

**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 ©2021

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ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(FEBRUARY 2021)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on February 17, 2021. 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:

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Respectfully submitted,

Abed Anouti, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

2021 AOSCA ALFALFA & MISC LEGUMES VARIETY REVIEW BOARD

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* indicates amendment application for name change				
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* indicates amendment application for name change				
** indicates amendment application for description change				

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Company	Variety Name	Experimental Designation	Page	Type
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* indicates amendment application for name change				
** indicates amendment application for description change				

Alfalfa

Ace AFX134014 (Exp) (Amended – Name Change)

Origin and Breeding History

Ace is a synthetic variety developed by Alforex Seeds with 8 parent plants selected for high forage dry matter yield, high forage quality, and persistence. 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 were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Ace traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2013. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

Ace is adapted to the North Central and East Central 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. Ace has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Ace is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 97% purple, 2 % cream, and a trace of variegated, white, and yellow. Ace has Low multifoliolate leaf expression rating similar to the Low MF check variety. Ace has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Stem nematode. It has resistance to Blue alfalfa aphid, Spotted alfalfa aphid, and Cowpea Aphid. It has moderate resistance to Pea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Ace 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 2013. 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 Ace will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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: Oct 2, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
AFX 460
CW A113005 (Exp)
(Amended - Add Resistance [R] to Aphanomyces (Race 2))

Variety Name AFX 460
 Experimental Designation(s) CW A113005
 Date A&MLVRB first recommended this variety January 2017
 Date(s) any previous amendments were recommended January 2018, January 2019, January 2020
 Date this amendment was submitted November 27, 2020

Origin and Breeding History

AFX 460 is a synthetic variety with 10 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 AFX 460 traces to the following germplasm sources: CW 11-022 (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

AFX 460 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 460 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 460 is a dormant variety with fall dormancy similar to FD class 4 check varieties. AFX 460 is Extremely Winterhardy, similar to WS class 1 check variety. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white, and yellow. AFX 460 has high multifoliolate leaf expression rating similar to the high MF check variety. AFX 460 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, Pea aphid, Spotted alfalfa aphid, Northern root knot nematode, and Stem nematode. It has moderate resistance to Cowpea aphid.

Procedures for Maintaining Seed Stock

Seed increase of AFX 460 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 460 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

**Generations Allowed –
Mark All That Apply**

Foundation Syn.2, Syn.3 or Syn.4
 Registered _____
 Certified Syn.3, Syn.4, or Syn.5

**Length of Stand Limitation –
If None, Please State**

Foundation 3
 Registered _____
 Certified 6

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 30, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa
AFX 469
CW 105006 (Exp)
(Amended – Add Moderate Resistance [MR] to
Aphanomyces (Race 2))

Variety Name AFX 469

Experimental Designation(s) CW 105006

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended January 2017, January 2018, January 2020

Date this amendment was submitted November 27, 2020

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. AFX 469 is Extremely Winterhardy, similar to WS class 1 check variety. 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 tolerance to salt (NaCl) at germination. AFX 469 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Stem Nematode. It has resistance to Blue alfalfa aphid, Spotted alfalfa aphid, and Northern root knot nematode. It has Moderate resistance to Aphanomyces root rot (race 2), and Pea aphid.

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 Syn.2, Syn.3 or Syn.4

Registered _____

Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered _____

Certified 6

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
AFX 579
CW 105023 (Exp)
(Amended - Add Very Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

Variety Name AFX 579
 Experimental Designation(s) CW 105023
 Date A&MLVRB first recommended this variety January 2016
 Date(s) any previous amendments were recommended January 2017, January 2018
 Date this amendment was submitted November 27, 2020

Origin and Breeding History

AFX 579 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 AFX 579 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

AFX 579 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 579 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 579 is a dormant variety with fall dormancy similar to FD class 5 check varieties. AFX 579 is Very Winterhardy, similar to WS class 2 check variety. 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. AFX 579 has tolerance to salt (NaCl) at germination. AFX 579 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt and Stem Nematode. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Cow pea aphid, Pea aphid, Spotted alfalfa aphid, and Northern root knot nematode.

Procedures for Maintaining Seed Stock

Seed increase of AFX 579 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 579 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
 Registered _____
 Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
 Registered _____
 Certified 6

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 30, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa

Barricade II AFX144028 (Exp) (Amended – Name Change)

Variety Name Barricade II
Experimental Designation(s) AFX144028
Date A&MLVRB first recommended this variety January 2020
Date(s) any previous amendments were recommended _____
Date this amendment was submitted 10/2/20

Origin and Breeding History

Barricade II is a synthetic variety developed by Alforex Seeds with 155 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 source varieties of various populations that were developed by phenotypic recurrent selection for tolerance to NaCl, winter hardiness, high forage dry matter yield, high forage quality, 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), anthracnose (race 1), and Leptosphaerulina leafspot. Parentage of Barricade II traces 24% to Barricade SLT (CW 084034) and 76% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2014. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Barricade II is adapted to the North Central and East Central 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. Barricade II has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Barricade II is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 95% purple, 3% variegated, 1% white and a trace of cream and yellow. Barricade II has tolerance to salt (NaCl) at germination. Barricade II has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Blue alfalfa aphid, and Stem nematode. It has resistance to Spotted alfalfa aphid, and Cowpea Aphid. It has moderate resistance to Pea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Barricade II 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 2014. 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 Barricade II will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Cisco II

DSB36-FD6 (Exp)

(Amended - Add Resistance [R] to Blue Alfalfa Aphid)

Variety Name Cisco II

Experimental Designation(s) DSB36-FD6

Date A&MLVRB first recommended this variety January 2012

Date(s) any previous amendments were recommended January 2013

Date this amendment was submitted November 27, 2020

Breeding History

Cisco II is a 34 clone synthetic. Thirty of parent clones were selected out of high saline soils for persistence, fall dormancy and forage yield and 4 clones were selected from 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 forage yield production under salt stress. They were planted in field isolation and inter-pollinated by honey, leaf cutting and bumble bees near Sloughhouse, California in 2006 to produce Syn. 1 as Breeder Seed. Seed from parent plants were equally bulked each year to produce Breeder seed. Cisco II was developed by Dairyland Seed Company and its experimental designation is DSB38FD6.

Area of Probable Adaptation

Cisco II is adapted to the North Central and Southwest Regions of the United States and intended for use across the Southern half of the United States. The states where it has been tested are Wisconsin and California.

Agronomic and Botanical Characteristics

Cisco II is a moderately dormant variety similar to the fall dormancy 6 check. Cisco II 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. Cisco II has forage production under salt stress similar to the tolerant check. The germination of Cisco II under salt stress is similar to the tolerant check.

Cisco II has high resistance to bacterial wilt, *Fusarium* wilt, *Phytophthora* root rot, *Verticillium* wilt, pea aphid, northern root-knot nematode; resistance to anthracnose (Race 1), stem nematode, southern root-knot nematode, blue alfalfa aphid and moderate resistance to *Aphanomyces* root rot (Race 1). Cisco II has not been tested for resistance to spotted 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 2006 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 Research International 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 2012. 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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

HybriForce-3420/Wet AFXH144109 (Exp) (Amended - Add Very Winterhardy Add Resistance [R] to Northern Root Knot Nematode)

Variety Name HybriForce-3420/Wet

Experimental Designation(s) AFXH144109

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted 11/27/20

Origin and Breeding History

HybriForce-3420/Wet is a 75-95% hybrid alfalfa variety with parents consisting of a female clone, a maintainer clone, and a synthetic variety as the male pollenizer.

The female clone was originally selected from an open pollinated half sib cross which was first screened for resistance to Phytophthora root rot and Aphanomyces root rot (race 1), then selected for winterhardiness in a Wisconsin nursery, and identified to be male sterile. The clone was then progeny tested for forage seed yield, forage yield, stand persistence, and resistance to Phytophthora root rot, anthracnose (Race 1), Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). This clone traces to Alforex Seeds experimental germplasm.

The maintainer clone was selected from a full sib greenhouse cross which was first screened for resistance to Phytophthora root rot and Aphanomyces root rot (race 1), and then selected for winterhardiness in a Wisconsin nursery. The clone was progeny tested for maintaining ability and seed yield, and then progeny tested for forage yield, stand persistence, and resistance to Phytophthora root rot, anthracnose (Race 1), Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). This clone traces to Alforex Seeds experimental germplasm.

The male pollenizer was developed as a synthetic variety consisting of 175 parental clones. These clones were progeny tested for one or more of the following traits: resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, anthracnose (Race 1), Verticillium wilt, Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). The parentage of the male pollenizer traces 100% to CW A113010.

Hybrid female breeder seed (D-1011) was produced by harvesting the seed from vegetatively propagated male sterile clones which were pollinated by vegetatively propagated maintainer clones in field isolation near Sloughhouse, CA in 2013. Hybrid male breeder seed (CW A123011) was produced under cage isolation near Woodland, California in 2012. Male seed was bulk harvested from all parent plants as Synthetic generation 1. Synthetic generation 1 seed was planted in field isolation and bulk harvested as Synthetic generation 2.

Areas of Probable Adaptation

HybriForce-3420/Wet is adapted to the North Central and East Central 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. HybriForce-3420/Wet has been tested in Wisconsin and Minnesota.

Continued on next page



Alfalfa

HybriForce-3420/Wet AFXH144109 (Exp) (Amended - Add Very Winterhardy Add Resistance [R] to Northern Root Knot Nematode)

Variety Name HybriForce-3420/Wet

Experimental Designation(s) AFXH144109

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted 11/27/20

Agronomic and Botanical Characteristics

HybriForce-3420/Wet is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. HybriForce-3420/Wet is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the F1 generation is approximately 90% purple, 9% variegated, and with a trace of cream, white, and yellow. HybriForce-3420/Wet has Low multifoliolate leaf expression rating similar to the Low MF check variety. HybriForce-3420/Wet has high resistance to anthracnose (race 1), Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, and Verticillium wilt, and Spotted alfalfa aphid. It has resistance to Blue alfalfa aphid, Cowpea aphid, Northern root knot nematode, and Stem nematode. It has moderate resistance to Pea aphid.

Procedures for Maintaining Seed Stock

Seed increase of HybriForce-3420/Wet is on a limited generation basis. Female Breeder seed must be produced by harvesting seed from vegetatively propagated cytoplasmic male sterile clones that have been pollinated by vegetatively propagated maintainer clones in field isolation. Alforex Seeds will maintain sufficient breeder seed (Syn. 1) for the projected life of the variety. Male breeder seed was produced under cage isolation near Woodland, California in 2012. Alforex Seeds will maintain sufficient foundation seed (Syn. 2 or Syn. 3) for the projected life of the variety. Use of Syn. 3 male seed requires consent of the breeder. Female Breeder seed was produced under field isolation near Sloughhouse, California in 2013. Male Breeder seed was produced under cage isolation near Woodland, California in 2012. Stands of foundation and certified hybrid seed fields are limited to 3 and 5 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of HybriForce-3420/Wet will be available in 2017.

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

HybriForce-4400 AFXH144110, msSunstra-144110 (Exp.) (Amended - Add Very Winterhardy Add Resistance [R] to Pea Aphid Add Moderate Resistance [MR] to Northern Root Knot Nematode)

Variety Name HybriForce-4400

Experimental Designation(s) AFXH144110

Date A&MLVRB first recommended this variety January 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted 11/27/20

Origin and Breeding History

HybriForce-4400 is a 75-95% hybrid alfalfa variety with parents consisting of a female clone, a maintainer clone, and a synthetic variety as the male pollenizer. The female clone was originally selected for male sterility, good agronomics, and good visual seed set from a full sib cross that was planted in Sloughouse, CA. The clone was then progeny tested for seed yield, forage yield, stand persistence, and resistance to Phytophthora root rot, Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). This clone traces to Alforex Seeds experimental germplasm.

The maintainer clone was selected from a full sib greenhouse cross which was first screened for resistance to Phytophthora root rot and Aphanomyces root rot (race 1), and then selected for winterhardiness in a Wisconsin nursery. The clone was progeny tested for maintaining ability and seed yield, and then progeny tested for forage yield, stand persistence, and resistance to Phytophthora root rot, anthracnose (Race 1), Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). This clone traces to Alforex Seeds experimental germplasm.

The male pollenizer was developed as a synthetic variety consisting of 175 parental clones. These clones were progeny tested for one or more of the following traits: resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, anthracnose (Race 1), Verticillium wilt, Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). The parentage of the male pollenizer traces 100% to CW A113010.

Hybrid female breeder seed (D-1012) was produced by harvesting the seed from vegetatively propagated male sterile clones which were pollinated by vegetatively propagated maintainer clones in field isolation near Sloughouse, CA in 2016 and 2017. Hybrid male breeder seed (CW A123011) was produced under cage isolation near Woodland, California in 2012. Male seed was bulk harvested from all parent plants as Synthetic generation 1. Synthetic generation 1 seed was planted in field isolation and bulk harvested as Synthetic generation 2.

Areas of Probable Adaptation

HybriForce-4400 is adapted to the North Central and East Central 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. HybriForce-4400 has been tested in Minnesota and Wisconsin.

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Alfalfa

HybriForce-4400 AFXH144110, msSunstra-144110 (Exp.) (Amended - Add Very Winterhardy Add Resistance [R] to Pea Aphid Add Moderate Resistance [MR] to Northern Root Knot Nematode)

Variety Name HybriForce-4400

Experimental Designation(s) AFXH144110

Date A&MLVRB first recommended this variety January 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted 11/27/20

Agronomic and Botanical Characteristics

HybriForce-4400 is a moderately dormant variety with fall dormancy similar to FD class 4 check variety. HybriForce-4400 is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the Syn.2 generation is approximately 90% purple, 9% variegated, and with a trace of cream, white, and yellow. HybriForce-4400 has high resistance to Anthracnose (race 1), Phytophthora root rot, Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Verticillium wilt, Blue alfalfa aphid, and Stem nematode. It has resistance to Aphanomyces root rot (race 2), Spotted alfalfa aphid, and Pea aphid. It has moderate resistance to Northern root knot nematode.

Procedures for Maintaining Seed Stock

Seed increase of HybriForce-4400 is on a limited generation basis. Female Breeder seed must be produced by harvesting seed from vegetatively propagated cytoplasmic male sterile clones that have been pollinated by vegetatively propagated maintainer clones in field isolation. Alforex Seeds will maintain sufficient breeder seed (Syn. 1) for the projected life of the variety. Female Breeder seed was produced under field isolation near Sloughhouse, California in 2016 and 2017. Male breeder seed was produced under cage isolation near Woodland, California in 2012. Alforex Seeds will maintain sufficient foundation seed (Syn. 2 or Syn. 3) for the projected life of the variety. Use of Syn. 3 male seed requires consent of the breeder. Stands of foundation and certified hybrid seed fields are limited to 3 and 5 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of HybriForce-4400 will be available in 2019.

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

LG 4C100

AFX145017 (Exp)

(Amended – Name Change)

Origin and Breeding History

LG 4C100 is a synthetic variety developed by Alforex Seeds with 19 parent plants selected for high forage dry matter yield, high forage quality, and persistence. 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 were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of LG 4C100 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2014. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

LG 4C100 is adapted to the North Central and East Central 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. LG 4C100 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

LG 4C100 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% white, and a trace of variegated, cream, and yellow. LG 4C100 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. LG 4C100 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Cowpea aphid. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Pea aphid, Spotted alfalfa aphid, and Stem Nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of LG 4C100 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 2014. 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 LG 4C100 will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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: Oct 2, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
Magnum 8
AFX133033 (Exp)
(Amended - Add Very Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

Variety Name Magnum 8
 Experimental Designation(s) AFX133033
 Date A&MLVRB first recommended this variety January 2018
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted 11/27/20

Origin and Breeding History

Magnum 8 is a synthetic variety developed by Alforex Seeds with 27 parent clones 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. Parent plants were replicated by vegetative stem cuttings and 8 copies of each parental clone were randomly distributed throughout the breeder seed cage. Nursery source plants were composed of various populations that were developed by phenotypic recurrent selection and progeny testing 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 Magnum 8 traces to the following germplasm sources: Magnum 7 (56%), and Alforex experimental lines (44%). Breeder seed was produced under cage isolation near Woodland, California in 2013. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Magnum 8 is adapted to the North Central and East Central 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. Magnum 8 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Magnum 8 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Magnum 8 is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the Syn.2 generation is approximately 94% purple, 5% variegated and a trace of cream, white, and yellow. Magnum 8 has Low multifoliolate leaf expression rating similar to the Low MF check variety. Magnum 8 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, Spotted alfalfa aphid, Northern root knot nematode, and Stem nematode. It has moderate resistance to Pea aphid.

Procedures for Maintaining Seed Stock

Seed increase of Magnum 8 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 2013. 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 Magnum 8 will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
 Registered _____
 Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
 Registered _____
 Certified 6

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 30, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa
Reload
AFX164040 (Exp)
(Amended – Name Change)

Origin and Breeding History

Reload is a synthetic variety developed by Alforex Seeds with 200 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from various Alforex Seeds populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Reload traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Reload is adapted to the North Central and East Central 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. Reload has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Reload is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 90% purple, 6% variegated, 3% white, and a trace of cream, and yellow. Reload has Low multifoliolate leaf expression rating similar to the Low MF check variety. Reload 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, Spotted alfalfa aphid, Cowpea aphid and Stem Nematode. It has moderate resistance to Pea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Reload 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 2016. 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 Reload will be available in 2020. 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> </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> </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: Oct 2, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
Revolver
AFX176086 (Exp)

Origin and Breeding History

Revolver is a synthetic variety developed by Alforex Seeds with 150 parent plants selected sequentially for resistance to Phytophthora root rot, and Anthracnose. Parent plants were selected from various Alforex Seeds populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Revolver traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughouse, California in 2017. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Revolver is adapted to the North Central and East Central 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. Revolver has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

Revolver is a moderately dormant variety with fall dormancy similar to FD class 6 check varieties. Flower color observed in the Syn.1 generation is approximately 90% purple, 9% variegated and a trace of cream, white, and yellow. Revolver 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, Spotted alfalfa aphid, Cowpea aphid, and Stem nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Revolver 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 Sloughouse, California in 2017. 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 Revolver will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

Rugged II AFX163050 (Exp)

Origin and Breeding History

Rugged II is a synthetic variety developed by Alforex Seeds with 133 parent plants selected using one cycle of phenotypic selection from a thinning 10 year old field, of the original parent variety Rugged, located in the San Luis Valley of southern Colorado. Two hundred plants were initially selected from a 100 acre field based visually on overall top growth vigor and absence of disease. The 200 plants were then dug and roots were examined, and any plants with crown or root disease were discarded. The final selected population was 133 plants with the largest most disease free root systems. Parentage of Rugged II traces 100% to Rugged. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Rugged II is adapted to the North Central and East Central 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. Rugged II has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

Rugged II is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.1 generation is approximately 68% purple, 32% variegated, and a trace of cream, white, and yellow. Rugged II has Multifoliolate leaf expression rating similar to the trifoliolate check variety. Rugged II has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Blue alfalfa aphid. It has resistance to Aphanomyces root rot (race 2), Pea aphid, Spotted alfalfa aphid, Stem nematode and Cowpea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Rugged II 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 Sloughhouse, California in 2016. 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 Rugged II will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX154012 (Exp)

Origin and Breeding History

AFX154012 is a synthetic variety developed by Alforex Seeds with 15 parent plants selected for high forage dry matter yield, high forage quality, and persistence. 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 were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX154012 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2015. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX154012 is adapted to the North Central and East Central 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. AFX154012 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX154012 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 90% purple, 8% cream, 1% white and a trace of variegated and yellow. AFX154012 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX154012 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Spotted alfalfa aphid, and Cowpea aphid. It has resistance to Aphanomyces root rot (race 2), Blue Alfalfa aphid, Pea aphid, and Stem nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX154012 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 2015. 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 AFX154012 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

AFX155025 (Exp)

Origin and Breeding History

AFX155025 is a synthetic variety developed by Alforex Seeds with 35 parent plants selected for high forage dry matter yield, high forage quality, and persistence. 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 were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX155025 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2015. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX155025 is adapted to the North Central and East Central 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. AFX155025 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX155025 is a moderately dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% white and a trace of variegated, cream, and yellow. AFX155025 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX155025 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Blue alfalfa aphid, and Stem nematode. It has resistance to Pea aphid, Spotted alfalfa aphid, and Cowpea aphid. It has moderate resistance to Aphanomyces root rot (race 2). Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX155025 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 2015. 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 AFX155025 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX163009 (Exp)

Origin and Breeding History

AFX163009 is a synthetic variety developed by Alforex Seeds with 225 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX163009 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX163009 is adapted to the North Central and East Central 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. AFX163009 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX163009 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.1 generation is approximately 99% purple, and a trace of variegated, cream, white, and yellow. AFX163009 has High multifoliolate leaf expression rating similar to the High MF check variety. AFX163009 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. Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX163009 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 2016. 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 AFX163009 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX164018 (Exp)

Origin and Breeding History

AFX164018 is a synthetic variety developed by Alforex Seeds with 52 parent plants selected for high forage dry matter yield, high forage quality, and persistence. 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 were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, 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 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX164018 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX164018 is adapted to the North Central and East Central 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. AFX164018 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX164018 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 96% purple, 2% cream, 1% white and a trace of variegated and yellow. AFX164018 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX164018 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. Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX164018 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 2016. 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 AFX164018 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

AFX164046 (Exp)

Origin and Breeding History

AFX164046 is a synthetic variety developed by Alforex Seeds with 180 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX164046 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX164046 is adapted to the North Central and East Central 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. AFX164046 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX164046 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 93% purple, 2% cream, 4% white and a trace of variegated and yellow. AFX164046 has Low multifoliolate leaf expression rating similar to the Low MF check variety.

AFX164046 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. Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX164046 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 Sloughhouse, California in 2016. 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 AFX164046 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4

Registered _____

Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered _____

Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX164047 (Exp)

Origin and Breeding History

AFX164047 is a synthetic variety developed by Alforex Seeds with 180 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX164047 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX164047 is adapted to the North Central and East Central 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. AFX164047 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX164047 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 96% purple, 2% cream, 1% white and a trace of variegated and yellow. AFX164047 has Low multifoliolate leaf expression rating similar to the Low MF check variety.

AFX164047 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. Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX164047 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 Sloughhouse, California in 2016. 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 AFX164047 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX164048 (Exp)

Origin and Breeding History

AFX164048 is a synthetic variety developed by Alforex Seeds with 180 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX164048 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX164048 is adapted to the North Central and East Central 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. AFX164048 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX164048 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 96% purple, 3% white and a trace of variegated, cream, and yellow. AFX164048 has Low multifoliolate leaf expression rating similar to the Low MF check variety.

AFX164048 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. Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX164048 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 Sloughhouse, California in 2016. 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 AFX164048 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4
Registered _____
Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Alfalfa

AFX165020 (Exp)

Origin and Breeding History

AFX165020 is a synthetic variety developed by Alforex Seeds with 225 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, 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 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX165020 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX165020 is adapted to the North Central and East Central 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. AFX165020 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX165020 is a moderately dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.1 generation is approximately 99% purple, and a trace of variegated, cream, white, and yellow. AFX165020 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety.

AFX165020 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). Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX165020 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 2016. 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 AFX165020 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

Foundation Syn.2, Syn.3 or Syn.4

Registered _____

Certified Syn.3, Syn.4, or Syn.5

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered _____

Certified 6

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 30, 2020

Date recommended by the VRB: Mar 3, 2021



Red Clover

B-16.4532 (Exp)

Origin and Breeding History

B-16.4532 (experimental number B-16.4532) was developed by Blue Moon Farms LLC and originated from selections primarily from Robust and Kenland red clover subjected to two cycles of low mowing in greenhouse selections, with surviving plants field planted in adjacent blocks near Lebanon. Field plantings were rogued in both cycles of selection for powdery mildew. Breeders seed was declared from seed harvested in 2015 that traced to the Robust maternal source. An estimated parentage would be 87% Robust and 13% Kenland (pollen parent only).

Areas of Probable Adaptation

B-16.4532 has been tested in KY, PA, and OR, and would be adapted to the East Central Region and the Moderate Winter Intermountain Region.

Agronomic and Botanical Characteristics

Classification: Double cut (medium) Productive Persistence Weakly perennial
Ploidy diploid Flower Color red
% Flowering Seedling Year 60% % Leaf Marking at 50% Flowering 87.3
Stem Hairiness 64.3 cm.
Description of Variants: <5% red flowers;

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

B-16.4532 has shown less susceptibility than Robust to powdery mildew in field trials in the Northwest. 12.7% of plants without watermark, 35% plants w/o hairs.

Procedures for Maintaining Seed Stock

Seed increase of B-16.4532 is limited to two generations each of breeder seed (Syn1 or Syn2), foundation (Syn2 or Syn3), and registered (Syn3 or Syn4), and three generations of certified (Syn3, Syn4, or Syn5) classes. Breeders seed was produced in 2015 sufficient for life of the variety, and will be maintained by Blue Moon Farms LLC. Length of stand allowed is two years each for foundation, registered, and three years for the certified classes.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed, if the variety is approved, would be available in 2021.

Generations Allowed – Mark All That Apply

Foundation x
Registered x
Certified x

Length of Stand Limitation – If None, Please State

Foundation 2
Registered 2
Certified 3

PVP Information

It is undecided if PVP will be sought. Information in this application may not be forwarded to the PVP office.

Date this application was submitted: Nov 27, 2020

Date recommended by the VRB: Mar 10, 2021



Crimson Clover

B-16.4880 (Exp)

Origin and Breeding History

B-16.4880 crimson clover (*Trifolium incarnatum* L.) was developed by Blue Moon Farms using recurrent selection. In fall 2014, a planting was made near Lebanon, OR with plants from seed of three different uncertified Oregon production fields of Dixie adjacent to plants from seed of Chief, PI 613042 Thornton, PI 613046 Allen, and PI 613047 Hardy. During spring 2015, any plants lacking vigor from winter stress or with long stem internodes were removed prior to pollination leaving a nursery of about 54% Dixie and 11.5% respectively of Chief, Thornton, Allen, and Hardy to pollinate. Seed was harvested from the remaining plants and bulked. In fall 2015, the cycle was repeated with plants from the bulk placed in the field near Lebanon, OR. During spring 2016, any plants lacking vigor from winter stress or with long stem internodes were removed prior to pollination, with seed bulked from the remaining plants declared breeders seed of B-16.4880 near Lebanon, OR, in 2016. The % germplasm source was respectively 54% Dixie and 11.5% respectively of Chief, Thornton, Allen, and Hardy.

Areas of Probable Adaptation

East central

Agronomic and Botanical Characteristics

Species	<u>Trifolium incarnatum L</u>	Maturity	<u>medium</u>
Plant Height	<u>72.7 cm.</u>	Flower Petal Color	<u>Red</u>
Leaf Color	<u>Medium green</u>	Stem Growth Habit	<u>Erect</u>

Variants _____

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

Procedures for Maintaining Seed Stock

Breeder seed of B-16.4880 is maintained by Blue Moon Farms, LLC, Lebanon, OR. Adequate breeder seed was produced to reproduce the variety for the life of the variety and is maintained under cold storage to generate breeders seed as needed.

Certified Seed Availability and Publication of Certified Seed Production

Currently, not available; If accepted, certified seed is anticipated in 2022.

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</u>
Registered	<u>2</u>
Certified	<u>5</u>

PVP Information

It is not decided whether PVP will be sought.

Date this application was submitted: Dec 1, 2020

Date recommended by the VRB: Mar 10, 2021



Berseem Clover

B-18.2014 (Exp)

Origin and Breeding History

B-18.2014 was developed using recurrent selection. In late fall 2014, plants tracing to an unreleased germplasm from Mississippi, known as Mississippi Winter Hardy Berseem, were planted near Lebanon, OR. During spring 2015, any plants lacking vigor from winter stress (about 49%) were removed prior to pollination with seed bulked from the remaining plants. In fall 2015, the cycle was repeated with plants placed in the field near Lebanon, OR. During spring 2016, any plants lacking vigor from winter stress were removed prior to pollination with breeders seed of B-18.2014 declared near Lebanon, OR, in 2016. The germplasm source was 100% Mississippi Winter Hardy Berseem.

Areas of Probable Adaptation

Ohio, Mississippi; and East Central and Southeast regions; for use as a cover crop

Agronomic and Botanical Characteristics: for use as a summer annual cover crop

Species	<u>Trifolium alexandrinum L</u>	Maturity	<u>medium</u>
Plant Height	<u>66.6 cm</u>	Flower Petal Color	<u>90% White with 10% pink</u>
Leaf Color	<u>Medium green</u>	Stem Growth Habit	<u>Erect, long stems, up to 3'</u>

Variants _____

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

Procedures for Maintaining Seed Stock

Breeder seed of B-18.2014 was first produced in 2016 and is maintained by Blue Moon Farms, LLC, Lebanon, OR. Adequate breeder seed was produced to reproduce the variety for the life of the variety and is maintained under cold storage to generate breeders seed as needed.

Certified Seed Availability and Publication of Certified Seed Production

Currently, not available; If accepted, certified seed is anticipated in 2022.

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</u>
Registered	<u>2</u>
Certified	<u>5</u>

PVP Information

It is undecided whether PVP will be sought.

Date this application was submitted: Nov 27, 2020

Date recommended by the VRB: Mar 10, 2021



Alfalfa
438RR
FG R412A137 (Exp)
(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 438RR
 Experimental Designation(s) FG R412A137
 Date A&MLVRB first recommended this variety January 2019
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

438RR is a synthetic variety with 110 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 knot 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 2012.

Areas of Probable Adaptation

438RR is adapted to the North Central, East Central and Great Plains areas. This variety has been tested in Nebraska, Minnesota, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central and Great Plains regions.

Agronomic and Botanical Characteristics

438RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, white and yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

438RR 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; with resistance to stem nematode. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2012 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 2019 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 X
 Registered
 Certified X

Length of Stand Limitation –

If None, Please State
 Foundation 3
 Registered None
 Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

440HVXRR FG RRL42M417 (Exp) (Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 440HVXRR

Experimental Designation(s) FG RRL42M417

Date A&MLVRB first recommended this variety January, 2017

Date(s) any previous amendments were recommended January, 2018 and 2020

Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

440HVXRR is a synthetic variety with 88 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, 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 and genotypic 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 2012.

Areas of Probable Adaptation

440HVXRR 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

440HVXRR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 87% purple, 4% variegated, 4% white, 3% cream and 2% yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

440HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (Race 1); resistance to pea aphid, stem nematode, spotted alfalfa aphid and Aphanomyces root rot (Race 2). Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2012 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 2017 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 X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

6409HVXR

FG RRL43Q109 (Exp)

(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6409HVXR

Experimental Designation(s) FG RRL43Q109

Date A&MLVRB first recommended this variety January, 2017

Date(s) any previous amendments were recommended January 2020 Aph2

Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

6409HVXR is a synthetic variety with 253 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, 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 and genotypic 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 2013.

Areas of Probable Adaptation

6409HVXR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Wisconsin, and Iowa and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

6409HVXR is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 98% purple, 1% cream with a trace of variegated, white and yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

6409HVXR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and spotted alfalfa aphid; resistance to stem nematode and Aphanomyces root rot (Race 2), with moderate resistance to pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 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 2017 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 X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
6427R
FG R410M327 (Exp)
(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6427R
 Experimental Designation(s) FG R410M327
 Date A&MLVRB first recommended this variety January 2017
 Date(s) any previous amendments were recommended December 2019 Aph2
 Date this amendment was submitted December 2020 salt germination

Origin and Breeding History

6427R is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and 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

6427R 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

6427R is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

6427R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; resistance to pea aphid and Aphanomyces root rot (Race 2), with 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 2017 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 X
 Registered
 Certified X

Length of Stand Limitation –

If None, Please State
 Foundation 3
 Registered None
 Certified 6

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, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa
6439HVXR
FG H0415A3139 (Exp)
(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6439HVXR
 Experimental Designation(s) FG H0415A3139
 Date A&MLVRB first recommended this variety January, 2019
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

6439HVXR is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic 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 2015.

Areas of Probable Adaptation

6439HVXR is adapted to the North Central and East Central areas. This variety has been tested in Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

6439HVXR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, white, cream and yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

6439HVXR 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); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2015 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® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2019 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 X
 Registered _____
 Certified X

**Length of Stand Limitation –
If None, Please State**

Foundation 3
 Registered None
 Certified 6

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, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa
6453Q
FG C0516A3153 (Exp)
(Amended – Name Change)

Variety Name 6453Q
 Experimental Designation(s) FG C0516A3153
 Date A&MLVRB first recommended this variety January 2019
 Date(s) any previous amendments were recommended January, 2020 SN
 Date this amendment was submitted August 24, 2020

Origin and Breeding History

6453Q is a synthetic variety with 115 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 2016.

Areas of Probable Adaptation

6453Q is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Washington, Iowa, Wisconsin, Idaho and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0516A3153 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% cream with a trace of yellow, white and variegated. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

6453Q 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); with resistance to pea aphid, spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2019 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 X
 Registered
 Certified X

**Length of Stand Limitation –
If None, Please State**

Foundation 3
 Registered None
 Certified 6

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: Aug 24, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa
6527R.ST
FG R513W227S (Exp)
(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6527R.ST
 Experimental Designation(s) FG R513W227S
 Date A&MLVRB first recommended this variety January 2019
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

6527R.ST is a synthetic variety with 41 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were elite plants chosen out of salt nurseries from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or 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 produced from a field isolation near Nampa, ID in 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

6527R.ST is adapted to the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. The variety has been tested in Kansas, Colorado, Washington and Idaho and intended use is in the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S.

Agonomic and Botanical Characteristics

6527R.ST is moderately fall dormant similar to the FD 5 check. Flower color (Syn 2) is 99% purple, with a trace of cream, variegated, white and yellow. It expresses a moderate degree of multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

The variety is highly resistant to anthracnose (race 1), bacterial wilt, fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1) and stem nematode; with resistance to pea aphid, blue alfalfa aphid, spotted alfalfa aphid. It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 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 2019 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 X
 Registered _____
 Certified X

Length of Stand Limitation –

If None, Please State
 Foundation 3 years
 Registered None
 Certified 6 years

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, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa

6585Q

FG 58M185 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6585Q

Experimental Designation(s) FG 58M185

Date A&MLVRB first recommended this variety January 2013

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

FG 58M185 is a synthetic variety with 13 parent clones that was developed by Forage Genetics International. Parent clones were 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). 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 2008.

Areas of Probable Adaptation

FG 58M185 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

FG 58M185 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 96% purple, 2% variegated, 1% white and 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG 58M185 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; with resistance to pea aphid. Reaction to spotted alfalfa aphid, 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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

AmeriStand 428TQ FG C0516C4155 (Exp)

(Amended – Name Change, Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 428TQ
Experimental Designation(s) FG C0516C4155
Date A&MLVRB first recommended this variety March 14, 2019
Date(s) any previous amendments were recommended SN Jan, 2020; Name August 2020
Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

AmeriStand 428TQ is a synthetic variety with 120 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 2016.

Areas of Probable Adaptation

AmeriStand 428TQ is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Washington, Iowa, Wisconsin, Idaho and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

AmeriStand 428TQ is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy similar to WS1 check. Flower Color (Syn2) is 90% purple, 7% cream, 1% white, 1% yellow with a trace of variegated. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 428TQ 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 stem nematode; with resistance to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2019 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 X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
AmeriStand 518NT
FG 57W208 (Exp)
(Amended – Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 518NT

Experimental Designation(s) FG 57W208

Date A&MLVRB first recommended this variety January 2013

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, salt germination

Origin and Breeding History

FG 57W208 is a synthetic variety with 14 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, northern root rot nematode and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to Grandstand (29%), and six FGI experimental populations (71%). In 2007 Syn1 seed was produced in Nampa, ID, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG 57W208 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington, Oregon, Idaho and Colorado and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG 57W208 is moderately fall dormant similar to the FD 5 check. Flower color (Syn 2) is 95% Purple, 2% Variegated, trace Yellow, 1% Cream and 2% White. It expresses a high degree of multifoliolate leafiness. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

The variety is highly resistant to anthracnose, bacterial wilt, *Fusarium* wilt, Phytophthora root rot, *Verticillium* wilt, *Aphanomyces* root rot (race 1), Pea aphid, Northern root knot nematode (*M. hapla*) 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 each 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 2007 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 available for sale in 2013 if FG 57W208 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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
AmeriStand 545NT RR
FG R410W259 (Exp)
(Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 545NT RR
 Experimental Designation(s) FG R410W259
 Date A&MLVRB first recommended this variety January 2016
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted December 2020, salt germination

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. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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 X
 Registered _____
 Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
 Registered None
 Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

AmeriStand 618NT FG 68M802 (Exp) (Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 618NT

Experimental Designation(s) FG 68M802

Date A&MLVRB first recommended this variety January 2017

Date(s) any previous amendments were recommended August 2017 name

Date this amendment was submitted December 2020, salt germination

Origin and Breeding History

AmeriStand 618NT is a synthetic variety with 110 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to elite FGI experimental populations (100%). Syn1 seed was harvested from a field or cage isolation near Holtville, CA fall 2008.

Areas of Probable Adaptation

AmeriStand 618NT is adapted to the Southwest and Moderately Winterhardy Intermountain regions. It has been tested in California and is intended for use in the Southwest and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

AmeriStand 618NT is Non Dormant similar to FD7 check. Flower Color (Syn2) is 99% purple with a trace variegated, yellow, white and cream. FG 68M802 has moderate multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 618NT has high resistance to Fusarium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid, blue alfalfa aphid and stem nematode, and resistance to anthracnose (Race 1), with moderate resistance to bacterial wilt and Verticillium wilt. Reaction to other pests have not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, CA 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 2017.

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

AmeriStand 835NTS RR FG R99T939 (Exp)

(Amended – Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 835NTS RR
Experimental Designation(s) FG R99T939
Date A&MLVRB first recommended this variety January 2016
Date(s) any previous amendments were recommended January 2017 NRKN
Date this amendment was submitted December 2020, salt germination

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. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. The variety is highly resistant to *Fusarium* wilt, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, Northern root rot nematode (*Meloidogyne hapla*) 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. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. 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> </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.

Date this application was submitted: Dec 1, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FSG 450 FG C0516A3158 (Exp)

Origin and Breeding History

FG C0516A3158 is a synthetic variety with 220 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2016.

Areas of Probable Adaptation

FG C0516A3158 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions. This variety has been tested in Iowa, Idaho, Pennsylvania, Wisconsin, and Washington and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0516A3158 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C0516A3158 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); with resistance to pea aphid, stem nematode and spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FSG 527

FG 513M118 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name FSG 527

Experimental Designation(s) FG 513M118

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

FSG 527 is a synthetic variety with 216 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (race 1), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (races 1 and 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 from a field or cage isolation near Nampa, ID in Fall 2013 and bulked to form breeder seed.

Areas of Probable Adaptation

FSG 527 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Pennsylvania, Wisconsin, Idaho, and Washington and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FSG 527 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 96% purple, 1% variegated, 1% white, 1% cream with a trace of yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FSG 527 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and pea aphid; with resistance to stem nematode, spotted alfalfa aphid and Aphanomyces (Race 2). Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2013. 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 2020 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	_____
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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
HVX Tundra II
FG H0316ML103 (Exp)
(Amended – Add Resistance [R] to Stem Nematode)

Variety Name HVX Tundra II
 Experimental Designation(s) FG H0316ML103
 Date A&MLVRB first recommended this variety January, 2019
 Date(s) any previous amendments were recommended January, 2020 Aph race 2
 Date this amendment was submitted December 1, 2020 SN amendment

Origin and Breeding History

FG H0316ML103 is a synthetic variety with 120 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, 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 knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic 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 2016.

Areas of Probable Adaptation

FG H0316ML103 is adapted to the North Central, Great Plains and East Central areas. This variety has been tested in Iowa, Wisconsin, Kansas and Pennsylvania and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG H0316ML103 is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 94% purple, 3% cream, 2% white with a trace of variegated and yellow. This variety has high multifoliolate leaf expression. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG H0316ML103 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, stem nematode and Aphanomyces root rot (Race 2). Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid, stem nematode and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2016 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® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2019 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 X
 Registered
 Certified X

**Length of Stand Limitation –
If None, Please State**

Foundation 3
 Registered None
 Certified 6

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, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa

Integra 8471R FG R411M104 (Exp)

Origin and Breeding History

Integra 8471R is a synthetic variety with 110 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 knot 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 from a field or cage isolation near Nampa, ID in August 2011 and bulked to form breeder seed.

Areas of Probable Adaptation

Integra 8471R is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

Integra 8471R is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 92% purple, 3% variegated, 2% cream, 2% white and 1% yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Integra 8471R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (Race 1); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2011 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. 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 2021 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Integra 8562R FG R414W277 (Exp)

Origin and Breeding History

Integra 8562R is a synthetic variety with 101 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: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot 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 from a field or cage isolation near Nampa, ID in August 2014 and bulked to form breeder seed.

Areas of Probable Adaptation

Integra 8562R is adapted to the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho and Nebraska and is intended for use in the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

Integra 8562R is Moderately Fall Dormant similar to FD5 check. Flower Color (Syn2) is 96% purple, 2% cream, 1% white with a trace of variegated and yellow. This variety has moderate multifoliolate leaf expression. Primary use is hay, haylage, greenchop or dehydration.

Integra 8562R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; with resistance to spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2014 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 2021 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 X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

LegenDairy AA FG C0316A3159 (Exp) (Amended - Add Resistance [R] to Stem Nematode)

Variety Name LegenDairy AA

Experimental Designation(s) FG C0316A3159

Date A&MLVRB first recommended this variety January, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 1, 2020 SN amendment

Origin and Breeding History

FG C0316A3159 is a synthetic variety with 115 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: LegenDairy XHD (50%) and various FGI experimental populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2016.

Areas of Probable Adaptation

FG C0316A3159 is adapted to the North Central, East Central and Moderately Winterhardy Intermountain areas. This variety has been tested in Washington, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0316A3159 is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy similar to WS1 check. Flower Color (Syn2) is 97% purple, 1% cream, 1% white with a trace of yellow and variegated. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C0316A3159 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; with resistance to spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2019 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	_____
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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

LG 4R400 FG R413A114 (Exp)

Origin and Breeding History

LG 4R400 is a synthetic variety with 220 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 knot 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 from a field or cage isolation near Nampa, ID in August 2013 and bulked to form breeder seed.

Areas of Probable Adaptation

LG 4R400 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

LG 4R400 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 1% cream, 1% yellow and a trace of variegated and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

LG 4R400 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 spotted alfalfa aphid and moderate resistance to stem nematode and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Rebound AA FG C0415C4159 (Exp) (Amended - Add Resistance [R] to Stem Nematode)

Variety Name Rebound AA

Experimental Designation(s) FG C0415C4159

Date A&MLVRB first recommended this variety January, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 1, 2020 SN amendment

Origin and Breeding History

Rebound AA is a synthetic variety with 110 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: Rebound 6XT (50%) and various FGI experimental populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

Rebound AA is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 96% purple, 2% white, 1% variegated with a trace of yellow and cream. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Rebound AA 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); with resistance to pea aphid, stem nematode and spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2015. 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 2019 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 X

Registered

Certified X

Length of Stand Limitation – If None, Please State

Foundation 3

Registered None

Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

RR 6 Shot Plus

FG R511Hg216 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name RR 6 Shot Plus

Experimental Designation(s) FG R511Hg216

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, salt germination

Origin and Breeding History

RR 6 Shot Plus is a synthetic variety with 39 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, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. Germplasm sources used in the development of this variety trace to FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2011.

Areas of Probable Adaptation

RR 6 Shot Plus is adapted to the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Colorado, Washington and Idaho and intended use is in the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

RR 6 Shot Plus is moderately fall dormant similar to the FD 6 check. Flower color (Syn 2) is 96% Purple, 1% Variegated, 1% White, 1% Yellow with a trace of Cream. This variety has low multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

The variety is highly resistant to anthracnose, Phytophthora root rot, *Verticillium* wilt, pea aphid, Fusarium wilt, spotted alfalfa aphid and stem nematode with resistance to bacterial wilt and *Aphanomyces* root rot (race 1). 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 2011 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 2018 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Scimitar

FG 49H344 (Exp)

(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name Scimitar

Experimental Designation(s) FG 49H344

Date A&MLVRB first recommended this variety January 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

Scimitar is a synthetic variety with 11 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

Scimitar 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

Scimitar 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. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

Scimitar 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 available for sale in the spring of 2017 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Signature

FG 412A122 (Exp)

(Amended – Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name Signature

Experimental Designation(s) FG 412A122

Date A&MLVRB first recommended this variety January, 2018

Date(s) any previous amendments were recommended March 2019 name

Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

Signature is a synthetic variety with 110 parent plants. Parent clones were 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 knot 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 2012.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

Signature is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 2% variegated, 2% cream, 1% yellow with a trace of white. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

Signature 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 stem nematode. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid, pea aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2012. 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 2018 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 341HVX.RR

FG RRL43M115 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 341HVX.RR

Experimental Designation(s) FG RRL43M115

Date A&MLVRB first recommended this variety January 2017

Date(s) any previous amendments were recommended January 2020 Aph2

Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

WL 341HVX.RR is a synthetic variety with 220 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, 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 and genotypic 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 2013.

Areas of Probable Adaptation

WL 341HVX.RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

WL 341HVX.RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% white with a trace of variegated, yellow and cream. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 341HVX.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and spotted alfalfa aphid; resistance to pea aphid, stem nematode and Aphanomyces root rot (Race 2). Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2013 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 2017 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 349HQ FG C0415C4149 (Exp) (Amended – Add Resistance [R] to Stem Nematode)

Variety Name WL 349HQ

Experimental Designation(s) FG C0415C4149

Date A&MLVRB first recommended this variety January, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 1, 2020 SN amendment

Origin and Breeding History

WL 349HQ is a synthetic variety with 110 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 2015.

Areas of Probable Adaptation

WL 349HQ is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Washington, Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

WL 349HQ is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 91% purple, 3% cream, 3% yellow, 2% variegated and 1% white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

WL 349HQ 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; with resistance to stem nematode. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2015. 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 2019 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 X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 354HQ

FG 46A113 (Exp)

(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 354HQ

Experimental Designation(s) FG 46A113

Date A&MLVRB first recommended this variety January 2011

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Breeding History

WL 354HQ is a synthetic variety with 65 parent plants. Parent plants were selected for 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.

Area of Probable Adaptation

WL 354HQ is adapted to the North Central and East Central regions. WL 354HQ has been tested in Idaho, Wisconsin and New York and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

WL 354HQ is Moderately Fall Dormant similar to FD4 check. WL 354HQ is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 3% variegated, 1% white with a trace of yellow and cream. WL 354HQ has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 354HQ 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), pea aphid and spotted alfalfa aphid; with resistance to stem nematode. Reaction to root knot nematode (Northern *M. hapla*) and blue alfalfa aphid 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 (Syn1) was produced near Nampa, ID in 2006. 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 2011.

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
WL 372HQ.RR
FG R47M324 (Exp)
(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 372HQ.RR
Experimental Designation(s) FG R47M324
Date A&MLVRB first recommended this variety January 2012
Date(s) any previous amendments were recommended January 2013 name
Date this amendment was submitted December 2020 salt germination

Origin and Breeding History

FG R47M324 is a synthetic variety with 94 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: 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). 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 2007.

Areas of Probable Adaptation

FG R47M324 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Indiana, 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 R47M324 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 93% purple, 3% variegated, 1% white and 3% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG R47M324 is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. FG R47M324 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; with resistance to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (Northern *M. hapla*) and blue alfalfa aphid 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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 375HVX.RR

FG H0515A3140 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 375HVX.RR

Experimental Designation(s) FG H0515A3140

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 1, 2020 salt germination

Origin and Breeding History

WL 375HVX.RR is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1, Race 2, and Race 3). Phenotypic and genotypic 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 2015.

Areas of Probable Adaptation

WL 375HVX.RR is adapted to the Winterhardy Intermountain, Moderately Winterhardy Intermountain, North Central and East Central regions. This variety has been tested in Idaho, Washington, Iowa, Pennsylvania and Wisconsin and is intended for use in the Winterhardy Intermountain, Moderately Winterhardy Intermountain, North Central and East Central regions.

Agronomic and Botanical Characteristics

WL 375HVX.RR is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 3% cream, 1% white with a trace of yellow and variegated. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 375HVX.RR 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 stem nematode; with resistance to pea aphid. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2015 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 2018 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 377HQ

FG 49W202 (Exp)

(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 377HQ

Experimental Designation(s) FG 49W202

Date A&MLVRB first recommended this variety January 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

WL 377HQ is a synthetic variety with 108 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to MasterPiece II (15%), Premium (15%), AmeriStand 455NT (10%) and elite FGI experimental populations (60%). In 2009 Syn1 seed was produced near Touchet, WA harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

WL 377HQ is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. 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

WL 377HQ is moderately fall dormant similar to the FD 5 check. Flower color (Syn 2) is 93% Purple, 4% Variegated, 2% White, with a trace of Yellow and Cream. It expresses a moderate degree of multifoliolate leafiness. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 377HQ is highly resistant to anthracnose (race1), bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Aphanomyces root rot (race 1), pea aphid, spotted alfalfa aphid, northern root knot nematode (*M. hapla*) 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 each 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 Touchet, WA. 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 available for sale in 2017 if WL 377HQ 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 X

Registered _____

Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered None

Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa
WL 458HQ.RR
FG R514W263S (Exp)
(Amended – Name Change,
Change Stem Nematode Rating from [R] to [HR]
Change Fall Dormancy Rating from 5 to 6)

Variety Name WL 458HQ.RR
 Experimental Designation(s) FG R514W263S
 Date A&MLVRB first recommended this variety January, 2020
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted December 1, 2020 Name, SN, Fall Dormancy

Origin and Breeding History

WL 458HQ.RR is a synthetic variety from 220 parents from a field polycross. Parent plants contained the commercial Roundup Ready event J101 and were elite plants chosen out of salt nurseries from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or 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 and genotypic 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 from all parents was harvested near Nampa, Idaho and bulked to form breeder seed in 2014.

Areas of Probable Adaptation

WL 458HQ.RR is adapted to the Moderately Winterhardy Intermountain, Winterhardy Intermountain and the Great Plains regions. This variety has been tested in Idaho, Colorado, Kansas and Washington and is intended for use in the Moderately Winterhardy Intermountain, Winterhardy Intermountain and the Great Plains regions.

Agronomic and Botanical Characteristics

WL 458HQ.RR is Moderately Fall Dormant similar to FD6 check. Test variety is Winterhardy, similar to WS3 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety has low multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 458HQ.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid, stem nematode and Aphanomyces root rot (Race 1); with resistance to blue alfalfa aphid and spotted alfalfa aphid. Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2014 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-cpsps 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 2020 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 X
 Registered _____
 Certified X

**Length of Stand Limitation –
If None, Please State**

Foundation 3
 Registered None
 Certified 6

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, 2020 Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 538HQ

FG 814T520 (Exp)

(Amended – Name Change, Add High Resistance [HR] to Blue Alfalfa Aphid Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 538HQ

Experimental Designation(s) FG 814T520

Date A&MLVRB first recommended this variety January, 2020

Date(s) any previous amendments were recommended August 2020 Name

Date this amendment was submitted December 1, 2020 BAA, salt germination

Origin and Breeding History

WL 538HQ is a synthetic variety from 150 parents polycrossed in the field. Parent plants were selected from FGI Non-dormant breeding lines for their yield, vigor and/or for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, anthracnose (Race 1) and aphids. 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%). Seed was harvested in total on all parents in Holtville, CA and bulked to form breeder seed in 2014.

Areas of Probable Adaptation

WL 538HQ is adapted to the Southwest. This variety has been tested in California and is intended for use in the Southwest region of the United States.

Agronomic and Botanical Characteristics

WL 538HQ is Non-Dormant similar to FD8 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow, and variegated. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 538HQ has high resistance to Fusarium wilt, Spotted Alfalfa Aphids, Pea Aphid, Anthracnose (Race 1), Blue Alfalfa Aphid and Phytophthora root rot; with resistance Stem Nematode, Verticillium wilt and Bacterial wilt. Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, California in 2014. 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 2020 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 X

Registered _____

Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered None

Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

WL 558HQ.RR

FG R813T431 (Exp)

(Amended - Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 558HQ.RR

Experimental Designation(s) FG R813T431

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

WL 558HQ.RR is a synthetic variety from 120 parent plants which were field polycrossed. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Non-dormant breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Anthracnose (Race 1), Fusarium wilt, Bacterial Wilt, Verticillium wilt, Phytophthora root rot, stem nematode, and Aphids. 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%). Seed was harvested in total on all parents and bulked near Nampa, ID to form breeder seed in 2013.

Areas of Probable Adaptation

WL 558HQ.RR is adapted to the Southwest and the Moderately Winterhardy Intermountain regions. This variety has been tested in California and is intended for use in the Southwest and the Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

WL 558HQ.RR is Non-dormant similar to the FD8 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow, and variegated. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 558HQ.RR has high resistance to Fusarium wilt, Phytophthora Root Rot, Bacterial wilt, Pea Aphid and Spotted Alfalfa Aphid; with resistance to Anthracnose (Race 1), Verticillium wilt, Stem Nematode and Blue Alfalfa Aphid. Reaction to other pests has not yet been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 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 2020 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 X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 1012T408 (Exp)

Origin and Breeding History

FG 1012T408 is a synthetic variety with 234 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation near Holtville, CA. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2012.

Areas of Probable Adaptation

FG 1012T408 is adapted to the Mexico and Argentina. This variety has been tested in Mexico and Argentina and is intended for use in the International Very Non-Dormant areas.

Agronomic and Botanical Characteristics

FG 1012T408 is Very Non-Dormant similar to FD10 check. Flower Color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white. Primary use is hay, haylage, greenchop or dehydration.

FG 1012T408 has high resistance to Phytophthora root rot, Fusarium wilt, Verticillium wilt and spotted alfalfa aphid; resistance to Aphanomyces root rot (Race 1) and moderate resistance to anthracnose (Race 1). Reaction to root knot nematode (*M. hapla*), blue alfalfa aphid, stem nematode, bacterial wilt and pea aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, CA in 2012. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 1013M185 (Exp)

(Amended – Add Resistance [R] to Blue Alfalfa Aphid)

Variety Name _____

Experimental Designation(s) FG 1013M185

Date A&MLVRB first recommended this variety January, 2018

Date(s) any previous amendments were recommended January, 2020 BW, SN

Date this amendment was submitted December, 2020 BAA

Origin and Breeding History

FG 1013M185 is a synthetic variety with 296 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation near Holtville, CA fall 2013. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

Areas of Probable Adaptation

FG 1013M185 is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and Mexico and is intended for use in the Southwest USA, Mexico, and Argentina.

Agronomic and Botanical Characteristics

FG 1013M185 is very nondormant similar to the FD 10 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

This variety is highly resistant to anthracnose (Race 1) and Fusarium wilt; resistant to Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race1), spotted alfalfa aphid, blue 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

Breeder seed (Syn1) was produced near Holtville, CA in 2013. 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.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 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 X
Registered _____
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 1013T183 (Exp) (Amended – Add High Resistance [HR] to Blue Alfalfa Aphid)

Variety Name _____

Experimental Designation(s) FG 1013T183

Date A&MLVRB first recommended this variety January, 2018

Date(s) any previous amendments were recommended January, 2019 salt germination

Date this amendment was submitted December, 2020 BAA

Origin and Breeding History

FG 1013T183 is a synthetic variety with 216 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation near Holtville, CA fall 2013. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

Areas of Probable Adaptation

FG 1013T183 is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and Arizona and is intended for use in the Southwest U.S, Mexico and Argentina regions.

Agronomic and Botanical Characteristics

FG 1013T183 is very Non-Dormant like the FD 11 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

The variety is highly resistant to spotted alfalfa aphid and blue alfalfa aphid; resistant to Fusarium wilt and Phytophthora root; moderately resistant to anthracnose and Aphanomyces root rot (race 1) and has low resistance to Verticillium wilt. It has not been tested for other pest reactions. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. 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 Holtville, CA in 2013. 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.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2019 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 1013T186 (Exp)

Origin and Breeding History

FG 1013T186 is a synthetic variety with 216 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation near Holtville, CA fall 2013. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

Areas of Probable Adaptation

FG 1013T186 is adapted to the Southwest and Mexico. This variety has been tested in California and Mexico and is intended for use in the Southwest US and International very non-dormant areas.

Agronomic and Botanical Characteristics

FG 1013T186 is Very Non-Dormant similar to FD10 check. Flower Color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white. Primary use is hay, haylage, greenchop or dehydration.

FG 1013T186 has high resistance to Phytophthora root rot and Fusarium wilt; resistance to Verticillium wilt, anthracnose (Race 1), Aphanomyces root rot (Race 1), spotted alfalfa aphid and stem nematode, with moderate resistance to bacterial wilt. Reaction to root knot nematode (*M. hapla*), blue alfalfa aphid and pea aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, CA in 2013. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 1114T029 (Exp) (Amended – Add Resistance [R] to Blue Alfalfa Aphid)

Variety Name _____

Experimental Designation(s) FG 1114T029

Date A&MLVRB first recommended this variety January, 2018

Date(s) any previous amendments were recommended January, 2020 PA, SN

Date this amendment was submitted December, 2020 BAA

Origin and Breeding History

FG 1114T029 is a synthetic variety with 220 parent plants. Parent plants were selected from old forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, vigor and freedom from leaf diseases). The germplasm sources used in the development trace to FGI breeding lines (100%). In 2013 Syn1 seed was produced near Marcos Juarez, Argentina, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG 1114T029 is adapted to the winter active regions of the Argentina and similar environments. This variety has been tested in Argentina and is intended for use in winter active regions of Argentina.

Agronomic and Botanical Characteristics

FG 1114T029 is a very Non-Dormant similar to the FD 10 check. Flower color (Syn2) is 99% Purple with a trace of Variegated, Cream, Yellow and White.

The variety has high resistance to spotted alfalfa aphid and pea aphid; resistance to Fusarium wilt, Verticillium wilt, Phytophthora root rot, blue alfalfa aphid and stem nematode; and moderately resistance to anthracnose (race 1) and Aphanomyces root rot (race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 near Marcos Juarez, Argentina. 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 2018 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 613M161 (Exp)

Origin and Breeding History

FG 613M161 is a synthetic variety with 216 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation near Holtville, CA fall 2013. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

Areas of Probable Adaptation

FG 613M161 is adapted to the Southwest and Argentina. This variety has been tested in California and Argentina and is intended for use in the Southwest US and International non-dormant areas.

Agronomic and Botanical Characteristics

FG 613M161 is Non-Dormant similar to FD7 check. Flower Color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG 613M161 has high resistance to anthracnose (Race 1), bacterial wilt and Phytophthora root rot; with resistance to Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), spotted alfalfa, stem nematode and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Holtville, CA in 2013. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG 812M01 (Exp) (Amended – Change Fall Dormancy from 9 to 8)

Variety Name _____

Experimental Designation(s) FG 812M01

Date A&MLVRB first recommended this variety January, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 1, 2020 Fall Dormancy

Origin and Breeding History

FG 812M01 is a synthetic variety with 260 parent plants. Parent plants were selected from old forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, vigor and freedom from leaf diseases). The germplasm sources used in the development trace to FGI breeding lines (100%). In 2012 Syn1 seed was produced near Marcos Juarez, Argentina, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG 812M01 is adapted to the winter active regions of Argentina. The variety has been tested in Argentina and intended for use in Winter active regions of Argentina.

Agronomic and Botanical Characteristics

FG 812M01 is Non-Dormant similar to the FD 8 check. Flower color (Syn2) is 99% purple, with a trace of variegated, yellow, cream and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG 812M01 is highly resistant to anthracnose (race 1), Phytophthora root rot, pea aphid and Fusarium wilt; resistant to bacterial wilt, and spotted alfalfa aphid; and moderately resistant to blue alfalfa aphid. It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

Breeder (Syn 1), foundation (Syn2) and certified (Syn2 or Syn3) classes will be recognized. Seed increase is on a limited generation basis with one generation each of breeder and two generations of foundation classes and certified seed classes. Breeder seed (Syn1) was produced in 2012 near Marcos Juarez, Argentina. 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 available for sale in the spring of 2019 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG C0316ML134 (Exp) (Amended - Change Resistance [R] to Aphanomyces Root Rot [Race 2] to High Resistance [HR], Add Resistance [R] to Stem Nematode)

Variety Name _____

Experimental Designation(s) FG C0316ML134

Date A&MLVRB first recommended this variety January, 2019

Date(s) any previous amendments were recommended Jan, 2020 Aphanomyces Race 2

Date this amendment was submitted December 1, 2020 Stem nematode, Aph Race 2

Origin and Breeding History

FG C0316ML134 is a synthetic variety with 115 parent plants. Parent clones were 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 knot 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 2016.

Areas of Probable Adaptation

FG C0316ML134 is adapted to the North Central, East Central and Moderately Winterhardy Intermountain areas. This variety has been tested in Washington, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0316ML134 is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy similar to WS1 check. Flower Color (Syn2) is 98% purple, 1% cream with a trace of yellow, white and variegated. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C0316ML134 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); with resistance to pea aphid and stem nematode. Reaction to root knot nematode (*M. hapla*), stem nematode, spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2019 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG C0415SN223 (Exp)

(Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name _____

Experimental Designation(s) FG C0415SN223

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

FG C0415SN223 is a synthetic variety with 144 parent plants from a field polycross. Parent plants were selected from FGI Stem Nematode breeding lines for forage yield, persistence, and/or for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Bacterial Wilt, Phytophthora root rot, stem nematode, aphids, and Aphanomyces root rot (Race 1). 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%). Seed was harvested in total on all parents near Nampa, ID and bulked to form breeder seed in 2015.

Areas of Probable Adaptation

FG C0415SN223 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain, regions. This variety has been tested in Idaho and Washington and is intended for use in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0415SN223 is Moderately Fall Dormant similar to FD4 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety has moderate multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG C0415SN223 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid and stem nematode; with resistance to Aphanomyces root rot (Race 1) and spotted alfalfa aphid. Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2015 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 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 2020 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 X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered None
Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG C0416C4164 (Exp)

Origin and Breeding History

FG C0416C4164 is a synthetic variety with 279 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 from a field or cage isolation near Nampa, ID in August 2016.

Areas of Probable Adaptation

FG C0416C4164 is adapted to the North Central and East Central regions. This variety has been tested in Iowa, Pennsylvania, Wisconsin and Minnesota and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0416C4164 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 2% cream with a trace of variegated, yellow and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C0416C4164 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 stem nematode; with resistance to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2016. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG C0515A3357 (Exp)

Origin and Breeding History

FG C0515A3357 is a synthetic variety with 73 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2015.

Areas of Probable Adaptation

FG C0515A3357 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions. This variety has been tested in Iowa, Idaho, Pennsylvania, Wisconsin, and Washington and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0515A3357 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 1% yellow, 1% cream with a trace of variegated and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C0515A3357 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); with resistance to pea aphid. Reaction to root knot nematode (*M. hapla*), stem nematode, spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2015. 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG R414W279 (Exp)

Origin and Breeding History

FG R414W279 is a synthetic variety with 216 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 knot 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 from a field or cage isolation near Nampa, ID in August 2014 and bulked to form breeder seed.

Areas of Probable Adaptation

FG R414W279 is adapted to the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho and Nebraska and is intended for use in the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG R414W279 is Moderately Fall Dormant similar to FD4 check. Flower Color (Syn2) is 98% purple, 1% white with a trace of variegated, cream and yellow. This variety has moderate multifoliolate leaf expression. Primary use is hay, haylage, greenchop or dehydration. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG R414W279 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; with resistance to spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2014 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 2021 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> </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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

FG R913T402 (Exp) (Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name _____

Experimental Designation(s) FG R913T402

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2020, Salt germination

Origin and Breeding History

FG R913T402 is a synthetic variety from 128 parents which were field polycrossed. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Non-dormant breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Anthracnose (Race 1), Fusarium wilt, Bacterial Wilt, Verticillium wilt, Phytophthora root rot, stem nematode, and Aphids. 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%). Seed was harvested in total on all parents near Nampa, ID and bulked to form breeder seed in 2013.

Areas of Probable Adaptation

FG R913T402 is adapted to the Southwest region of the USA. This variety has been tested in California and is intended for use in the Southwest region.

Agronomic and Botanical Characteristics

FG R913T402 is Very Non-dormant similar to the FD9 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG R913T402 has high resistance to Fusarium wilt, Pea Aphid, Stem Nematode, Phytophthora Root Rot, Anthracnose (Race 1) and Spotted Alfalfa Aphid; with resistance to Bacterial wilt, Verticillium wilt and Blue Alfalfa Aphid. Reaction to other pests has not yet been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 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 2020 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 X

Registered

Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3

Registered None

Certified 6

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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Enduro 423AP LS 1405 (Exp) (Amended – Name Change)

Origin and Breeding History

Enduro 423AP is a synthetic variety with 80 parent plants that was developed by Legacy Seeds, LLC. The 80 parent plants were selected phenotypically based on high forage yield, good winter survival and the absence of root and crown diseases. Prior to going to the field nursery, the parent plants had been selected for resistance to Aphanomyces root rot (race 2). The breeder seed was produced near Nampa, ID in 2014.

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

Enduro 423AP is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 89% purple and 10% variegated with traces of white, yellow and cream.

This variety 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 has moderate resistance to Stem Nematode. It has not been tested for resistance to pea aphid, spotted aphid, blue alfalfa aphid or root-knot nematode.

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2014. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2019. 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> </u>
Certified	<u> X </u>

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </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 16, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

L-602

LS 1508 (Exp)

(Amended – Name Change)

Origin and Breeding History

L-602 is a synthetic variety with 95 parent plants. The parent plants were selected near Evansville, WI in the spring of 2015 from performance nursery plots. Phenotypic selection was based on high forage yield, fall regrowth, good winter survival and the absence of root and crown diseases. The plants were placed in an isolation field in Idaho for breeder seed production. Breeder seed (Syn 1) was produced in 2015 near Nampa, ID.

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

L-602 is a moderately dormant variety similar to the FD6 check. Flower color (Syn 2) is approximately 96% purple, 3% variegated with traces of white, yellow, and cream.

This variety has high resistance to Anthracnose (race 1), Bacterial wilt, Fusarium wilt, Verticillium wilt and Aphanomyces (race 1). It has resistance to Aphanomyces (race 2) and Stem Nematode. It has not been tested for resistance to Phytophthora root rot, pea aphid, spotted aphid, blue alfalfa aphid or root knot nematode.

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2015. One generation for breeder (Syn 1) and two generations for foundation (Syn 2 or Syn 3) and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2020. 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> </u>
Certified	<u> X </u>

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </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 16, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

LS 01AR (Exp)

Origin and Breeding History

LS 01AR is a synthetic variety with 100 parent plants. The parent plants were selected near Evansville, WI in the spring of 2016 from performance nursery plots. Phenotypic selection was based on high forage yield, high forage quality, good winter survival and the absence of root and crown diseases. The plants were placed in an isolation field in Idaho for breeder seed production. Breeder seed (Syn 1) was produced in 2016 near Nampa, ID.

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 01AR is a moderately dormant variety similar to the FD5 check. Flower color (Syn 2) is approximately 95% purple, 4% variegated with traces of white, yellow and cream.

This variety has high resistance to Anthracnose (race 1), Bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (race 1). It has moderate resistance to Aphanomyces root rot (race 2). It has not been tested for resistance to pea aphid, spotted aphid, blue alfalfa aphid, stem nematode or root knot nematode.

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2016. One generation for breeder (Syn 1) and two generations for foundation (Syn 2 or Syn 3) and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2021. 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> </u>
Certified	<u> X </u>

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </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 16, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

54Q16

SW16XPQ07, 16XPQ07, W15XPQ67 (Exp) (Amended – Name Change)

Origin and Breeding History

54Q16 (SW16XPQ07, 16XPQ07, W15XPQ67 all experimental designations), is an intracross of 111 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose (Race 1), Phytophthora root rot, Aphanomyces root rot (Race 1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, low lignin, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central, East Central and Winterhardy Intermountain regions of the United States. 54Q16 (SW16XPQ07, 16XPQ07, W15XPQ67 all experimental designations), has been tested in Idaho, Wisconsin, Minnesota and Pennsylvania Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winter hardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

Agronomic and Botanical Characteristics

54Q16 (SW16XPQ07, 16XPQ07, W15XPQ67 all experimental designations), is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 92% purple, 2% white, 4% cream, 1% variegated, and traces of yellow. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, Verticillium wilt, and stem nematode. It is 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

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 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 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 (Syn 1) was grown in cage isolation in Connell, WA in 2016.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2020 if 54Q16 (SW16XPQ07, 16XPQ07, W15XPQ67 all experimental designations), is recommended 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> </u>
Certified	<u> X </u>

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </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. Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

High Five SW15XPQ06, 15XXP06, W14XXP61 (Exp) (Amended – Name Change)

Variety Name High Five
Experimental Designation(s) SW15XPQ06, 15XXP06, W14XXP61
Date A&MLVRB first recommended this variety February 7, 2019
Date(s) any previous amendments were recommended February 6, 2020
Date this amendment was submitted November 30, 2020

Origin and Breeding History

High Five, (SW15XPQ06, 15XXP06, W14XXP61, all experimental designations), is an intracross of 109 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1 and Race 2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in greenhouse isolation in Arlington, WI in 2014. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central, East Central, Winterhardy Intermountain, and Moderately Winterhardy Intermountain areas of the United States and Canada. High Five, (SW15XPQ06, 15XXP06, W14XXP61, all experimental designations), has been tested in Wisconsin, Idaho, Washington, Minnesota, Pennsylvania and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

Agronomic and Botanical Characteristics

High Five, (SW15XPQ06, 15XXP06, W14XXP61, all experimental designations), is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 3) is 99% purple, with a trace of variegated, white, yellow, and cream. High Five, (SW15XPQ06, 15XXP06, W14XXP61, all experimental designations), is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), Verticillium wilt, pea aphid, and Phytophthora root rot; with resistance to spotted alfalfa 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

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in greenhouse isolation in Arlington, WI in 2014. S&W Seed Co. will maintain sufficient breeder and 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 2019 if High Five, (SW15XPQ06, 15XXP06, W14XXP61, all experimental designations), recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

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: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

Scepter

SW4503Z, SW1503Z, 15ZZP03, W14ZZP42 (Exp) (Amended – Name Change Add Winter Survival)

Origin and Breeding History

Scepter (SW4503Z, SW1503Z, 15ZZP03, W14ZZP42 all experimental designations) is a 79 plant intracross of plants identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), potato leafhopper resistance, persistence, agronomic characteristics, and improved forage yield. Parents of Scepter originated from an S&W experimental selected for forage yield, persistence, potato leafhopper resistance, and or resistance to one or more of the following pests: bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, *Phytophthora* root rot, and *Aphanomyces* root rot (Race 1&2). Breeder seed (SYN 1) was grown in greenhouse isolation in 2014 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

Scepter is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 96% purple, 2% variegated, 1% white, with a trace of yellow and cream. SW4503Z is highly resistant to Anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, pea aphid, potato leafhopper, spotted alfalfa aphid and *Phytophthora* root rot. 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, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (SYN 1) was grown in greenhouse isolation in 2013 in Arlington, WI. S&W Seed Co. will maintain sufficient breeder and 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 2018 if Scepter is recommended 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> </u>
Certified	<u> X </u>

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </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. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

SW9813S SW 9813 (Exp) (Name Change)

Origin and Breeding History

This synthetic variety, SW9813S, experimental SW 9813, was developed by S&W Seed Company, Bob Sheesley, and Tim Jacobsen, using the outdoor cages crossing method with both honeybees and leaf cutting bees from selections from two parent lines. The selection criteria used in the development of this variety include forage yield and resistance to Blue Alfalfa Aphid, Bacterial Wilt, Fusarium Wilt, Phytophthora Root Rot, Pea Aphid, Spotted Alfalfa Aphid, and Stem Nematode. Breeder seed was produced in 2008.

Areas of Probable Adaptation

SW9813S is adapted to the Southwestern region. This variety has been tested in the Central Valley of California and Tucson, Arizona and is intended for use in the Southwest area.

Agronomic and Botanical Characteristics

This variety is a non-dormant similar to FD 9 check. Flower color (Syn 2) is 98% purple, 1.5% variegated, and 0.5% white. SW9813S has high resistance to Blue Alfalfa Aphid; with resistance to Bacterial Wilt, Fusarium Wilt, Phytophthora Root Rot, Pea Aphid, and Spotted Alfalfa Aphid; moderate resistance to Stem Nematode. Reaction to Aphanomyces root rot, Root Knot nematode, Verticillium Wilt, and Anthracnose has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2008. S & W Seed Company will maintain sufficient breeder seed (Syn 2) in cold storage in the applicant's research facility. Under certification, the classes of seed will be breeder (Syn 2), foundation (Syn 3 or Syn 4), and certified (Syn 3 or Syn 4 or Syn 5). Stands of foundation and certified seed fields are limited to 4 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2013. Certified seed 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, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

SW15XPB17, 15XPB17, N14XXP76 (Exp)

Origin and Breeding History

SW15XPB17, 15XPB17, N14XXP76, (all experimental designations), is an intracross of 63 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or 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&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in 2014 and the same plants transplanted to cage isolation in Connell, WA in 2015. Seed was bulked in total on both.

Areas of Probable Adaptation

SW15XPB17 is adapted to the North Central, East Central, Winterhardy Intermountain areas of the US and Canada. The variety has been tested in Wisconsin, Minnesota, Idaho and Canada. SW15XPB17 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain, Winterhardy Intermountain areas of the US, Canada, and similar environments.

Agronomic and Botanical Characteristics

SW15XPB17 is moderately dormant, similar to the FD 4 check. It is extremely winterhardy. Flower color (Syn 2) is 98% purple, 1% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), and Phytophthora root rot. It is resistant to spotted alfalfa aphid, 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

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 2 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 (Syn 1) was grown in the greenhouse in 2014 and the same plants transplanted to cage isolation in Connell, WA in 2015.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW15XPB17 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 Years
Registered
Certified 6 Years

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: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

SW16YPQ21, 16YPQ21, 15YPW80 (Exp)

Origin and Breeding History

SW16YPQ21, 16YPQ21, W15YPW80, (all experimental designations), is an intracross of 116 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals 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, anthracnose (Race 1), Aphanomyces root rot (Race1&2), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, resistance to lodging, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2015. Seed was bulked in total.

Areas of Probable Adaptation

SW16YPQ21 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US. It has been tested in Wisconsin, Minnesota, Pennsylvania and Idaho. SW16YPQ21 is intended for culture in the North Central, East Central, Moderately Winterhardy Intermountain, Great Plains and Winterhardy Intermountain regions of the US, Canada, and similar environments.

Agronomic and Botanical Characteristics

SW16YPQ21 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 2) is 90% purple, 9% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, Verticillium 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:

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 3 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 (Syn 1) was grown in the greenhouse in Arlington, WI in 2015.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW16YPQ21 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered
Certified 6 years

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: Nov 30, 2020

Date recommended by the VRB: Mar 5, 2021



Alfalfa

SW16YPQ23, 16YPQ23, 15YPD90 (Exp)

Origin and Breeding History

SW16YPQ23, 16YPQ23, N15YPD90, (all experimental designations), is an intracross of 125 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, Aphanomyces root rot (Race1&2), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, lodging tolerance, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Nampa, ID in 2016. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central, East Central and Winterhardy Intermountain regions of the United States. SW16YPQ23 has been tested in Idaho, Wisconsin, Minnesota and Pennsylvania. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

Agronomic and Botanical Characteristics

SW16YPQ23 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 93% purple, 6% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, Verticillium 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

S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundations seed (Syn 3, or Syn 4) and/or certified seed (Syn 4, Syn 5 or Syn 6) 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 (Syn 2) was grown in cage isolation in Nampa, ID in 2016.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW16YPQ23 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 Years
Registered
Certified 6 Years

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: Nov 30, 2020

Date recommended by the VRB: Mar 5, 2021



Alfalfa

SW5606, SW16XPD06, 16XPD06, 15XPD66 (Exp)

Origin and Breeding History

SW5606, SW16XPD06, 16XPD06, W15XPD66, (all experimental designations), is an intracross of 125 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, Aphanomyces root rot (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in 2015 and the same plants transplanted to cage isolation in Connell, WA in 2015. Seed was bulked in total on both.

Areas of Probable Adaptation

SW5606 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US. It has been tested in Wisconsin, Minnesota, Pennsylvania and Idaho. SW5606 is intended for culture in the North Central, East Central, Moderately Winterhardy Intermountain, Great Plains and Winterhardy Intermountain regions of the US, Canada, and similar environments.

Agronomic and Botanical Characteristics

SW5606 is dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 2) is 94% purple, 4% variegated, 1% cream with traces of yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, and Verticillium wilt. It is resistant to 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:

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations 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 2 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 (Syn 1) was grown in the greenhouse in 2015 and the same plants transplanted to cage isolation in Connell, WA in 2015.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW5606 is recommended 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> </u>
Certified	<u> X </u>

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 Years </u>
Registered	<u> </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. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2020

Date recommended by the VRB: Mar 5, 2021



Alfalfa

SW6691, SGI91, SFR27032, RD16IPK91 (Exp)

Origin and Breeding History

SW6691, SGI91, SFR27032, RD16IPK91, (experimental designations), is an intracross of 47 parent plants (Syn 1) selected by S&W Seed Company from 7 S&W experimentals selected for forage yield, and seed yield. Parent plants were identified using phenotypic selection in selection nurseries for agronomic characteristics and improved forage and seed yield. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to Australia, and the Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US. This variety is intended for Australia and the Southwest, Southeast, East Central, North Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and similar environments. This variety has been tested in California, Idaho, and Australia.

Agronomic and Botanical Characteristics

SW6691 is moderately dormant, similar to the FD 6 check. Flower color (Syn 2) is 99% purple, with traces of cream, yellow, variegated, and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

The variety is highly resistant to Phytophthora root rot and spotted alfalfa aphid. It is resistant to Verticillium wilt, blue alfalfa aphid, bacterial wilt, and pea aphid. It has moderate resistance to anthracnose (Race 1) and Aphanomyces root rot (Race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations 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 2 foundation seed requires the consent of the breeder. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016. 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 the spring of 2021 if SW6691 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 Years
Registered
Certified 6 Years

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: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

SW7408, 04U08CI1 (Exp)

Origin and Breeding History:

SW7408, 04U08CI1 (both experimental designations), is a 216 plant, synthetic in which 12 elite clonal 1/2 sib families were classified using half sib testing for agronomics, field appearance and forage production in Wagga Wagga, New South Wales, Australia. Each half sib family selections were made for disease and insect resistance that were present in the field from those 12 elite families. 216 plants were transplanted to cage in Wagga Wagga New South Wales, Australia in 2004, crossed and seed bulked in total creating the first year of Breeder seed (Syn 1).

Areas of Probable Adaptation

This variety is adapted to the Southwest, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the US. SW7408 is intended for Australia, the Southwest, Southeast, Great Plains, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the US and similar environments. This variety has been tested in California, Idaho, and New Mexico.

Agronomic and Botanical Characteristics

SW7408 is non dormant, similar to the FD 7 check. Flower color (Syn 2) is 97% purple, 2% variegated with traces of cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

The variety is highly resistant to anthracnose (Race 1), spotted alfalfa aphid, blue alfalfa aphid, pea aphid, Fusarium wilt and Phytophthora root rot. It is resistant to Verticillium wilt, bacterial wilt, and stem nematode. It has low resistance 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 of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn1) was produced in Wagga Wagga, New South Wales Australia in 2004.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW7408 is recommended 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> </u>
Certified	<u> X </u>

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 Years </u>
Registered	<u> </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. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021



Alfalfa

SW7695, D16NPK95 (Exp)

Origin and Breeding History

SW7695, RD16NPK95, (experimental designations), is an intracross of 21 parent plants selected by S&W Seed Company from 7 S&W experimentals selected for forage yield, and seed yield. Parent plants were identified using phenotypic selection in selection nurseries for agronomic characteristics, disease resistance and improved forage and seed yield. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to Australia, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the US. SW7695 is intended for use in Australia and the Southwest, Southeast, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the US, and similar environments. It has been tested in California, Idaho, and Australia.

Agronomic and Botanical Characteristics

SW7695 is non-dormant, similar to the FD 7 check. Flower color (Syn 2) is 98% purple, 1% cream, with traces of yellow, variegated and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

The variety is highly resistant to Phytophthora root rot, blue alfalfa aphid and spotted alfalfa aphid. It is resistant to pea aphid. It has moderate resistance to Verticillium wilt and bacterial wilt. It has low resistance to anthracnose (Race 1) and Aphanomyces root rot (Race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations 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 2 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 (Syn 1) was grown in cage isolation in Keith, AU in 2016.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW7695 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 Years
Registered
Certified 6 Years

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: Nov 30, 2020

Date recommended by the VRB: Mar 5, 2021



Alfalfa

SW8697, SW18NPK90, RD17NPK97, RD16NPK97 (Exp)

Origin and Breeding History

SW8697, SW18NPK90, RD17NPK97, RD16NPK97, (experimental designations), is an intracross of 45 parent plants (Syn 1) selected by S&W Seed Company from 7 S&W experimentals selected for forage yield, and seed yield. Parent plants were identified using phenotypic selection in selection nurseries for agronomic characteristics and improved forage and seed yield. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to Australia and the Winterhardy Intermountain region of the US. SW8697 is intended to be used in Australia, the Southwest, Winterhardy Intermountain, Moderately Winterhardy Intermountain, Great Plains, East Central and Southeast regions of the US, and similar environments. It has been tested in Idaho and Australia.

Agronomic and Botanical Characteristics

SW8697 is non dormant, similar to the FD 8 check. Flower color (Syn 2) is 99% purple, with traces of cream, yellow, variegated, and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

The variety is highly resistant to Anthracnose (Race 1), Phytophthora root rot, blue alfalfa aphid, and pea aphid. It has moderate resistance to Verticillium wilt and low resistance to Aphanomyces root rot (Race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations 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 2 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 (Syn 1) was grown in cage isolation in Keith, AU in 2016.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2021 if SW8697 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 Years
Registered
Certified 6 Years

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: Nov 30, 2020

Date recommended by the VRB: Feb 17, 2021

