

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



**ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES**

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NATIONAL SUNFLOWER VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES  
(April 2014)

The Association of Official Seed Certifying Agencies (AOSCA) National Sunflower Variety Review Board (NSFVRB), reviewed the following varieties on April 17, 2014, in Fargo, North Dakota. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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Respectfully submitted,

Gonzalo Rojas, Chairman  
National Sunflower Variety Review Board

## 2014 AOSCA SUNFLOWER NVRB

### TABLE OF CONTENTS

<b>Applicant</b>	<b>Page</b>	<b>Variety Name</b>
Mycogen Seeds	1	<a href="#">OI3499R</a>
Mycogen Seeds	2	<a href="#">OP1701B</a>
Mycogen Seeds	3	<a href="#">ZN2404B</a>
Mycogen Seeds	4	<a href="#">ZNN280R</a>
Nuseed Americas, Inc.	5	<a href="#">K12SE03</a>
Nuseed Americas, Inc.	6	<a href="#">K12SM05</a>
Nuseed Americas, Inc.	7	<a href="#">SA422R</a>
Nuseed Americas, Inc.	8	<a href="#">K13SM01</a>
Nuseed Americas, Inc.	9	<a href="#">K13SM54R</a>
Nuseed Americas, Inc.	10	<a href="#">K13SM62R</a>
Nuseed Americas, Inc.	11	<a href="#">SA431R</a>
Nuseed Americas, Inc.	12	<a href="#">SA438R</a>
Nuseed Americas, Inc.	13	<a href="#">SA5661R</a>
Pioneer Hi-Bred International	14	<a href="#">B0615LM</a>
Pioneer Hi-Bred International	15	<a href="#">F0998LM</a>
Pioneer Hi-Bred International	16	<a href="#">F1142LM</a>
Pioneer Hi-Bred International	17	<a href="#">F1145LM</a>
Pioneer Hi-Bred International	18	<a href="#">F1153LM</a>
Pioneer Hi-Bred International	19	<a href="#">F1159LM</a>
Pioneer Hi-Bred International	20	<a href="#">F1164LM</a>
Pioneer Hi-Bred International	21	<a href="#">H0678LM</a>
Pioneer Hi-Bred International	22	<a href="#">J1157LM</a>
Pioneer Hi-Bred International	23	<a href="#">N0736LG</a>
Pioneer Hi-Bred International	24	<a href="#">PH1031B</a>
Pioneer Hi-Bred International	25	<a href="#">PH5038R</a>
Pioneer Hi-Bred International	26	<a href="#">PH5060R</a>
Pioneer Hi-Bred International	27	<a href="#">PH5061R</a>
Pioneer Hi-Bred International	28	<a href="#">T0902SULG</a>
Pioneer Hi-Bred International	29	<a href="#">T1090HM</a>
Pioneer Hi-Bred International	30	<a href="#">T1131HG</a>
Pioneer Hi-Bred International	31	<a href="#">T1168LM</a>
Pioneer Hi-Bred International	32	<a href="#">T1170LM</a>
Pioneer Hi-Bred International	33	<a href="#">T1186HM</a>
Pioneer Hi-Bred International	34	<a href="#">T1203SULG</a>
Pioneer Hi-Bred International	35	<a href="#">T1204SULG</a>
Pioneer Hi-Bred International	36	<a href="#">T1207SULG</a>
Pioneer Hi-Bred International	37	<a href="#">T1263LM</a>
Pioneer Hi-Bred International	38	<a href="#">T1270LM</a>
Pioneer Hi-Bred International	39	<a href="#">T1280SUHM</a>
Pioneer Hi-Bred International	40	<a href="#">T1283SUHM</a>
Pioneer Hi-Bred International	41	<a href="#">T1295HM</a>

<b>Applicant</b>	<b>Page</b>	<b>Variety Name</b>
Pioneer Hi-Bred International	42	<a href="#">U1057SULG</a>
Pioneer Hi-Bred International	43	<a href="#">U1144LG</a>
Pioneer Hi-Bred International	44	<a href="#">U1159LG</a>
Pioneer Hi-Bred International	45	<a href="#">U1181IMLG</a>
Pioneer Hi-Bred International	46	<a href="#">U12FSCLLM</a>

## OI3499R

1. OI3499R is a high oleic restorer derived from the backcross pedigree 520999R\*2/OIN587R. The recurrent and donor parent 520999R and OIN587R are Mycogen Seeds proprietary restorers. OIN587R has the genes conferring high oleic oil and imidazolinone herbicide resistance. The imi gene(s) was acquired from 1998 USDA public releases. OI3499R is derived from a bulk of a BC1F6 family tracing to a single BC1F5 plant homozygous for high oleic and imidazolinone resistance.
2. Hybrids utilizing OI3499R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium Short  
Stem Branching: Fully Branched  
Leaf Shape: Cordate Leaf Margins: Medium Serrated  
Leaf Attitude: Descending Leaf Surface: Slightly Crinkled  
Leaf Color: Green Ray Flower Color: Yellow  
Ray Flowers: Present Stigma Anthocyanin: Present - Weakly Expressed  
Disk Flower Color: Yellow Pappi Color: Rust  
Pollen Color: Yellow Head (neck) Attitude: Horizontal  
Receptacle Shape: Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Nearly Solid Black Seed Shape: Narrowly Ovate  
Stripe Appearance: Narrow Dark Gray Striping Seed Cross-section: Curved

State expected variants or other varietal traits that will assist in identification in the field:

OI3499R's leaf blade length is approximately 2 cm longer than its width. Obvious phenotypic variances within isolation fields are not expected.

4. OI3499R is resistant to imidazolinone herbicides.
5. Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown.
6. Certified seed of hybrids using this variety may be made available for the 2015 season. Please do not publish certified acreage.
7. It is not anticipated that a PVP application will be made on this variety.

Date this application was Mar 02, 2014  
submitted: \_\_\_\_\_

Date recommended by the NVRB: Apr 17, 2014



## OP1701B

1. OP1701B is a high oleic maintainer line derived from the backcross pedigree ON1701B\*4/BTI-1R. The recurrent parent ON1701B is a Mycogen Seeds proprietary inbred. BTI-1R is an imidazolinone herbicide resistant donor inbred with the CLHAplus resistant gene developed by Nidera and BASF, and licensed to the seed industry in 2008. OP1701B is derived from a bulk of a BC3F7 family tracing to a single BC3F6 plant homozygous for high oleic and CLHAplus imidazolinone resistance.
2. Hybrids utilizing OP1701B are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: No  
Leaf Shape: Acuminate Leaf Margins: Coarse Serrate  
Leaf Attitude: Descending Leaf Surface: Medium Blistering  
Leaf Color: Dark Green Ray Flower Color: Yellow  
Ray Flowers: Present Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Nearly Solid Black Seed Shape: Ovoid Wide  
Stripe Appearance: Narrow Dark Gray Striping Seed Cross-section: Curved

State expected variants or other varietal information not described above :

Ray flower disposition is longitudinally recurved and sloped 30-40 degrees from the plane of the head at 50% bloom. Leaves show very weak expression of leaf wings. Head shape is strongly convex and noticeably folds back. Up to 15% of plants may express basal branching in some environments.

4. OP1701B is resistant to imidazolinone herbicides
5. Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown.
6. Certified seed of hybrids using this variety may be made available for the 2015 season. Please do not publish certified acreage.
7. It is not anticipated that a PVP application will be made on this variety

Date this application was submitted: Mar 02, 2014

Date recommended by the NVRB: May 24, 2014



## ZN2404B

1. ZN2404B is a high oleic maintainer oilseed line derived from the backcross pedigree ON4404B\*2/ON1982. The recurrent and donor parents ZN4404B and ON1982 are proprietary Mycogen Seeds parent lines used for development and selection of ZN2404B having oleic acid content greater than 93%. ZN2404B is derived from a bulk of a BC1F7 family tracing to a single BC2F6 plant homozygous for extra high oleic.
2. Hybrids utilizing ZN2404B are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for vegetable oil.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: No  
Leaf Shape: Cordate Leaf Margins: Medium Serrate  
Leaf Attitude: Descending Leaf Surface: Crinkled (ridged)  
Leaf Color: Green Ray Flower Color: Yellow  
Ray Flowers: Present Stigma Anthocyanin: Absent  
Disk Flower Color: Dark Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Descending  
Receptacle Shape: Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Nearly Solid Black Seed Shape: Broadly Ovate  
Stripe Appearance: Narrow Dark Gray Striping Seed Cross-section: Curved

State expected variants or other varietal traits that will assist in identification in the field:

Ray flower disposition is undulating and sloped 30-40 degrees from the plane of the head at 50% bloom. Ray flower petals appear wider than average. Anther tube pigment appears darker brown than average, and disk florets are noticeably darker yellow in color. Seeds are nearly solid black with thin hulls. Up to 15% of plants may express basal branching in some environments.

4. No claims are made regarding resistance to disease, insects, or herbicides.
5. Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown.
6. Certified seed of hybrids using this variety may be made available for the 2015 season. Please do not publish certified acreage.
7. It is not anticipated that a PVP application will be made on this variety.

Date this application was submitted: Mar 02, 2014

Date recommended by the NVRB: May 24, 2014



## ZNN280R

1. ZNN280R is a high oleic confection restorer derived from the backcross pedigree H280R\*3/ON1982. The recurrent and donor parents H280R and ON1982R are proprietary Mycogen Seeds parent lines used for the development and selection of ZNN280R having oleic acid levels greater than 93%. ZNN280R is derived from a bulk of a BC2F6 family tracing to a single BC2F5 plant homozygous for extra high oleic.
2. Hybrids utilizing ZNN280R are adapted to the major sunflower growing regions of North America and Europe, and will be used primarily for the dehulling confection market.

3. Flowering (relatively early, medium, or late?):	<u>Medium</u>		
Physiological maturity (relatively early, medium, or late?):	<u>Medium</u>		
Height (relatively short, medium or tall?):	<u>Medium Tall</u>		
Stem Branching:	<u>Fully Branched</u>		
Leaf Shape:	<u>Cordate</u>	Leaf Margins:	<u>Medium Serrated</u>
Leaf Attitude:	<u>Descending</u>	Leaf Surface:	<u>Crinkled (ridged)</u>
Leaf Color:	<u>Green</u>	Ray Flower Color:	<u>Yellow</u>
Ray Flowers:	<u>Present</u>	Stigma Anthocyanin:	<u>Absent</u>
Disk Flower Color:	<u>Yellow</u>	Pappi Color:	<u>Green</u>
Pollen Color:	<u>Yellow</u>	Head (neck) Attitude:	<u>Descending</u>
Receptacle Shape:	<u>Convex</u>	Seed Middle Pericarp Color:	<u>White</u>
Seed Outer Pericarp Color:	<u>Striped Black</u>	Seed Shape:	<u>Broadly Ovate</u>
Stripe Appearance:	<u>Narrow White</u>	Seed Cross-section:	<u>Curved</u>

State expected variants or other varietal traits that will assist in identification in the field:

Ray flower disposition is longitudinally recurved and sloped 30-40 degrees from the plane of the head at 50% bloom. Leaves have average length and width, but have distinctive wavy margins. Leaf canopy appears sparse due to long midstem internodes. White stripes of the seed hull are narrower than the black stripes. Seed size is longer and wider than RHA294.

4. No claims are made regarding resistance to disease, insects, or herbicides.
5. Breeder seed increases are maintained by Mycogen Seeds under cloth bagged heads in nursery rows or in isolation cages. Up to two generations beyond breeder's seed are allowed for increase by open pollination in isolated fields for production of Foundation Seed. Isolation and other requirements will be according to the Seed Certification regulations of the state where seed is grown.
6. Certified seed of hybrids using this variety may be made available for the 2016 season. Please do not publish certified acreage.
7. It is not anticipated that a PVP application will be made on this variety.

Date this application was submitted: Mar 02, 2014

Date recommended by the NVRB: May 24, 2014





## K12SE03

1. K12SE03 is a non-oilseed, tribenuron methyl herbicide resistant, maintainer line developed by the pedigree method of selection from the cross backcross 9841\*2/SU7G. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, and tribenuron methyl herbicide resistance. The male sterile component of K12SE03 has CMS PET1 cytoplasm derived from *H. petiolaris* (French).
2. Hybrids utilizing K12SE03 have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with K12SE03 will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Absent  
Leaf Shape: Weakly Convex      Leaf Margins: Medium Serrate  
Leaf Attitude: Horizontal      Leaf Surface: Absent or Very Weakly Expressed  
Leaf Color: Dark Green      Ray Flower Color: Orange Yellow  
Ray Flowers: Longitudinal Recurved      Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow      Pappi Color: Yellow  
Pollen Color: Yellow      Head (neck) Attitude: Half-Turned Down with Curved Stem  
Receptacle Shape: Weakly Convex      Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Black Solid      Seed Shape: Elongated  
Stripe Appearance: None      Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. K12SE03 is tolerant to the tribenuron methyl herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database.

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## K12SM05

1. K12SM05 is a non-oilseed, Imidazolinone herbicide resistant, maintainer line developed by the pedigree method of selection from the backcross SA440\*2/458. It is a bulk of BC1F6 plants derived from a single BC1F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance. The male sterile component of K12SM05 has CMS PET1 cytoplasm derived from *H. petiolaris* (French)
2. Hybrids utilizing K12SM05 have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with K12SM05 will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Absent  
Leaf Shape: Acuminate Leaf Margins: Medium Serrate  
Leaf Attitude: Horizontal Leaf Surface: Crinkled  
Leaf Color: Green Ray Flower Color: Yellow  
Ray Flowers: Longitudinal Recurved Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Black Solid Seed Shape: Ovoid Elongated  
Stripe Appearance: None Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. K12SM05 is tolerant to the Imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## SA422R

1. SA422R is a non-oilseed, Imidazolinone herbicide tolerant, restorer line selected by the pedigree method from the cross SA307\*2///381//181/801CL-R. It is a bulk of BC1F6 plants derived from a single BC1F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance.
2. Hybrids utilizing SA422R have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with SA422R will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Short  
Stem Branching: Predominantly Apical  
Leaf Shape: Lanceolate to Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Weak Blistering  
Leaf Color: Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Dark brown Seed Shape: Elongated  
Stripe Appearance: None Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. SA422R is tolerant to the Imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## K13SM01

1. K13SM01 is a non-oilseed, Imidazolinone herbicide tolerant, Downy mildew (*Plasmopara halstedii*) resistant (Race 730), maintainer line selected by the pedigree method from the cross 319DM/SA440. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, Imidazolinone herbicide resistance and resistance to race 730 of Downy mildew (*P. halstedii*). The male sterile component of K13SM01 has CMS PET1 cytoplasm derived from *H. petiolaris* (French)
2. Hybrids utilizing K13SM01 have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with K13SM01 will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Absent  
Leaf Shape: Weakly Concave Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Absent or Very Weak  
Leaf Color: Medium Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Light Brown Seed Shape: Elongated  
Stripe Appearance: Thin White Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. K13SM01 is tolerant to the Imidazolinone herbicide and resistant to race 730 of Downy mildew (*P. halstedii*).
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2016. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## K13SM54R

1. K13SM54R is a non-oilseed, Imidazolinone herbicide tolerant, Downy mildew (*Plasmopara halstedii*) susceptible (Race 730), restorer line selected by the pedigree method from the cross 430//312/RHA468. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance.
2. Hybrids utilizing K13SM54R have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with K13SM54R will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Short  
Stem Branching: Overall  
Leaf Shape: Lanceolate to Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Absent or Very Weak  
Leaf Color: Medium Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Black Seed Shape: Elongated  
Stripe Appearance: None Seed Cross-section: Curved  
  
State expected variants or other varietal information not described above : none
4. K13SM54R is tolerant to the Imidazolinone herbicide and susceptible to race 730 of Downy mildew (*P. halstedii*).
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2016. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## K13SM62R

1. K13SM62R is a non-oilseed, Imidazolinone herbicide tolerant, restorer line selected by the pedigree method from the cross SA451\*2//130/SA430. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance.
2. Hybrids utilizing K13SM62R have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with K13SM62R will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Overall  
Leaf Shape: Lanceolate to Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Weak Blistering  
Leaf Color: Medium Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Slightly Curved Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: White Seed Shape: Elongated  
Stripe Appearance: Thin in shape and tan in color Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. K13SM62R is tolerant to the Imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## SA431R

1. SA431R is a non-oilseed, Imidazolinone herbicide tolerant, restorer line selected by the pedigree method from the cross SA467/4318. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance.
2. Hybrids utilizing SA431R have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with SA431R will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Short  
Stem Branching: Predominantly Apical  
Leaf Shape: Lanceolate to Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Absent or Very Weak Blistering  
Leaf Color: Medium Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Light Brown Seed Shape: Elongated  
Stripe Appearance: White Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. SA431R is tolerant to the Imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## SA438R

1. SA438R is a non-oilseed, Imidazolinone herbicide tolerant, restorer line selected by the pedigree method from the cross SA428/SA338. It is a bulk of F6 plants derived from a single F5 plant. Selection was for uniform plant type, self-compatibility, and Imidazolinone herbicide resistance.
2. Hybrids utilizing SA438R have been tested in major sunflower growing regions of North America and have been tested in North and South Dakota where sunflower is commonly grown. Hybrids with SA438R will be used primarily for human consumption.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Short  
Stem Branching: Predominantly Apical  
Leaf Shape: Lanceolate to Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Horizontal Leaf Surface: Absent or Very Weak  
Leaf Color: Medium Green Ray Flower Color: Yellow  
Ray Flowers: Fusiform Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Light Brown Seed Shape: Elongated  
Stripe Appearance: Just marginal Seed Cross-section: Curved

State expected variants or other varietal information not described above : none

4. SA438R is tolerant to the Imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas, Inc. in nursery rows under bags or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be in according to the seed certification regulations of the state where seed is grown.
6. Hybrid certified seed produced with this line will first be offered for sale in 2015. Do not publish certified seed production acreage.
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014





## SA5661R

1. SA5661R is a high oleic imidazolinone resistant, oilseed restorer derived from the cross SA578R/6356R. The pedigree method of selection was used for the development of SA5661R. It is a bulk of F7 plants derived from a single F6 plant. Selection was for uniform plant type, self-compatibility, high oleic acid content, and resistance to imidazolinone herbicide.
2. Hybrids utilizing SA5661R are adapted to major sunflower growing regions of North and South America and S.E. Europe and have been tested in North Dakota, South Dakota, Argentina, and S.E Europe and will be marketed in those states and countries. Hybrids utilizing SA5661R will primarily be used for vegetable oil.
3. Flowering (relatively early, medium, or late?): Relatively Early  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Short  
Stem Branching: Predominantly Basal  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weakly Blistered  
Leaf Color: Medium Green Ray Flower Color: Light Yellow  
Ray Flowers: Medium Dense Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Light Yellow Head (neck) Attitude: Inclined  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Black Seed Shape: Ovoid Wide  
Stripe Appearance: Weakly Expressed Grey Seed Cross-section: Thin

State expected variants or other varietal information not described above :

4. SA5661R is resistant to imidazolinone herbicide.
5. Breeder's seed will be maintained by Nuseed Americas Inc. in nursery rows under bags, or by open pollination in isolated fields. Up to two generations beyond breeder's seed will be allowed for production of foundation seed. Isolation and other requirements will be according to the seed certification regulations of the state where seed is grown.
6. Certified seed will be offered for sale in 2014; do not publish certified seed production acreage
7. Application will not be submitted for PVP and AOSCA may not provide descriptive information to the PVP database

Date this application was submitted: Feb 21, 2014

Date recommended by the NVRB: May 30, 2014



## B0615LM

1. B0615LM is a tribenuron-methyl resistant, linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross J9756LM\*3/B0336HM. Both J9756LM & B0336HM are Pioneer proprietary lines. B0336HM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance and recurrent parent traits. The pedigree method was used in the development of B0615LM. It is a bulk of BC3F5 seed tracing back to a single BC3F4 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing B0615LM 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?): Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Short  
Stem Branching: Overall with Central Head Above  
Leaf Shape: Broad Triangular Leaf Margins: Medium Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Light Green Ray Flower Color: Yellow  
Ray Flowers: Broadly Ovate & Flat Stigma Anthocyanin: Medium Intensity  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Black Seed Shape: Ovoid Elongated  
Stripe Appearance: None Seed Cross-section: Thin

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F0998LM

1. F0998LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross U01P6LM/E9730LM/LC1066R. Both U01P6LM & E9730LM are Pioneer proprietary lines. LC1066R is a line developed by the Fundulea Institute in Romania and licensed for use by Pioneer. Selections were made for later flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of F0998LM. 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 F0998LM have been tested in are adapted to the growing regions of Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Medium  
 Physiological maturity (relatively early, medium, or late?): Medium  
 Height (relatively short, medium or tall?): Medium  
 Stem Branching: Apical  
 Leaf Shape: Acuminate                      Leaf Margins: Fine Serrate  
 Leaf Attitude: Medium                      Leaf Surface: Weak Blister  
 Leaf Color: Light Green                      Ray Flower Color: Medium Yellow  
 Ray Flowers: Medium Density, Narrowly Ovate & Flat      Stigma Anthocyanin: Strong  
 Disk Flower Color: Yellow                      Pappi Color: Green  
 Pollen Color: Yellow                      Head (neck) Attitude: Half-Turned Down with Straight Stem  
 Receptacle Shape: Flat                      Seed Middle Pericarp Color: White  
 Seed Outer Pericarp Color: Solid Black                      Seed Shape: Ovoid elongated  
 Stripe Appearance: Absent                      Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. F0998LM does not claim 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F1142LM

1. F1142LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross RAK001LM/F0001LM. Both RAK001LM & F0001LM are Pioneer proprietary lines. Selections were made for later flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of F1142LM. It is a bulk of F7 seed tracing back to a single F6selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing F1142LM 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Overall  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Medium blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium density, Broadly Ovate & Longitudinally Recurved Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Flat Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: The yellow ray flowers are longitudinally recurved and the bracts are light green and long. Hypocotyl anthocyanin is absent.

4. F1142LM claims to have 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F1145LM

1. F1145LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross RAK001LM/F0001LM. Both RAK001LM & F0001LM are Pioneer proprietary lines. Selections were made for later flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of F1145LM. 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 F1145LM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Very Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Overall  
Leaf Shape: Broad Triangular and Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Medium Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: The involucre bracts are light green. Hypocotyl anthocyanin is absent.

4. F1145LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F1153LM

1. F1153LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross S9867LM/F0001LM. Both S9867LM & F0001LM 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 F1153LM. 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 F1153LM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Very Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Fusiform & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: The involucre bracts are light green and long. Hypocotyl anthocyanin is absent.

4. F1153LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F1159LM

1. F1159LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross S9867LM/F0001LM. Both S9867LM & F0001LM 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 F1159LM. 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 F1159LM 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Short  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Dense, Fusiform & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Vertical  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped black Seed Shape: Ovoid  
Stripe Appearance: Grey, Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: The involucre bracts are light green and long. Hypocotyl anthocyanin is absent.

4. F1159LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## F1164LM

1. F1164LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0075LM/F0001LM. Both T0075LM & F0001LM are Pioneer proprietary lines. Selections were made for later flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of F1164LM. 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 F1164LM have been tested in and are adapted to the growing regions of Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Very Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad triangular Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Medium Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Vertical  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Dark Brown Seed Shape: Elongated  
Stripe Appearance: Brown, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: The involucre bracts are light green and long. Hypocotyl anthocyanin is absent.

4. F1164LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014





## H0678LM

1. H0678LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross PHA232/U9849LM. Both PHA232 & U9849LM are Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of H0678LM. 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 H0678LM 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  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Overall  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium serrate  
Leaf Attitude: High Leaf Surface: Weak blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Flat Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Black Seed Shape: Ovoid wide  
Stripe Appearance: None Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. H0678LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## J1157LM

1. J1157LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross VK66M/X840B. VK66M is a Pioneer proprietary line. X840B is a line from the Kharkov Institute in Ukraine and licensed for use by Pioneer. Selections were made for earlier flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of J1157LM. 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 J1157LM 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 Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Short  
Stem Branching: Overall  
Leaf Shape: Narrow Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Medium Leaf Surface: No Blistering  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Medium Brown Seed Shape: Ovoid Wide  
Stripe Appearance: None Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. J1157LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## N0736LG

1. N0736LG is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross T9819QG/U0151LG. T9819QG and U0151LG 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 N0736LG. 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 N0736LG 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Narrow Triangular to Broad Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is of medium strength.

4. N0736LG 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## PH1031B

1. PH1031B is tribenuron-methyl resistant, linoleic oil type, maintainer line developed by Pioneer Hi-Bred International that derives from the cross N0626LG\*6/R07449LG. Both N0626LG & R07449LG are Pioneer proprietary lines. R07449LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance and recurrent parent traits. The backcross and pedigree methods were used in the development of PH1031B. It is a bulk of BC5F6 seed tracing back to a single BC5F5 selection. The sterile analog derives from the CMS PET1 cytoplasm following 5 generations of backcrossing. It is homozygous dominant for single heads.
2. Hybrids utilizing PH1031B 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Light Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.

- 4 This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## PH5038R

1. PH5038R is a tribenuron-methyl resistant, oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross PHA305\*3//[B0652HM/B0338HM]. PHA305, B0652HM & B0338HM are all Pioneer proprietary lines. B0338HM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance and recurrent parent traits. The backcross method was used in the development of PH5038R. It is a bulk of BC2F6 seed tracing back to a single BC2F5 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing PH5038R 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?): Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Apical  
Leaf Shape: Broadly Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Weak Intensity  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## PH5060R

1. PH5060R is a tribenuron-methyl resistant, linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross T0456LM\*8//[T0065LM/B0644LM]. T0456LM, T0065LM & B0644LM are all Pioneer proprietary lines. B0644LM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance and recurrent parent traits. The backcross method was used in the development of PH5060R. It is a bulk of BC7F5 seed tracing back to a single BC7F4 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing PH5060R 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?): Late  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: No Blistering  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Vertical  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Medium Brown Seed Shape: Ovoid Elongated  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

- 4 This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## PH5061R

1. PH5061R is a tribenuron-methyl resistant, linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the backcross T0678LM\*5/B0642LM. T0678LM & B0642LM are both Pioneer proprietary lines. B0642LM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance and recurrent parent traits. The backcross method was used in the development of PH5061R. It is a bulk of BC4F5 seed tracing back to a single BC4F4 selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing PH5061R 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?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T0902SULG

1. T0902SULG is a tribenuron-methyl resistant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross T0001LG//T9811LG/B0529LG. T0001LG, T9811LG & B0529LG are all Pioneer proprietary lines. B0529LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T0902SULG. 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 utilizing T0902SULG have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Acuminate Leaf Margins: Coarse Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Light Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.

- 4 This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

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## T1090HM

1. T1090HM is an oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T00B3/T02C6. Both T00B3 & T02C6 are Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant stature, stay green, oil content, high oleic content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1090HM. 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 T1090HM 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?): Late  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Overall  
Leaf Shape: Broadly Triangular to Acuminate Leaf Margins: Fine Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Longitudinally Recurved Stigma Anthocyanin: Medium Intensity  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Brown Seed Shape: Ovoid Wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.

4. T1090HM claims no 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 2014. 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 28, 2014

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## T1131HG

1. T1131HG is an oleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross T00A8/T9819QG//U9605LG. T00A8, T9819QG & U9605LG 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 T1131HG. 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 utilizing T1131HG 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?): Late  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Marginal Seed Cross-section: Medium

State expected variants or other varietal information not described above: The involucre bracts are long and clearly elongated. Hypocotyl anthocyanin is absent.

4. T1131HG 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T1168LM

1. T1168LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0267LM/PSS2R. T0267LM is a Pioneer proprietary line. PSS2R is a line from INRA in France, licensed for use by Pioneer. Selections were made for earlier flowering, shorter plant stature, stay green, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1168LM. 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 T1168LM have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Short  
Stem Branching: Overall  
Leaf Shape: Narrow Triangular to Broad Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Fusiform & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Flat Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Light Brown Seed Shape: Ovoid Wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. T1168LM 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 2014. 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 28, 2014

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## T1170LM

1. T1170LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0456LM/T0267LM//B0533LM. T0456LM, T0267LM & B0533LM are all 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 T1170LM. 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 T1170LM have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Medium  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Undulating Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Medium Brown Seed Shape: Ovoid wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. T1170LM claims no 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 2014. 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 28, 2014

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## T1186HM

1. T1186HM is an oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross B0345HM//T00B3/LG5450. Both B0345HM & T00B3 are Pioneer proprietary lines. Pollen from the Limagrain hybrid LG5450 was used to cross to T00B3. Selections were made for earlier flowering, shorter plant stature, stay green, oil content, high oleic content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1186HM. It is a bulk of F7 seed tracing back to a single F6selection. It is homozygous for dominant fertility restoration of the CMS PET 1 cytoplasm.
2. Hybrids utilizing T1186HM 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Predominantly Apical  
Leaf Shape: Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: Medium Leaf Surface: No Blistering  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Medium Intensity  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Medium Brown Seed Shape: Ovoid Wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent. Involucral bracts are green and rounded.

4. T1186HM 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 2014. 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 28, 2014

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## T1203SULG

1. T1203SULG is a tribenuron-methyl resistant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross B0701LG/N0626LG. Both B0701LG & N0626LG are Pioneer proprietary lines. B0701LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1203SULG. It is a bulk of F6 seed tracing back to a single F5 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 T1203SULG have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): Early  
Physiological maturity (relatively early, medium, or late?): Early  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak. The involucre bracts are green and rounded. The leaves have very big auricles.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

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## T1204SULG

1. T1204SULG is a tribenuron-methyl resistant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross B0701LG/N0626LG. Both B0701LG & N0626LG are Pioneer proprietary lines. B0701LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1204SULG. It is a bulk of F6 seed tracing back to a single F5 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 T1204SULG have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Absent  
Leaf Shape: Narrow Triangular Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: No Blistering  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: The triangular leaves are smooth with strongly expressed wings. Hypocotyl anthocyanin is weak.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

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## T1207SULG

1. T1207SULG is a tribenuron-methyl resistant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross B0701LG/T0514LG. Both B0701LG & T0514LG are Pioneer proprietary lines. B0701LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1207SULG. It is a bulk of F6 seed tracing back to a single F5 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 T1207SULG have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.

3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

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## T1263LM

1. T1263LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0267LM/T0456LM. Both T0267LM & T0456LM 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 T1263LM. 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 T1263LM have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Dark green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Light Brown Seed Shape: Ovoid Wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is absent.

4. T1263LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T1270LM

1. T1270LM is a linoleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0456LM/T0672LM. Both T0456LM & T0672LM 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 T1270LM. 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 T1270LM have been tested in and are adapted to the growing regions of the Northern Plains of the U.S., Central, Eastern, and Western Europe.
3. Flowering (relatively early, medium, or late?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Tall  
Stem Branching: Predominantly apical  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Medium Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Flat Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Solid Brown Seed Shape: Ovoid Wide  
Stripe Appearance: Absent Seed Cross-section: Medium

State expected variants or other varietal information not described above: The broad triangular to rounded leaves are green with strongly expressed wings. Hypocotyl anthocyanin is absent.

4. T1207LM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T1280SUHM

1. T1280SUHM is a tribenuron-methyl resistant, oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0694HM/B0641HM. Both T0694HM & B0641HM are Pioneer proprietary lines. B0641HM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil and fatty acid content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1280SUHM. 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 T1280SUHM 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?): Late  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Short  
Stem Branching: Apical  
Leaf Shape: Broad Triangular Leaf Margins: Fine Serrate  
Leaf Attitude: High Leaf Surface: Weak Blister  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Ondulating Stigma Anthocyanin: Medium Intensity  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Strongly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Thin

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T1283SUHM

1. T1283SUHM is a tribenuron-methyl resistant, oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T0694HM/B0641HM. Both T0694HM & B0641HM are Pioneer proprietary lines. B0641HM is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil and fatty acid content and yield, as assessed in hybrid combination. The pedigree method was used in the development of T1283SUHM. 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. Uses utilizing T1283SUHM 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  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Weak Intensity  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Marginally Seed Cross-section: Thin
- State expected variants or other varietal information not described above: Hypocotyl anthocyanin is weak.
4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## T1295HM

1. T1295HM is an oleic oil type restorer line developed by Pioneer Hi-Bred International that derives from the cross T00B3/T0456LM//D0250LM. T00B3, T0456LM & D0250LM are all Pioneer proprietary lines. Selections were made for 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 T1295HM. 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 T1295HM 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  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Overall  
Leaf Shape: Broad Triangular Leaf Margins: Fine serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Medium Intensity  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Vertical  
Receptacle Shape: Strongly Concave Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Brown Seed Shape: Ovoid Elongated  
Stripe Appearance: White, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: The triangular leaves have strongly expressed wings. Hypocotyl anthocyanin is absent.

4. T1295HM 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## U1057SULG

1. U1057SULG is a tribenuron-methyl resistant, linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross B0648LG/U0586LG. Both B0648LG & U0586LG are Pioneer proprietary lines. B0648LG is a tribenuron-methyl resistant line used as the donor for herbicide resistance. Selections were made for tribenuron-methyl resistance, earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of U1057SULG. 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 utilizing U1057SULG 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Acuminate Leaf Margins: Coarse Serration  
Leaf Attitude: Medium Leaf Surface: No Blistering  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal traits that will assist in identification in the field:

The involucre bracts are much longer than HA89. Hypocotyl anthocyanin is of weak strength.

4. This variety is resistant 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 first expected to be available in 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## U1144LG

1. U1144LG is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross N0626LG/U0652HG//N0626LG. N0626LG & U0652HG are both Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of U1144LG. 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 U1144LG 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Coarse Serrate  
Leaf Attitude: Medium Leaf Surface: Medium Blister  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Strongly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal information not described above: The involucre bracts are light green compared to the darker green bracts of HA89. Hypocotyl anthocyanin is absent.

4. U1144LG 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014



## U1159LG

1. U1159LG is a linoleic oil type maintainer line developed by Pioneer Hi-Bred International that derives from the cross U0586LG/N0626LG. N0626LG & U0586LG are both Pioneer proprietary lines. Selections were made for earlier flowering, shorter plant height, oil content and yield, as assessed in hybrid combination. The pedigree method was used in the development of U1159LG. 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 U1159LG 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  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Medium Leaf Surface: Weak Blister  
Leaf Color: Light green Ray Flower Color: Medium Yellow  
Ray Flowers: Sparse Density, Narrowly Ovate & Flat Stigma Anthocyanin: Absent  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Wide  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal traits that will assist in identification in the field:

Hypocotyl anthocyanin is weak. The involucre bracts are light green.

4. U1159LG 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 2014. 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 28, 2014

Date recommended by the NVRB: Jun 25, 2014





## U1181IMLG

1. U1181IMLG is a linoleic oil type, imidazilinone resistant, maintainer line developed by Pioneer Hi-Bred International that derives from the cross U0586LG/N0626LG. U0586LG & N0626LG are both Pioneer proprietary lines. Selections were made for imidazilinone resistance, oil content, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination. The pedigree method was used in the development of U1181IMLG. 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 U1181IMLG 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  
Physiological maturity (relatively early, medium, or late?): Late  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Absent  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Coarse Serrate  
Leaf Attitude: High Leaf Surface: Medium Blister  
Leaf Color: Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density, Broadly Ovate & Flat Stigma Anthocyanin: Strong Intensity  
Disk Flower Color: Orange Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Ovoid Elongated  
Stripe Appearance: Grey, Both Marginal & Lateral Seed Cross-section: Medium

State expected variants or other varietal traits that will assist in identification in the field:

Hypocotyl anthocyanin is of medium strength.

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 2014. 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 28, 2014

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## U12FSCLLM

1. U12FSCLLM is a linoleic oil type, imidazilinone resistant, restorer line developed by Pioneer Hi-Bred International that derives from the cross U09MYHM/BTIMIR//U06VBHM/3/B0642LM/4/SANAY. U09MYHM, U06VBHM & B0642LM are all Pioneer proprietary lines. BTIMIR is the CLHA + inbred licensed for use from BASF. Sanay is a Syngenta hybrid that was purchased and used to cross. Selections were made for imidazilinone resistance, oil content, shorter plant stature, earlier flowering and yield, as assessed in hybrid combination. The pedigree method was used in the development of U12FSCLLM. 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 U12FSCLLM 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  
Physiological maturity (relatively early, medium, or late?): Medium  
Height (relatively short, medium or tall?): Medium  
Stem Branching: Predominantly Apical, Central Head Below  
Leaf Shape: Broad Triangular to Rounded Leaf Margins: Medium Serrate  
Leaf Attitude: Horizontal Leaf Surface: Very Slight Blistering  
Leaf Color: Medium Green Ray Flower Color: Medium Yellow  
Ray Flowers: Medium Density & Flat Stigma Anthocyanin: Present  
Disk Flower Color: Yellow Pappi Color: Green  
Pollen Color: Yellow Head (neck) Attitude: Half-Turned Down with Straight Stem  
Receptacle Shape: Weakly Convex Seed Middle Pericarp Color: White  
Seed Outer Pericarp Color: Striped Black Seed Shape: Elongated  
Stripe Appearance: Weak Lateral & Marginal Grey Stripes Seed Cross-section: Thin

State expected variants or other varietal information not described above: Hypocotyl anthocyanin is of medium intensity

- 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 2014. 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 28, 2014

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