

**A REPORT OF THE
ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD**



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD REPORT ©2016

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ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(JANUARY 2016)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on January 12, 2016, in Denver, CO. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

All variety information, including descriptions, claims, and research data to support any claim, was supplied to the Alfalfa and Miscellaneous Legumes Variety Review Board by the applicants. The Alfalfa and Miscellaneous Legumes Variety Review Board makes judgments regarding recommendation of varieties for inclusion into certification based on the data supplied. Beyond this, the Alfalfa and Miscellaneous Legumes 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 Alfalfa and Miscellaneous Legumes Variety Review Board can be obtained from:

Chester Boruff, Chief Executive Officer
AOSCA
1601 52nd Ave., Suite 1
Moline, Illinois 61265

Telephone (309) 736-0120
Fax (309) 736-0115
E-Mail cboruff@aosca.org

Respectfully submitted,

Victor Shaul, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

2016 AOSCA ALFALFA & MISC LEGUMES VRB

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		A – Name Change			
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		C – Other			

PLACING THE CURSOR OVER THE DESIRED VARIETY/EXPERIMENTAL DESIGNATION & CLICKING WILL TAKE YOU DIRECTLY TO THE SUMMARY DESCRIPTION.

Alfalfa

4H400

CW 054004 (Exp)

Origin and Breeding History

4H400 is a synthetic variety developed by Alforex Seeds with 11 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of 4H400 traces to the following germplasm sources: CW D4-C05 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2005. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

4H400 is adapted to the North Central, East Central, and Winterhardy Intermountain areas of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. 4H400 has been tested in Idaho, Iowa, Minnesota, Pennsylvania, and Wisconsin.

Agronomic and Botanical Characteristics

4H400 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 91% purple, 6% variegated, 2% Yellow, and 1% cream. 4H400 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. 4H400 has high resistance to anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial Wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue aphid, Pea aphid, Cow pea aphid, Root knot nematode, Spotted alfalfa aphid, and Stem nematode. It has moderate resistance to Aphanomyces root rot (race 2).

Procedures for Maintaining Seed Stock

Seed increase of 4H400 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2005. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of 4H400 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AFX 457 CW A114030 (Exp)

Origin and Breeding History

AFX 457 is a synthetic variety developed by Alforex Seeds with 117 parent plants selected sequentially for germination, seedling growth, and mature plant regrowth after repeated irrigation with 100 mM NaCl solution in the greenhouse. Parent plants were selected from crosses between selections from NaCl tolerant plants from source varieties of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high relative feed value (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leafspot. Parentage of AFX 457 traces to the following germplasm sources: Affinity+Z (2%), Assalt ST (5%), Barricade SLT (60%), Bullseye (2%), PGI 427 (4%), SolarGold (2%), CW 11-401 (6%), CW 11-402 (19%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX 457 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. AFX 457 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 457 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple and 1% cream. AFX 457 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 457 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue alfalfa aphid. Reaction to Aphanomyces root rot (race 2), pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 457 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of AFX 457 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AFX 469 CW 105006 (Exp)

Origin and Breeding History

AFX 469 is a synthetic variety developed by Alforex Seeds with 16 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 469 traces to the following germplasm sources: CW D5-CE10 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX 469 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. AFX 469 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 469 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. AFX 469 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 469 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. Reaction to pea aphid, spotted alfalfa aphid, blue alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 469 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of AFX 469 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AlfaFour Supreme DSB08-M (Exp) (Amended – Name Change)

Variety Name AlfaFour Supreme
Experimental Designation(s) DSB08-M
Date A&MLVRB first accepted this variety January 2013
Date(s) previous amendments were accepted _____
Date amendment submitted November 30, 2015

Breeding History

AlfaFour Supreme is an 8 clone synthetic. The parent clones were selected out of forage yield plots and/or disease nurseries. These parent plants were progeny tested for one or more of the following traits: forage yield, stand persistence, forage quality, resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, anthracnose (Race 1), Verticillium wilt and Aphanomyces root rot (Race 1 and 2). All of parent plants trace back to Dairyland experimental germplasm. They were planted in field isolation and inter-pollinated by honey, leaf cutting and bumble bees near Sloughhouse, California in 2009 to produce Syn. 1 as Breeder Seed. Seed from parent plants propagated from vegetative cuttings were equally bulked each year to produce Breeder seed. AlfaFour Supreme was developed by Dairyland Seed Company and its experimental designation is DSB08-M.

Area of Probable Adaptation

AlfaFour Supreme is adapted to the North Central and East Central Region of the United States and intended for use across the North Central and East Central Region of the United States. The states where it has been tested are Minnesota, Pennsylvania, Michigan and Wisconsin.

Agronomic and Botanical Characteristics

AlfaFour Supreme is a moderately dormant variety similar to the fall dormancy 4 check. AlfaFour Supreme is very winter hardy similar to the winter survival 2 check. Flower color in the Syn. 2 generation is 90% purple, 10% variegated with trace amounts of cream, white and yellow. AlfaFour Supreme has low multifoliate expression rating similar to the low MF check variety.

AlfaFour Supreme has high resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, anthracnose (Race 1), Verticillium wilt, Aphanomyces root rot (Race1), northern root-knot nematode, southern root-knot nematode; resistance to pea aphid, stem nematode and Aphanomyces root rot (Race2). AlfaFour Supreme has not been tested for resistance to spotted alfalfa aphid and blue alfalfa aphid.

Procedures for Maintaining Seed Stock

Breeder seed (Syn. 1) was produced by bulking seed of parent plants which were grown in field isolation near Sloughhouse, CA in 2009 or Breeder seed (Syn.2) produced from Syn.1. Foundation seed (Syn.2) was produced from Breeder seed and Certified seed (Syn. 2 or 3) from either Breeder or Foundation seed. Two generations of Breeder, one generation of Foundation and two generations of Certified seed classes are recognized. A maximum of three harvest years each is permitted on stands producing Breeder and Foundation seed with five years for Certified seed. Dairyland Seed Company will maintain sufficient Breeder seed for the projected life of the variety.

Date Certified Seed to be First Offered for Sale

Certified Seed will be available spring of 2014. Certified seed acres are not to be published.

PVP Information

Application for the Plant Variety Protection is undecided.
Information in the NAVRB application can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

Bridger MF CW 053015 (Exp)

Origin and Breeding History

Bridger MF is a synthetic variety developed by Alforex Seeds with 89 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot, high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from three and four-year old Wisconsin yield trials, and from three-year old Wisconsin nurseries, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial and nursery source plants were selected from various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Bridger MF traces to the following germplasm sources: 30-30 Q (2%), 9429 (2%), Concept (2%), Dynamic (5%), Harmony (2%), Legend Extra (5%), Keystone (4%), Setter (5%), Upper Edge (7%), WinterGold (1%), CW 05-023 (18%), CW 05-024 (26%), and CW 05-025 (21%). Breeder seed was produced under cage isolation near Woodland, California in 2005. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

Bridger MF is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. Bridger MF has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

Bridger MF is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% variegated, and a trace of white. Bridger MF has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. Bridger MF has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial Wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Blue aphid, and Pea aphid. It has resistance to Aphanomyces root rot (race 2), Cow pea aphid, Root knot nematode, and Stem nematode. It has moderate resistance to spotted alfalfa aphid.

Procedures for Maintaining Seed Stock

Seed increase of Bridger MF is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2005. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Bridger MF will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AFX 1060 CW 090075 (Exp) (Amended – Name Change)

Variety Name AFX 1060
Experimental Designation(s) CW 090075
Date A&MLVRB first accepted this variety January 2015
Date(s) previous amendments were accepted _____
Date amendment submitted September 25, 2015

Origin and Breeding History

AFX 1060 (experimental designation CW 090075), developed by Alforex Seeds, is a synthetic variety with 209 parent plants which were selected for resistance to Cowpea Aphid and Phytophthora root rot from a polycross among twenty plants which were selected for low Acid Detergent Lignin (ADL) from spaced plant breeding nurseries. This pedigree is derived from various diverse populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, stem nematode, and cowpea aphid and for low ADL. Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 1 (Syn.1).

Areas of Probable Adaptation

AFX 1060 is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the US and is intended for use in the Southwest areas of the US, Australia, Mexico, South Africa, Mid-East, and Argentina. AFX 1060 has been tested in California.

Agronomic and Botanical Characteristics

AFX 1060 is a very non-dormant variety with fall dormancy similar to FD class 10 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated, white, cream, and yellow.

AFX 1060 has high resistance to cowpea aphid; resistance to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, Verticillium wilt, and blue alfalfa aphid; and low resistance to bacterial wilt. Reaction to spotted alfalfa aphid, pea aphid, stem nematode, root knot nematode, and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 1060 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of AFX 1060 will be available in 2015. Certified acreage may not be published by AOSCA or member agencies.

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa
PGI 529
CW 085028 (Exp)
(Amended – Add Extreme Winterhardy)

Variety Name PGI 529
Experimental Designation(s) CW 085028
Date A&MLVRB first accepted this variety January 2013
Date(s) any previous amendments were accepted January 2014
Date this amendment was submitted November 30, 2015

Origin and Breeding History

PGI 529 is a synthetic variety with 10 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot, and for high raceme number and florets per raceme. Parent plants were selected from a three-year old Iowa yield trial and four-year old Wisconsin yield trials, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of PGI 529 traces to the following germplasm sources: Pillar (10%), Charger (10%), STEALTH SF (20%), SunDance II (10%), GH 717 (20%), CW 32041 (10%), CW 35005 (10%), and CW 35035 (10%). Breeder seed was produced under cage isolation near Woodland, California in 2008. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

PGI 529 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. PGI 529 has been tested in Iowa, Minnesota, and Wisconsin

Agronomic and Botanical Characteristics

PGI 529 is a moderately dormant variety with fall dormancy similar to FD class 5 check varieties. PGI 529 is Extremely Winterhardy, similar to WS class 1 check variety. Flower color observed in the Syn.2 generation is approximately 100% purple. PGI 529 has moderate multifoliolate leaf expression rating similar to Low MF check variety.

PGI 529 has high resistance to anthracnose (race 1), Aphanomyces root rot (race 1), bacterial wilt, Fusarium wilt, and Phytophthora root rot; with resistance to Verticillium wilt, pea aphid, and stem nematode; with moderate resistance to blue alfalfa aphid and spotted alfalfa aphid; with low resistance to cow pea aphid. Reaction to root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of PGI 529 is on a limited generation basis with two generations of breeder, foundation, and certified seed classes. Breeder (Syn.2 or Syn.3), foundation (Syn.3 or Syn.4), and certified (Syn.4 or Syn.5) classes will be recognized. Production of Syn.3 breeder or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2008. Sufficient foundation seed for the projected life of the variety will be maintained by Cal/West Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of PGI 529 will be available in 2013.

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

Ranger II DS-Ranger (Exp)

Origin and Breeding History

Ranger II is an 80 clone synthetic alfalfa variety developed by Alforex Seeds. The 80 parent plants were selected from the variety Ranger for Phytophthora root rot and Verticillium Wilt resistances and for seed yield. The selected plants were intercrossed and bulked in Sloughouse, CA to produced Syn. 1 Breeder Seed in 2001. Seed was bulk harvested from all parent plants.

Areas of Probable Adaptation

Ranger II is adapted to the North Central area of the U.S. and is intended for use in the North Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. Ranger II has been tested in Wisconsin.

Agronomic and Botanical Characteristics

Ranger II is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 80% purple, 19% variegated, and a trace of cream, white, and yellow. Ranger II has resistance to Anthracnose (race 1), moderate resistance to Bacterial Wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt, and is susceptible to Aphanomyces root rot (race 1). Reaction to spotted alfalfa aphid, blue alfalfa aphid, pea aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Ranger II is on a limited generation basis with two generations of breeder and three generations of the foundation and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under field isolation near Sloughouse, California in 2001. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Ranger II will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW 093009 (Exp)

Origin and Breeding History

CW 093009 is a synthetic variety developed by Alforex Seeds with 13 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW 093009 traces to the following germplasm sources: CW 09-014 (50%), CW 09-015 (50%). Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 093009 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 093009 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 093009 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple and a trace of variegated. CW 093009 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. CW 093009 has high resistance to anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue alfalfa aphid and Cow pea aphid. Reaction to Spotted alfalfa aphid, Pea aphid, Root knot nematode, and Stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 093009 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 093009 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW 103012 (Exp)

Origin and Breeding History

CW 103012 is a synthetic variety developed by Alforex Seeds with 30 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot. Parent plants were selected from a four year old Wisconsin yield trial and three year old Iowa, Minnesota, and Wisconsin yield trials, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW 103012 traces to the following germplasm sources: Upper Edge (17%), CW 10-027 (83%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 103012 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 103012 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 103012 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% variegated and a trace of white. CW 103012 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW 103012 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2) and Blue alfalfa aphid. Reaction to Pea aphid, Spotted alfalfa aphid, Root knot nematode, and Stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 103012 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 103012 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW 104015 (Exp)

Origin and Breeding History

CW 104015 is a synthetic variety developed by Alforex Seeds with 17 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), Northern Root Knot nematode, Stem nematode, Cow Pea Aphid, and Leptosphaerulina leaf spot. Parentage of CW 104015 traces to the following germplasm sources: Adrenalin (6%), SolarGold (18%), WinterKing III (6%), CW 10-039 (35%), and CW 10-040 (35%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 104015 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 104015 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 104015 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated. CW 104015 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. CW 104015 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, and Cow pea aphid. Reaction to Spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 104015 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 104015 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation (If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Feb 8, 2016



Alfalfa

CW 105021 (Exp)

Origin and Breeding History

CW 105021 is a synthetic variety developed by Alforex Seeds with 14 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW 105021 traces to the following germplasm sources: Contender (7%), CW 10-074 (50%), and CW 10-075 (43%). Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 105021 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 105021 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 105021 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace variegated. CW 105021 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW 105021 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue alfalfa aphid and Cow pea aphid. Reaction to pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 105021 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 105021 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW 105023 (Exp)

Origin and Breeding History

CW 105023 is a synthetic variety developed by Alforex Seeds with 25 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot. Parent plants were selected from a four year old Wisconsin yield trial and three year old Iowa, Minnesota, and Wisconsin yield trials, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW 105023 traces to the following germplasm sources: 5010 (16%), Contender (12%), PGI 557 (20%), CW 10-080 (52%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 105023 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 105023 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 105023 is a dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace variegated. CW 105023 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW 105023 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, and Cow pea aphid. Reaction to pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 105023 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 105023 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW A112002 (Exp)

Origin and Breeding History

CW A112002 is a synthetic variety developed by Alforex Seeds with 18 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW A112002 traces to the following germplasm sources: CW 11-005 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW A112002 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW A112002 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A112002 is a dormant variety with fall dormancy similar to FD class 2 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace variegated. CW A112002 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. CW A112002 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), and Blue alfalfa aphid. Reaction to pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A112002 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A112002 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Feb 8, 2016



Alfalfa

CW A113010 (Exp)

Origin and Breeding History

CW A113010 is a synthetic variety developed by Alforex Seeds with 121 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from three and four year old Wisconsin selection nurseries and a four year old Wisconsin yield trial, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW A113010 traces to the following germplasm sources: CW 11-040 (17%), CW 11-042 (22%), CW 11-044 (12%), CW 11-045 (8%), CW 11-047 (8%), CW 11-049 (8%), and CW 053016 (25%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW A113010 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW A113010 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A113010 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. CW A113010 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW A113010 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It is resistant to Blue alfalfa aphid. Reaction to pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A113010 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A113010 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

CW A123011 (Exp)

Origin and Breeding History

CW A123011 is a synthetic variety developed by Alforex Seeds with 175 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 2), and anthracnose were crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Source plants were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW A123011 traces to the following germplasm sources: CW A113010 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW A123011 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW A123011 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A123011 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. CW A123011 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW A123011 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It is resistant to Blue alfalfa aphid. Reaction to pea aphid, spotted alfalfa aphid, root knot nematode, and stem nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A123011 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2012. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A123011 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>Syn.2, Syn.3 or Syn.4</u>
Registered	<u>Not allowed</u>
Certified	<u>Syn.3, Syn.4, or Syn.5</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>3</u>
Registered	<u>None</u>
Certified	<u>6</u>

PVP Information

No decision has been made regarding Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 24, 2015

Date recommended by the VRB: Jan 12, 2016



Red Clover

Bearcat RC0704 (Exp)

Origin and Breeding History

Bearcat red clover was developed using phenotypic recurrent selection. A total of 89 plants were selected from a 3-year old variety yield trial in Marshfield, WI from the following sources: FP-345, LS 9703, Rocket, and one elite breeding line. These plants were intercrossed and the resulting population screened one cycle each for resistance to Mycoleptodiscus root rot (greenhouse) and Fusarium wilt (field). Approximately 400 surviving plants were placed in an isolated crossing block at Buck Creek, IN, and breeder seed (syn-1) bulk harvested in 2010.

Areas of Probable Adaptation

Bearcat is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

Agronomic and Botanical Characteristics

Classification:	<u>Double cut (medium)</u>	Productive Persistence	<u>perennial</u>
Ploidy	<u>diploid</u>	Flower Color	<u>Trace red; 34% LP; 53% MP; 13% DP</u>
% Flowering Seedling Year	<u>59</u>	% Leaf Marking at 50% Flowering	<u>85</u>
Stem Hairiness	<u>97.5</u>		

Description of Variants: < 1% plants with red flowers; 15% of plants without watermarks; 2.5% of plants without stem hairs

Additional Description and/or Information about Physiology, Pest Reaction, and Other Varietal Attributes

Bearcat is resistant to northern and southern anthracnose and powdery mildew.

Procedures for Maintaining Seed Stock

Seed increase of Bearcat is limited to two generations each of breeder (Syn-1 or Syn-2), foundation (Syn-2 or Syn-3), and registered (Syn-3 or Syn-4), and three generations of certified (Syn-3, Syn-4, or Syn-5) classes. Breeder seed was produced in 2010 (Syn-1) and 2014 (Syn-2) sufficient for the life of the variety, and will be maintained by Brett Young. Length of stand allowed is 2 years each for the foundation, registered, and certified classes. Production of foundation and registered seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington, and the Canadian provinces of MB, SK, AB, and BC.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Bearcat will be available in 2017. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>X</u>
Certified	<u>X</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>2 years</u>
Registered	<u>2 years</u>
Certified	<u>2 years</u>

PVP Information

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 27, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

Seedway 9558 SBR NY1010 (Exp)

Origin and Breeding History

Seedway 9558 SBR is a 100-clone synthetic originating from Seedway 9558 that underwent seven cycles of phenotypic recurrent selection for resistance to the Alfalfa Snout Beetle (*Otiorhynchus ligustici* (L.)) using a greenhouse screening protocol developed by Elson Shields (Cornell University). Equal weight of seed was harvested on all parents and bulked to form Syn. 1 seed. The Syn. 2 generation (breeder seed) was produced in 2010 and 2011 in an isolated cage in Caldwell, ID.

Areas of Probable Adaptation

Seedway 9558 SBR is adapted to the East Central region and similar environments. This variety has been tested in New York and Pennsylvania and is intended for use in the East Central region.

Agronomic and Botanical Characteristics

Seedway 9558 SBR is Moderately dormant similar to the FD4 check. Flower color (Syn. 2) is 59% purple, and 40% variegated with a trace of yellow, cream and white. Pod shape (Syn. 2) is 77% tightly coiled, 22% loosely coiled, and 1% crescent.

Seedway 9558 SBR has high resistance to anthracnose (Race 1), resistance to Fusarium wilt, Verticillium wilt, bacterial wilt, and moderate resistance to Phytophthora root rot. Seedway 9558 SBR is susceptible to Aphanomyces root rot (Race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn. 2), foundation (Syn. 3), and certified (Syn. 3 or Syn. 4) classes will be recognized. Production of Syn. 3 foundation seed requires consent of the breeder. Breeder seed was produced in the field near Caldwell, ID in 2011 and 2012. Enough seed was produced to last the life of the variety. Seed is maintained under environmentally controlled conditions at Cornell University in Ithaca, NY. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed was first marketed in 2014.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made concerning Plant Variety Protection Act.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 19, 2016



Red Clover

RC0702 (Exp)

Origin and Breeding History

RC0702 red clover was developed using phenotypic recurrent selection. A total of 74 plants were selected from a 3-year old variety trial at Buck Creek, IN from the following sources: Evolve FP-345, LS 9703, Plus II, Raven, Rocket, and 4 elite breeding lines (tracing in total to 18 germplasm sources). These plants were intercrossed and the resulting population screened one cycle in the greenhouse for resistance to Mycoleptodiscus root rot. Approximately 400 surviving plants were placed in an isolated crossing block at Otterbein, IN, and breeder seed (syn-1) bulk harvested in 2010.

Areas of Probable Adaptation

RC0702 is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

Agronomic and Botanical Characteristics

Classification: <u>Double cut (medium)</u>	Productive Persistence <u>perennial</u>
Ploidy <u>diploid</u>	Flower Color <u>Trace red; 25% LP; 58% MP; 17% DP</u>
% Flowering Seedling Year <u>47</u>	% Leaf Marking at 50% Flowering <u>68</u>
Stem Hairiness <u>96.5</u>	

Description of Variants: <1% plants with red flowers; 32% of plants without watermarks; 3.5% of plants without stem hairs

Additional Description and/or Information About Physiology, Pest Reaction, and Other Varietal Attributes:

RC0702 is highly resistant to northern anthracnose and powdery mildew, and resistant to southern anthracnose.

Procedures for Maintaining Seed Stock

Seed increase of RC0702 is limited to two generations each of breeder (Syn-1 or Syn-2), foundation (Syn-2 or Syn-3), and certified (Syn-3 or Syn-4) classes. Breeder seed was produced in 2010 (Syn-1) and 2013 (Syn-2) sufficient for the life of the variety, and will be maintained by DLF Pickseed USA. Length of stand allowed is 2 years each for the foundation and certified classes, respectively. Production of foundation seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of RC0702 will be available in 2017. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>Not allowed</u>
Certified	<u>X</u>

Length of Stand Limitation (If None, Please State)

Foundation	<u>2 years</u>
Registered	<u>None</u>
Certified	<u>2 years</u>

PVP Information

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 27, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FG 59W205 (Exp)

Origin and Breeding History

FG 59W205 is a synthetic variety with 33 parent plants developed by Forage Genetics International. Parent plants were selected from forage nurseries in Idaho, Washington and Wisconsin. Phenotypic selection was used to identify the parent plants for persistence, vigor and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*), Fusarium wilt and/or Verticillium wilt. The germplasm sources used in the development trace to MasterPiece II (20%) and FGI breeding lines (80%). In 2009 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG 59W205 is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho and Washington.

Agronomic and Botanical Characteristics

FG 59W205 is moderately dormant, similar to the FD 5 check. Test variety is Very Winterhardy similar to WS 2 check. Flower color (Syn 2) is 95% purple, 4% variegated, with a trace of yellow, cream and white. It expresses a high degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, Aphanomyces root rot (race 1), Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid, northern root knot nematode (*M. hapla*) and stem nematode (*Ditylenchus dipsaci*). It is resistant to bacterial wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2009 near Nampa, Idaho. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires consent of the breeder.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FG 95T073 (Exp) (Amended – Add Blue Alfalfa Aphid Rating)

Variety Name _____
Experimental Designation(s) FG 95T073
Date NA&MLVRB first accepted this variety January, 2010
Date(s) previous amendments were accepted _____
Date amendment submitted December 01, 2015

Breeding History

FG 95T073 is a synthetic variety consisting of 310 parent plants. Plants were selected based on forage yield, fall dormancy reaction and persistence. A combination of genotypic and phenotypic recurrent selection was used in the development of this variety.

Area of Probable Adaptation

This variety is adapted to the Southwest. This variety has been tested in California and is intended for use in the Southwest.

Agronomic and Botanical Characteristics

This variety is Non-Dormant similar to FD8 check. Flower Color (Syn2) is 100% purple with a trace of variegated, white, cream and yellow.

This variety has high resistance to pea aphid; with resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, stem nematode and blue alfalfa aphid. Reaction to Verticillium wilt, Aphanomyces root rot, spotted alfalfa aphid and root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder and two generations of foundation and certified seed classes. Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed was produced in the field near Nampa, ID in 2005. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Date certified Seed to be First Offered for Sale

Certified seed will be marketed in 2010.

PVP Information

No decision has been made concerning Plant Variety Protection Act.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FG R410W253 (Exp)

Origin and Breeding History

FG R410W253 is a synthetic variety with 16 parent plants developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance and resistance to Fusarium Wilt (*Fusarium oxysporum*), *Verticillium wilt* (*Verticillium albo-atrum*) and alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to FGI breeding lines (100%) from field nurseries established in Idaho and Washington. In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG R410W253 is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho, Oregon and Washington.

Agronomic and Botanical Characteristics

FG R410W253 is moderately dormant, similar to the FD 5 check. Flower color (Syn 2) is 96% purple, 2% variegated, 1% white, with a trace of cream and yellow. Test variety is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the cp4-epsps transgene. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, Aphanomyces root rot (race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode (*Ditylenchus dipsaci*). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2010 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u> Not allowed </u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FG R410W758 (Exp)

Origin and Breeding History

FG R410W758 is a synthetic variety with 110 parent plants developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to FGI breeding lines (100%) from field nurseries established in Idaho and Washington. In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG R410W758 is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho, Oregon and Washington.

Agronomic and Botanical Characteristics

FG R410W758 is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 91% purple, 3% white, 2% yellow, 3% cream with a trace of variegated. Test variety is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, *Aphanomyces* root rot (race 1), bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode (*Ditylenchus dipsaci*). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2010 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FG R48M153 (Exp)

Origin and Breeding History

FG R48M153 is a synthetic variety with 12 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

Areas of Probable Adaptation

FG R48M153 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Iowa, Idaho and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG R48M153 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 89% purple, 4% variegated, 3% cream, 2% white and 2% yellow. This variety has high multifoliolate leaf expression.

FG R48M153 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to pea aphid and moderate resistance to stem nematode. Reaction to root knot nematode (Northern M. hapla.), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2008 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety).

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u>None</u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

430RRLH FG R48H413 (Exp)

Origin and Breeding History

430RRLH is a synthetic variety with 10 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

Areas of Probable Adaptation

430RRLH is adapted to the North Central and East Central regions. This variety has been tested in Iowa, Pennsylvania and Wisconsin and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

430RRLH is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 54% purple, 30% variegated, 11% yellow, 4% white and 1% cream. This variety has high multifoliolate leaf expression.

430RRLH has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and potato leafhopper; with resistance to pea aphid and moderate resistance to stem nematode. Reaction to root knot nematode (Northern M. hapla.), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2008 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

FSG 426 FG 410A178 (Exp)

Origin and Breeding History

FSG 426 is a synthetic variety with 85 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

Areas of Probable Adaptation

FSG 426 is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FSG 426 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 2% variegated with a trace of white, yellow and cream. This variety has high multifoliolate leaf expression.

FSG 426 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and pea aphid. It is moderately resistant to spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla.), stem nematode and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AmeriStand 545NT RR FG R410W259 (Exp)

Origin and Breeding History

AmeriStand 545NT RR is a synthetic variety with 44 parent plants developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, persistence and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*), Fusarium Wilt (*Fusarium oxysporum*) and *Verticillium wilt* (*Verticillium albo-atrum*). The germplasm sources used in the development trace to FGI breeding lines (100%) from field nurseries established in Idaho and Washington. In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

AmeriStand 545NT RR is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho, Oregon and Washington.

Agronomic and Botanical Characteristics

AmeriStand 545NT RR is moderately dormant, similar to the FD 5 check. Flower color (Syn 2) is 97% purple, 1% variegated, 1% cream and trace white and yellow. Test variety is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, *Aphanomyces* root rot (race 1), *Verticillium* wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid, Northern root rot nematode (*Meloidogyne hapla*) and stem nematode (*Ditylenchus dipsaci*) and resistance to bacterial wilt and *Fusarium* wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2010 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

AmeriStand 835NTS RR FG R99T939 (Exp)

Origin and Breeding History

AmeriStand 835NTS RR is a synthetic variety with 100 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: spotted alfalfa aphid and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to AmeriStand 901TS (20%), WL 625HQ (12%), Sun Quest (6%), WL 656HQ (6%), Triple Play (6%) and FGI experimental Roundup Ready populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation

AmeriStand 835NTS RR is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and is intended for use in the Southwest regions.

Agronomic and Botanical Characteristics

AmeriStand 835NTS RR is nondormant similar to the FD 8 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White. The variety is highly resistant to Fusarium wilt, pea aphid, spotted alfalfa aphid, blue alfalfa aphid and stem nematode; resistant to bacterial wilt, Phytophthora root; moderately resistant to Verticillium wilt and has low resistance to anthracnose. It has not been tested for other pest reactions. Test variety is "Roundup Ready" with a minimum of 90% of the plants expressing tolerance to Roundup herbicide as measured in a greenhouse grow-out seedling evaluation. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2009. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

The breeder requires that at least one glyphosate application be made during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety.) The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2016 if AmeriStand 835NTS RR is accepted for certification agencies. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 </u>
Registered	<u>None</u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa
DG 5315
FG 49W201 (Exp)
(Amended – Name Change)

Variety Name DG 5315
Experimental Designation(s) FG 49W201
Date A&MLVRB first accepted this variety January 29, 2014
Date(s) previous amendments were accepted _____
Date amendment submitted December 1, 2015

Origin and Breeding History

DG 5315 is a synthetic variety with 28 parent plants that was developed by Forage Genetics International. Parent plants were selected for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. In 2009 Syn1 seed was produced in Nampa, ID, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

DG 5315 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions. The variety has been tested in Washington, Oregon and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

DG 5315 is moderately fall dormant similar to the FD 5 check. Flower color (Syn 2) is 98% Purple, 2% Variegated, with a trace of Yellow, Cream and White. It expresses a high degree of multifoliolate leaf expression. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Aphanomyces root rot (race 1), pea aphid, and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Seed increase is on a limited generation basis with one generation of breeder and two generations of foundation classes and certified seed classes. Production of Syn 2 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in 2009 near Nampa, ID. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2014. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information

No decision has been made concerning Plant Variety Protection Act. Descriptive information cannot be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

GrandStand II FG 410W269 (Exp)

Origin and Breeding History

GrandStand II (FG 410W269) is a synthetic variety with 28 parent plants developed by Forage Genetics International. Parent plants were selected from forage nurseries and yield trials in Idaho and Washington. Phenotypic selection was used to identify the parent plants for persistence, vigor and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to Grandstand (60%) and 11 FGI breeding lines (40%). In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

GrandStand II is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho and Washington.

Agronomic and Botanical Characteristics

GrandStand II is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 99% purple with a trace of variegated, yellow, cream and white. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), pea aphid and stem nematode (*Ditylenchus dipsaci*). It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2010 near Nampa, Idaho. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires consent of the breeder.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if GrandStand II is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

Rebound 6XT FG 410A180 (Exp)

Origin and Breeding History

Rebound 6XT is a synthetic variety with 59 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

Areas of Probable Adaptation

Rebound 6XT is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

Rebound 6XT is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% variegated, 1% cream with a trace of white and yellow. This variety has high multifoliolate leaf expression.

Rebound 6XT has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2). It is resistant to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla.), stem nematode and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

RR Desert Rose FG R88T829 (Exp)

Origin and Breeding History

RR Desert Rose is a synthetic variety with 44 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: spotted alfalfa aphid and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

Areas of Probable Adaptation

RR Desert Rose is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and is intended for use in the Southwest regions.

Agronomic and Botanical Characteristics

RR Desert Rose is nondormant similar to the FD 9 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White. The variety is highly resistant to anthracnose, Fusarium wilt, Phytophthora root, pea aphid, spotted alfalfa aphid, blue alfalfa aphid; resistant to bacterial wilt, Verticillium wilt and stem nematode. It has not been tested for other pest reactions. Test variety is "Roundup Ready" with a minimum of 90% of the plants expressing tolerance to Roundup herbicide as measured in a greenhouse grow-out seedling evaluation. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2008. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively. The breeder requires that at least one glyphosate application be made during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety.) The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2016 if RR Desert Rose is accepted for certification agencies. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

6424R

FG R410A130 (Exp)

Origin and Breeding History

6424R is a synthetic variety with 85 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

Areas of Probable Adaptation

6424R is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Wisconsin, Iowa, Idaho and Pennsylvania and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

6424R is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 96% purple, 1% cream, 1% white, 1% yellow with a trace of variegated. This variety has high multifoliolate leaf expression.

6424R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); resistance to pea aphid and stem nematode and moderate resistance to spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla,) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2010 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation (If None, Please State)

Foundation	<u> 3 </u>
Registered	<u> None </u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa
6829R
FG R77T729 Exp)
(Amended - Add Blue Alfalfa Aphid)

Variety Name 6829R
Experimental Designation(s) FG R77T729
Date A&MLVRB first accepted this variety February 08,2013
Date(s) any previous amendments were accepted January 14, 2014, October 06, 2014
Date this amendment was submitted December 01, 2015

Origin and Breeding History

6829R is a synthetic variety with 107 parent plants that was developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Fusarium wilt, Phytophthora root rot and stem nematode. A combination of Genotypic and Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2007.

Areas of Probable Adaptation

6829R is adapted to the Southwest U.S. This variety has been tested in California and intended use is the Southwest.

Agronomic and Botanical Characteristics

6829R is nondormant similar to the FD 7 check. Flower color (Syn 2) is 100% Purple, with a trace of Variegated, Yellow, Cream and White. Test variety is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the cp4-epsps transgene. This Variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

The variety is highly resistant to anthracnose, Phytophthora root rot, pea aphid, stem nematode and spotted alfalfa aphid; resistant to bacterial wilt, Fusarium wilt, Verticillium wilt and blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2007. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

The breeder requires that at least one glyphosate application be made during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety.) The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2013 if 6829R is accepted for certification.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information cannot be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

NuTon FG 48A177 (Exp) (Amended – Name Change)

Variety Name NuTon
Experimental Designation(s) FG 48A177
Date A&MLVRB first accepted this variety February 21, 2013
Date(s) previous amendments were accepted _____
Date amendment submitted December 1, 2015

Origin and Breeding History

NuTon is a synthetic variety with 88 parent plants. Parent plants were selected for resistance to *Aphanomyces* root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and *Aphanomyces* root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

Areas of Probable Adaptation

NuTon is adapted to the North Central and East Central regions. This variety has been tested in Minnesota, Pennsylvania, Iowa and Wisconsin and is intended for use in the North Central and East Central.

Agronomic and Botanical Characteristics

NuTon is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 95% purple, 2% variegated, 2% white and 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

NuTon has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, *Aphanomyces* root rot (Race 1) and *Aphanomyces* root rot (Race 2). Reaction to spotted alfalfa aphid, pea aphid, stem nematode, root knot nematode (Northern *M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2008. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2013.

Certified seed production acreage may not be published by AOSCA and member agencies.

PVP Information

No decision has been made concerning Plant Variety Protection Act.
The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

Lightning Bolt FG 49A322 (Exp)

Origin and Breeding History

Lightning Bolt is a synthetic variety with 78 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: Lightning Extra (50%) and various FGI experimental populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation

Lightning Bolt is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Wisconsin, Idaho and New York and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

Lightning Bolt is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 93% purple, 4% variegated, 2% yellow and 1% white. This variety has high multifoliolate leaf expression.

Lightning Bolt has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2). It is resistant to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla), stem nematode and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2009. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2016 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 </u>
Registered	<u>None</u>
Certified	<u> 6 </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

WL 358LH FG 49H345 (Exp) (Amended – Add Multifoliolate Leaf)

Variety Name WL 358LH
Experimental Designation(s) FG 49H345
Date A&MLVRB first accepted this variety January 2014
Date(s) previous amendments were accepted February 20, 2015
Date amendment submitted Dec 1, 2015

Origin and Breeding History

WL 358LH is a synthetic variety with 15 parent clones developed by Forage Genetics International. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). A combination of phenotypic and genotypic selection was used to identify the parent clones. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation

WL 358LH is adapted to the North Central and East Central regions. This variety has been tested in Pennsylvania and Iowa and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

WL 358LH is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 52% purple, 33% variegated, 6% cream, 5% white and 4% yellow. WL 358LH has moderate multifoliolate leaf expression.

WL 358LH has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and potato leafhopper. Reaction to root knot nematode (Northern *M. hapla.*), spotted alfalfa aphid, pea aphid, stem nematode and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2009. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2014.

Certified seed production acreage may not be published by AOSCA and member agencies.

PVP Information

No decision has been made concerning Plant Variety Protection Act.
The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa
WL454HQ.RR
FG R66Bx320 (Exp)
(Amended – Add Blue Alfalfa Aphid)

Variety Name WL454HQ.RR
Experimental Designation(s) FG R66Bx320
Date A&MLVRB first accepted this variety November 30, 2011
Date(s) any previous amendments were accepted January 21,, 2013
Date this amendment was submitted December 01, 2015

Origin and Breeding History

WL 454HQ.RR is a synthetic variety with 63 parent plants developed by Forage Genetics. Forage Genetics International experimental designation is FG R66Bx320. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode and Aphanomyces root rot (Race 1 and Race 2). Genotypic selection was used to identify the parent plants. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2006.

Areas of Probable Adaptation

This variety is adapted to the Moderately Winterhardy Intermountain and Southwest regions. This variety has been tested in California and is intended for use in the Moderately Winterhardy Intermountain and Southwest regions.

Agronomic and Botanical Characteristics

Test variety is Moderately Fall Dormant similar to FD6 checks. Flower color (Syn2) is 100% purple, with a trace of variegated, cream, yellow, and white. Test variety is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the cp4-epsps transgene. WL 454HQ.RR has moderate multifoliolate leaf expression and exhibits salt tolerance in germinating seeds similar to the tolerant check. Test variety has improved forage yield under saline stress similar to the salt tolerant check.

This variety has high resistance to anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, pea aphid, and stem nematode: with resistance to root knot nematode (Northern *M. Hapla*), bacterial wilt, Verticillium wilt, spotted alfalfa aphid and blue alfalfa aphid. Reaction to Aphanomyces root rot has not been tested.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety).

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2012.

Certified seed production acreage may be published by AOSCA and member agencies.

PVP Information

No decision has been made concerning Plant Variety Protection Act.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa
WL552HQ.RR
FG R78T823 (Exp)
(Amended – Add Blue Alfalfa Aphid)

Variety Name WL552HQ.RR
Experimental Designation(s) FG R78T823
Date NA&MLVRB first accepted this variety February 21, 2013
Date(s) previous amendments were accepted January 14, 2014
Date amendment submitted December 01, 2015

Origin and Breeding History

WL 552HQ.RR is a synthetic variety with 10 parent plants that was developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: spotted alfalfa aphid and stem nematode. A combination of Genotypic and Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to Triple Play (20%) and to various FGI experimental populations (80%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

Areas of Probable Adaptation

WL 552HQ.RR is adapted to the Southwest U.S. The variety has been tested in California and intended use is the Southwest.

Agronomic and Botanical Characteristics

WL 552HQ.RR is nondormant similar to the FD 8 check. Flower color (Syn 2) is 100% Purple, with a trace of Variegated, Yellow, Cream and White. Test variety is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the cp4-epsps transgene. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. The variety is highly resistant to Phytophthora root rot, spotted alfalfa aphid; resistant to anthracnose, bacterial wilt, Fusarium wilt, Verticillium wilt, pea aphid, stem nematode and blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2008. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

The breeder requires that at least one glyphosate application be made during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety.) The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2013 if WL 552HQ.RR is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information:

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Descriptive information cannot be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Red Clover

RC0705G (Exp)

Origin and Breeding History

RC0705G red clover was developed using phenotypic recurrent selection. A total of 180 plants were selected from a 2-year old cattle grazing trial in Lexington, KY from the following sources: SS-0303RCG and 2 elite breeding lines (tracing in total to 11 germplasm sources). These plants were intercrossed and the resulting population screened one cycle each for resistance to Mycoleptodiscus root rot (greenhouse) and Fusarium wilt (field). Approximately 400 surviving plants were placed in an isolated crossing block at Buck Creek, IN, and breeder seed (syn-1) bulk harvested in 2010.

Areas of Probable Adaptation

RC0705G is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

Agronomic and Botanical Characteristics

Classification:	<u>Double cut (medium)</u>	Productive Persistence	<u>perennial</u>
Ploidy	<u>diploid</u>	Flower Color	<u>1% red; 32% LP; 52% MP; 15% DP</u>
% Flowering Seedling Year	<u>62</u>	% Leaf Marking at 50% Flowering	<u>81</u>
Stem Hairiness	<u>97</u>		
Description of Variants:	<u>19% of plants without watermarks; 3% of plants without stem hairs</u>		

Additional Description and/or Information about Physiology, Pest Reaction, and Other Varietal Attributes

RC0705G is highly resistant to southern anthracnose and powdery mildew, and resistant to northern anthracnose.

Procedures for Maintaining Seed Stock

Seed increase of RC0705G is limited to two generations each of breeder (Syn-1 or Syn-2), foundation (Syn-2 or Syn-3), and certified (Syn-3 or Syn-4) classes. Syn-1 breeder seed was produced in 2010 and will be maintained by Hood River Seed. Length of stand allowed is 2 years each for the foundation and certified classes, respectively. Production of foundation seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington, and the Canadian provinces of AB, MB, and SK.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of RC0705G will be available in 2017. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>Not allowed</u>
Certified	<u>X</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>2 years</u>
Registered	<u>None</u>
Certified	<u>2 years</u>

PVP Information

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 27, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

L-504HD LS 504 (Exp)

Origin and Breeding History

L-504HD (LS 504) is a synthetic variety with 100 parent plants that was developed by Legacy Seeds, Inc. The 100 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2005.

Areas of Probable Adaptation

This variety is adapted for use in the North Central and East Central regions. It has been tested in Wisconsin and Pennsylvania and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

L-504HD is a moderately dormant cultivar similar to the FD5 check. Flower color (Syn2) is approximately 96% purple and 3% variegated with traces of white, cream and yellow.

This variety has high resistance to anthracnose (race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (race 1). Resistance to stem nematode, pea aphid, spotted alfalfa aphid, blue alfalfa aphid and root-knot nematode has not been determined.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2005. Legacy Seeds will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Foundation seed production is limited to the winter-hardy intermountain region.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2016. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made concerning Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 23, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

LS 607 (Exp)

Origin and Breeding History

LS 607 is a synthetic cultivar with 104 parent plants that was developed by Legacy Seeds, Inc. The 104 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2006.

Areas of Probable Adaptation

This variety is adapted for use in the North Central and East Central regions. It has been tested in Wisconsin and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

LS 607 is a dormant cultivar similar to the FD3 check. Flower color (Syn2) is approximately 98% purple and 1% variegated with traces of white, cream and yellow.

This variety has high resistance to anthracnose (race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (race 1). Resistance to stem nematode, pea aphid, spotted alfalfa aphid, blue alfalfa aphid and root-knot nematode has not been determined.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2006. Legacy Seeds will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Foundation seed production is limited to the winter-hardy intermountain region.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2016. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made concerning Plant Variety Protection. This information can be forwarded to the PVP office.

Date this application was submitted: Nov 23, 2015

Date recommended by the VRB: Jan 28, 2016



Crimson Clover

White Cloud WHCCL

Origin and Breeding History

White Cloud was mass selected over seven cycles of recurrent phenotypic selection by Matt Herb of Oregro Seeds, Inc. of Albany, OR. Selection was based on white flowers and white/cream colored seeds. Breeder seed was first produced in 2011 by Oregro near Lebanon, OR. Original germplasm collected from a Dixie crimson clover field in Oregon.

Areas of Probable Adaptation

Tested at three locations in Mississippi by MSU, White Cloud appears adapted to the Southeastern US.

Agronomic and Botanical Characteristics

Species	<u>Trifolium incarnatum L.</u>	Maturity	<u>Medium</u>
Plant Height	<u>52.1 cm</u>	Flower Petal Color	<u>White</u>
Leaf Color	<u>Medium Green</u>	Stem Growth Habit	<u>Upright</u>
Variants	<u>.01% red flowers .01% pink flowers</u>		

Additional Descriptive Information about Physiology, Pest Reactions, or Other Attributes:

White/cream colored seeds.

Procedures for Maintaining Seed Stock

Oregro maintains adequate breeder seed in long term controlled storage, and is responsible for all seedstock production. Two miles of isolation required for Breeder, Foundation, and Registered...one mile for Certified.

Certified Seed Availability and Publication of Certified Seed Production

Upon acceptance, the first certified seed will be available in 2016. Certified production is proprietary information and may not be published.

Generations Allowed

(Mark All That Apply)

Foundation	<u>1</u>
Registered	<u>1</u>
Certified	<u>1</u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u>1</u>
Registered	<u>1</u>
Certified	<u>1</u>

PVP Information

PVP is applied for and the certified option will not be exercised.

Date this application was submitted: Nov 23, 2015

Date recommended by the VRB: Jan 27, 2016



Alfalfa

55Q28

10XXP11, N09SX81 (Exp)

(Amended – Name Change, Add Fusarium Wilt Disease)

Variety Name 55Q28

Experimental Designation(s) 10XXP11, N09SX81

Date A&MLVRB first accepted this variety February 05, 2014

Date(s) previous amendments were accepted _____

Date amendment submitted December 1, 2014

Origin and Breeding History

55Q28 (Experimental designations 10XXP11, N09SX81) is a synthetic variety from 96 parent plants that trace back to S&W experimentals. The selection criteria used in the development of this variety include forage yield, forage quality, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (Race 1), Phytophthora root rot, and Aphanomyces root rot (Race 1 and Race 2), stem nematode, spotted alfalfa aphid and various leaf diseases. Phenotypic selection was used to identify parent plants from long term nurseries. Syn 1 seed was produced on 96 parent plants in the greenhouse in 2009 in Connell, WA and bulked equally by plant and mixed. Breeder seed (Syn 2) was produced on 238 plants that were started in the greenhouse from Syn 1 seed and transplanted April 2010 to cage isolation in Connell, WA with seed harvested October 2010 on all plants and bulked in total.

Areas of Probable Adaptation

55Q28 is adapted to the North Central and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Wisconsin, Washington, Minnesota and Ontario Canada.

Agronomic and Botanical Characteristics

55Q28 is moderately dormant, similar to the FD 5 check. Flower color (Syn 2) is 99% purple and 1% cream with a trace of variegated, yellow and white. 55Q28 is highly resistant to anthracnose; Aphanomyces root rot (race 1), Phytophthora root rot, bacterial wilt, Verticillium wilt, Northern root knot nematode (*M. hapla*) and stem nematode. It is resistant to pea aphid, Fusarium wilt, Aphanomyces root rot (race 2), and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 2), foundation (Syn 3-4), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 4 foundation seed requires consent of the breeder. Breeder seed was produced in the cage isolation near Connell, WA in 2010. S&W Seed Company will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2015. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

54VR70

13XXP17R, R12XXP140 (Exp)

Origin and Breeding History

54VR70 (Experimental designation 13XXP17R, R12XXP140) is an intracross of 124 parent plants (Syn 1) that were selected by DuPont Pioneer Hi-Bred International from Pioneer Roundup® ready experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield and Roundup® resistance. Parent plants had the Roundup® (glyphosate) herbicide resistance trait conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 1) was grown in greenhouse isolation in 2012 in Connell WA on 124 plants that were selected in the field and transplanted to pots in the greenhouse. Seed was bulked in total.

Areas of Probable Adaptation

54VR70 is adapted to the North Central, East Central and Moderately Winterhardy Intermountain areas of the United States and similar environments. 54VR70 has been tested in Michigan, Minnesota, Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

54VR70 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 99% purple, with traces of variegated, yellow, white and cream. 54VR70 is “Roundup Ready®” with a minimum of 90% of the plants expressing tolerance to Roundup® herbicide as measured in a greenhouse grow-out seedling evaluation. 54VR70 is highly resistance to Phytophthora root rot, Aphanomyces root rot (Race 1), alfalfa stem nematode, and resistant to bacterial wilt, Verticillium wilt, Anthracnose (Race 1), Fusarium wilt, and Aphanomyces root rot (Race 2), and moderately resistant to pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2, 3 or Syn 4), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 4 foundation seed requires consent of the breeder. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed was produced in cage isolation in 2012 in Connell, WA. S&W Seed Company will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2016 of 54VR70.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

(If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Nov 23, 2015

Date recommended by the VRB: Feb 3, 2016



Alfalfa
55VR08
12XXP84R, R12XXP01 (Exp)
(Amended – Add Bacterial Wilt Disease, Stem Nematode)

Variety Name 55VR08
Experimental Designation(s) 12XXP84R, R12XXP01
Date A&MLVRB first accepted this variety March 30, 2015
Date(s) previous amendments were accepted _____
Date amendment submitted December 1, 2015

Origin and Breeding History

55VR08 (Experimental designation 12XXP84R, R12XXP01) is an intracross of 71 parent plants that were selected by S&W Seed Company from S&W Roundup® ready experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium *wilt*, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield and Roundup® resistance. Parent plant had the Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 1) was produced in greenhouse isolation in 2011 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

55VR08 is adapted to the moderately winterhardy and winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

55VR08 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 98% purple, 1% variegated, with a traces of yellow, white and cream. 55VR08 is “Roundup Ready®” with a minimum of 90% of the plants expressing tolerance to Roundup® herbicide as measured in a greenhouse grow-out seedling evaluation. 55VR08 is highly resistance to Anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), pea aphid and Verticillium wilt and resistant to spotted alfalfa aphid, bacterial wilt and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2-3), and certified (Syn 2, 3 or Syn 4) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was produced in greenhouse isolation in 2011 in Arlington, WI. S&W Seed Company will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2016 of 55VR08.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

SW 5213 12XXP13, W11XXP29 (Exp) (Amended – Name Change and Stem Nematode)

Variety Name SW 5213
Experimental Designation(s) 12XXP13, W11XXP29
Date A&MLVRB first accepted this variety March 30, 2015
Date(s) previous amendments were accepted _____
Date amendment submitted December 1, 2015

Origin and Breeding History

SW 5213, (12XXP13, W11XXP29 experimental designations) is an intracross of 192 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for forage quality, increased pectin, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington WI. Seed was bulked in total.

Areas of Probable Adaptation

SW 5213 is adapted to the north central, east central, moderately winterhardy intermountain regions of the U.S., Canada and similar environments. The variety has been tested in Washington, Minnesota, Wisconsin, New York and Ontario, Canada. Intended use will be in the North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada areas.

Agronomic and Botanical Characteristics

SW 5213 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 97% purple, 1% variegated 1% cream with a trace of yellow and white. The variety is highly resistant to Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Fusarium wilt, Verticillium wilt, Phytophthora root rot, bacterial wilt, pea aphid, stem nematode, and anthracnose. It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2-3), and certified (Syn 2, 3 or Syn 4) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in the greenhouse in Arlington WI. S&W Seed Company will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2016 of SW 5213.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

SW9215RRS

SW9215RRS, SW9215RR (Exp)

Origin and Breeding History

SW9215RRS (Experimental designations SW9215RRS, SW9215RR) is an intracross of 110 parent plants selected by S&W Seed Company from a cross of fall dormancy 9 salt tolerant S&W germplasm crossed to elite fall dormancy 9 Roundup® ready germplasm. Parents were chosen based on agronomic characteristics, high salt tolerance and Roundup® resistance. Parent plants had the Roundup® (glyphosate) herbicide resistance trait conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 1) was produced in cage isolation in 2012 in Nampa, ID. Seed was bulked in total.

Areas of Probable Adaptation

SW9215RRS is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the United States and similar environments. SW9215RRS has been tested in California. Areas of intended use are: Southeast, East Central, Southwest and Moderately Winterhardy Intermountain regions of the US and similar environments.

Agronomic and Botanical Characteristics

SW9215RRS is very non-dormant, similar to the FD-9 check. Flower color (Syn 3) is 98% purple, 1% variegated with traces of cream, yellow and white. SW9215RRS is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. SW9215RRS is highly resistant to Phytophthora root rot and pea aphid. It is resistant to bacterial wilt and *Fusarium* wilt. It is moderately resistant to *Aphanomyces* root rot (Race 1) and *Verticillium* wilt. SW9215RRS is susceptible to *Anthracnose* (Race 1). SW9215RRS has improved forage production under salt stress similar to the tolerant check. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 1) was produced in cage isolation in 2012 in Nampa, ID. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW9215RRS.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW4107, 11XXP07, W10XXP83 (Exp)

Origin and Breeding History

SW4107, 11XXP07, W10XXP83 (all experimental designations) is a 168 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of W10XXP83 originated from three S&W experimentals and 55Q27 selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

SW4107 is adapted to the north central, moderately winterhardy intermountain regions of the U.S., Canada and similar environments. The variety has been tested in Washington, Wisconsin, and Ontario, Canada. Intended use will be in the North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains areas of the United States and Canada.

Agronomic and Botanical Characteristics

SW4107 is Moderately Dormant, similar to FD4 check. Flower color (Syn 3) is 99% purple, with traces of yellow, cream, variegated and white. SW4107 is highly resistant to *Anthracnose* (Race 1), *Aphanomyces* root rot (Race 1), *Aphanomyces* root rot (Race 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, and *Phytophthora* root rot; with resistance to stem nematode and pea aphid; with moderate resistance to spotted alfalfa aphid. Reaction to other pests have not been tested. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4107.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Jan 12, 2016



Alfalfa

SW4113, 11XXP13, W10XXP80 (Exp)

Origin and Breeding History

SW4113, 11XXP13, W10XXP80 (all experimental designations) is an intracross of 200 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington WI in 2010. Seed was bulked in total.

Areas of Probable Adaptation

SW4113 is adapted to the north central, moderately winterhardy intermountain regions of the U.S., Canada and similar environments. The variety has been tested in Washington, Wisconsin, and Ontario, Canada. Intended use will be in the North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains areas of the United States and Canada.

Agronomic and Botanical Characteristics

SW4113 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 95% purple, 3% variegated 1% cream with a trace of yellow and white. The variety is highly resistant to Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Verticillium wilt, Phytophthora root rot, bacterial wilt, and Anthracnose (Race 1). It is resistant to Fusarium wilt, spotted alfalfa aphid, stem nematode, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder and two generations of foundation and three generations of certified seed classes. S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 3 or 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Breeder seed (Syn 1) was grown in the greenhouse in Arlington WI in 2010. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4113.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW4203Z, 12ZZC03, W11ZZC55 (Exp)

Origin and Breeding History

SW4203Z, 12ZZC03, W11ZZC55 (all experimental designations) is an 18 clone synthetic in which all parents originated from S&W germplasms were selected based on half sib performance for forage yield under heavy potato leafhopper pressure, potato leafhopper resistance, persistence, forage quality, and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2), and potato leafhopper resistance. Seed of the SYN 1 was bulked equally by component. Breeder seed (SYN 1) was grown in greenhouse isolation in 2011 on 10 replicates of each 18 parent plants in Arlington, WI. SYN 1 seed was harvested by parent plant bulking all individual replicate and bulked equally by component parent plant.

Areas of Probable Adaptation

SW4203Z is adapted to the North Central, and East Central areas of the United States and similar environments. SW4203Z has been tested in Wisconsin, Ohio and Illinois. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW4203Z is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 55% purple, 22% cream, 7% variegated, and 16% white with a trace of yellow. SW4203Z is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), and pea aphid, and resistant to Verticillium wilt, spotted alfalfa aphid, Aphanomyces root rot (Race 2), and potato leafhopper. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation (Syn 2 or Syn 3) seed and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4203Z.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>Not allowed</u>
Certified	<u>X</u>

Length of Stand Limitation

If None, Please State)

Foundation	<u>3 years</u>
Registered	<u>None</u>
Certified	<u>6 years</u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW4208, 12XXP08, N11XXP62 (Exp)

Origin and Breeding History

SW4208, 12XXP08, N11XXP62 (all experimental designations) is a 61 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N11XXP62 originated from two S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

SW4208 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. SW4208 has been tested in Minnesota, Washington, Wisconsin, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW4208 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 99% purple, with traces of yellow, cream, white, and variegated. SW4208 is highly resistant to Anthracnose (Race 1), bacterial wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), pea aphid, and stem nematode. SW4208 is resistant to Fusarium wilt, Aphanomyces root rot (Race 2), and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4208.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>Not allowed</u>
Certified	<u>X</u>

Length of Stand Limitation

If None, Please State)

Foundation	<u>3 years</u>
Registered	<u>None</u>
Certified	<u>6 years</u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW4209, 12XXP09, N11XXP63 (Exp)

Origin and Breeding History

SW4209, 12XXP09, N11XXP63 (all experimental designations) is an 81 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N11XXP63 originated from two S&W experimentals and 55V50 selected for forage yield, persistence, forage quality, and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2011 in Connell, WA. Seed was bulked in total.

Areas of Probable Adaptation

SW4209 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. SW4209 has been tested in Minnesota, Washington, Wisconsin, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW4209 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 96% purple, 1% cream, and 2% white with traces of yellow and variegated. SW4209 is highly resistant to *Anthracnose* (Race 1), *Verticillium* wilt, *Phytophthora* root rot, *Aphanomyces* root rot (Race 1), pea aphid and *Aphanomyces* root rot (Race 2). SW4209 is resistant to bacterial wilt, *Fusarium* wilt and stem nematode and moderately resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4209.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u>X</u>
Registered	<u>Not allowed</u>
Certified	<u>X</u>

Length of Stand Limitation

If None, Please State)

Foundation	<u>3 years</u>
Registered	<u>None</u>
Certified	<u>6 years</u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW4306, 13XXC06, N12XYC72 (Exp)

Origin and Breeding History

SW4306, 13XXC06, N12XYC72 (all experimental designations) is a 34 clone synthetic. All parents originated from S&W germplasms were selected based on half sib performance for forage yield, persistence, forage quality, and/or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Seed of the SYN 1 was bulked equally by component. Breeder seed (SYN 1) was grown in greenhouse isolation in 2012 in Connell, WA on 6 replicates of each 34 parents started in the greenhouse as cuttings and transplanted to pots for crossing. SYN 1 seed was harvested by parent plant bulking all individual replicate and bulked equally by component parent plant.

Areas of Probable Adaptation

SW4306 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States and similar environments. SW4306 has been tested in Washington, and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW4306 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 99% purple, with traces of variegated, yellow, white and cream. SW4306 is highly resistant to Aphanomyces root rot (Race 1), bacterial wilt, Phytophthora root rot, spotted alfalfa aphid, and Verticillium wilt and resistant to stem nematode, Aphanomyces root rot (Race 2), Anthracnose (Race 1), Fusarium wilt, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation (Syn 2 or Syn 3) seed and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW4306.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW5210, 12XXP10, N11XXP64 (Exp)

Origin and Breeding History

SW5210, 12XXP10, N11XXP64 (all experimental designations) is an 81 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N11XXP64 originated from two S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2011 in Connell, WA. Seed was bulked in total.

Areas of Probable Adaptation

SW5210 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. SW5210 has been tested in Minnesota, Washington, Wisconsin, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW5210 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 97% purple, 1% cream, and 1% white with traces of yellow and variegated. SW5210 is highly resistant to *Anthracnose* (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), pea aphid, stem nematode and Aphanomyces root rot (Race 2). SW5210 is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW5210.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW5512Y, 05N12PY, N05PY93 (Exp)

Origin and Breeding History

SW5512Y, 05N12PY, N05Y93 (all experimental designations) is a 100 plant intracross of S&W germplasm in which all parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N05PY93 originated from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2005 in Connell WA. Seed was bulked in total.

Areas of Probable Adaptation

SW5512Y is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. SW5512Y has been tested in Canada, Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

SW5512Y is Moderately Dormant, similar to FD5 check. Flower color (Syn 3) is 99% purple, with traces of cream, yellow, variegated and white. SW5512Y is highly resistant to *Anthracnose* (Race 1), *Aphanomyces* root rot (Race 1), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, root knot nematode, *Aphanomyces* root rot (Race 2), stem nematode, and *Phytophthora* root rot; with resistance to pea aphid and spotted alfalfa aphid,. Reaction to other pests have not been tested. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed was produced in greenhouse cage isolation in 2005 in Connell, WA. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW5512Y.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed (Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW5909, 09N09CX, N08CX99 (Exp)

Origin and Breeding History

SW5909, 09N09CX, N08CX99 (all experimental designations) is a 12 clone synthetic. All parents originated from S&W germplasms that were selected based on half sib performance for forage yield, persistence, forage quality, and/or resistance to one or more of the following diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Seed of the SYN 1 was bulked equally by component. Breeder seed (SYN 1) was grown in greenhouse isolation in 2008 in Connell, WA on 15 replicates of each 12 parents started in the greenhouse as cuttings and transplanted to pots for crossing. SYN 1 seed was harvested by parent plant bulking all individual replicates and bulked equally by component parent plant.

Areas of Probable Adaptation

SW5909 is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the US and similar environments. SW5909 has been tested in Pennsylvania, Minnesota, Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains areas of the United States and Canada.

Agronomic and Botanical Characteristics

SW5909 is Moderately Dormant, similar to FD5 check. Flower color (Syn 3) is 98% purple, 1% cream with traces of yellow, variegated and white. SW5909 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1), bacterial wilt, Verticillium wilt, Fusarium wilt, stem nematode, root knot nematode and Phytophthora root rot; with resistance to Aphanomyces root rot (Race 2), pea aphid and spotted alfalfa aphid. Reaction to other pests have not been tested. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of SW5909.

The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected.

The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016



Alfalfa

SW5912Y, 09N12CY, N08CY191 (Exp)

Origin and Breeding History

SW5912Y, 09N12CY and N08CY191 (all experimental names) is an intercross of 22 genotypes selected by S&W Seed Company from S&W Seed Company experimentals for forage yield, persistence, forage quality, standability and or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (Race 1), Phytophthora root rot, Aphanomyces root rot (Race 1 & 2), and stem nematode. Parent genotypes were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance) forage quality, increased pectin, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn1) was produced in the greenhouse the winter of 2008-09 in Connell WA by crossing the 22 genotypes replicated 8 times in a modified polycross design, combining seed from each individual genotype forming the 22 components. Seed was bulked equally by genotype to form the Syn1 seed.

Areas of Probable Adaptation

SW5912Y is adapted to the North Central, East Central, & Moderately Winterhardy Intermountain regions of the US. This variety has been tested in Wisconsin, Washington, Minnesota, Michigan and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains regions of the US and Canada.

Agronomic and Botanical Characteristics

SW5912Y is Moderately Dormant, similar to FD5 check. Flower color (Syn 3) is 99% purple with traces of cream, variegated, yellow and white. SW 5912Y is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1), bacterial wilt, Verticillium wilt, Fusarium wilt, pea aphid, and Phytophthora root rot; with resistance to Aphanomyces root rot (Race 2), stem nematode, lodging and spotted alfalfa aphid. Reaction to other pests have not been tested. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation (Syn 2 or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed was produced in the winter of 2008-09. Stands of foundation and certified seed fields are limited to 3 and 5 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be marketed in 2016.

Certified seed production acreage may not be published by AOSCA and/or member agencies.

Generations Allowed

(Mark All That Apply)

Foundation	<u> X </u>
Registered	<u>Not allowed</u>
Certified	<u> X </u>

Length of Stand Limitation

If None, Please State)

Foundation	<u> 3 years </u>
Registered	<u> None </u>
Certified	<u> 5 years </u>

PVP Information

Application for Plant Variety Protection may be made and the certification option will not be requested. As a means of added varietal protection, information included with the Application for Review of Alfalfa Varieties for Certification may be provided to the PVP office.

Date this application was submitted: Dec 1, 2015

Date recommended by the VRB: Feb 1, 2016

