

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



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD REPORT ©2018

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ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(JANUARY 2018)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on January 24, 2018. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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Respectfully submitted,

Mike Moore, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

2018 AOSCA ALFALFA & MISC LEGUMES VARIETY REVIEW BOARD

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A – Name Change					
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		A – Name Change			
		B – Description			
		C – Other			

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Amendment Key:					
A – Name Change					
B – Description					
C – Other					

Alfalfa

CW 102002 (Exp)

Origin and Breeding History

CW 102002 is a synthetic variety developed by Alforex Seeds with 25 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 CW 102002 traces to various Alforex Seeds experimentals. Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

CW 102002 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 102002 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 102002 is a dormant variety with fall dormancy similar to FD class 2 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white and yellow. CW 102002 has low multifoliolate leaf expression rating similar to the low MF check variety. CW 102002 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Spotted alfalfa aphid, and Stem nematode. It has moderate resistance to Pea Aphid and Cowpea Aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 102002 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 102002 will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

Foundation	<u> Syn.2, Syn.3 or Syn.4 </u>
Registered	<u> </u>
Certified	<u> Syn.3, Syn.4, or Syn.5 </u>

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </u>

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

CW 104014 (Exp)

Origin and Breeding History

CW 104014 is a synthetic variety developed by Alforex Seeds 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 Neutral Detergent Fiber digestibility. 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 Neutral Detergent Fiber digestibility (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 104014 traces to the following germplasm sources: CW 10-037 (50%), and CW 10-038 (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

CW 104014 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW 104014 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW 104014 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated, cream, white, and yellow. CW 104014 has Low multifoliolate leaf expression rating similar to the Low MF check variety. CW 104014 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Stem Nematode. It has resistance to Aphanomyces root rot (race 2) and Spotted alfalfa aphid. It has moderate resistance to Blue alfalfa aphid, and Pea aphid. Reaction to root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW 104014 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW 104014 will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

CW A115022 (Exp)

Origin and Breeding History

CW A115022 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 Neutral Detergent Fiber digestibility. 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 Neutral Detergent Fiber digestibility (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 CW A115022 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

CW A115022 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. CW A115022 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A115022 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. CW A115022 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. CW A115022 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 CW A115022 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A115022 will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

Foundation 3
Registered _____
Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

CW A125028 (Exp)

Origin and Breeding History

CW A125028 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 Neutral Detergent Fiber Digestibility (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 CW A125028 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

CW A125028 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. CW A125028 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A125028 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. CW A125028 has Low multifoliolate leaf expression rating similar to the Low Multifoliolate Leaf Expression check variety. CW A125028 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 CW A125028 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2012. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A125028 will be available in 2018. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
Registered _____
Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Feb 16, 2018



Alfalfa

HybriForce-3420/Wet AFXH144109 (Exp)

Origin and Breeding History

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

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

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

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

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

Areas of Probable Adaptation

HybriForce-3420/Wet is adapted to the North Central and East Central areas of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. HybriForce-3420/Wet has been tested in Wisconsin and Minnesota.

Agronomic and Botanical Characteristics

HybriForce-3420/Wet is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the F1 generation is approximately 90% purple, 9% variegated, and with a trace of cream, white, and yellow. HybriForce-3420/Wet has Low multifoliolate leaf expression rating similar to the Low multifoliolate check variety. HybriForce-3420/Wet has high resistance to anthracnose (race 1), *Phytophthora* root rot, *Aphanomyces* root rot (race 1), *Aphanomyces* root rot (race 2), Bacterial wilt, *Fusarium* wilt, and *Verticillium* wilt, and Spotted alfalfa aphid. It has resistance to Blue alfalfa aphid, Cowpea aphid, 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 HybriForce-3420/Wet is on a limited generation basis. Female Breeder seed must be produced by harvesting seed from vegetatively propagated cytoplasmic male sterile clones that have been pollinated by vegetatively propagated maintainer clones in field isolation. Alforex Seeds will maintain sufficient breeder seed (Syn. 1) for the projected life of the variety. Male breeder seed was produced under cage isolation near Woodland, California in 2012. Alforex Seeds will maintain sufficient foundation seed (Syn. 2 or Syn. 3) for the projected life of the variety. Use of Syn. 3 male seed requires consent of the breeder. Female Breeder seed was produced under field isolation near Sloughhouse, California in 2013. Male Breeder seed was produced under cage isolation near Woodland, California in 2012. Stands of foundation and certified hybrid seed fields are limited to 3 and 5 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

HybriForce-3430 AFXH143147 (Exp)

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 Neutral Detergent Fiber Digestibility (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.

Agronomic and Botanical Characteristics

HybriForce-3430 is a dormant variety with fall dormancy similar to FD class 4 check varieties. 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 Multifoliolate Leaf Expression 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, and Cowpea aphid. Reaction to Northern Root Knot Nematode has not been tested.

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.

Continued on next page (9)



Alfalfa

HybriForce-3430 AFXH143147 (Exp)

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 30, 2017

Date recommended by the VRB: Feb 16, 2018



Alfalfa

Magnum 8 AFX133033 (Exp)

Origin and Breeding History

Magnum 8 is a synthetic variety developed by Alforex Seeds with 27 parent clones selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage Neutral Detergent Fiber Digestibility (NDFD). Parent plants were selected from a three year old Wisconsin selection nursery. Nursery source plants were composed of various populations that were developed by phenotypic recurrent selection and progeny testing for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parent plants were replicated by vegetative stem cuttings and 8 copies of each parental clone were randomly distributed throughout the breeder seed cage. Parentage of Magnum 8 traces to the following germplasm sources: Magnum 7 (56%), and Alforex experimental lines (44%). Breeder seed was produced under cage isolation near Woodland, California in 2013. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Magnum 8 is adapted to the North Central and East Central areas of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. Magnum 8 has been tested in Minnesota and Wisconsin.

Agronomic and Botanical Characteristics

Magnum 8 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 94% purple, 5% variegated and a trace of cream, white, and yellow. Magnum 8 has Low multifoliolate leaf expression rating similar to the Low Multifoliolate Leaf Expression check variety. Magnum 8 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Spotted alfalfa aphid, 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 Magnum 8 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2013. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
Registered _____
Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Feb 16, 2018



Alfalfa

AFX 1060

CW 090075 (Exp)

(Amended – Add Resistance to Pea Aphid, High Resistance to Spotted Alfalfa Aphid)

Variety Name AFX 1060
Experimental Designation(s) CW 090075
Date A&MLVRB first recommended this variety January 2015
Date(s) any previous amendments were recommended January 2017
Date this amendment was submitted November 28, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

AFX 1060 has high resistance to stem nematode, spotted alfalfa aphid, and cowpea aphid; resistance to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, Verticillium wilt, pea aphid, and blue alfalfa aphid; and low resistance to bacterial wilt. Reaction to root knot nematode and Aphanomyces root rot (race 1) has not been tested. Germination of AFX 1060 under salt stress is similar to the tolerant check variety.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Feb 16, 2018



Alfalfa
AFX 429
CW 103012 (Exp)
(Amended – Add Resistance to Pea Aphid & Spotted Alfalfa Aphid)

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
 Date this amendment was submitted November 30, 2017

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 3 check varieties. 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, and Stem Nematode. Reaction to Root knot nematode, has not been tested.

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.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
 Registered _____
 Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

AFX 457

CW A114030 (Exp)

(Amended – Add Resistance to Pea Aphid & Spotted Alfalfa Aphid)

Variety Name AFX 457

Experimental Designation(s) CW A114030

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended January 2017

Date this amendment was submitted November 30, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

AFX 457 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. AFX 457 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 469 has tolerance to **salt (NaCl) at germination**. AFX 457 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue alfalfa aphid, Pea aphid, Spotted alfalfa aphid, and Stem Nematode. Reaction to Aphanomyces root rot (race 2), pea aphid, spotted alfalfa aphid, and root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

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Continued from previous page (13)

Alfalfa

AFX 457

CW A114030 (Exp)

(Amended – Add Resistance to Pea Aphid & Spotted Alfalfa Aphid)

Variety Name AFX 457

Experimental Designation(s) CW A114030

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended January 2017

Date this amendment was submitted November 30, 2017

Generations Allowed – Mark All That Apply

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

Registered _____

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

Length of Stand Limitation – If None, Please State

Foundation 3

Registered _____

Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa
AFX 469
CW 105006 (Exp)
**(Amended – Add Moderate Resistance to Pea Aphid,
Resistance to Blue Alfalfa Aphid & Spotted Alfalfa Aphid)**

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
Date this amendment was submitted November 30, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

AFX 469 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. AFX 469 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 469 has tolerance to **salt (NaCl) at germination**. AFX 469 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Stem Nematode, resistance to Blue Alfalfa Aphid and Spotted Alfalfa Aphid, and moderate resistance to Pea Aphid. Reaction to root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
Registered _____
Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
AFX 579
CW 105023 (Exp)
(Amended – Add Resistance to Pea Aphid & Spotted Alfalfa Aphid)

Variety Name AFX 579
 Experimental Designation(s) CW 105023
 Date A&MLVRB first recommended this variety January 2016
 Date(s) any previous amendments were recommended January 2017
 Date this amendment was submitted November 30, 2017

Origin and Breeding History

AFX 579 is a synthetic variety developed by Alforex Seeds with 25 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, and no stem, crown, or root rot. Parent plants were selected from a four year old Wisconsin yield trial and three year old Iowa, Minnesota, and Wisconsin yield trials, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Yield trial source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 579 traces to the following germplasm sources: 5010 (16%), Contender (12%), PGI 557 (20%), CW 10-080 (52%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX 579 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. AFX 579 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 579 is a dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace variegated. CW 105023 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 579 has tolerance to **salt (NaCl) at germination**. AFX 579 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt and Stem Nematode. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Cow pea aphid, Pea aphid, and Spotted alfalfa aphid. Reaction to root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 579 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
 Registered _____
 Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

AFX 960

CW 099079 (Exp)

(Amended – Add High Resistance to Pea Aphid & Spotted Alfalfa Aphid)

Variety Name AFX 960

Experimental Designation(s) CW 099079

Date A&MLVRB first recommended this variety January 2015

Date(s) any previous amendments were recommended January 2017

Date this amendment was submitted November 28, 2017

Origin and Breeding History

AFX 960 (experimental designation CW 099079), developed by Alforex Seeds, is a synthetic variety with 209 parent plants which were selected for resistance to Blue Alfalfa Aphid, Stem Nematode, and Phytophthora root rot from a polycross among fifteen plants which were selected for low Acid Detergent Lignin (ADL) from spaced plant breeding nurseries. This pedigree is derived from various diverse populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, stem nematode, and cowpea aphid and for low ADL. Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 1 (Syn.1).

Areas of Probable Adaptation

AFX 960 is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the US and is intended for use in the Southwest areas of the US, Australia, Mexico, South Africa, Mid-East, and Argentina. AFX 960 has been tested in California.

Agronomic and Botanical Characteristics

AFX 960 is a very non-dormant variety with fall dormancy similar to FD class 9 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated, white, cream, and yellow. AFX 960 has high resistance to anthracnose (race 1), Fusarium wilt, blue alfalfa aphid, spotted alfalfa aphid, pea aphid, stem nematode, and cowpea aphid; resistance to Phytophthora root rot; moderate resistance to Verticillium wilt; and low resistance to bacterial wilt. Reaction to root knot nematode and Aphanomyces root rot (race 1) has not been tested. Germination of AFX 960 under salt stress is similar to the tolerant check variety.

Procedures for Maintaining Seed Stock

Seed increase of AFX 960 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of AFX 960 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 30, 2017

Date recommended by the VRB: Feb 15, 2018



Alfalfa
4C810
DS385 (Exp)
**(Amended – Add Resistance to Cowpea Aphid,
High Resistance to Blue Alfalfa Aphid & Pea Aphid)**

Variety Name 4C810
Experimental Designation(s) DS385
Date A&MLVRB first recommended this variety January 2012
Date(s) any previous amendments were recommended
Date this amendment was submitted November 28, 2017

Origin and Breeding History

4C810 is a synthetic variety composed of seed from 60 plants selected out of breeding nurseries. These plants trace back to Magna 8 (30%), Magna 801FQ (20%) and Dairyland experimental lines (50%). These plants were evaluated in California for the following: seed yield, spring vigor, fall dormancy, Phytophthora root rot, anthracnose, leaf disease resistance and persistence. Selected plants were grown in isolation in Sloughhouse, CA in 2004 to produce syn1 Breeder seed. 4C810 was developed by Dairyland Seed Company.

Areas of Probable Adaptation

4C810 is adapted to the Southwest Region of the United States and intended for use across the Southwest Region of the United States. The states where it has been tested are California and Arizona.

Agronomic and Botanical Characteristics

4C810 is a nondormant alfalfa variety similar to the dormancy 8 check. Flower color of the syn2 generation is 99% purple and 1% variegated with trace amounts of cream, white and yellow.

4C810 has high resistance to *Fusarium* wilt, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, northern and southern root knot nematode; resistance to bacterial wilt, *Phytophthora* root rot, cowpea aphid, and stem nematode; and moderate resistance to anthracnose (Race 1) and *Verticillium* wilt. 4C810 has not been tested for resistance to *Aphanomyces* root rot.

Procedures for Maintaining Seed Stock

Breeder seed (Syn. 1) was produced by bulking seed of parent plants in isolation. Syn.2 Breeder seed is allowed. Foundation seed (Syn.2 or 3) can be produced from Breeder seed. Certified seed (Syn. 3 or 4) can be produced from either Syn. 2 Breeder seed or Foundation seed. Two generations of Breeder, Foundation, and Certified seed classes are recognized. A maximum of two harvest years is permitted on stands producing Breeder, a maximum of three harvest years on stands producing Foundation seed, and a maximum of five years for Certified seed. Dairyland Seed will maintain the original Breeder seed for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available in the fall of 2012. Certified seed acres are not to be published.

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Feb 15, 2018



Alfalfa
HG4001
CW 104015 (Exp)
(Amended – Add Moderate Resistance to Pea Aphid & Resistance to Spotted Alfalfa Aphid)

Variety Name HG4001
 Experimental Designation(s) CW 104015
 Date A&MLVRB first recommended this variety January 2016
 Date(s) any previous amendments were recommended January 2017
 Date this amendment was submitted November 30, 2017

Origin and Breeding History

HG4001 is a synthetic variety developed by Alforex Seeds with 17 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), Northern Root Knot nematode, Stem nematode, Cow Pea Aphid, and Leptosphaerulina leaf spot. Parentage of HG4001 traces to the following germplasm sources: Adrenalin (6%), SolarGold (18%), WinterKing III (6%), CW 10-039 (35%), and CW 10-040 (35%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

HG4001 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. HG4001 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

HG4001 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated. HG4001 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. HG4001 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, Cow pea aphid, Spotted alfalfa 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 HG4001 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 HG4001 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
 Registered _____
 Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

Hi-Gest 360

CW 103009 (Exp)

(Amended – Add Moderate Resistance to Pea Aphid & Resistance to Spotted Alfalfa Aphid)

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

Date this amendment was submitted November 30, 2017

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. 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 salt (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, 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 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 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

Hi-Gest 660

CW 096043 (Exp)

(Amended – Add High Resistance to Pea Aphid & Spotted Alfalfa Aphid)

Variety Name Hi-Gest 660
Experimental Designation(s) CW 096043
Date A&MLVRB first recommended this variety January 2015
Date(s) any previous amendments were recommended January 2017
Date this amendment was submitted November 28, 2017

Origin and Breeding History

Hi-Gest 660 is a synthetic variety with 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 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. Parentage of Hi-Gest 660 traces to CW 620 (27%), PGI 608 (13%), Aspire (9%), DK 166 (5%), 5681 (4%), 5683 (4%), GAPP 686+ (3%), Alfa 50 (3%), GrazeKing (2%), and miscellaneous Alforex Seeds breeding populations (30%). Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

Hi-Gest 660 is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the US and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the US, Australia and Argentina. Hi-Gest 660 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

Hi-Gest 660 is a semi-dormant variety with fall dormancy similar to FD class 6 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated, white, cream, and yellow. Hi-Gest 660 has high resistance to anthracnose (race 1), Fusarium wilt, spotted alfalfa aphid, pea aphid, and stem nematode; resistance to bacterial wilt, Phytophthora root rot, blue alfalfa aphid, and cowpea aphid; and moderate resistance to Verticillium wilt. Reaction to root knot nematode and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Hi-Gest 660 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Hi-Gest 660 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 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
Magna 715
DS715, DS098217 (Exp)
**(Amended – Add High Resistance to Blue Alfalfa Aphid &
Resistance to Spotted Alfalfa Aphid)**

Variety Name Magna 715
Experimental Designation(s) DS7125, DS098219
Date A&MLVRB first recommended this variety January 2012
Date(s) any previous amendments were recommended January 2015
Date this amendment was submitted November 28, 2017

Origin and Breeding History

Magna 715 is a 50 clone synthetic variety composed of seed from plants selected out of breeding nurseries. These plants trace back to Magna788 (52%), Magna787 (24%) and Dairyland experimental lines (24%). These plants were evaluated for the following: seed yield, spring vigor, fall dormancy, Phytophthora root rot, anthracnose, leaf disease resistance and persistence. Selected plants were grown in isolation in Sloughhouse, CA in 2008 to produce Syn. 1 Breeder seed. Seed from parent plants was bulked to produce Breeder seed. Magna 715, experimental code was developed by Dairyland Seed Company.

Areas of Probable Adaptation

Magna 715 is adapted to the Southwest Region of the United States and Argentina and intended for use across the Southwest Region of the United States and Argentina. The states where it has been tested are California and Arizona.

Agronomic and Botanical Characteristics

Magna 715 is a semi-dormant alfalfa variety similar to the dormancy 7 check. Flower color of the Syn.2 generation is 97% purple and 3% variegated with trace amounts of cream, white and yellow. Magna 715 has high resistance to anthracnose (Race 1), Fusarium wilt, pea aphid, blue alfalfa aphid, northern root-knot nematode, and southern root-knot nematode; resistance to bacterial wilt, Phytophthora root rot, Verticillium wilt, spotted alfalfa aphid, and stem nematode. Magna 715 has not been tested for resistance to Aphanomyces root rot.

Procedures for Maintaining Seed Stock

Breeder seed (Syn. 1) was produced by bulking seed of parent plants in isolation. Syn.2 Breeder seed is allowed. Foundation seed (Syn.2 or 3) can be produced from Breeder seed. Certified seed (Syn. 3 or 4) can be produced from either Syn. 2 Breeder seed or Foundation seed. Two generations of Breeder, Foundation, and Certified seed classes are recognized. A maximum of two harvest years is permitted on stands producing Breeder, a maximum of three harvest years on stands producing Foundation seed, and a maximum of five years for Certified seed. Dairyland Seed will maintain the original Breeder seed for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available in the fall of 2012. Certified seed acres are not to be published.

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

Magna 790 098219 (Exp)

(Amended – Add Resistance to Blue Alfalfa Aphid, High Resistance to Pea Aphid and Spotted Alfalfa Aphid)

Variety Name Magna 790
Experimental Designation(s) 098219
Date A&MLVRB first recommended this variety January 2017
Date(s) any previous amendments were recommended
Date this amendment was submitted November 28, 2017

Origin and Breeding History

Magna 790 is a synthetic variety with 190 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at two locations in Argentina. Parent plants were selected from various populations that 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, and stem nematode. Parentage of Magna 790 traces to CUF 101 (19%), Cibola (14%), DK 191 (9%), Magna 860 (9%), SW9628 (9%), Magna 995 (8%), Magna 901 (6%), DK 193 (4%), Diamond (3%), DK 192 (1%), and miscellaneous Alforex Seeds breeding populations (18%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2009. Seed was bulk harvested from all parent plants.

Areas of Probable Adaptation

Magna 790 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina. Magna 790 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

Magna 790 is a nondormant variety with fall dormancy similar to FD class 7 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow. Germination of Magna 790 under salt stress is similar to the tolerant check variety.

Magna 790 has high resistance to pea aphid, spotted alfalfa aphid, and cowpea aphid, with resistance to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, bacterial wilt, Verticillium wilt, blue alfalfa aphid, and stem nematode. Reaction to root knot nematode and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Magna 790 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Anguil, Argentina in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Magna 790 will be available in 2017. 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 30, 2017 Date recommended by the VRB: Feb 15, 2018



Alfalfa

Magna 905 CW A129091 (Exp) (Amended – Add Name Change, Resistance to Pea Aphid & Blue Alfalfa Aphid)

Variety Name Magna 905
Experimental Designation(s) CW A129091
Date A&MLVRB first recommended this variety January 2017
Date(s) any previous amendments were recommended
Date this amendment was submitted November 28, 2017

Origin and Breeding History

CW A129091 is a synthetic variety with 700 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at four locations in Argentina. Parent plants were selected from various populations that 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, and stem nematode. Parentage of CW A129091 traces to DK 194 (10%), CW 194 Premium (7%), CW 195 (7%), DK 191 (6%), SP 9000 (6%), PGI 908-S (5%), 59N59 (4%), and miscellaneous Alforex Seeds breeding populations (55%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2012. Seed was bulk harvested from all parent plants.

Areas of Probable Adaptation

CW A129091 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina. CW A129091 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

CW A129091 is a very nondormant variety with fall dormancy similar to FD class 9 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow. CW A129091 has high resistance to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, stem nematode, and cowpea aphid, resistance to pea aphid and blue alfalfa aphid, with moderate resistance to bacterial wilt, and Verticillium wilt. Reaction to spotted alfalfa aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A129091 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Anguil, Argentina in 2012. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A129091 will be available in 2017. 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 30, 2017 Date recommended by the VRB: Feb 15, 2018



Alfalfa

098218 (Exp) (Amended – Add Resistance to Blue Alfalfa Aphid, High Resistance to Pea Aphid)

Variety Name

Experimental Designation(s) 098218

Date A&MLVRB first recommended this variety January 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted November 28, 2017

Origin and Breeding History

098218 is a synthetic variety with 134 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at two locations in Argentina. Parent plants were selected from various populations that 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, and stem nematode. Parentage of 098218 traces to Magna 995 (17%), SW9628 (11%), WL625HQ (11%), DK 193 (10%), CUF 101 (10%), Mecca III (7%), Cibola (7%), DK 191 (1%) and miscellaneous Alforex Seeds breeding populations (26%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2009. Seed was bulk harvested from all parent plants.

Areas of Probable Adaptation

098218 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina. 098218 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

098218 is a nondormant variety with fall dormancy similar to FD class 8 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow.

098218 has high resistance to Fusarium wilt, pea aphid, and stem nematode, with resistance to anthracnose (race 1), Phytophthora root rot, bacterial wilt, blue alfalfa aphid, and cowpea aphid, and moderate resistance to Verticillium wilt. Reaction to spotted alfalfa aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested. Germination of 098218 under salt stress is similar to the tolerant check variety.

Procedures for Maintaining Seed Stock

Seed increase of 098218 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Anguil, Argentina in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of 098218 will be available in 2017. 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 30, 2017

Date recommended by the VRB: Feb 15, 2018



Alfalfa
CW A113005 (Exp)
(Amended – Add Resistance to Blue Alfalfa Aphid, Pea Aphid & Spotted Alfalfa Aphid)

Variety Name _____
 Experimental Designation(s) CW A113005
 Date A&MLVRB first recommended this variety January 2017
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted November 30, 2017

Origin and Breeding History

CW A113005 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 CW A113005 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

CW A113005 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW A113005 has been tested in Iowa, Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

CW A113005 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white and yellow. CW A113005 has high multifoliolate leaf expression rating similar to the high MF check variety. CW A113005 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, and Stem nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A113005 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A113005 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation 3
 Registered _____
 Certified 6

PVP Information

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Feb 15, 2018



Alfalfa
CW A129045 (Exp)
**(Amended – Add Resistance to Blue Alfalfa Aphid &
High Resistance to Pea Aphid)**

Variety Name
Experimental Designation(s) CW A129045
Date A&MLVRB first recommended this variety January 2017
Date(s) any previous amendments were recommended
Date this amendment was submitted November 28, 2017

Origin and Breeding History

CW A129045 is a synthetic variety with 38 parent clones selected for high multifoliolate leaf expression. Nine parents were selected from 4 year old California yield trials and 29 parents were chosen from 3 year old California spaced plant nurseries. Parent plants were replicated by vegetative stem cuttings and 5 copies of each parental clones were randomly distributed throughout the breeder seed cage. Nursery plants were also selected for improved forage quality, high forage yield, and resistance to one or more of the following pests: Fusarium wilt, Phytophthora root rot, anthracnose, stem nematode, cowpea aphid, and blue alfalfa aphid. Yield trial plants were also selected for persistence and agronomic type from various 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, and stem nematode. Parentage of CW A129045 traces to the following germplasm sources: CW 194 (10%), CW 194 Premium (6%), CW 195 (5%), NeoAlfa 9.0 (5%), SPS 9000 (4%), and miscellaneous Alforex Seeds germplasm sources (70%). Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

CW A129045 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina. CW A129045 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

CW A129045 is a very nondormant variety with fall dormancy similar to FD class 9 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow. CW A129045 has multifoliolate leaf expression similar to the Moderate MF check. Germination of CW A129045 under salt stress is similar to the tolerant check variety.

CW A129045 has high resistance to anthracnose (race 1), Fusarium wilt, and Phytophthora root rot, stem nematode, pea aphid, and cowpea aphid, resistance to blue alfalfa aphid, with moderate resistance to bacterial wilt and Verticillium wilt. Reaction to spotted alfalfa aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of CW A129045 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2012. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of CW A129045 will be available in 2017. 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 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
DS 1168 (Exp)
(Amended – Add Moderate Resistance to Pea Aphid, Blue Alfalfa Aphid, & Resistance to Spotted Alfalfa Aphid)

Variety Name
Experimental Designation(s) DS 1168
Date A&MLVRB first recommended this variety January 2017
Date(s) any previous amendments were recommended
Date this amendment was submitted November 28, 2017

Origin and Breeding History

DS1168 is a 12 clone synthetic variety. Parent plants were selected from 4 year old forage yield trial plots or 3 year old spaced plant nurseries. Parent plants were selected from various populations that 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, and stem nematode. Parentage of DS1168 traces to Costera (13%), Magnum V (7%), Legendairy 2.0 (6%), Thor (6%), GH 700 (3%), Radiant (2%), Starbuck (2%), and miscellaneous Alforex Seeds breeding populations (61%). Breeder seed (Syn.1) was produced under cage isolation near Sloughhouse, CA in 2011. Seed was bulk harvested from all parent plants.

Areas of Probable Adaptation

DS1168 is adapted to the Moderately Winterhardy Intermountain area of the US and Argentina and is intended for use in the Moderately Winterhardy Intermountain area of the US and in Argentina, Australia, and Turkey. DS1168 has been tested in California and Argentina.

Agronomic and Botanical Characteristics

DS1168 is a moderately dormant variety with fall dormancy similar to FD class 6 check varieties. Flower color observed in the Syn.2 generation is approximately 94% purple, 5% variegated, and with a trace of white, cream, and yellow.

DS1168 has high resistance to anthracnose (race 1), Fusarium wilt, and bacterial wilt, with resistance to Phytophthora root rot, Verticillium wilt, spotted alfalfa aphid, and stem nematode, and moderate resistance to the pea aphid, blue alfalfa aphid, and cowpea aphid. Reaction to root knot nematode and Aphanomyces root rot (race 1) has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of DS1168 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Sloughhouse, 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 DS 1168 will be available in 2017. 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 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

Slingshot FG 59W205 (Exp) (Amended – Name Change)

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed

(Mark All That Apply)

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

Length of Stand Limitation

(If None, Please State)

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

PVP Information

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

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

Date this application was submitted: Aug 21, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 1013M185 (Exp)

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 and Fusarium wilt; resistant to Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race1) 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

Breeder seed (Syn1) was produced near Holtville, CA in 2013. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 1013T183 (Exp)

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

The variety is highly resistant to spotted alfalfa aphid; resistant to Fusarium wilt and Phytophthora root; moderately resistant to anthracnose and Aphanomyces root rot (race 1) and has low resistance to Verticillium wilt. It has not been tested for other pest reactions. 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 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 109T901 (EXP)

Origin and Breeding History

FG 109T901 is a synthetic variety with 51 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 Fertilac 11 (12%) and FGI elite breeding populations (88%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation

FG 109T901 is adapted to the Southwest. It has been tested in California and its intended for use in the Southwest USA, Mexico and Argentina.

Agronomic and Botanical Characteristics

FG 109T901 is very nondormant similar to the FD 11 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

This variety is highly resistant to spotted alfalfa aphid, blue alfalfa aphid and stem nematode; resistant to anthracnose, Fusarium wilt, Phytophthora root rot and Aphanomyces root rot (race 1); and moderately resistant to Verticillium wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 26, 2018



Alfalfa

FG 1114T029 (EXP)

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; resistance to Fusarium wilt, Verticillium wilt and Phytophthora root rot; and moderately resistance to anthracnose 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 26, 2018



Alfalfa

FG 412A121 (Exp)

Origin and Breeding History

FG 412A121 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

FG 412A121 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 412A121 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 2% variegated, 2% cream with a trace of white and yellow. This variety has high multifoliolate leaf expression.

FG 412A121 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 it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

Foundation	X
Registered	
Certified	X

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	None
Certified	6

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 412A122 (Exp)

Origin and Breeding History

FG 412A122 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

FG 412A122 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 412A122 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.

FG 412A122 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 it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 412W204 (Exp)

Origin and Breeding History

FG 412W204 is a synthetic variety with 12 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to DKA40-16 (16%), Gemstone (8%), and elite FGI experimental populations (76%). Syn1 seed was harvested from an intercross of Syn0 parents in the greenhouse in January 2012, and from a field or cage isolation near Holtville, CA in 2012. In both cases seed was harvested in total on all parents and bulked to form breeder seed. Syn1 seed produced in the greenhouse was only used to establish fall dormancy tests.

Areas of Probable Adaptation

FG 412W204 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG 412W204 is a fall dormant similar to the FD 4 check. Flower color (Syn 2) is 99% Purple with a trace of Variegated, White, Cream and Yellow. This variety has high multifoliolate leaf expression.

The variety is highly resistant to bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, Phytophthora root rot, pea aphid and stem nematode, resistance to anthracnose and *Aphanomyces* root rot (race 1), and moderate resistance to blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Seed increase is on a limited generation basis with one generation each of breeder and two generations of foundation classes and certified seed classes. Production of Syn 2 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in 2012 near Holtville, CA. 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 2018 if FG 412W204 is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 413H323 (Exp)

Origin and Breeding History

FG 413H323 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

FG 413H323 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

FG 413H323 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.

FG 413H323 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 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 it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

EnforceHT FG 510M374 (Exp)

Origin and Breeding History

EnforceHT (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

EnforceHT (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

EnforceHT (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.

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

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 512W206 (Exp)

Origin and Breeding History

FG 512W206 is a synthetic variety with 13 parent plants. Parent plants were selected from forage yield trials or forage nurseries and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to elite FGI experimental populations (100%). Syn1 seed was harvested from an intercross of Syn0 parents from a field isolation near Holtville, CA in 2012.

Areas of Probable Adaptation

FG 512W206 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG 512W206 is moderately fall dormant similar to the FD 5 check. Flower color (Syn 2) is 99% Purple, trace cream, Variegated, White and Yellow. It expresses a low degree of multifoliolate leaf expression.

The variety is highly resistant to bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), pea aphid and stem nematode, resistance to anthracnose, and moderate resistance to blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2012 near Holtville, CA. 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 810T104 (Exp)

Origin and Breeding History

FG 810T104 is a synthetic variety with 84 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 Pacifico (30%), WL530HQ (30%) and FGI elite breeding populations (40%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

Areas of Probable Adaptation

FG 810T104 is adapted to the Southwest. It has been tested in California and is intended for use in the Southwest USA, Mexico and Argentina.

Agronomic and Botanical Characteristics

FG 810T104 is very Non-Dormant 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 pea aphid, spotted alfalfa aphid and stem nematode; resistant to anthracnose, bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, CA in 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2) seed for the projected life of the variety. Production of Syn2 foundation seed requires the consent of the breeder. Production of foundation (Syn3) seed from foundation (Syn2) seed is not permitted. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 89T093 (Exp)

Origin and Breeding History

FG 89T093 is a synthetic variety with 437 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 harvested in total on all parents and bulked to form breeder seed in 2009.

Areas of Probable Adaptation

FG 89T093 is adapted to the Southwest. It has been tested in California and is intended for use in the Southwest USA, Mexico and Argentina.

Agronomic and Botanical Characteristics

FG 89T093 is a very Non-Dormant similar to the FD 9 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

This variety is highly resistant to Fusarium wilt, pea aphid and spotted alfalfa aphid; resistant to anthracnose, bacterial wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (race 1). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Holtville, CA 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 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG 914T031 (Exp)

Origin and Breeding History

FG 914T031 is a synthetic variety with 174 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 914T031 is adapted to the winter active regions of the Argentina and similar environments. The variety has been tested in Argentina and is intended for use in winter active regions of Argentina.

Agronomic and Botanical Characteristics

FG 914T031 is a very Non-Dormant similar to the FD 9 check. Flower color (Syn2) is 99% Purple with a trace of Variegated, Cream, Yellow and White.

This variety has high resistance to anthracnose and spotted alfalfa aphid with resistance to Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (race 1). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG R411A106 (Exp)

Origin and Breeding History

FG R411A106 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 2011.

Areas of Probable Adaptation

FG R411A106 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 R411A106 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 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.

FG R411A106 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid and 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 in 2011 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG R411K324 (Exp)

Origin and Breeding History

FG R411K324 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 2011.

Areas of Probable Adaptation

FG R411K324 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG R411K324 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 3% cream, 1% white with a trace of variegated and yellow. This variety has high multifoliolate leaf expression.

FG R411K324 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), stem nematode 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 2011 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG R413A316 (Exp)

Origin and Breeding History

FG R413A316 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 2013.

Areas of Probable Adaptation

FG R413A316 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 R413A316 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 3% cream, 2% variegated with a trace of white and yellow. This variety has high multifoliolate leaf expression.

FG R413A316 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 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 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG R513M225S (Exp)

Origin and Breeding History

FG R513M225S is a synthetic variety with 11 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were elite plants chosen out of salt nurseries from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root 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 produced from a field isolation near Nampa, ID in 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

FG R513M225S is adapted to the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Colorado, Washington, Idaho and Kansas. The intended use is in the Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG R513M225S is moderately fall dormant similar to the FD 4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower color (Syn 2) is 99% Purple, with a trace of cream, Variegated, White and Yellow. This variety has moderate multifoliolate leaf expression.

The variety is highly resistant to anthracnose, bacterial wilt, fusarium wilt, *Verticillium* wilt, *Aphanomyces* root rot (race 1) and spotted alfalfa aphid; with resistance to Phytophthora root rot, pea aphid, blue 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

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 2018 if is accepted for certification.

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

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG RRL44M104 (Exp)

Origin and Breeding History

RRL44M104 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

RRL44M104 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

RRL44M104 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.

RRL44M104 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. 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG RRL44M121 (Exp)

Origin and Breeding History

RRL44M121 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

RRL44M121 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

RRL44M121 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.

RRL44M121 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 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 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

FG RRL44M375 (Exp)

Origin and Breeding History

RRL44M375 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

RRL44M375 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

RRL44M375 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.

RRL44M375 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. 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

4HVXR100 FG RRL44M377 (Exp)

Origin and Breeding History

4HVXR100 (FG RRL44M377) 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

4HVXR100 (FG RRL44M377) 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

4HVXR100 (FG RRL44M377) 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.

4HVXR100 (FG RRL44M377) 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 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 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

LG 7C300

FG 58M801(Exp)

Origin and Breeding History

LG 7C300 is a synthetic variety with 120 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to elite FGI experimental populations (100%). Syn1 seed was harvested from a field or cage isolation near Holtville, CA in 2008 and bulked to form breeder seed.

Areas of Probable Adaptation

LG 7C300 is adapted to the Southwest and Moderately Winterhardy Intermountain regions. It has been tested in California and is intended for use in the Southwest and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

LG 7C300 is Non-Dormant similar to FD7 check. Flower Color (Syn2) is 99% purple with a trace of variegated, yellow, white and cream. LG 7C300 has moderate multifoliate leaf expression.

LG 7C300 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode; and resistance to Verticillium wilt. Reaction to other pests have not been tested.

Procedures for Maintaining Seed Stock

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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

DG 417RR FG R410M324 (Exp)

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 and 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 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

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

HVX MEGATRON FG H0415A3144 (Exp)

Origin and Breeding History

HVX MEGATRON is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1, Race 2, and Race 3). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

HVX MEGATRON 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% white, 2% variegated with a trace of yellow. This variety has high multifoliolate leaf expression.

HVX MEGATRON has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2); with resistance to stem nematode 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 (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if it is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

RR 6 Shot Plus FG R511Hg216 (Exp)

Origin and Breeding History

RR 6 Shot Plus is a synthetic variety with 39 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. Germplasm sources used in the development of this variety trace to FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2011.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

The variety is highly resistant to anthracnose, Phytophthora root rot, Verticillium wilt, pea aphid, Fusarium wilt, spotted alfalfa aphid and stem nematode with resistance to bacterial wilt and Aphanomyces root rot (race 1). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2011 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification.

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

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

RR Saltiva FG R513W224S (Exp)

Origin and Breeding History

RR Saltiva is a synthetic variety with 15 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were elite plants chosen out of salt nurseries from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root 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 produced from a field isolation near Nampa, ID in 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

RR Saltiva is moderately fall dormant similar to the FD 5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower color (Syn 2) is 99% Purple, with a trace of cream, Variegated, White and Yellow. This variety has moderate multifoliolate leaf expression.

RR Saltiva is highly resistant to anthracnose, Phytophthora root rot, bacterial wilt, fusarium wilt, *Verticillium* wilt, *Aphanomyces* root rot (race 1), pea aphid and stem nematode; resistant to spotted alfalfa aphid and moderately resistant to blue alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced 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 2018 if is accepted for certification.

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

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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



Alfalfa

54HVX41

FG RRL43M118 (Exp)

Origin and Breeding History

54HVX41 is a synthetic variety with 67 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 2013.

Areas of Probable Adaptation

54HVX41 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

54HVX41 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 4% white, 1% cream with a trace of variegated and yellow. This variety has high multifoliolate leaf expression.

54HVX41 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; with resistance to stem nematode and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2013 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

MPIII Max Q FG 510M172 (Exp)

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. 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 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

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

Length of Stand Limitation – If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

WL 375HVX.RR FG H0515A3140 (Exp)

Origin and Breeding History:

WL 375HVX.RR is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1, Race 2, and Race 3). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics

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

WL 375HVX.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2015 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2018 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

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

PVP Information

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 26, 2018



Alfalfa
DKA40-16
FG 48M365 (Exp)
(Amended – Add Resistance to Spotted Alfalfa Aphid)

Variety Name DKA40-16
Experimental Designation(s) FG 48M365
Date A&MLVRB first recommended this variety January 2014
Date(s) any previous amendments were recommended Oct 13, 2014 name amend
Date this amendment was submitted Nov 30, 2017

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

Procedures for Maintaining Seed Stock

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: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
DKA40-51RR
FG R49A132 (Exp)
(Amended – Add High Multifoliolate Leaf Expression)

Variety Name DKA40-51RR
Experimental Designation(s) FG R49A132
Date A&MLVRB first recommended this variety January 2014
Date(s) any previous amendments were recommended Oct 13, 2014 name amend
Date this amendment was submitted Nov 30, 2017

Origin and Breeding History

DKA40-51RR is a synthetic variety with 105 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). 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

DKA40-51RR is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Wisconsin, Iowa, Idaho and Pennsylvania and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

DKA40-51RR is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 3% variegated, 1% yellow with a trace of white and cream. This variety has high multifoliolate leaf expression.

DKA40-51RR is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. DKA40-51RR 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 spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (Northern *M. hapla*), pea 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 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: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
DKA50-17
FG 59M108 (Exp)
(Amended – Add Resistance to Spotted Alfalfa Aphid)

Variety Name DKA50-17

Experimental Designation(s) FG 59M108

Date A&MLVRB first recommended this variety January 2014

Date(s) any previous amendments were recommended January 2017

Date this amendment was submitted Nov 30, 2017

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

Procedures for Maintaining Seed Stock

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: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
ArtesianSun 6.3
FG 412W201 (Exp)
(Amended – Name Change & Add High Resistance to Pea Aphid)

Variety Name ArtesianSun 6.3
 Experimental Designation(s) FG 412W201
 Date A&MLVRB first recommended this variety January 2017
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted Nov 30, 2017

Origin and Breeding History

ArtesianSun 6.3 is a synthetic variety with 108 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to 6401N (20%), MasterPiece II (10%), Premium (10%), Camas (10%) and elite FGI experimental populations (50%). Syn1 seed was harvested from a field or cage isolation near Holtville, CA in 2012 and bulked to form breeder seed.

Areas of Probable Adaptation

ArtesianSun 6.3 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions

Agronomic and Botanical Characteristics

ArtesianSun 6.3 is moderately fall dormant similar to the FD 6 check. Flower color (Syn 2) is 98% Purple, 1% cream, with a trace of Variegated, White and Yellow. It expresses a high degree of multifoliolate leafiness.

ArtesianSun 6.3 is highly resistant to anthracnose, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Aphanomyces root rot (race 1), pea aphid and stem nematode, resistance to bacterial wilt, and moderate resistance to northern root knot nematode (*M. hapla*). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Seed increase is on a limited generation basis with one generation each of breeder and two generations of foundation classes and certified seed classes. Production of Syn 2 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in 2012 near Holtville, CA. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in 2017 if 412W201 is accepted for certification.

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

**Generations Allowed –
Mark All That Apply**

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

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

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

PVP Information

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

Descriptive information cannot be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

LG 4R300 FG R410W758 (Exp) (Amended – Name Change)

Variety Name LG 4R300

Experimental Designation(s) FG R410W758

Date A&MLVRB first recommended this variety January, 2016

Date(s) any previous amendments were recommended _____

Date this amendment was submitted September 12, 2017

Origin and Breeding History

LG 4R300 is a synthetic variety with 110 parent plants developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to FGI breeding lines (100%) from field nurseries established in Idaho and Washington. In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

LG 4R300 is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho, Oregon and Washington.

Agronomic and Botanical Characteristics

LG 4R300 is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 91% purple, 3% white, 2% yellow, 3% cream with a trace of variegated. Test variety is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, *Aphanomyces* root rot (race 1), bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode (*Ditylenchus dipsaci*). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock:

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
Registered None
Certified 6

PVP Information

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

Descriptive information can be provided to the PVP office.

Date this application was submitted: Sep 12, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa
LG 5R300
FG R410W253 (Exp)
(Amended – Name Change)

Variety Name LG 5R300
 Experimental Designation(s) FG R410W253
 Date A&MLVRB first recommended this variety January, 2016
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted September 12, 2017

Origin and Breeding History

LG 5R300 is a synthetic variety with 16 parent plants developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance and resistance to Fusarium Wilt (*Fusarium oxysporum*), Verticillium wilt (*Verticillium albo-atrum*) and alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to FGI breeding lines (100%) from field nurseries established in Idaho and Washington. In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

LG 5R300 is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho, Oregon and Washington.

Agronomic and Botanical Characteristics

LG 5R300 is moderately dormant, similar to the FD 5 check. Flower color (Syn 2) is 96% purple, 2% variegated, 1% white, with a trace of cream and yellow. Test variety is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, Aphanomyces root rot (race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode (*Ditylenchus dipsaci*). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock:

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

Foundation X
 Registered _____
 Certified X

Length of Stand Limitation – If None, Please State

Foundation 3
 Registered None
 Certified 6

PVP Information

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

Descriptive information can be provided to the PVP office.

Date this application was submitted: Sep 12, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

AmeriStand 618NT FG 68M802 (Exp) (Amended – Name Change)

Variety Name AmeriStand 618NT
Experimental Designation(s) FG 68M802
Date A&MLVRB first recommended this variety January 2017
Date(s) previous amendments were recommended _____
Date amendment submitted August 18, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

AmeriStand 618NT is Non Dormant similar to FD7 check. Flower Color (Syn2) is 99% purple with a trace variegated, yellow, white and cream. FG 68M802 has moderate multifoliolate leaf expression.

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2017.

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

PVP Information

No decision has been made concerning Plant Variety Protection Act.

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

Date this application was submitted: Aug 18, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
440HVXRR
FG RRL42M417 (Exp)
(Amended – Name Change)

Variety Name 440HVXRR
 Experimental Designation(s) FG RRL42M417
 Date A&MLVRB first recommended this variety January, 2017
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted September 21, 2017

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 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 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

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: Sep 21, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

L-446RR FG R57M129 (Exp) (Amended – Name Change)

Variety Name L-446RR

Experimental Designation(s) FG R57M129

Date A&MLVRB first recommended this variety January, 2012

Date(s) any previous amendments were recommended _____

Date this amendment was submitted September 19, 2017

Origin and Breeding History

L-446RR is a synthetic variety with 48 parent plants developed by Forage Genetics. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines 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

L-446RR 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

L-446RR 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.

L-446RR is “Roundup Ready®” expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. L-446RR 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 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: Sep 19, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

CavalryDQ LS 1101 (Exp)

Origin and Breeding History

CavalryDQ (LS1101) is a synthetic variety with 84 parent plants that was developed by Legacy Seeds, Inc. The 84 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2011.

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

CavalryDQ is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 93% purple and 6% variegated with traces of white, yellow and cream.

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

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2011. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2018. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </u>

PVP Information

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

Date this application was submitted: Nov 20, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

GA-497HD LS 1004 (Exp)

Origin and Breeding History

GA-497HD (LS1004) is a synthetic variety with 85 parent plants that was developed by Legacy Seeds, Inc. The 85 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2010.

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

GA-497HD is a moderately dormant variety similar to the FD5 check. Flower color (Syn 2) is approximately 96% purple and 3% variegated with traces of white, yellow and cream.

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

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2010. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2018. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </u>

PVP Information

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

Date this application was submitted: Nov 20, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

Radiance HD II LS 1103 (Exp)

Origin and Breeding History

Radiance HD II (LS1103) is a synthetic variety with 85 parent plants that was developed by Legacy Seeds, Inc. The 85 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2011.

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

Radiance HD II is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 95% purple and 4% variegated with traces of white, yellow and cream.

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

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2011. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2018. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </u>

PVP Information

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

Date this application was submitted: Nov 20, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

LS 1104 (Exp)

Origin and Breeding History

LS1104 is a synthetic variety with 100 parent plants that was developed by Legacy Seeds, Inc. The 100 parent plants were selected phenotypically based on high forage yield, good winter survival, and the absence of root and crown diseases. Prior to going to the field nursery, the parent plants had been selected for resistance to Aphanomyces root rot (race 2). The breeder seed was produced in isolation near Nampa, ID in 2011.

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 1104 is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 89% purple and 10% variegated with traces of white, yellow and cream.

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

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2011. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) are recognized. Legacy Seeds will maintain sufficient foundation seed (Syn 2 or Syn 3) for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2018. Certified seed production acreage may not be published by AOSCA and member agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 </u>
Registered	<u> </u>
Certified	<u> 6 </u>

PVP Information

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

Date this application was submitted: Nov 20, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa
L-449APH2
FG R57M129 (Exp)
(Amended – Name Change)

Variety Name L-449APH2

Experimental Designation(s) LS 702

Date A&MLVRB first recommended this variety Nov 18, 2010

Date(s) any previous amendments were recommended _____

Date this amendment was submitted September 19, 2017

Breeding History

L-449APH2 is a synthetic variety with 98 parent plants. The parent plants trace to 3 populations that were selected for resistance to *Aphanomyces* root rot (Race 1 and Race 2). The *Aphanomyces* resistant plants were transplanted to a performance nursery near Evansville, WI. The 98 parent plants were selected phenotypically based on high forage yield, good winter survival, and the absence of root and crown diseases. Seed of the selected plants was produced in an isolation field near Nampa, ID.

Area of Probable Adaptation

This variety is adapted to the North Central and East Central regions of the U.S. It will be used primarily for hay, haylage, greenchop and dehydration. It has been tested in Wisconsin and is intended for use in the North Central and East Central regions of the United States.

Agronomic and Botanical Characteristics

This variety is a moderately fall dormant cultivar with a fall dormancy similar to the FD 4 check. Flower color in the Syn 2 generation is approximately 95% purple and 5% variegated with traces of cream, yellow and white.

This variety has high resistance to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, *Aphanomyces* root rot (Race 1), and *Aphanomyces* root rot (Race 2). Resistance to stem nematode, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, and root-knot nematode has not been determined.

Procedures for Maintaining Seed Stock

Seed classes for this cultivar will be breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3). Stand life will be limited to 1, 3, and 6 years for breeder, foundation, and certified seed, respectively. Legacy Seeds will maintain sufficient seed stocks for the life of this variety. Breeder seed was produced near Nampa, Idaho in 2007.

Date Certified Seed to be First Offered for Sale

Seed may be marketed in 2010.

PVP Information:

Plant Variety Protection will not be applied for.

This information can be forwarded to the PVP office.

Date this application was submitted: Sep 19, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW9106

SW16NPD77 (Exp)

Origin and Breeding History

SW9106 (SW16NPD77 experimental designation) is a synthetic population in which 164 parent plants were selected from two S&W experimental populations for plant vigor, plant height, large crowns, healthy roots, forage yield and resistance to Bacterial Wilt, Fusarium Wilt, Phytophthora Root Rot, Pea Aphid, Spotted Alfalfa Aphid, and Blue Alfalfa Aphid. Breeder seed was produced from an isolation block in 2011 near Firebaugh, CA. All seed was harvested in total on all parent plants and bulked to produce Syn 2 breeder seed.

Areas of Probable Adaptation

This variety is adapted to the Southwest and Southeast areas of the United States. SW9106 has been tested in California and Wisconsin. Areas of intended use are: the Southwest and Southeast areas of the United States and similar environments around the globe.

Agronomic and Botanical Characteristics

SW9106 is very non-dormant, similar to the FD 9 check. Flower color of Syn3 of SW9106 is 97% purple, 2% variegated with a trace of cream, white and yellow.

SW9106 is highly resistant to Fusarium wilt, resistant to Verticillium wilt, Phytophthora root rot, spotted alfalfa aphid, and stem nematode, moderately resistant to bacterial wilt and Aphanomyces root rot (Race 1), and has low resistance to Anthracnose (Race 1). It has not been tested for other pest reactions.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. 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. 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 SW9106 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4114, SW1114, 11XXP14, W10XXP82 (Exp)

Origin and Breeding History

SW4114, SW1114, 11XXP14, W10XXP82 (all experimental designations), is an intercross of 163 plants from multiple S&W germplasms, identified using phenotypic recurrent selection in field selection nurseries for, forage quality, persistence, agronomic characteristics and improved forage yield. Parents originated from 5 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, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States. SW4114 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

SW4114 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 46% purple, 52% variegated, 1% white, with a trace of yellow and cream. SW4114 is highly resistant to Anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, pea aphid, and *Phytophthora* root rot; with resistance to spotted alfalfa aphid. SW4114 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

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 2010 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 2018 if SW4114 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4118Y, 11YYP18, N10YYP94 (Exp)

Origin and Breeding History

SW4118Y, 11YYP18, N10YYP94 (all experimental designations) is an 82-plant intercross of two S&W germplasms in which all parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N05PY93 originated from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Connell WA. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States. SW4118Y 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

SW4118Y is moderately dormant, similar to the FD 4 check. It is extremely winterhardy. Flower color (Syn 3) is 90% purple, 6% variegated, 3% cream, with a trace of yellow and white. SW4118Y is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and 2), bacterial wilt, Verticillium wilt, pea aphid, stem nematode and Phytophthora root rot; with resistance to Fusarium wilt. SW4118Y is moderately resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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 2010 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 2018 if SW4118Y is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4413Y, SW1413Y, 14YYP13, W13YYS82 (Exp)

Origin and Breeding History

SW4413Y, SW1413Y, 14YYP13, W13YYS82 (all experimental designations), is an intercross of 71 plants from multiple S&W germplasms, identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents originated 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, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2013 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States. SW4413Y 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

SW4413Y is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 98% purple, 1% variegated, with a trace of yellow, cream and white. SW4413Y is highly resistant to Anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, pea aphid and *Phytophthora* root rot; with resistance 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

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 SW4413Y is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4503Z, SW1503Z, 15ZPD03, W14ZZP42 (Exp)

Origin and Breeding History

SW4503Z, SW1503Z, 15ZPD03, W14ZZP42 (all experimental designations) is a 79 plant intracross of plants identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), potato leafhopper resistance, persistence, agronomic characteristics and improved forage yield. Parents of W14ZZP42 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 and the East Central areas of the United States. SW4503Z has been tested in Ohio and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

Agronomic and Botanical Characteristics

SW4503Z is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 96% purple, 2% variegated, 1% white, with a trace of yellow and cream. SW4503Z is highly resistant to Anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, pea aphid, potato leafhopper, spotted alfalfa aphid and *Phytophthora* root rot. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (SYN 1) was grown in greenhouse isolation in 2013 in Arlington, WI. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2018 if SW4503Z is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5116Y, SW4116Y, 11YYP16, N10YYP92 (Exp)

Origin and Breeding History

SW5116Y, SW4116Y, 11YYP16, N10YYP92 is a 160-plant intercross of S&W germplasm in which all parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N10YYP92 originated 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. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Connell WA. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States. SW5116Y 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

SW5116Y is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 91% purple, 7% variegated, 1% cream, with a trace of yellow and white. SW5116Y is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, stem nematode and Phytophthora root rot; with resistance 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

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 2010 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.

Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2018 if SW5116Y is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5304, SW1304, 13XXP04, W12XXP64 (Exp)

Origin and Breeding History

SW5304, SW1304, 13XXP04, W12XXP64 (all experimental designations) is a 114 plant intercross of 3 S&W germplasms. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of W12XXP64 originated from three 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, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2012 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States. SW5304 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

SW5304 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, cream, yellow, and white. SW5304 is highly resistant to Anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and Race 2), bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, and *Phytophthora* root rot; with resistance to pea aphid and spotted alfalfa aphid. SW5304 has moderate resistance 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

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 2012 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 SW5304 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

Foundation X
Registered
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5502Z, SW1502Z, 15ZZP02, W14ZZP41 (Exp)

Origin and Breeding History

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. SW5502Z 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

SW5502Z 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. SW5502Z 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 SW5502Z is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed –

Mark All That Apply

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

Length of Stand Limitation –

If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa
54Q29
SW4208, 12XXP08, N11XXP62 (Exp)
(Amended – Add Winter Survival Rating)

Variety Name 54Q29
 Experimental Designation(s) SW4208, 12XXP08, N11XXP62
 Date A&MLVRB first recommended this variety Feb 1, 2016
 Date(s) any previous amendments were recommended January 10, 2017
 Date this amendment was submitted November 30, 2017

Origin and Breeding History

54Q29 (SW4208, 12XXP08, N11XXP62 all experimental designations) is a 61 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N11XXP62 originated from two S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, *Phytophthora* root rot, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

54Q29 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. 54Q29 has been tested in Minnesota, Washington, Wisconsin, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

Agronomic and Botanical Characteristics

54Q29 is moderately dormant, similar to the FD 4 check. It is winterhardy. Flower color (Syn 3) is 99% purple, with traces of yellow, cream, white, and variegated. SW4208 is highly resistance to Anthracnose (Race 1), bacterial wilt, *Verticillium* wilt, *Phytophthora* root rot, *Aphanomyces* root rot (Race 1), pea aphid, and stem nematode. SW4208 is resistant to *Fusarium* wilt, *Aphanomyces* root rot (Race 2), and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in 2016 of 54Q29.

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

**Generations Allowed –
Mark All That Apply**

Foundation 3 years
 Registered _____
 Certified 6 years

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

Foundation X
 Registered _____
 Certified X

PVP Information

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

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa
54VQ52
SW3403, SW1403, 14XXP03, N13XXP70 (Exp)
(Amended – Name Change & Add Winter Survival Rating)

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 _____
 Date this amendment was submitted November 30, 2017

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 and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, pea aphid, stem nematode 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**

Foundation X
 Registered _____
 Certified X

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

Foundation 3 years
 Registered _____
 Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

54VR10

14XXP20R, R13XXP133 (Exp) (Amended – Add Winter Survival Rating)

Variety Name 54VR10

Experimental Designation(s) 14XXP20R, R13XXP133

Date A&MLVRB first recommended this variety January 31, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

54VR10 (Experimental designation 14XXP20R, R13XXP133) is an intracross of 148 parent plants selected by S&W Seed Company from a S&W Seed Company experimental 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 1) was grown in the greenhouse isolation in early 2014 in Arlington, WI. Seed was bulked in total.

Areas of Probable Adaptation

54VR10 is adapted to the North Central and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Wisconsin 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

54VR10 is moderately dormant, similar to the FD 4 check. It is winterhardy. Flower color (Syn 2) is 98% purple, 1% white, and traces of yellow, variegated and cream. 54VR10 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 spotted alfalfa aphid and stem nematode. It is moderately resistant to *Fusarium* wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and two 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. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 1) was produced in greenhouse isolation in early 2014 in Arlington. 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 will be available for sale in the spring of 2017 if 54VR10 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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Alfalfa

54VR10

14XXP20R, R13XXP133 (Exp) (Amended – Add Winter Survival Rating)

Variety Name 54VR10

Experimental Designation(s) 14XXP20R, R13XXP133

Date A&MLVRB first recommended this variety January 31, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Generations Allowed – Mark All That Apply

Foundation X

Registered _____

Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 years

Registered _____

Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa
SW4209
SW4209, 12XXP09, N11XXP63 (Exp)
(Amended – Name Change & Add High Resistance to Bacterial Wilt)

Variety Name SW4209
 Experimental Designation(s) SW4209, 12XXP09, N11XXP63
 Date A&MLVRB first recommended this variety February 1, 2016
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted November 30, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

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

Generations Allowed – Mark All That Apply

Foundation X
 Registered _____
 Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 years
 Registered _____
 Certified 6 years

PVP Information

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

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

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW1401Z, 14ZZC01, W13ZZC41 (Exp) (Amended – Add Winter Survival Rating & High Resistance to Fusarium Wilt)

Variety Name _____

Experimental Designation(s) SW1401Z, 14ZZC01, W13ZZC41

Date A&MLVRB first recommended this variety February 14, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW1401Z, 14ZZC01, W13ZZC41 (all experimental designations) is a 31 clone synthetic in which all parents originated from S&W germplasms, were selected based on half sib performance 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 (Race 1&2), and potato leafhopper resistance. Seed of the SYN 1 was bulked by component. Breeder seed (SYN 1) was grown in cage isolation in 2014 on 4 replicates of 31 parent plants in Connell, WA. SYN 1 seed was harvested by parent plant bulking all individual replicates and bulked equally by component parent plant.

Areas of Probable Adaptation

SW1401Z is adapted to the North Central and East Central regions of the U.S. and similar environments. The variety has been tested in Wisconsin and Ohio. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Southeast and Great Plains areas of the United States.

Agronomic and Botanical Characteristics

SW1401Z is dormant, similar to the FD 3 check. It is very winterhardy. Flower color (Syn 2) is 90% purple, 7% variegated, 2% cream, with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and 2) and potato leafhopper. It is resistant to Verticillium wilt, pea aphid, 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

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 2014 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 SW1401Z is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW1402Z, 14ZZC02, W13ZZC42 (Exp) (Amended – Add Winter Survival Rating)

Variety Name _____
Experimental Designation(s) SW1402Z, 14ZZC02, W13ZZC42
Date A&MLVRB first recommended this variety February 14, 2017
Date(s) any previous amendments were recommended _____
Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW1402Z, 14ZZC02, W13ZZC42 (all experimental designations) is a 19 clone synthetic in which all parents originated from S&W germplasms, were selected based on half sib performance 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. Seed of the SYN 1 was bulked by component. Breeder seed (SYN 1) was grown in cage isolation in 2014 on 6 replicates of 19 parent plants in Connell, WA. SYN 1 seed was harvested by parent plant bulking all individual replicates and bulked equally by component parent plant.

Areas of Probable Adaptation

SW1402Z is adapted to the North Central and East Central regions of the U.S. and similar environments. The variety has been tested in Wisconsin and Ohio. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Southeast and Great Plains areas of the United States.

Agronomic and Botanical Characteristics

SW1402Z is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 36% purple, 38% variegated, 15% cream, and 10% white with a trace of yellow. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, potato leafhopper and Aphanomyces root rot (Race 1 and 2). It is resistant to pea aphid, 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

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 2014 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 SW1402Z is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW3406, SW1406, 14XXP06, W13XXP60 (Exp) (Amended – Add Winter Survival Rating, High Resistance to Bacterial Wilt & Fusarium Wilt)

Variety Name _____
Experimental Designation(s) SW3406, SW1406, 14XXP06, W13XXP60
Date A&MLVRB first recommended this variety January 10, 2017
Date(s) any previous amendments were recommended _____
Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW3406, SW1406, 14XXP06, W13XXP60, (all experimental designations) is an intracross of 97 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 Arlington, WI in 2013. Seed was bulked equally.

Areas of Probable Adaptation

This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW3406 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

SW3406 is dormant, similar to the FD 3 check. It is very winterhardy. Flower color (Syn 3) is 58% purple, 1% cream, 40% variegated with a trace of yellow and white. The variety is highly resistant to bacterial wilt, Fusarium wilt, Anthracnose (Race 1), Verticillium wilt, Phytophthora root rot, pea aphid and Aphanomyces root rot (Race 1 and 2). It is resistant to stem nematode 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 Arlington, Wisconsin. 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 SW3406 is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW3407, SW1407, 14XXP07, W13XXS61 (Exp) (Amended – Add Winter Survival Rating & High Resistance to Bacterial Wilt)

Variety Name _____
Experimental Designation(s) SW3407, SW1407, 14XXP07, W13XXS61
Date A&MLVRB first recommended this variety January 10, 2017
Date(s) any previous amendments were recommended _____
Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW3407, SW1407, 14XXP07, W13XXS61, (all experimental designations) is an intracross of 56 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 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. SW3407 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

SW3407 is dormant, similar to the FD 3 check. It is winterhardy. Flower color (Syn 3) is 71% purple, 1% cream, 27% variegated with a trace of yellow and white. The variety is highly resistant to bacterial wilt, Anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Aphanomyces root rot (Race 1 and 2). It is resistant to pea aphid, stem nematode, 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 Arlington Wisconsin. 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 SW3407 is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X

Registered _____

Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years

Registered _____

Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4112, SW1112, 11XXP12, N10XXP81 (Exp) (Amended – Add Winter Survival Rating, High Resistance to Bacterial Wilt & Fusarium Wilt)

Variety Name _____
Experimental Designation(s) SW4112, SW1112, 11XXP12, N10XXP81
Date A&MLVRB first recommended this variety January 10, 2017
Date(s) any previous amendments were recommended _____
Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW4112, SW1112, 11XXP12, N10XXP81 (all experimental designations) is an intracross of 150 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 Connell, WA in 2010. 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. SW4112 has been tested in Washington, New York 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

SW4112 is moderately dormant, similar to the FD 4 check. It is winterhardy. Flower color (Syn 3) is 65% purple, 1% cream and 33% variegated with a trace of yellow and white. The variety is highly resistant to bacterial wilt, Fusarium wilt, Anthracnose (Race 1), Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). It is resistant to pea aphid, spotted alfalfa aphid and Aphanomyces root rot (Race 2). 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

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 the greenhouse in Connell, WA in 2010. 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 SW4112 is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4122Y, SW1122Y, 11YYC22, N10YYC96 (Exp) (Amended – Add Winter Survival Rating & High Resistance to Bacterial Wilt)

Variety Name _____

Experimental Designation(s) SW4122Y, SW1122Y, 11YYC22, N10YYC96

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

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW4122Y, SW1122Y, 11YYC22, N10YYC96, (all experimental designations) is an intracross of 24 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals. Parent clones were selected from half sib performance trials across multiple locations 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. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2010 and crossed as a replicated polycross. Seed was bulked equally from each 24 parent clones.

Areas of Probable Adaptation

This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States and Canada. SW4122Y has been tested in Washington, New York, 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

SW4122Y is moderately dormant, similar to the FD 4 check. It is winterhardy. Flower color (Syn 3) is 92% purple, and 7% variegated with a trace of yellow, cream and white. The variety is highly resistant to bacterial wilt, Anthracnose (Race 1), Phytophthora root rot, Verticillium wilt, stem nematode and Aphanomyces root rot (Race 1). It is resistant to Fusarium wilt, pea aphid, Aphanomyces root rot (Race 2), and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation 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 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 SW4122Y is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW4203Z, 12ZZC03, W11ZZC55 (Exp) (Amended – Add Winter Survival Rating, High Resistance to Verticillium Wilt & Potato Leafhopper)

Variety Name _____

Experimental Designation(s) SW4203Z, 12ZZC03, W11ZZC55

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

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

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

Generations Allowed – Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation – If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

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

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

Date this application was submitted: Nov 30, 2017

Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5206, SW1206, 12XXC06, W11XXC66 (Exp) (Amended – Add Winter Survival Rating)

Variety Name _____
Experimental Designation(s) SW5206, SW1206, 12XXC06, W11XXC66
Date A&MLVRB first recommended this variety January 31, 2017
Date(s) any previous amendments were recommended _____
Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW5206, SW1206, 12XXC06, W11XXC66, (experimental designations) is an intracross of 9 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals. Parent plants selected based on half sib performance 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. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2011 in a replicated polycross design. Seed was bulked by replicate clone and then equally between each of the 9 clones 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. SW5206 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

SW5206 is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 3) is 93% purple, 5% variegated, 1% white, 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, and Aphanomyces root rot (Race 1). It is resistant to Fusarium wilt, stem nematode, Aphanomyces root rot (Race 2) and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation 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 Wisconsin 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 SW5206 is recommended for certification.

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

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	<u> 3 years </u>
Registered	<u> </u>
Certified	<u> 6 years </u>

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5207, SW1207, 12XXP07, N11XXP61 (Exp) (Amended – Add Winter Survival Rating, High Resistance to Bacterial Wilt & Fusarium Wilt)

Variety Name _____

Experimental Designation(s) SW5207, SW1207, 12XXP07, N11XXP61

Date A&MLVRB first recommended this variety January 31, 2017

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW5207, SW1207, 12XXP07, N11XXP61 (all experimental designations) is an intracross of 68 parent plants (Syn 1) selected by S&W Seed Company from 2 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 Connell, WA in 2011. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States and Canada. SW5207 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

SW5207 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 3) is 92% purple, 6% variegated, 1% white, with a trace of yellow and cream. The variety is highly resistant to bacterial wilt, Fusarium wilt, Anthracnose (Race 1), Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and 2), stem nematode and pea aphid. It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation 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 Connell, WA in 2011. 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 SW5207 is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5212, 12XXP12, N11XXP60 (Exp) (Amended – Add Winter Survival Rating, High Resistance to Stem Nematode, & Resistance to Fusarium Wilt)

Variety Name _____

Experimental Designation(s) SW5212, 12XXP12, N11XXP60

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

Date(s) any previous amendments were recommended _____

Date this amendment was submitted November 30, 2017

Origin and Breeding History

SW5212, 12XXP12, N11XXP60 (all experimental designations) is an intracross of 100 plants (Syn 1) selected by S&W Seed Company from two 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 (Race 1&2) and stem nematode. Parent plants were identified using phenotypic selection in Northwest 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 2011. Seed was bulked in total.

Areas of Probable Adaptation

This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States and Canada. SW5212 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

SW5212 is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 2) is 98% purple, 1% white, with a trace of variegated, yellow and cream. SW5212 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and 2), bacterial wilt, Verticillium wilt, pea aphid, stem nematode and Phytophthora root rot; with resistance to spotted alfalfa aphid and Fusarium wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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 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 SW5212 is recommended for certification.

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

Generations Allowed –

Mark All That Apply

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018



Alfalfa

SW5223Y, SW4223Y, 12YYP23, W11YYP81 (Exp) (Amended – Add Winter Survival Rating & High Resistance to Bacterial Wilt)

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 _____
Date this amendment was submitted November 30, 2017

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 and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, stem nematode 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

Foundation X
Registered _____
Certified X

Length of Stand Limitation –

If None, Please State

Foundation 3 years
Registered _____
Certified 6 years

PVP Information

No decision has been made regarding submission of an application for Plant Variety Protection. If application is made, the Title V certification option will not be selected. Descriptive information can be provided to the PVP office.

Date this application was submitted: Nov 30, 2017 Date recommended by the VRB: Jan 24, 2018

