A REPORT OF THE

ALFALFA AND MISCELLANEOUS LEGUMES

VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

ALFALFA AND MISCELLANEOUS LEGUMES
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ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(FEBRUARY 2020)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on February 6, 2020. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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

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

Respectfully submitted,

Timothy Blank, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

2020 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				

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

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

Alfalfa

AFX 429
CW 103012 (Exp)
(Amended – Add Very Winterhardy
Add Resistance to Northern Root Knot Nematode)

Variety Name AFX 429

Experimental Designation(s) CW 103012

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended January 2017, January 2018, January 2019

Date this amendment was submitted November 27, 2019

Origin and Breeding History

AFX 429 is a synthetic variety developed by Alforex Seeds with 30 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot. Parent plants were selected from a four year old Wisconsin yield trial and three year old Iowa, Minnesota, and Wisconsin yield trials, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 429 traces to the following germplasm sources: Upper Edge (17%), CW 10-027 (83%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX 429 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 429 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 429 is a dormant variety with fall dormancy similar to FD class 4 check variety. AFX 429 is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% variegated and a trace of white. AFX 429 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 429 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.

Procedures for Maintaining Seed Stock

Seed increase of AFX 429 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 429 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

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Alfalfa

AFX 429
CW 103012 (Exp)
(Amended – Add Very Winterhardy
Add Resistance to Northern Root Knot Nematode)

Variety Name AFX 429

Experimental Designation(s) CW 103012

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended January 2017, January 2018, January 2019

Date this amendment was submitted November 27, 2019

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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX 460
CW A113005 (Exp)
(Amended – Add Extremely Winterhardy Add Resistance [R] to Northern Root Knot Nematode)

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 February 15, 2018, February 7, 2019

Date this amendment was submitted November 27, 2019

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 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		Length of Stand Limitation – If None, Please State	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX 469
CW 105006 (Exp)
(Amended – Add Extreme Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

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

Date this amendment was submitted November 27, 2019

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 **s**alt (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, 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 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		Length of Stand Limitation – If None, Please State	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Dynamo
CW A115022 (Exp)
(Amended – Name Change)

Variety Name Dynamo

Experimental Designation(s) CW A115022

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted 9/19/19

Origin and Breeding History

Dynamo is a synthetic variety developed by Alforex Seeds with 19 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 Dynamo traces 100% to various Alforex Seeds experimentals. 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

Dynamo 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. Dynamo has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

Dynamo 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, 1% variegated, 1% cream and a trace of white, and yellow. Dynamo has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. Dynamo has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, and Pea aphid. It has moderate resistance to Cowpea aphid. Reaction to Stem Nematode, Spotted alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

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

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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: Aug 19, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Hi-Gest 360
CW 103009 (Exp)
(Amended – Add Extremely Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

Variety Name Hi-Gest 360

Experimental Designation(s) CW 103009

Date A&MLVRB first recommended this variety January 2015

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

Date this amendment was submitted November 27, 2019

Origin and Breeding History

Hi-Gest 360 is a synthetic variety with 12 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 Hi-Gest 360 traces to the following germplasm sources: CW 10-017 (50%), CW 10-018 (50%). 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

Hi-Gest 360 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. Hi-Gest 360 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

Hi-Gest 360 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Hi-Gest 360 is Extremely Winterhardy, similar to WS class 1 check variety. Flower color observed in the Syn.2 generation is approximately 100% purple and a trace variegated. Hi-Gest 360 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. Hi-Gest 360 has tolerance to s**alt (NaCl) at germination.**

Hi-Gest 360 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; and resistance to Blue Alfalfa Aphid, Cowpea 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 Hi-Gest 360 is on a limited generation basis with two generations of breeder, foundation, and certified seed classes. Breeder (Syn.2 or Syn.3), foundation (Syn.3 or Syn.4), and certified (Syn.4 or Syn.5) classes will be recognized. Production of Syn.3 breeder or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 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 Hi-Gest 360 will be available in 2015. Certified acreage may not be published by AOSCA or member agencies.

PVP Information

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

Date this application was submitted: Nov 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

HybriForce-3430
AFXH143147 (Exp)
(Amended – Add Very Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

Variety Name HybriForce-3430

Experimental Designation(s) AFXH143147

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted November 27, 2019

Origin and Breeding History

HybriForce-3430 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 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 experimental germplasm.

The maintainer clone was selected from a population first for seed yield in a California nursery. This clone was then progeny tested for resistance to Phytophthora root rot, Anthracnose (Race 1), and Aphanomyces root rot (Race 1), and then progeny tested for forage yield and stand persistence, and then for maintaining ability of male sterility. This clone traces to AA0547 experimental germplasm.

The male pollenizer (CW 103009) was developed as a synthetic variety consisting of 12 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW 103009 traces to the following germplasm sources: CW 10-017 (50%), CW 10-018 (50%).

Hybrid female breeder seed (D-1010) 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 2014, 2015, and 2016.

Hybrid male breeder seed (CW 103009) was produced under cage isolation near Woodland, California in 2010. Male seed was bulk harvested from all parent plants as Synthetic generation 2. Synthetic generation 2 seed was planted in field isolation and bulk harvested as Synthetic generation 3.

Areas of Probable Adaptation

HybriForce-3430 is adapted to the North Central and East 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. HybriForce-3430 has been tested in Minnesota and Wisconsin.

Continued on next page (8)

Continued from previous page (7)

Alfalfa

HybriForce-3430
AFXH143147 (Exp)
(Amended – Add Very Winterhardy
Add Resistance [R] to Northern Root Knot Nematode)

Agronomic and Botanical Characteristics

HybriForce-3430 is a dormant variety with fall dormancy similar to FD class 4 check varieties. HybriForce-3430 is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the F1 generation is approximately 99% purple and a trace of variegated, cream, white, and yellow. HybriForce-3430 has a low multifoliolate leaf expression rating similar to the low MF check variety. HybriForce-3430 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 Stem Nematode. It has resistance to Aphanomyces root rot (race 2) Blue alfalfa aphid, Pea aphid, Northern root knot nematode, and Cowpea aphid.

Procedures for Maintaining Seed Stock

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 2010. Alforex Seeds will maintain sufficient foundation seed (Syn. 3 or Syn. 4) for the projected life of the variety. Production of Syn. 4 foundation seed requires consent of the breeder.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of HybriForce-3430 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed

Seed classes to be used, limitations on age of stand, and areas of production for each class.

Seed Class	Synthetic Generation	Length of Stand Allowed	Limitation on Area for Seed Production
Female Breeder	Syn. 1	3	None
Male Breeder	Syn. 2	1	None
Male Foundation	Syn. 3 or Syn. 4	3	None
Hybrid Certified	F1	5	None

Seed Stock Designations

Female Breeder	D-1010
Male Breeder	CW 103009
Male Foundation	CW 103009
Hybrid Certified	AFXH143147

F1 hybrid seed may only be produced from female Syn. 1 breeder seed and from male Syn. 2 breeder seed or male Syn. 3 or Syn. 4 foundation seed. Only the F1 generation is recognized as representing this variety.
No supporting data should be used in this application from generations other than the F1.

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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

HybriForce–3600
AFXH155203, msSunstra-155203 (Exp.)

Origin and Breeding History
HybriForce-3600 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 Sloughhouse, 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 (for male sterility) 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 215 parent plants which were selected for resistance to Cowpea Aphid from a polycross among eight plants which were selected for low Acid Detergent Lignin (ADL) from spaced plant breeding nurseries. This male's pedigree is derived from various diverse populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, stem nematode, and cowpea aphid and for low ADL. The parentage of the male pollenizer traces 100% to Alforex Seeds experimental germplasm.

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 Sloughhouse, CA in 2016 and 2017. Hybrid male breeder seed (CW 096043) was produced under cage isolation near Woodland, California in 2009. Male seed was bulk harvested from all parent plants as Synthetic generation 1 (Syn. 1). Synthetic generation 1 seed was planted in field isolation and bulk harvested as Synthetic generation 2 (Syn. 2).

Areas of Probable Adaptation
HybriForce-3600 is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the US and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the US. HybriForce-3600 has been tested in California.

Agronomic and Botanical Characteristics
HybriForce-3600 is a semi-dormant variety with fall dormancy similar to FD class 6 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-3600 has high resistance to Anthracnose (race 1), Bacterial wilt, Fusarium wilt, Blue alfalfa aphid, Spotted alfalfa aphid, Northern Root knot nematode, Southern Root knot nematode, and Stem nematode. It has resistance to Phytophthora root rot, Verticillium wilt, Pea aphid, and Cowpea aphid.

Procedures for Maintaining Seed Stock
Seed increase of HybriForce-3600 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 2009. 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-3600 will be available in 2020.

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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

LushGold
AFX135019 (Exp)

Origin and Breeding History

LushGold is a synthetic variety developed by Alforex Seeds with 9 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 LushGold 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

LushGold 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. LushGold has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

LushGold is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 94% purple, 5% white variegated and a trace of cream, yellow, and variegated. LushGold has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. LushGold 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, and Stem nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

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

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Magnum 8-Wet
AFX164041 (Exp)

Origin and Breeding History
Magnum 8-Wet 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 crosses between selections of various Alforex Seeds 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 Magnum 8-Wet traces to the following germplasm sources: CW A123011 (50%), Magnum 7-Wet (25%), Alforex experimental lines (25%). 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
Magnum 8-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. Magnum 8-Wet has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
Magnum 8-Wet is a dormant variety with fall dormancy similar to FD class 4 check varieties. Magnum 8-Wet is Very Winterhardy, similar to WS class 2 check variety. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% variegated and a trace of cream, white, and yellow. Magnum 8-Wet has Low multifoliolate leaf expression rating similar to the Low MF check variety. Magnum 8-Wet 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, Cowpea aphid, and Spotted alfalfa aphid. It has moderate resistance to Stem nematode, and Pea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of Magnum 8-Wet 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 Magnum 8-Wet will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Mariner V
CW A123011 (Exp)
(Amended – Name Change)

Variety Name Mariner V

Experimental Designation(s) CW A123011

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted 10/16/19

Origin and Breeding History

Mariner V is a synthetic variety developed by Alforex Seeds with 175 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 2), and anthracnose were crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Source plants were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot Parentage of Mariner V traces to the following germplasm sources: CW 11-040 (17%), CW 11-042 (22%), CW 11-044 (12%), CW 11-045 (8%), CW 11-047 (8%), CW 11-049 (8%), and Mariner IV (25%). Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

Mariner V 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. Mariner V has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 16, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Sureshot
CW A125028 (Exp)
(Amended – Name Change)

Variety Name Sureshot

Experimental Designation(s) CW A125028

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted Sep 19, 2019

Origin and Breeding History

Sureshot is a synthetic variety developed by Alforex Seeds with 68 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 Sureshot traces 100% to various Alforex Seeds experimentals. Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

Sureshot 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. Sureshot has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Sureshot is a dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.2 generation is approximately 94% purple, 4% variegated, 1% cream and a trace of white, and yellow. Sureshot has Low multifoliolate leaf expression rating similar to the Low MF check variety. Sureshot has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), and Blue alfalfa aphid. It has moderate resistance to Cowpea aphid. Reaction to Stem Nematode, Pea aphid, Spotted alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Sureshot will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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: Aug 19, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX134014 (Exp)

Origin and Breeding History

AFX134014 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 AFX134014 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

AFX134014 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. AFX134014 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

AFX134014 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. AFX134014 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX134014 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 AFX134014 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 AFX134014 will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX144028 (Exp)

Origin and Breeding History

AFX144028 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 AFX144028 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 1.

Areas of Probable Adaptation

AFX144028 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. AFX144028 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

AFX144028 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, and a trace of cream, white, and yellow. AFX144028 has tolerance to salt (NaCl) at germination. AFX144028 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 AFX144028 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 AFX144028 will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX145017 (Exp)

Origin and Breeding History

AFX145017 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 AFX145017 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

AFX145017 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. AFX145017 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

AFX145017 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. AFX145017 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. AFX145017 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 AFX145017 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 AFX145017 will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AFX164040 (Exp)

Origin and Breeding History

AFX164040 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 AFX164040 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

AFX164040 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. AFX164040 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

AFX164040 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. AFX164040 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX164040 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 AFX164040 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 AFX164040 will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	Syn.2, Syn.3 or Syn.4	Foundation	3
Registered		Registered	
Certified	Syn.3, Syn.4, or Syn.5	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 25, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

3001-18RR
13YYP18R, R12YYP181 (Exp)

Origin and Breeding History
3001-18RR (Experimental designations 13YYP18R, R12YYP181) is an intracross of 210 parent plants selected by S&W Seed Company from two Corteva experimentals selected for forage yield, persistence, standability, high resistance to alfalfa stem nematode, and/or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging resistance), persistence, agronomic characteristics, and improved forage yield. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 2) was grown in the field cage isolation in 2013 in Connell, WA. Seed was bulked in total.

Areas of Probable Adaptation
3001-18RR is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Wisconsin, Michigan and Washington. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States.

Agronomic and Botanical Characteristics
3001-18RR is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 98% purple, 1% yellow, and traces of white, variegated and cream. 3001-18RR 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. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Phytophthora root rot, stem nematode, Fusarium wilt and Verticillium wilt. It is resistant to Aphanomyces root rot (Race 2), pea aphid, and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Corteva AgriScience will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled Corteva AgriScience seed storage facilities. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 2) was grown in the field cage isolation in 2013 in Connell, WA. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if 3001-18RR 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	
Certified	X	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: Nov 30, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

3002-18RR
14YXP24R, R13YXP165 (Exp)

Origin and Breeding History
3002-18RR (Experimental designations 14YXP24R, R13YXP165) is an intracross of 148 parent plants selected by S&W Seed Company from Corteva experimentals selected for forage yield, persistence, forage quality, standability, high resistance to Aphanomyces root rot (Race 2), and/or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging resistance), forage quality, persistence, agronomic characteristics, and improved forage yield. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions of the United States. 3002-18RR has been tested in Washington, 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.

Agronomic and Botanical Characteristics
3002-18RR is moderately dormant, similar to the FD 4 check. It is winterhardy. Flower color (Syn 3) is 98% purple, 1% white, and traces of yellow, variegated and cream. 3002-18RR 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. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, pea aphid, and Verticillium wilt. It is resistant to Fusarium wilt, and spotted alfalfa aphid. It is moderately resistant to 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
Corteva Agriscience will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled Corteva Agriscience seed storage facilities. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if 3002-18RR 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

3003-18RR
14XXP23R, R13XXP137 (Exp)

Origin and Breeding History
3003-18RR (experimental designations 14XXP23R, R13XXP137) is an intracross of 114 parent plants selected by S&W Seed Company from Corteva experimentals selected for forage yield, persistence, forage quality, standability, high resistance to Aphanomyces root rot (Race 2), Alfalfa Stem Nematode, and/or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging resistance), forage quality, persistence, agronomic characteristics, and improved forage yield. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Seed was bulked in total

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions of the United States. 3003-18RR has been tested in Washington, 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.

Agronomic and Botanical Characteristics
3003-18RR is moderately dormant, similar to the FD 5 check. It is winterhardy. Flower color (Syn 3) is 83% purple, 1% cream, 15% variegated with traces of yellow and white. 3003-18RR 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. 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 and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Corteva Agriscience will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled Corteva Agriscience seed storage facilities. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Corteva Agriscience 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 2020 if 3003-18RR 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

14XXP21R, R13XXP134 (Exp)

Origin and Breeding History

14XXP21R, R13XXP134 (both experimental designations) is an intracross of 179 parent plants selected by S&W Seed Company from Corteva experimentals high in alfalfa stem nematode resistance, forage yield, persistence, forage quality, standability, high resistance to Aphanomyces root rot (Race 2), and/or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging resistance), forage quality, persistence, agronomic characteristics, and improved forage yield. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions of the United States. 14XXP21R has been tested in Washington, 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.

Agronomic and Botanical Characteristics

14XXP21R is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 74% purple, 25% variegated and traces of white, yellow, and cream. 14XXP21R 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. 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 and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Corteva Agriscience will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled Corteva Agriscience seed storage facilities. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 2) was grown in the field cage isolation in 2014 in Connell, WA. Corteva Agriscience 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 2020 if 14XXP21R 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

438RR
FG R412A137 (Exp)
(Amended – Name Change)

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 2019

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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

440HVXRR
FG RRL42M417 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name 440HVXRR

Experimental Designation(s) FG RRL42M417

Date A&MLVRB first recommended this variety February 9, 2017

Date(s) any previous amendments were recommended January 24, 2018

Date this amendment was submitted December 2, 2019

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.

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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

6409HVXR
FG RRL43Q109 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name 6409HVXR

Experimental Designation(s) FG RRL43Q109

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

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.

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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

6427R
FG R410M327 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name 6427R

Experimental Designation(s) FG R410M327

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

AmeriStand 480 HVXRR
FG RRL43M119 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name AmeriStand 480 HVXRR

Experimental Designation(s) RRL43M119

Date A&MLVRB first recommended this variety February 9, 2017

Date(s) any previous amendments were recommended November 30, 2018 salt germ

Date this amendment was submitted December 2, 2019

Origin and Breeding History

AmeriStand 480 HVXRR is a synthetic variety with 270 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

AmeriStand 480 HVXRR 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

AmeriStand 480 HVXRR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 92% purple, 3% cream, 2% yellow, 2% white and 1% variegated.

This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 480 HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, 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 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

ClearPearl
FG R48M153 (Exp)
(Amended - Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name ClearPearl

Experimental Designation(s) FG R48M153

Date A&MLVRB first recommended this variety January 12, 2016

Date(s) any previous amendments were recommended January 10, 2017, name amendment

Date this amendment was submitted December 2, 2019

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

Areas of Probable Adaptation
ClearPearl is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Iowa, Idaho and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

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

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

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

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 2016 if 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DG 417RR
FG R410M324 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name DG 417RR

Experimental Designation(s) FG R410M324

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
DG 417RR is a synthetic variety with 26 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 2010.

Areas of Probable Adaptation
DG 417RR is adapted to the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Wisconsin and Kansas and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
DG 417RR is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% cream, 1% white with a trace of variegated and yellow. This variety has high multifoliolate leaf expression.

DG 417RR 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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DKA40-16
FG 48M365 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name DKA40-16

Experimental Designation(s) FG 48M365

Date A&MLVRB first recommended this variety February 5, 2014

Date(s) any previous amendments were recommended Oct 13, 2014 name amend, Jan 2018 SAA amend

Date this amendment was submitted Dec 2, 2019

Origin and Breeding History
DKA40-16 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
DKA40-16 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 regions.

Agronomic and Botanical Characteristics
DKA40-16 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 93% purple, 5% variegated, 1% white, 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

DKA40-16 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, spotted alfalfa aphid and Aphanomyces root rot (Race 2). 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 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. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2014.
Certified seed production acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DKA40-21HVXRR
FG RRL43M104 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name DKA40-21HVXRR

Experimental Designation(s) FG RRL43M104

Date A&MLVRB first recommended this variety January 10, 2017

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

Date this amendment was submitted December 2, 2019

Origin and Breeding History

DKA40-21HVXRR is a synthetic variety with 215 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

DKA40-21HVXRR 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

DKA40-21HVXRR 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.

DKA40-21HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); resistance to pea aphid, spotted alfalfa 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DKA44-16RR
FG R47M312 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name DKA44-16RR

Experimental Designation(s) FG R47M312

Date A&MLVRB first recommended this variety April 3, 2012

Date(s) any previous amendments were recommended Jan 2013 salt germ, Jan 2017 name

Date this amendment was submitted Dec 2, 2019

Origin and Breeding History
DKA44-16RR is a synthetic variety with 75 parent plants developed by Forage Genetics. Parent plants contain the commercial Roundup Ready event J101 and were selected from F1 progeny from a cross between two 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). 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
DKA44-16RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Pennsylvania, 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
DKA44-16RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 3% variegated, 1% white and 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Test variety exhibits salt tolerance in germinating seeds similar to the tolerant check.

DKA44-16RR is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. DKA44-16RR 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, pea aphid and Aphanomyces root rot (Race 2). 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DKA50-17
FG 59M108 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name DKA50-17

Experimental Designation(s) FG 59M108

Date A&MLVRB first recommended this variety February 5, 2014

Date(s) any previous amendments were recommended January 10, 2017, January 24, 2018

Date this amendment was submitted December 2, 2019

Origin and Breeding History
DKA50-17 is a synthetic variety with 13 parent clones developed by Forage Genetics International. Experimental designation is FG 59M108. 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 2009.

Areas of Probable Adaptation
DKA50-17 is adapted to North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in New York, Idaho and Wisconsin and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
DKA50-17 is Moderately Fall Dormant similar to FD5 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 91% purple, 7% variegated, 2% yellow with a trace of cream and white.

DKA50-17 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 root rot (Race 2). 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 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.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2014.
Certified seed production acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

EnForceHT
FG 510M374 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name EnForceHT

Experimental Designation(s) FG 510M374

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG 510M374 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 2010.

Areas of Probable Adaptation
FG 510M374 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
FG 510M374 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 2% variegated with a trace of white, yellow and cream. This variety has high multifoliolate leaf expression.

FG 510M374 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance pea aphid, stem nematode and Aphanomyces root rot (Race 2). 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 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FF 4022.LH
FG 413H323 (Exp)
(Amended – Resistance [R] to Pea Aphid)

Variety Name FF 4022.LH

Experimental Designation(s) FG 413H323

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended February 7, 2019

Date this amendment was submitted December 2, 2019

Origin and Breeding History

FF 4022.LH is a synthetic variety with 110 parent clones. 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 knot nematode and Aphanomyces root rot (Race 1 and Race 2). A combination of phenotypic and genotypic selection was used to identify the parent clones. 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

FF 4022.LH is adapted to the North Central and East Central regions. This variety has been tested in Iowa, Indiana and Pennsylvania and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

FF 4022.LH is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 92% purple, 5% cream, 2% white with a trace yellow and variegated.

FF 4022.LH has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and potato leafhopper; with resistance to pea aphid. 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FF 4215.HVX RR
FG RRL44M375 (Exp)
(Amended – AddName Change;
Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name FF 4215.HVX RR

Experimental Designation(s) FG RRL44M375

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended January, 2019 name amendment

Date this amendment was submitted December 2, 2019

Origin and Breeding History

FF 4215.HVX RR is a synthetic variety with 41 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 2014.

Areas of Probable Adaptation

FF 4215.HVX RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FF 4215.HVX RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 87% purple, 5% cream, 3% white, 3% variegated and 2% yellow. This variety has high multifoliolate leaf expression.

FF 4215.HVX RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to stem nematode and Aphanomyces root rot (Race 2). 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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FSG 527
FG 513M118 (Exp)

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.

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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

GUNNER
FG 57M121 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name Gunner

Experimental Designation(s) FG 57M121

Date A&MLVRB first recommended this variety January, 2012

Date(s) any previous amendments were recommended Feb 2013 RKN, Jan 2019 salt germ

Date this amendment was submitted December 2, 2019

Origin and Breeding History

GUNNER is a synthetic variety with 14 parent clones. Forage Genetics International experimental designation is FG 57M121. 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). Phenotypic selection was used to identify the parent clones. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2007.

Areas of Probable Adaptation

GUNNER is adapted to the North Central, East Central, Great Plains and Winterhardy Intermountain. This variety has been tested in Nebraska, Pennsylvania, Idaho and Wisconsin and is intended for use in the North Central, East Central, Great Plains and Winterhardy Intermountain.

Agronomic and Botanical Characteristics

GUNNER is Moderately Fall Dormant similar to FD5 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 94% purple, 5% variegated and 1% yellow with a trace of cream and white. This variety has high multifoliolate leaf expression.

GUNNER has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, root knot nematode (Northern *M. Hapla*) and Aphanomyces root rot (Race 1); with resistance to pea aphid, stem nematode and Aphanomyces root rot (Race 2). Reaction to spotted alfalfa aphid and blue alfalfa aphid has not been tested. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 2007. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 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 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

HVX Tundra II
FG H0316ML103 (Exp)
(Amended – Add Name Change, Add Resistance [R] to Aphanomyces Root Rot [Race 2]))

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

Date this amendment was submitted August 27, 2019

Origin and Breeding History

HVX Tundra II 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

HVX Tundra II 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

HVX Tundra II 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.

HVX Tundra II 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. 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Legend HvX 100 RR
FG RRL44M104 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name Legend HvX 100 RR

Experimental Designation(s) FG RRL44M104

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
Legend HvX 100 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, 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 2014.

Areas of Probable Adaptation
Legend HvX 100 RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
Legend HvX 100 RR 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 white, variegated, yellow and cream. This variety has high multifoliolate leaf expression.

Legend HvX 100 RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to stem nematode and Aphanomyces root rot (Race 2). 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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

LegenDairy AA
FG C0316A3159 (Exp)
(Amended – Name Change)

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 August 27, 2019

Origin and Breeding History
LegenDairy AA 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
LegenDairy AA 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
LegenDairy AA 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.

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

Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced near Nampa, ID in 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

LG 4HVXR100
FG RRL44M377 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name LG 4HVXR100

Experimental Designation(s) FG RRL44M377

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
LG 4HVXR100 is a synthetic variety with 54 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 2014.

Areas of Probable Adaptation
LG 4HVXR100 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
LG 4HVXR100 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 white, variegated, cream and yellow. This variety has high multifoliolate leaf expression.

LG 4HVXR100 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to stem nematode, pea aphid and Aphanomyces root rot (Race 2). 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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

MPIII Max Q
FG 510M172 (Exp)
(Amended - Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name MPII MAX Q

Experimental Designation(s) FG R513M225S

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended February 7, 2019 salt germ

Date this amendment was submitted December 2, 2019

Origin and Breeding History
MPIII MAX Q 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: Masterpiece II (50%), various FGI experimental populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

Areas of Probable Adaptation
MPIII MAX Q 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
MPIII MAX Q is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% variegated with a trace of white, yellow and cream. This variety has high multifoliolate leaf expression.

MPIII MAX Q has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), pea aphid and stem nematode; with resistance to spotted alfalfa aphid and Aphanomyces root rot (Race 2). Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

RR Presteez
FG R48M137 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name RR Presteez

Experimental Designation(s) FG R48M137

Date NA&MLVRB first accepted this variety April 3, 2012

Date(s) previous amendments were accepted

Date amendment submitted November 28, 2012 name, salt germ

Origin and Breeding History
RR Presteez is a synthetic variety with 98 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 2008.

Areas of Probable Adaptation
RR Presteez is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Iowa, Washington, 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
RR Presteez is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 95% purple, 2% variegated, 2% yellow, 1% cream with a trace of white. This variety has high multifoliolate leaf expression. Test variety exhibits salt tolerance in germinating seeds similar to the tolerant check.

RR Presteez is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. RR Presteez 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 spotted alfalfa aphid and Aphanomyces root rot (Race 2) and moderate 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 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

RR Tonnica
FG R57K138 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name RR Tonnica

Experimental Designation(s) FG R57K138

Date A&MLVRB first recommended this variety April 3, 2012

Date(s) any previous amendments were recommended January 8, 2013

Date this amendment was submitted December 2, 2019

Origin and Breeding History
RR Tonnica is a synthetic variety with 105 parent plants developed by Forage Genetics. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Kansas-derived 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
RR Tonnica is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Pennsylvania, 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
RR Tonnica is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 3% variegated, 1% white and 2% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Test variety exhibits salt tolerance in germinating seeds similar to the tolerant check.

RR Tonnica is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the cp4-epsps transgene. FG R57K138 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 pea aphid, stem nematode and Aphanomyces root rot (Race 2). Reaction to spotted alfalfa aphid, 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SGS 47M
FG 47M314 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name SGS 47M

Experimental Designation(s) FG 47M314

Date A&MLVRB first recommended this variety February 20, 2015

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
SGS 47M is a synthetic variety with 11 parent clones. Forage Genetics International experimental designation is FG 47M314. 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 2007.

Areas of Probable Adaptation
SGS 47M is adapted to the North Central and Winterhardy Intermountain regions. This variety has been tested in Minnesota, Idaho and Wisconsin and is intended for use in the North Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
SGS 47M is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 83% purple, 7% variegated, 5% yellow, 4% white and 1% cream. This variety has high multifoliolate leaf expression.

SGS 47M 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 pea aphid, stem nematode and Aphanomyces root rot (Race 2). Reaction to root knot nematode (Northern *M. hapla,)*, spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced near Nampa, ID in 2007. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2015.
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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Signature
FG 412A122 (Exp)
(Amended – Name Change)

Variety Name Signature

Experimental Designation(s) FG 412A122

Date A&MLVRB first recommended this variety January, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted March 21, 2019

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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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: Sep 26, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SpringPearl
FG RRL43M113 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name SpringPearl

Experimental Designation(s) FG RRL43M113

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG RRL43M113 is a synthetic variety with 105 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
FG RRL43M113 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
FG RRL43M113 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 variegated, white, cream and yellow. This variety has high multifoliolate leaf expression.

FG RRL43M113 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); resistance to spotted alfalfa aphid and Aphanomyces root rot (Race 2) and moderate resistance to pea aphid. Reaction to root knot nematode, stem nematode 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

Viper HVXRR
FG RRL44M121 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name Viper HVXRR

Experimental Designation(s) FG RRL44M121

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended January 2019

Date this amendment was submitted December 2, 2019

Origin and Breeding History
Viper HVXRR is a synthetic variety with 94 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 2014.

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

Agronomic and Botanical Characteristics
Viper HVXRR 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 white, variegated and yellow. This variety has high multifoliolate leaf expression.

Viper HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to stem nematode, pea aphid and Aphanomyces root rot (Race 2). 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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 336HQ.RR
FG R48M150 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 336HQ.RR

Experimental Designation(s) FG R48M150

Date A&MLVRB first recommended this variety February 5, 2014

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History

WL 336HQ.RR is a synthetic variety with 105 parent plants. Forage Genetics International experimental designation is FG R48M150. Parent plants contained the commercial Roundup Ready event J101and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). 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

WL 336HQ.RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Iowa, Idaho, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

WL 336HQ.RR is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% variegated, 1% white, 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.
WL 336HQ.RR is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene.
WL 336HQ.RR 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 spotted alfalfa aphid and Aphanomyces root rot (Race 2) and moderate 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 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 2014.
Certified seed production acreage may not be published by AOSCA and member agencies.

PVP Information

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 341HVX.RR
FG RRL43M115 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 341HVX.RR

Experimental Designation(s) FG RRL43M115

Date A&MLVRB first recommended this variety February 9, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 358LH
FG 49H345 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 358LH

Experimental Designation(s) FG 49H345

Date A&MLVRB first accepted this variety January 29, 2014

Date(s) previous amendments were accepted February 20, 2015, January 2016

Date amendment submitted December 2, 2019

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

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

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

WL 358LH has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and potato leafhopper; with resistance to Aphanomyces root rot (Race 2). Reaction to root knot nematode (Northern *M. hapla,)*, spotted alfalfa aphid, pea aphid, stem nematode and blue alfalfa aphid has not been tested.

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

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2014.
Certified seed production acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 359LH.RR
FG R49H410 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 359LH.RR

Experimental Designation(s) FG R49H410

Date A&MLVRB first recommended this variety January 13, 2015

Date(s) any previous amendments were recommended

Date this amendment was submitted December 2, 2019

Origin and Breeding History

WL 359LH.RR is a synthetic variety with 108 parent plants. Forage Genetics International experimental designation is FG R49H410. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and 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 2009.

Areas of Probable Adaptation

WL 359LH.RR is adapted to the North Central and East Central regions. This variety has been tested in Iowa and Pennsylvania and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics

WL 359LH.RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 84% purple, 5% variegated, 5% white, 4% cream and 2% yellow. WL 359LH.RR is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene.
WL 359LH.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and potato leafhopper; with resistance to pea aphid and Aphanomyces root rot (Race 2). Reaction to root knot nematode (Northern *M. hapla,),* stem nematode, spotted alfalfa aphid 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 2015.
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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 365HQ
FG 59M109 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 365HQ

Experimental Designation(s) FG 59M109

Date A&MLVRB first recommended this variety February 5, 2014

Date(s) any previous amendments were recommended January 13, 2015, February 9, 2019

Date this amendment was submitted December 2, 2019

Origin and Breeding History
WL 365HQ is a synthetic variety with 10 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: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). A combination of phenotypic and genotypic selection was used to identify the parent clones. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation
WL 365HQ is adapted to North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in New York, Idaho and Wisconsin and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
WL 365HQ is Moderately Fall Dormant similar to FD5 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 93% purple, 7% variegated with a trace of cream, white and yellow.

WL 365HQ has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), pea aphid and spotted alfalfa aphid; with resistance to stem nematode and Aphanomyces root rot (Race 2). Reaction to root knot nematode (Northern *M. hapla,)* and blue alfalfa aphid has not been tested. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2014.
Certified seed production acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 372HQ.RR
FG R47M324 (Exp)
(Amended – Add Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name WL 372HQ.RR

Experimental Designation(s) FG R47M324

Date NA&MLVRB first accepted this variety January 2012

Date(s) previous amendments were accepted January 2013

Date amendment submitted December 2, 2019

Origin and Breeding History

WL 372HQ.RR 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

WL 372HQ.RR 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

WL 372HQ.RR 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.

WL 372HQ.RR 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, spotted alfalfa aphid and Aphanomyces root rot (Race 2). 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 1013M185 (Exp)
(Amended - Resistance to Bacterial Wilt Resistance to Stem Nematode)

Variety Name _____

Experimental Designation(s) FG 1013M185

Date A&MLVRB first recommended this variety January 24, 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

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, 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 1013T182 (Exp)

Origin and Breeding History

FG 1013T182 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 1013T182 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.

Agronomic and Botanical Characteristics

FG 1013T182 is a very nondormant similar to the FD11 check. Flower color (Syn 2) 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 1013T182 exhibits salt tolerance in germinating seeds similar to the tolerant check.

FG 1013T182 is highly resistant to spotted alfalfa aphid, Phytophthora root rot and stem nematode; resistant to Fusarium wilt, Aphanomyces root rot (race 1), pea aphid and blue alfalfa aphid; moderately resistant to Verticillium wilt and low resistance to anthracnose (race 1). It has not been tested for other pest reactions.

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 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 1114T029 (Exp)
(Amended - High Resistance to Pea Aphid; Resistance to Stem Nematode)

Variety Name _____

Experimental Designation(s) FG 1114T029

Date A&MLVRB first recommended this variety January 26, 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

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 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 69M001 (Exp)
(Amended - Resistance to Spotted Alfalfa Aphid)

Variety Name _____

Experimental Designation(s) FG 69M001

Date A&MLVRB first recommended this variety January 13, 2015

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG 69M001 is a synthetic variety with 225 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 traces to TruTest (100%). In 2008 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 69M001 is adapted to the Winter Active regions of the Argentina and similar environments. This variety has been tested in Argentina.

Agronomic and Botanical Characteristics
FG 69M001 is Moderately Fall Dormant similar to the FD 6 check. Flower color (Syn2) is 98% Purple, 1 % Variegated, with a trace of Yellow, Cream and White. This variety has low multifoliolate leaf expression.

The variety is highly resistant to anthracnose and Fusarium wilt; with resistant to bacterial wilt, Verticillium wilt, Phytophthora root rot, stem nematode, pea aphid and spotted alfalfa aphid. It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock
Breeder (Syn 1), foundation (Syn 2) and certified (Syn 2 or Syn 3) 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 2008 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 2015 if FG 69M001 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 can be provided to the PVP office.

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 814T030 (Exp)

Origin and Breeding History
FG 814T030 is a synthetic variety with 120 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 in Argentina 2014. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation
FG 814T030 is adapted to the Argentina winter active regions. This variety has been tested in Argentina and is intended for use in Argentina winter active regions.

Agronomic and Botanical Characteristics
FG 814T030 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.

FG 814T030 has high resistance to Anthracnose (Race 1), Fusarium wilt, Spotted Alfalfa Aphid, Phytophthora root rot, Pea Aphid and Blue Alfalfa Aphid; with resistance to Verticillium wilt, Aphanomyces (Race 1) and Stem Nematode. Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced in Argentina in 2014. 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 814T520 (Exp)

Origin and Breeding History

FG 814T520 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

FG 814T520 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

FG 814T520 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.

FG 814T520 has high resistance to Fusarium wilt, Spotted Alfalfa Aphids, Pea Aphid, Anthracnose (Race 1) 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) 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 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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG 814T521 (Exp)

Origin and Breeding History

FG 814T521 is a synthetic variety from 140 parents which were field polycrossed. 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: Anthracnose (Race 1), Fusarium 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 in Holtville, CA and bulked to form breeder seed in 2014.

Areas of Probable Adaptation

FG 814T521 is adapted to the Southwest US region. This variety has been tested in California and is intended for use in the Southwest region of the US.

Agronomic and Botanical Characteristics

FG 814T521 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.

FG 814T521 has high resistance to Fusarium wilt, Spotted Alfalfa Aphid and Phytophthora root rot; with resistance to Anthracnose (Race 1), Pea Aphid, Verticillium wilt, Bacterial wilt and Stem Nematode. 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) 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG C0316ML134 (Exp)
(Amended - Resistance [R] to Aphanomyces Root Rot [Race 2])

Variety Name _____

Experimental Designation(s) FG C0316ML134

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

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 and Aphanomyces root rot (Race 1); with resistance to pea aphid and Aphanomyces root rot (Race 2). 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG C0415SN223 (Exp)

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.

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. 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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	NONE
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG C0516A3153 (Exp)
(Amended - Resistance [R] to Stem Nematode)

Variety Name _____

Experimental Designation(s) FG C0516A3153

Date A&MLVRB first recommended this variety March 14, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG C0516A3153 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
FG C0516A3153 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.

FG C0516A3153 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG C0516C4155 (Exp)
(Amended - High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) FG C0516C4155

Date A&MLVRB first recommended this variety March 14, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG C0516C4155 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
FG C0516C4155 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 C0516C4155 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.

FG C0516C4155 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG C1017ML815 (Exp)

Origin and Breeding History

FG C1017ML815 is a synthetic variety with 245 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests; Fusarium Wilt, Anthracnose (Race 1), Verticillium Wilt, Phytophthora Root Rot and aphids. 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 harvested in total on all parents near Holtville, CA and bulked to form breeder seed in 2017.

Areas of Probable Adaptation

FG C1017ML815 is adapted to the Southwest U.S. and winter active regions of Mexico. This variety has been tested in California, Arizona and Mexico and is intended for use in the Southwest U.S. and Mexico.

Agronomic and Botanical Characteristics

FG C1017ML815 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 suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C1017ML815 is highly resistant to Fusarium wilt and Verticillium wilt; with resistance to Anthracnose (Race 1), Phytophthora root rot, Bacterial Wilt 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 near Holtville, CA in 2017. 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG H0415ST202 (Exp)
(Amended – Resistance [R] to Phytophthora Root Rot)

Variety Name _____

Experimental Designation(s) FG H0415ST202

Date A&MLVRB first recommended this variety March 14, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted December 2, 2019

Origin and Breeding History
FG H0415ST202 is a synthetic variety with 92 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected out of salt nurseries from FGI breeding lines and were chosen for reduced lignin as measured by Acid Detergent Lignin (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
FG H0415ST202 is adapted to the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain, regions. This variety has been tested in Idaho, Washington and Kansas and is intended for use in the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
FG H0415ST202 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.

FG H0415ST202 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, stem nematode and Phytophthora root rot; with resistance to Aphanomyces root rot (Race 1) and 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 (Syn1), foundation (Syn2), and certified (Syn2 or Syn3) classes will be recognized. Production of Syn2 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG H0615T514 (Exp)

Origin and Breeding History

FG H0615T514 is a synthetic variety with 81 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/NDFD, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Anthracnose (Race 1), Aphanomyces (Race 1), Bacterial Wilt, Fusarium wilt, Phytophthora root rot, stem nematode and aphids. Phenotypic and genotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Seed was harvested in total in Nampa, ID on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation

FG H0615T514 is adapted to the Southwest, Moderately Winterhardy Intermountain, Great Plains, and the East Central regions. This variety has been tested in Kansas, Texas and California and is intended for use in the Southwest, Moderately Winterhardy Intermountain, and the Great Plains regions.

Agronomic and Botanical Characteristics

FG H0615T514 is Moderately Fall Dormant similar to the FD6 check. Flower Color (Syn2) is 96% purple, 1% white, 1% yellow, 1% variegated with a trace of cream. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG H0615T514 has high resistance to Fusarium wilt, Phytophthora root rot, Pea Aphid and Spotted Alfalfa Aphids; resistance to Anthracnose (Race 1), stem nematode and Aphanomyces (Race 1); with moderate resistance to Bacterial Wilt and Blue 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. 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 it's accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG H0815T503 (Exp)

Origin and Breeding History
FG H0815T503 is a synthetic variety with 41 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/NDFD, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Anthracnose (Race 1), Aphanomyces (Race 1), Bacterial Wilt, Fusarium wilt, Phytophthora root rot, stem nematode and aphids. Phenotypic and genotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Seed was harvested in total on all parents in Nampa, ID and bulked to form breeder seed in 2015.

Areas of Probable Adaptation
FG H0815T503 is adapted to the Southwest and Moderately Winterhardy Intermountain regions. This variety has been tested in California and is intended for use in the Southwest and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics
FG H0815T503 is Non-Dormant similar to FD7 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.

FG H0815T503 has high resistance to Anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, Aphanomyces (Race 1), Pea Aphid and spotted alfalfa aphid; resistance to Verticillium wilt, stem nematode and Bacterial Wilt; with moderate resistance to Blue Alfalfa Aphid. Reaction to other pests has not yet been evaluated.

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 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG R514W263S (Exp)

Origin and Breeding History

FG R514W263S 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

FG R514W263S 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

FG R514W263S is Moderately Fall Dormant similar to FD5 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.

FG R514W263S has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid and Aphanomyces root rot (Race 1); with resistance to stem nematode, blue alfalfa aphid and spotted alfalfa aphid. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. 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-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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG R713T413 (Exp)

Origin and Breeding History

FG R713T413 is a synthetic variety from 120 parents which were field polycrossed. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Non-dormant and Semi-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

FG R713T413 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

FG R713T413 is Non-dormant similar to FD7 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.

FG R713T413 has high resistance to Fusarium wilt, Verticillium wilt, Pea Aphid, Phytophthora Root Rot and Spotted Alfalfa Aphid; with resistance to Anthracnose (Race 1), Bacterial wilt and Aphanomyces Root Rot (Race 1). 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG R913T402 (Exp)

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.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FG R913T451 (Exp)

Origin and Breeding History

FG R913T451 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), Aphanomyces (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

FG R913T451 is adapted to the Southwest region of the United States. This variety has been tested in California and is intended for use in the Southwest region.

Agronomic and Botanical Characteristics

FG R913T451 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.

FG R913T451 has high resistance to Anthracnose (Race 1), Fusarium wilt, Verticillium wilt, Pea Aphid, Phytophthora Root Rot, Stem Nematode and Spotted Alfalfa Aphids; with resistance to Bacterial 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

FSG 431RRLH
FG R414H347 (Exp)

Origin and Breeding History
FSG 431RRLH is a synthetic variety with 104 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI PLH resistant breeding lines for 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). Genotypic and 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 2014.

Areas of Probable Adaptation
FSG 431RRLH is adapted to the North Central and East Central areas. This variety has been tested in Iowa and Pennsylvania and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics
FSG 431RRLH is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 43% purple, 53% variegated, 2% cream, 1% yellow with a trace of white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FSG 431RRLH 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 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-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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

DG 4120
FG C0516A3154 (Exp)

Origin and Breeding History
DG 4120 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 fall 2016

Areas of Probable Adaptation
DG 4120 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Iowa, 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
DG 4120 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 98% purple, 1% variegated with a trace of 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.

DG 4120 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces (Race 2); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to other pests 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 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

L-442RR
FG R512A140 (Exp)

Origin and Breeding History
L-442RR 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 Fall, 2012 and bulked to form breeder seed.

Areas of Probable Adaptation
L-442RR is adapted to the North Central, Great Plains and East Central areas. This variety has been tested in Kansas, Nebraska, Wisconsin, Minnesota and Pennsylvania and is intended for use in the North Central, Great Plains and East Central regions.

Agronomic and Botanical Characteristics
L-442RR is Moderately Fall Dormant, similar to the FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of white, variegated, yellow and cream. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

L-442RR 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 other pests 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 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

WL 558HQ.RR
FG R813T431 (Exp)

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 deh`ydrated product.

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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	None
Certified	X	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 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

LS 02AR (Exp)

Origin and Breeding History
LS 02AR 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 02AR is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 94% purple, 5% 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 (race 1). It has resistance to Aphanomyces (race 2) and 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 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 2020. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed – Mark All That Apply		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	
Certified	X	Certified	6

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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

LS 1508 (Exp)

Origin and Breeding History
LS 1508 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
LS 1508 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3
Registered		Registered	
Certified	X	Certified	6

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 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

54VQ52
SW3403, SW1403, 14XXP03, N13XXP70 (Exp)
(Amended - High Resistance [HR] to Stem Nematode)

Variety Name 54VQ52

Experimental Designation(s) SW3403, SW1403, 14XXP03, N13XXP70

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended January 24, 2018

Date this amendment was submitted November 30, 2019

Origin and Breeding History
54VQ52, (SW3403, SW1403, 14XXP03, N13XXP70 experimental designations) is an intracross of 68 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2013. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. 54VQ52 has been tested in Washington 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
54VQ52 is dormant, similar to the FD 3 check. It is very winterhardy. Flower color (Syn 3) is 98% purple, 1% white, with a trace of yellow, variegated and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt, stem nematode and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, pea aphid, and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation 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 (Syn1) was produced in greenhouse isolation in 2013 in Connell Washington. 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 2017 if 54VQ52 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

55H96
SW5502Z, SW1502Z, 15ZZZP02, W14ZZP41 (Exp)
(Amended-Name Change)

Variety Name 55H96

Experimental Designation(s) SW5502Z, SW1502Z, 15ZZP02, W14ZZP41

Date A&MLVRB first recommended this variety February, 2018

Date(s) previous amendments were recommended

Date amendment submitted April 10, 2019

Origin and Breeding History
55H96, SW5502Z, SW1502Z, 15ZZP02, W14ZZP41 (all experimental designations) is an 86 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 W14ZZP41 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 (Race1&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 areas of the United States. 55H96 has been tested in 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
55H96 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 93% purple, 4% variegated, 2% white, with a trace of yellow and cream. 55H96 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and 2), bacterial wilt, Fusarium wilt, potato leafhopper, and Phytophthora root rot. It is resistant to Verticillium wilt, pea aphid, and spotted alfalfa aphid It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation 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 55H96 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Sep 27, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW4412Y
SW1412Y, 14YYP12, W13YYP81 (Exp)
(Amended – Name Change)
(Amended - High Resistance [HR] to Aphanomyces Root Rot [Race 2]

Variety Name SW4412Y

Experimental Designation(s) **SW1412Y, 14YYP12, W13YYP81**

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) previous amendments were recommended April 24, 2019

Date amendment submitted December 02, 2019

Origin and Breeding History
SW4412Y, SW1412Y, 14YYP12, W13YYP81 (all experimental designations) is an intracross of 108 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability 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 2013. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW1412Y has been tested in Wisconsin, Washington, Minnesota and Michigan. 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
SW4412Y is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 98% purple, 1% white, with a trace of yellow, variegated, and cream. SW4412Y is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), bacterial wilt, Verticillium wilt, Fusarium wilt, pea aphid, Phytophthora root rot and stem nematode; with resistance to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2, or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 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 greenhouse isolation in Arlington, WI in 2013. 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 SW1412Y 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW1404, 14XXP04, N13XXP71 (Exp)
(Amended - High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW1404, 14XXP04, N13XXP71

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW1404, 14XXP04, N13XXP71 (all experimental designations), is an intracross of 52 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, Aphanomyces root rot (Race 1 and Race 2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2014. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and the Moderately Winterhardy Intermountain areas of the United States. SW1404 has been tested in Minnesota, Wisconsin, Washington 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
SW1404 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 99% purple, with a trace of variegated, white, yellow, and cream. SW1404 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, Fusarium wilt, pea aphid, stem nematode and Phytophthora root rot; with resistance to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 2), foundation (Syn 3 or 4), 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 2) was grown in cage isolation in Connell, WA 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 SW1404 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPD13, 15XPD13, N14XXP72 (Exp)

Origin and Breeding History
SW15XPD13, 15XPD13, N14XXP72, (all experimental designations), is an intracross of 169 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), stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, and Winterhardy Intermountain regions of the United States. SW15XPD13 has been tested in Wisconsin, Minnesota and Idaho. 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
SW15XPD13 is moderately dormant, similar to the FD 4 check. It is extremely winterhardy. Flower color (Syn 3) is 96% purple, 1% white, 1% yellow, 1% variegated and 1% cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, pea aphid, Fusarium wilt, Verticillium wilt, and stem nematode. It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) 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 2) was grown in 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 2020 if SW15XPD13 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPQ05, 15XXP05, W14XXP60 (Exp)

Origin and Breeding History
SW15XPQ05, 15XXP05, W14XXP60, (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 (Race 1), Phytophthora root rot, and 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 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, and Winterhardy Intermountain regions of the United States. SW15XPQ05 has been tested in Wisconsin, Minnesota and Idaho. 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
SW15XPQ05 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 3) is 96% purple, 3% white, and traces of yellow, variegated and cream. 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, 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 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 Connell, WA in 2015.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW15XPQ05 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPQ06, 15XXP06, W14XXP61 (Exp)
(Amended – Description Change to Very Winterhardy)

Variety Name _____

Experimental Designation(s) SW15XPQ06, 15XXP06, W14XXP61

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
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. SW15XPQ06 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
SW15XPQ06 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. SW15XPQ06 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 SW15XPQ06 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPQ07, 15XPQ07, W14XXP62 (Exp)

Origin and Breeding History
SW15XPQ07, 15XPQ07, W14XXP62, (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, Anthracnose (Race 1), Phytophthora root rot, and 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 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, and Winterhardy Intermountain regions of the United States. SW15XPQ07 has been tested in Wisconsin, Minnesota and Idaho. 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
SW15XPQ07 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 95% purple, 4% variegated, and traces of yellow, white and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, pea aphid, Fusarium wilt and Verticillium wilt. It is resistant 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
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 Connell, WA in 2015.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW15XPQ07 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPQ10, 15XPQ10, W14XXP68 (Exp)

Origin and Breeding History
SW15XPQ10, 15XPQ10, W14XXP68, (all experimental designations), is an intracross of 27 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 (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage, reduced lignin, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, and Winterhardy Intermountain regions of the United States. SW15XPQ10 has been tested in Wisconsin, Minnesota and Idaho. 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
SW15XPQ10 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 90% purple, 3% cream, 6% variegated and 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, 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 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 Connell, WA in 2015.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW15XPQ10 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15XPQ15, 15XXP15, N14XXP74 (Exp)
(Amended - High Resistance [HR]to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW15XPQ15, 15XXP15, N14XXP74

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW15XPQ15, 15XXP15, N14XXP74 (all experimental designations), is an intercross of 144 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, Aphanomyces root rot (Race 1 and Race 2) and stem nematode. 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 Connell, WA 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. SW15XPQ15 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
SW15XPQ15 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 99% purple, with a trace of variegated, white, yellow, and cream. SW15XPQ15 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, Phytophthora root rot, stem nematode and Fusarium wilt; with resistance to spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, 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 Connell, WA 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 SW15XPQ15 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW15YCA20, 15YXC20, N14YXC92 (Exp)
(Amended - High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW15YCA20, 15YXC20, N14YXC92

Date A&MLVRB first recommended this variety February 7, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW15YCA20, 15YXC20, N14YXC92, (all experimental designations), is a 16 clone synthetic in which all parents originated from S&W germplasms, and were selected by S&W Seed Company from S&W experimentals based on half sib performance for forage yield, persistence, forage quality, standability 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). Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2015 on 6 replicates of 16 parent plants. Seed was harvested by parent and bulked equally.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, Moderately Winterhardy Intermountain, Winter hardy Intermountain areas of the United States and Canada. SW15YCA20 has been tested in Washington, Wisconsin, Pennsylvania, Minnesota, Idaho and Guelph Ontario, 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
SW15YCA20 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 3) is 85% purple, 10% variegated, 4% white, with a trace of yellow and cream. SW15YCA20 is highly resistant to Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, Fusarium wilt, pea aphid, stem nematode, and Phytophthora root rot; with resistance to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation 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 cage isolation in Connell, WA in 2015. 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 SW15YCA20 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW16XPA14, 16XPA14, 15XPA74 (Exp)

Origin and Breeding History
SW16XPA14, 16XPA14, N15XPA74 (all experimental designations), is an intracross of 107 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, 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. SW16XPA14 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
SW16XPA14 is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 2) is 92% purple, 2% white, 1% yellow, 4% variegated and 1% cream. 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 spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation 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 SW16XPA14 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW16XPA15, 16XPA15, N15XPA75 (Exp)

Origin and Breeding History
SW16XPA15, 16XPA15, N15XPA75, (all experimental designations), is an intracross of 107 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 (Race1&2), and stem nematode. 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 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. SW16XPA15 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
SW16XPA15 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 2) is 97% purple, 2% white, and traces of yellow, variegated and cream. 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 spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation 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 SW16XPA15 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW16XPQ07, 16XPQ07, W15XPQ67 (Exp)

Origin and Breeding History
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 (Race1&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. SW16XPQ07 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
SW16XPQ07 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 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 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 SW16XPQ07 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW16XPW12, 16XPW12, N15XPW72 (Exp)

Origin and Breeding History
SW16XPW12, 16XPW12, N15XPW72, (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, 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, 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. SW16XPW12 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
SW16XPW12 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 2) is 98% purple, 1% yellow, and traces of white, variegated and cream. 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 spotted alfalfa aphid. It is moderately resistant to pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
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 SW16XPW12 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW16ZPD03, W15ZPD42 (Exp)

Origin and Breeding History

SW16ZPD03, W15ZPD42 (both experimental designations), is an intracross of 106 parent plants (Syn 1) in which all parents originated from S&W germplasms, and were selected for forage yield under potato leafhopper pressure, persistence, forage quality, and or resistance to one or more of the following diseases and/or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2), and potato leafhopper resistance. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, potato leafhopper resistance, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in 2016 in Connell, WA, and was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and East Central regions of the United States. SW16ZPD03 has been tested in Wisconsin and Ohio. 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

SW16ZPD03 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 96% purple, 1% white, 1% yellow, 1% variegated and traces of cream. 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, potato leafhopper, and Verticillium wilt. It is resistant to spotted alfalfa aphid and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation 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 2016 in Connell, WA.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2020 if SW16ZPD03 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW4305, SW1305, 13XXP05, N12XXP70 (Exp)
(Amended - High Resistance [HR] to Anthracnose [Race 1]
High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW4305, SW1305, 13XXP05, N12XXP70

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW4305, SW1305, 13XXP05, N12XXP70, (experimental designations) is an intracross of 52 parent plants (Syn 1) selected by S&W Seed Company from an S&W experimental selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nursery for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2012. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4305 has been tested in Washington, Minnesota, Wisconsin and Ontario, 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
SW4305 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 98% purple, 1% white, with a trace of variegated, yellow and cream. The variety is highly resistant to bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, spotted alfalfa aphid, Anthracnose (Race 1), stem nematode and Aphanomyces root rot (Race 1 and 2). 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
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 (Syn1) was produced in greenhouse isolation in 2012 in Connell Washington. 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 2017 if SW4305 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW4306, 13XXC06, N12XYC72 (Exp)
(Amended - High Resistance [HR]to Anthracnose (Race 1), High Resistance [HR] to Fusarium Wilt)

Variety Name _____

Experimental Designation(s) SW4306, 13XXC06, N12XYC72

Date A&MLVRB first recommended this variety February 1, 2016

Date(s) any previous amendments were recommended February 7, 2019

Date this amendment was submitted November 30, 2019

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

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

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

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

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in 2016 of SW4306.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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.

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

Date this application was submitted: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW4309, SW1309, 13XXP09, N12XXP75 (Exp)
(Amended - High Resistance [HR] to Fusarium Wilt
High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW4309, SW1309, 13XXP09, N12XXP75

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW4309, SW1309, 13XXP09, N12XXP75, (all experimental designations) is an intracross of 40 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2012. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4309 has been tested in Washington, Minnesota, Wisconsin and Ontario, 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
SW4309 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 85% purple, 13% variegated, 1% cream, with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt, spotted alfalfa aphid, Fusarium wilt, stem nematode, and Aphanomyces root rot (Race 1). It is resistant to Aphanomyces root rot (Race 2), and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, 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 (Syn1) was produced in greenhouse isolation in 2012 in Connell Washington. 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 2017 if SW4309 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW4405, 14XXP05, N13XXP72 (Exp)

Origin and Breeding History
SW4405, 14XXP05, N13XXP72, (all experimental designations), is an intracross of 58 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 (Race1&2), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2014. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions of the United States. SW4405 has been tested in Washington, 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
SW4405 is moderately dormant, similar to the FD 4 check. It is extremely winterhardy. Flower color (Syn 3) is 92% purple, 6% variegated, 1% white, and traces of yellow, and cream. 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, stem nematode and Verticillium wilt. It is resistant to spotted alfalfa aphid, 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 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 Connell, WA in 2014.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW4405 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW5219Y, SW1219Y, 12YYP19, N11YYP93 (Exp)

Origin and Breeding History
SW5219Y, SW1219Y, 12YYP19, N11YYP93, (all experimental designations), is an intracross of 76 parent plants selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose (Race 1), Phytophthora root rot, Aphanomyces root rot (Race1&2), and stem nematode. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2012. Seed was harvested by parent and bulked equally.

Areas of Probable Adaptation
This variety is adapted to the North Central and Moderately Winterhardy Intermountain regions of the United States. SW5219Y has been tested in Wisconsin and Washington. 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
SW5219Y is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 3) is 97% purple, 2% cream, and traces of yellow, variegated 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, pea aphid, stem nematode, Fusarium wilt, and Verticillium wilt. It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 Connell, WA in 2012.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW5219Y 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW5223Y, SW4223Y, 12YYP23, W11YYP81 (Exp)
(Amended - High Resistance [HR] to Stem Nematode)

Variety Name _____

Experimental Designation(s) SW5223Y, SW4223Y, 12YYP23, W11YYP81

Date A&MLVRB first recommended this variety January 10, 2017

Date(s) any previous amendments were recommended January 24, 2018

Date this amendment was submitted November 30, 2019

Origin and Breeding History
SW5223Y, SW4223Y, 12YYP23, W11YYP81, (all experimental designations) is an intracross of 159 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2011. Seed was bulked in total.

Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW5223Y has been tested in Washington 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
SW5223Y is dormant, similar to the FD 3 check. It is extremely winterhardy. Flower color (Syn 3) is 92% purple, 1% white and 6% variegated with a trace of yellow and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Verticillium wilt, Phytophthora root rot, pea aphid, stem nematode, and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation 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 (Syn1) was produced in greenhouse isolation in 2011 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 2017 if SW5223Y 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW5618S, SW16XPS18, W15XPS63 (Exp)

Origin and Breeding History

SW5618S, SW16XPS18, W15XPS63, (all experimental designations), is an intercross of 99 parent plants (Syn 1) selected by S&W Seed Company from 3 S&W experimental varieties selected for forage yield, persistence, germination/growth under salt, 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. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) 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. SW5618S 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

SW5618S is moderately dormant, similar to the FD 5 check. It is winterhardy. Flower color (Syn 3) is 88% purple, 11% variegated, and traces of yellow, white and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Phytophthora root rot, and Fusarium wilt. It is resistant to Verticillium wilt and stem nematode. It has low resistance to Aphanomyces root rot (Race 2). SW5618S has improved forage production under salt stress similar to the tolerant check. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 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 SW5618S 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		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020

Alfalfa

SW5637S, SW16XPS37, N15XPS62 (Exp)

Origin and Breeding History
SW5637S, SW16XPS37, N15XPS62, (all experimental designations), is an intercross of 164 parent plants (Syn 1) selected by S&W Seed Company from 4 S&W experimental varieties selected for forage yield, persistence, germination/growth under salt, 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 Race 1, and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 2) 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. SW5637S 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
SW5637S is moderately dormant, similar to the FD 5 check. It is moderately winterhardy. Flower color (Syn 3) is 99% purple, and traces of white, yellow, variegated and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Phytophthora root rot, and Verticillium wilt. It is resistant to Fusarium wilt, and Aphanomyces root rot (Race2). SW5637S has improved forage production under salt stress similar to the tolerant check It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. 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 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 SW5637S 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		**Length of Stand Limitation – If None, Please State**	
Foundation	X	Foundation	3 years
Registered		Registered	
Certified	X	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: Dec 02, 2019 Date recommended by the VRB: Feb 6, 2020