr>
<tr>
<td>Leaf Blistering</td>
<td>absent or very weak</td>
</tr>
<tr>
<td>Ray Flower Color</td>
<td>medium yellow</td>
</tr>
<tr>
<td>Stigma Anthocyanin</td>
<td>absent</td>
</tr>
<tr>
<td>Pappi Color</td>
<td>green</td>
</tr>
<tr>
<td>Head (neck) Attitude</td>
<td>turned down with straight stem</td>
</tr>
<tr>
<td>Seed Shape</td>
<td>ovoid elongated</td>
</tr>
<tr>
<td>Seed Thickness</td>
<td>thin</td>
</tr>
<tr>
<td>Hypocotyl color</td>
<td>present, weak</td>
</tr>
</tbody>
</table>

Hypocotyl anthocyanin is weak.

This variety is resistant to imidazolinone herbicide.

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

Certified seed is first expected to be available in 2015. Please do not publish certified seed production acreage.

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

Information below for AOSCA internal use only

Date this application was submitted: Feb 25, 2015  Date recommended by the VRB: Jun 9, 2015
### U14LGCLLM

**1.** U14LGCLLM is a linoleic oil type, imidazolinone resistant, restorer line developed by Pioneer Hi-Bred International that derives from the cross N10GALM/B0642LM///U06SFLM///U05SILM///HU46050335. HU46050335 is U09KJLM/ BTIMIR. N10GALM, B0642LM, U06SFLM, U05SILM & U09KJLM are all Pioneer proprietary lines. BTIMIR is the CLHA + inbred licensed for use from BASF. Selections were made for imidazolinone resistance, oil content, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination.

The pedigree method was used in the development of U14LGCLLM. 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 U14LGCLLM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

**3.**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering (relatively early, medium, or late?)</td>
<td>medium</td>
</tr>
<tr>
<td>Height (relatively short, medium or tall?)</td>
<td>medium</td>
</tr>
<tr>
<td>Branching type</td>
<td>present, overall</td>
</tr>
<tr>
<td>Distal Leaf Shape</td>
<td>broad triangular</td>
</tr>
<tr>
<td>Leaf Serration</td>
<td>fine</td>
</tr>
<tr>
<td>Leaf Attitude</td>
<td>high</td>
</tr>
<tr>
<td>Leaf Color</td>
<td>dark green</td>
</tr>
<tr>
<td>LeafBlistering</td>
<td>absent or very weak</td>
</tr>
<tr>
<td>Ray Flowers</td>
<td>medium density, narrow ovate</td>
</tr>
<tr>
<td>Ray Flower Color</td>
<td>medium yellow</td>
</tr>
<tr>
<td>Pappi Color</td>
<td>green</td>
</tr>
<tr>
<td>Disk Flower Color</td>
<td>yellow</td>
</tr>
<tr>
<td>Head (neck) Attitude</td>
<td>turned down with straight stem</td>
</tr>
<tr>
<td>Pollen Color</td>
<td>other</td>
</tr>
<tr>
<td>Seed Shape</td>
<td>ovoid elongated</td>
</tr>
<tr>
<td>Receptacle Shape</td>
<td>flat</td>
</tr>
<tr>
<td>Seed Thickness</td>
<td>thin</td>
</tr>
<tr>
<td>Seed Outer Pericarp Color</td>
<td>dark brown</td>
</tr>
<tr>
<td>Hypocotyl color</td>
<td>present, weak</td>
</tr>
<tr>
<td>Stripe Appearance</td>
<td>marginal: none or weakly expressed</td>
</tr>
<tr>
<td></td>
<td>center: none or weakly expressed</td>
</tr>
<tr>
<td></td>
<td>color: grey</td>
</tr>
</tbody>
</table>

**State expected variants or other varietal information not described above:**

- Hypocotyl anthocyanin is weak.

**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 cage isolations or, on occasion, from controlled bagging in nursery rows.

**6.** Certified seed is first expected to be available in 2015. Please do not publish certified seed production acreage.

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

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**INFORMATION BELOW FOR AOSCA INTERNAL USE ONLY**

- Date this application was submitted: Feb 25, 2015
- Date recommended by the VRB: Jun 9, 2015
**Sunflower**

**U1355CLLG**

1. U1355CLLG is a linoleic oil type, imidazolinone resistant, maintainer line developed by Pioneer Hi-Bred International that derives from the cross N0626LG/N0736LG//BTIMIB. N0626LG & N0736LG are both Pioneer proprietary lines. BTIMIB is the CLHA + inbred licensed for use from BASF. Selections were made for imidazolinone resistance, oil content, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination. The pedigree method was used in the development of U1355CLLG. It is a bulk of F10 seed tracing back to a single F9 selection. The sterile analog derives from the CMs PET1 cytoplasm following 9 generations of backcrossing. It is homozygous dominant for single heads.

2. Hybrids utilizing U1355CLLG 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:** absent, broad triangular  
   **Distal Leaf Shape:** medium  
   **Leaf Attitude:** medium  
   **Leaf Color:** medium green  
   **Ray Flowers:** medium density, fusiform  
   **Disk Flower Color:** flat, medium length  
   **Head (neck) Attitude:** medium  
   **Pollen Color:** yellow  
   **Half-flower Color:** broad triangular  
   **Leaf Serration:** medium  
   **Leaf Blistering:** weak  
   **Ray Flower Color:** medium yellow  
   **Stigma Anthocyanin:** absent, green  
   **Pappi Color:** other  
   **Disk Flower Color:** flat  
   **Pollen Color:** other  
   **Half-flower Color:** yellow  
   **Leaf Serration:** medium  
   **Leaf Blistering:** weak  
   **Disk Flower Color:** medium  
   **Head (neck) Attitude:** turned down with straight stem  
   **Pollen Color:** other  
   **Half-flower Color:** other  
   **Leaf Serration:** other  
   **Leaf Blistering:** other  
   **Disk Flower Color:** other  
   **Head (neck) Attitude:** other  
   **Pollen Color:** other  
   **Half-flower Color:** other  
   **Leaf Serration:** other  
   **Leaf Blistering:** other  
   **Disk Flower Color:** other  

State expected variants or other varietal information not described above:

- **Hypocotyl anthocyanin is weak.**

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 cage isolations or, on occasion, from controlled bagging in nursery rows.

6. Certified seed is first expected to be available in 2015. Please do not publish certified seed production acreage.

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

**INFORMATION BELOW FOR AOSCA INTERNAL USE ONLY**

Date this application was submitted: Feb 25, 2015  
Date recommended by the VRB: Jun 9, 2015
U1467SUBG is a linoleic birdseed/oil type, tribenuron-methyl resistant, maintainer line developed by Pioneer Hi-Bred International that derives from the cross U0881BG*3/U0572LD1LG. U0881BG & U0572LD1LG are both Pioneer proprietary lines. U0572LD1LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination.

The backcross and pedigree methods were used in the development of U1467SUBG. It is a bulk of BC2F6 seed tracing back to a single BC2F5 selection. The sterile analog derives from the CMs PET1 cytoplasm following 5

Hybrids utilizing U1467SUBG have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.

1. Flowering (relatively early, medium, or late?): medium
2. Height (relatively short, medium or tall?): medium
3. Branching type: absent
4. Distal Leaf Shape: broad triangular
5. Leaf Attitude: medium
6. Leaf Color: medium green
7. Ray Flowers: medium density, broad ovate
8. Leaf Serration: medium
9. Leaf Blistering: weak
10. Ray Flower Color: medium yellow
11. Stigma Anthocyanin: absent
12. Pappi Color: green
13. Disk Flower Color: yellow
14. Head (neck) Attitude: half-turned down with curved stem
15. Pollen Color: other
16. Seed Shape: ovoid wide
17. Receptacle Shape: flat
18. Seed Thickness: thick
19. Seed Outer Pericarp Color: grey
20. Hypocotyl color: present, weak
21. Stripe Appearance: marginal: strongly expressed; center: strongly expressed; color: white

State expected variants or other varietal information not described above:

Hypocotyl anthocyanin is weak.

This variety is resistant to tribenuron-methyl herbicide.

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

Certified seed is first expected to be available in 2015. Please do not publish certified seed production acreage.

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

Date this application was submitted: Feb 25, 2015
Date recommended by the VRB: Jun 9, 2015

Association of Official Seed Certifying Agencies
Page 7 of 7

2015 SUNFLOWER VRB