A REPORT OF THE

ALFALFA AND MISCELLANEOUS LEGUMES

VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

APRIL 2024

ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD REPORT ©2024

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ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(April 2024)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on February 16, 2024. 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,

Paula Moore, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

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Alfalfa
Variety Name: AFX 467
Experimental Designation: AFX164033

Origin and Breeding History

AFX 467 is a synthetic variety developed by DLF USA with 203 parent plants selected sequentially for germination, seedling growth, and mature plant regrowth after repeated irrigation with 100 mM NaCl solution in the greenhouse. Parent plants were selected from source varieties of various populations that were developed by phenotypic recurrent selection for tolerance to NaCl, winter hardiness, high forage dry matter yield, high forage quality, and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), anthracnose (race 1), and Leptosphaerulina leafspot. Parentage of AFX 467 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX 467 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 467 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 467 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 94% purple, 4% variegated, 1%cream and a trace of white, and yellow.
AFX 467 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 467 has tolerance to salt (NaCl) at germination. AFX 467 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), Pea aphid and Stem nematode. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 467 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2016. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 467 will be available in 2024. 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.

Alfalfa
Variety Name: AFX 479
Experimental Designation: AFX184024

Origin and Breeding History
AFX 479 is a synthetic variety developed by DLF USA with 200 parent plants selected for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various DLF USA populations that were developed by phenotypic selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 479 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation
AFX 479 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 479 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
AFX 479 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 95% purple, 4% variegated, and a trace of cream, white, and yellow. AFX 479 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 479 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid and Stem nematode. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of AFX 479 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 479 will be available in 2024. 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.

Alfalfa
Variety Name: AFX 589
Experimental Designation: AFX185070

Origin and Breeding History

AFX 589 is a synthetic variety developed by DLF USA with 200 parent plants selected for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various DLF USA populations that were developed by phenotypic selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 589 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX 589 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 589 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 589 is a dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.1 generation is approximately 91% purple, 7% variegated, 1% cream and a trace of white, and yellow. AFX 589 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 589 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), Pea aphid, and Stem nematode. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 589 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 589 will be available in 2024. 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.

Alfalfa
Experimental Designation: AFX184017

Origin and Breeding History
AFX184017 is a synthetic variety developed by DLF USA with 15 parent plants selected for high forage dry matter yield, high forage quality, dense crowns, high leaf to stem ratio, persistence, vigorous roots, and no stem, crown, or root rot. Parent plants were selected from three-year-old Wisconsin selection nurseries, and a three year old Minnesota yield trial, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Source plants were composed of various populations that were developed by phenotypic selection for winter hardiness, high forage dry matter yield, high forage quality, and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX184017 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation
AFX184017 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. AFX184017 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
AFX184017 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 90% purple, 8% variegated, 1% cream and a trace of white, and yellow. AFX184017 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX184017 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. Reaction to Pea aphid, Spotted alfalfa aphid, Blue Alfalfa aphid, Stem nematode, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of AFX184017 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 AFX184017 will be available in 2024. 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.

Alfalfa
Experimental Designation: AFX184021

Origin and Breeding History
AFX184021 is a synthetic variety developed by DLF USA with 200 parent plants selected for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various DLF USA populations that were developed by phenotypic selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX184021 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation
AFX184021 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. AFX184021 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
AFX184021 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 99% purple and a trace of cream, yellow, variegated, and white. AFX184021 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX184021 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Stem nematode. Reaction to Pea aphid, Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of AFX184021 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 AFX184021 will be available in 2024. 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.

Alfalfa
Experimental Designation: AFX184034

Origin and Breeding History
AFX184034 is a synthetic variety developed by DLF USA with 152 parent plants selected for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various DLF USA populations that were developed by phenotypic selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX184034 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation
AFX184034 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. AFX184034 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
AFX184034 is a moderately dormant variety with fall dormancy similar to FD class 5 check varieties. Flower color observed in the Syn.1 generation is approximately 92% purple, 7% variegated, and a trace of cream, white, and yellow. AFX184034 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, Stem nematode, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of AFX184034 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 AFX184034 will be available in 2024. 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.

Alfalfa
Experimental Designation: AFX184035

Origin and Breeding History

AFX184035 is a synthetic variety developed by DLF USA with 151 parent plants selected for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various DLF USA populations that were developed by phenotypic selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX184035 traces 100% to miscellaneous DLF USA breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2018. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

AFX184035 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. AFX184035 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX184035 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 84% purple, 14% variegated, 1% cream and a trace of white, and yellow. AFX184035 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid and Stem nematode. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX184035 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 2018. Sufficient foundation seed for the projected life of the variety will be maintained by DLF USA. 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 AFX184035 will be available in 2024. 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.

Alfalfa
Variety Name: Ace
Experimental Designation: AFX134014
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended January 2021

Date this amendment was submitted November 30, 2023

Origin and Breeding History

Ace is a synthetic variety developed by Alforex Seeds with 8 parent plants selected for high forage dry matter yield, high forage quality, and persistence. Parent plants were selected from a three-year-old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Ace traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2013. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

Seed increase of Ace is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2013. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	
Certified	6

PVP Information

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

Alfalfa
Variety Name: AFX 439
Experimental Designation: AFX154012
(VarietalAmendment)

Date A&MLVRB first recommended this variety January 2021

Date(s) any previous amendments were recommended January 2022

Date this amendment was submitted November 30, 2023

Origin and Breeding History

AFX 439 is a synthetic variety developed by Alforex Seeds with 15 parent plants selected for high forage dry matter yield, high forage quality, and persistence. Parent plants were selected from a three-year-old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of AFX 439 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2015. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

AFX 439 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. AFX 439 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

AFX 439 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. AFX 439 is Extremely Winterhardy, similar to WS class 1 check variety. Flower color observed in the Syn.2 generation is approximately 90% purple, 8% cream, 1% white and a trace of variegated and yellow. AFX 439 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 439 has tolerance to salt (NaCl) at germination. AFX 439 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Spotted alfalfa aphid, and Cowpea aphid. It has resistance to Aphanomyces root rot (race 2), Blue Alfalfa aphid, Pea aphid, and Stem nematode. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of AFX 439 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2015. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of AFX 439 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	
Certified	6

PVP Information

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

Alfalfa
Variety Name: Dynamo
Experimental Designation: CW A115022
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended January 2020

Date this amendment was submitted November 30, 2023

Origin and Breeding History

Dynamo is a synthetic variety developed by Alforex Seeds with 19 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three-year-old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Dynamo traces 100% to various Alforex Seeds experimentals. Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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.

Alfalfa
Variety Name: Reload
Experimental Designation: AFX164040
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2020

Date(s) any previous amendments were recommended January 2021

Date this amendment was submitted November 30, 2023

Origin and Breeding History

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

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

Reload is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 90% purple, 6% variegated, 3% white, and a trace of cream, and yellow**.** Reload is Very Winterhardy, similar to WS class 2 check variety. Reload has Low multifoliolate leaf expression rating similar to the Low MF check variety. Reload has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Blue alfalfa aphid, Spotted alfalfa aphid, Cowpea aphid and Stem Nematode. It has moderate resistance to Pea aphid. Reaction to Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Reload is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2016. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Reload will be available in 2020. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

Foundation	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.

Alfalfa
Variety Name: Shift
Experimental Designation: AFX163009
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2021

Date(s) any previous amendments were recommended January 2023

Date this amendment was submitted November 30, 2023

Origin and Breeding History

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

Areas of Probable Adaptation

Shift 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. Shift has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

Seed increase of Shift is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2016. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Shift will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	
Certified	6

PVP Information

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

Alfalfa
Variety Name: Shockwave II
Experimental DesignationAFX164046
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2021

Date(s) any previous amendments were recommended January 2023

Date this amendment was submitted November 30, 2023

Origin and Breeding History
Shockwave II is a synthetic variety developed by Alforex Seeds with 180 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Shockwave II traces to the following germplasm sources Shockwave 35%, AFX140311 10%, and 55% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

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

Agronomic and Botanical Characteristics
Shockwave II is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 93% purple, 2% cream, 4% white and a trace of variegated and yellow. Shockwave II is Very Winterhardy, similar to WS class 2 check variety. Shockwave II has Low multifoliolate leaf expression rating similar to the Low MF check variety. Shockwave II has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid and Stem Nematode. Reaction to Blue aphid, Spotted alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of Shockwave II is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2016. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed of Shockwave II will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	
Certified	6

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

Alfalfa
Variety Name: Stockpile II
Experimental Designation: AFX164048
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2021

Date(s) any previous amendments were recommended January 2023

Date this amendment was submitted November 30, 2023

Origin and Breeding History

Stockpile II is a synthetic variety developed by Alforex Seeds with 180 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Stockpile II traces to the following germplasm sources Stockpile 50%, and 50% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2016. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

Stockpile II is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 96% purple, 3% white and a trace of variegated, cream, and yellow. Stockpile II is Very Winterhardy, similar to WS class 2 check variety. Stockpile II has Low multifoliolate leaf expression rating similar to the Low MF check variety. Stockpile II has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid and Stem Nematode. Reaction to Blue aphid, Spotted alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock

Seed increase of Stockpile II is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2016. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Stockpile II will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

Generations Allowed – Mark All That Apply

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

Length of Stand Limitation – If None, Please State

Foundation	3
Registered	
Certified	6

PVP Information

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

Alfalfa
Variety Name: Sureshot
Experimental Designation: CW A125028
(Varietal Amendment)

Date A&MLVRB first recommended this variety January 2018

Date(s) any previous amendments were recommended January 2020

Date this amendment was submitted November 30, 2023

Origin and Breeding History

Sureshot is a synthetic variety developed by Alforex Seeds with 68 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three-year-old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Sureshot traces 100% to various Alforex Seeds experimentals. Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 2.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

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

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

Generations Allowed – Mark All That Apply

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.

Alfalfa
Variety Name: X-Force 5400
Experimental Designation: AFX174083
(Name Change & Varietal Amendment)

Date A&MLVRB first recommended this variety January 2022

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2023

Origin and Breeding History
X-Force 5400 is a synthetic variety developed by Alforex Seeds with 151 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for high forage dry matter yield, high forage quality, persistence, and for resistance to one or more of the following pests: Bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), Anthracnose (race 1). Parentage of X-Force 5400 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Sloughhouse, California in 2017. Seed was bulk harvested from all parent plants as Synthetic generation 1.

Areas of Probable Adaptation
X-Force 5400 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. X-Force 5400 has been tested in Minnesota, and Wisconsin.

Agronomic and Botanical Characteristics
X-Force 5400 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.1 generation is approximately 99% purple and a trace of variegated, cream, white and yellow. X-Force 5400 is Very Winterhardy, similar to WS class 2 check variety. X-Force 5400 has Low multifoliolate leaf expression rating similar to the Low MF check variety. X-Force 5400 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Pea aphid, and Stem nematode. Reaction to Spotted alfalfa aphid, Blue Alfalfa aphid, and Root knot nematode has not been tested.

Procedures for Maintaining Seed Stock
Seed increase of X-Force 5400 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Sloughhouse, California in 2017. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed of X-Force 5400 will be available in 2022. 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.

Red Clover

Variety Name: Medallion
Experimental Designation: TP 12

Origin and Breeding History
Medallion (TP 12) red clover weas developed by DLF USA using phenotypic recurrent selection. In all cycles of selection, persistence was the main selection criteria with secondary criteria being forage and seed yield potential and improved resistance to powdery mildew (*Erysiphe polygoni* DC) and anthracnose (*Kabatiella* and *Colletotrichum* spp). The development of Medallion started in 1999 with the development of a source nursery containing 14 varieties and an experimental population. In 2006, cold tolerant ecotypes collected at high altitudes in Eastern Oregon were added to the recurrent program. Syn-1 breeder seed was declared in 2011.

Areas of Probable Adaptation
Medallion (TP 12) has been tested in public university trials in Kentucky, New York, Michigan, and Wisconsin. Medallion is intended for use in the east central region of the United States which these locations represent.

Agronomic and Botanical Characteristics

Classification:	Perennial	Productive Persistence	2-4 years
Ploidy	diploid	Flower Color	53% red, 47% pink
% Flowering Seedling Year	100	% Leaf Marking at 50% Flowering	73
Stem Hairiness	92% hair, 8% glabrous		

Description of Variants: 27% of plants do not have leaf marks. 8% of plants do not have stem hairs

Additional Description and/or Information about Physiology, Pest Reaction, and Other Varietal Attributes
Two days earlier flowering than ‘Kenland’. Two days later flowering than ‘Secretariat’.

Procedures for Maintaining Seed Stock
Seed increases of Medallion is limited to two generations each of breeder (Syn-1 or Syn-2), foundation (Syn-2 or Syn-3), and certified (Syn-3 or Syn-4) classes. Breeder seed was produced in 2011 (Syn-1) and 2018 (Syn-2) sufficient for the life of the variety, and will be maintained by DLF USA in cold storage. Length of stand allowed is 2 years each for the foundation and certified classes, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed of Medallion will be available in 2024. Certified seed production acreage may be published by AOSCA and member agencies.

Generations Allowed –		Length of Stand Limitation –	
Foundation	X	Foundation	2 years
Registered	X	Registered	2 years
Certified	X	Certified	2 years

PVP Information: Application will not be made. Descriptive data may be shared

White Clover

Variety Name: Heslop
Experimental Designation: TR 12, IS-TR 12

Origin and Breeding History
'Heslop' (TR 12) white clover was developed by DLF USA in Philomath, Oregon from a 26 plant polycross. The selection criteria used was plant vigor and persistence, plant flower density, leaf size, and uniform plant type. The polycross traces to 14 populations and cultivars. Sixty-nine percent (69%) traces to unreleased breeder populations from Denmark, eight percent (8%) to the cultivar 'Regal', and four percent (4%) to each of the following cultivars: 'Advantage', 'Ivory', 'Jumbo', 'Pinnacle', and 'Will'. The remaining three percent (3%) traces to a multifoliate ecotype collection designated TRSR, that was collected near Corvallis, Oregon (44.53417˚, -123.2025˚) in 2004. Syn-2 breeder seed was declared in 2012.

Areas of Probable Adaptation
Heslop was trialed for yield in public university trials in the East Central region of the USA at Lexington, Kentucky and Rock Springs, Pennsylvania and is intended for hay production in these regions.

Agronomic and Botanical Characteristics
Classification: Perennial — Persistence: 2-3 years
% Flowering Seeding Year: 15 — Leaf Marking at 50% Flower: 100 % Marked
Flower Color: 98 % White 2 % Pinkish 0 % Pink or Darker
Stolon Density: 27 Number of stolons intersecting within one meter: _____

Description of variants: 2% pinkish flowers

Additional Description and/or Information about Physiology, Pest Reaction, and Other Varietal Attributes
Heslop has a maturity (50% flowering) 3 days earlier than 'Jumbo' and 6 days later than Dutch White. It is a large leaf (ladino type) white clover.

Procedures for Maintaining Seed Stock
Breeder seed of the cultivar is maintained in cold storage at the DLF research station in Philomath, Oregon.

Certified Seed Availability and Publication of Certified Seed Production
If this variety is accepted by AOSCA, certified seed will be offered for sale in the Spring of 2024.

Generations Allowed –		Length of Stand Limitation –	
Foundation	X	Foundation	2
Registered	X	Registered	2
Certified	X	Certified	4

PVP Information
Plant variety protection application will not be submitted. AOSCA may provide descriptive information about this variety to the PVP office.

Alfalfa

Experimental Designation: FG R0415C4156

Origin and Breeding History:

FG R0415C4156 is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and 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 (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2015.

Areas of Probable Adaptation:

FG R0415C4156 is adapted to the North Central and East Central regions. This variety has been tested in Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain, Moderately Winterhardy Intermountain and Great Plains regions.

Agronomic and Botanical Characteristics

FG R0415C4156 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 1% cream, 1% yellow with a trace of variegated and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety is Roundup Ready®.

FG R0415C4156 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid and stem nematode. Reaction to root knot nematode (M. hapla), 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 2024 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.

Alfalfa

Variety Name: ISS ULTRA-4STN

Experimental Designation: FG C0416A3360

Origin and Breeding History:

ISS ULTRA-4STN is a synthetic variety with 220 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2016.

Areas of Probable Adaptation:

ISS ULTRA-4STN is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Wisconsin, Pennsylvania, Washington and Idaho and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

ISS ULTRA-4STN is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of variegated, white, cream, and yellow. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

ISS ULTRA-4STN has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode, with resistance to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Nampa, ID in 2016. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Experimental Designation: FG C0417A3151

Origin and Breeding History:

FG C0417A3151 is a synthetic variety with 220 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2017.

Areas of Probable Adaptation:

FG C0417A3151 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Wisconsin, Pennsylvania, Washington, and Idaho and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG C0417A3151 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% white with a trace of variegated, cream and yellow. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG C0417A3151 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 stem nematode, pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Nampa, ID in 2017. 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Variety Name: WL 3546HQ.RR

Experimental Designation: FG R0418A3646

Origin and Breeding History:

WL 3546HQ.RR is a synthetic variety with 100 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2018.

Areas of Probable Adaptation:

WL 3546HQ.RR is adapted to the North Central, East Central, Great Plains and Winterhardy Intermountain regions. This variety has been tested in Idaho, Kansas, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

WL 3546HQ.RR is Moderately Fall Dormant similar to FD5 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% white, 1% variegated with a trace of yellow and cream. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

WL 3546HQ.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid, spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2018 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Variety Name: AmeriStand 423TQ RR

Experimental Designation: FG R0419A3140

Origin and Breeding History:

AmeriStand 423TQ RR is a synthetic variety with 180 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2019.

Areas of Probable Adaptation:

AmeriStand 423TQ RR is adapted to the North Central and Winterhardy Intermountain regions. This variety has been tested in Wisconsin and Idaho and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

AmeriStand 423TQ RR is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

AmeriStand 423TQ RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid, spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2019 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Variety Name: 6423R

Experimental Designation: FG R0419A3143

Origin and Breeding History:

6423R is a synthetic variety with 180 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2019.

Areas of Probable Adaptation:

6423R is adapted to the North Central and Winterhardy Intermountain regions. This variety has been tested in Wisconsin and Idaho and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

6423R is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 98% purple, 1% cream with a trace of variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

6423R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and pea aphid; with resistance to spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2019 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Variety Name: 441HVXRR

Experimental Designation: FG H0416C4115

Origin and Breeding History:

441HVXRR is a synthetic variety with 109 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: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2016.

Areas of Probable Adaptation:

441HVXRR is adapted to the North Central and East Central regions. This variety has been tested in Wisconsin, Minnesota and Pennsylvania and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

441HVXRR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 91% purple, 5% cream, 3% white with a trace of variegated and yellow. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

441HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid and moderate 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 in 2016 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® 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 2024 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.

Alfalfa

Experimental Designation: FG R0720SN515, 7152024R

Origin and Breeding History:

FG R0720SN515, 7152024R is a synthetic variety with 97 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2020.

Areas of Probable Adaptation:

FG R0720SN515, 7152024R is adapted to the Southwest and Moderately Winterhardy Intermountain regions. This variety has been tested in California and is intended for use in the Southwest and Moderately Winterhardy Intermountain regions of the USA.

Agronomic and Botanical Characteristics

FG R0720SN515, 7152024R is Non-Dormant similar to FD7 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

FG R0720SN515, 7152024R has high resistance to Fusarium wilt, anthracnose (Race 1), pea aphid and stem nematode; with resistance to Phytophthora root rot, spotted alfalfa aphid, bacterial wilt, blue alfalfa aphid and Verticillium wilt. Reaction to root knot nematode (M. hapla) and Aphanomyces root rot (Race 1) has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2020 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 2024 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.

Alfalfa

Experimental Designation: FG R0519ST258, 5581924R

Origin and Breeding History:

FG R0519ST258, 5581924R is a synthetic variety with 143 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2019.

Areas of Probable Adaptation:

FG R0519ST258, 5581924R is adapted to the Winterhardy Intermountain region. This variety has been tested in Idaho and is intended for use in the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics

FG R0519ST258, 5581924R is Moderately Fall Dormant similar to FD5 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

FG R0519ST258, 5581924R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), pea aphid, spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2019 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Experimental Designation: FG R0820SN520, 8202024R

Origin and Breeding History:

FG R0820SN520, 8202024R is a synthetic variety with 111 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2020.

Areas of Probable Adaptation:

FG R0820SN520, 8202024R is adapted to the Southwest region. This variety has been tested in California and is intended for use in the Southwest region.

Agronomic and Botanical Characteristics

FG R0820SN520, 8202024R is Non-Dormant similar to FD8 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

FG R0820SN520, 8202024R has high resistance to Phytophthora root rot, spotted alfalfa aphid, pea aphid and stem nematode; with resistance to bacterial wilt, Fusarium wilt, anthracnose (Race 1), Aphanomyces root rot (Race 1) and Verticillium wilt. 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 2020 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa

Experimental Designation: FG R0919TF549, 9491924R

Origin and Breeding History:

FG R0919TF549, 9491924R is a synthetic variety with 220 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic 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 and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2019.

Areas of Probable Adaptation:

FG R0919TF549, 9491924R is adapted to the Southwest region. This variety has been tested in California and Arizona and is intended for use in the Southwest region.

Agronomic and Botanical Characteristics

FG R0919TF549, 9491924R is Very Non-Dormant similar to FD9 check. Flower Color (Syn2) is 99% purple with a trace of cream, variegated, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

FG R0919TF549, 9491924R has high resistance to anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, spotted alfalfa aphid and stem nematode; with resistance to bacterial wilt, Aphanomyces root rot (Race 1), Verticillium wilt 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 2019 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 2024 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa
Experimental Designation: FG 614T515
Varietal Amendment

Date A&MLVRB first recommended this variety February 2023
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History:

FG 614T515 is a synthetic variety with 150 parent plants. Parent plants were selected from FGI semi-dormant breeding lines for their yield, vigor and/or resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, stem nematode, anthracnose (Race 1), and aphids. Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed from all parents was harvested from a field or isolation near Holtville, California in 2014. Seed was harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation:

FG 614T515 is adapted to the Moderately Winterhardy Intermountain US region and the semi-dormant region of Argentina. This variety has been tested in California and Argentina and is intended for use in the Moderately Winterhardy Intermountain US region and the semi-dormant region of Argentina.

Agronomic and Botanical Characteristics

FG 614T515 is Moderately Dormant similar to FD6 check. Flower Color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG 614T515 has high resistance to anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, pea aphid, and spotted alfalfa aphid; resistance to blue alfalfa aphid, Aphanomyces root rot (Race 1), Verticillium wilt and stem nematode; with moderate resistance to bacterial wilt. Reaction to root knot nematode (M. hapla) has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Holtville, CA in 2014. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2023 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa
Experimental Designation:
FG H0918TF557, FG 9571822H
Varietal Amendment

Date A&MLVRB first recommended this variety: February 2023
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History

FG H0918TF557, FG 9571822H is a synthetic variety with 95 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: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2018.

Areas of Probable Adaptation:

FG H0918TF557, FG 9571822H is adapted to the Southwest region. This variety has been tested in California and Arizona and is intended for use in the Southwest region.

Agronomic and Botanical Characteristics

FG H0918TF557, FG 9571822H is Very Non-Dormant similar to FD9 check. Flower Color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is Roundup Ready®.

FG H0918TF557, FG 9571822H has high resistance to anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, pea aphid, and spotted alfalfa aphid; resistance to Verticillium wilt and stem nematode; with moderate resistance to bacterial wilt. Reaction to Aphanomyces root rot (Race 1), root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2018 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 2023 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa
Experimental Designation: FG 814T030
Varietal Amendment

Date A&MLVRB first recommended this variety: February 2020
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History

FG 814T030 is a synthetic variety with 120 parent plants. Parent plants were selected from forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was grown in field isolation in Argentina 2014. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

FG 814T030 is Non-Dormant similar to FD8 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in Argentina in 2014. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2020 if is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply	
Foundation	X
Registered	
Certified	X

Length of Stand Limitation – If None, Please State	
Foundation	3
Registered	None
Certified	6

PVP Information

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

Alfalfa

Experimental Designation: FG C0515A3357

Varietal Amendment

Date A&MLVRB first recommended this variety: February 2021
Date(s) any previous amendments were recommended: February 2023 SN, SAA
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History:

FG C0515A3357 is a synthetic variety with 73 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2015.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics

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

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

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Nampa, ID in 2015. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

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

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

PVP Information

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

Alfalfa
Variety Name: Centennial
Experimental Designation: FG C0415SN208
Varietal Amendment

Date A&MLVRB first recommended this variety: February 2022
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History:

Centennial is a synthetic variety with 72 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2015.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics

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

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

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced near Nampa, ID in 2015. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2022 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa
Experimental Designation: FG R513M225S
Varietal Amendment

Date A&MLVRB first recommended this variety January 2018
Date(s) any previous amendments were recommended: February 2019 salt germination
Date this amendment was submitted: December 1, 2023, SN, PRR, FD

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 rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was produced from a field isolation near Nampa, ID in 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

Areas of Probable Adaptation

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 5 check. Flower color (Syn 2) is 99% Purple, with a trace of cream, Variegated, White and Yellow. It expresses a moderate degree of multifoliolate leaf expression.

The variety is highly resistant to anthracnose, Phytophthora root rot, stem nematode, bacterial wilt, fusarium wilt, Verticillium wilt, Aphanomyces root rot (race 1), spotted alfalfa aphid. Resistant to pea aphid, blue alfalfa aphid and stem nematode. It has not been tested for other pest reactions. This variety is Roundup Ready®. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2017 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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
Variety Name: Integra 8562R
Experimental Designation: FG R414W277
Varietal Amendment

Date A&MLVRB first recommended this variety February 2021
Date any previous amendments were recommended: February 2022-salt germination
Date this amendment was submitted: December 1, 2023-winter hardiness

Origin and Breeding History

Integra 8562R is a synthetic variety with 101 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested from a field or cage isolation near Nampa, ID in August 2014 and bulked to form breeder seed.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics:

Integra 8562R is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 96% purple, 2% cream, 1% white with a trace of variegated and yellow. This variety has moderate multifoliolate leaf expression. Primary use is hay, haylage, greenchop or dehydration. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2014 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4- epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

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

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

PVP Information

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

Alfalfa
Variety Name: AmeriStand 416NT RR
Experimental Designation: FG R414W279
Varietal Amendment

Date A&MLVRB first recommended this variety: February 2021
Date any previous amendments were recommended: February 2022-name
Date this amendment was submitted: December 1, 2023-winter hardiness

Origin and Breeding History:

AmeriStand 416NT RR is a synthetic variety with 216 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested from a field or cage isolation near Nampa, ID in August 2014 and bulked to form breeder seed.

Areas of Probable Adaptation:

AmeriStand 416NT RR is adapted to the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho and Nebraska and is intended for use in the Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics:

AmeriStand 416NT RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% white with a trace of variegated, cream and yellow. This variety has moderate multifoliolate leaf expression. Primary use is hay, haylage, greenchop or dehydration. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 416NT RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; with resistance to spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2014 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4- epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

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

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

PVP Information

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

Alfalfa
Variety Name: FSG 431LHRR
Experimental Designation: FG R414H347
Varietal Amendment

Date A&MLVRB first recommended this variety: February 2020
Date this amendment was submitted: December 1, 2023-sgtem nematode & pea aphid

Origin and Breeding History:

FSG 431RRLH is a synthetic variety with 104 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI PLH resistant breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Genotypic and phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2014.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics:

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

FSG 431RRLH has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Potato Leafhopper; with resistance to pea aphid and moderate resistance to stem nematode. Reaction to other pests has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2014 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4- epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be available for sale in the spring of 2020 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Alfalfa
Variety Name: GUNNER AA
Experimental Designation: FG C0415C4360

Date A&MLVRB first recommended this variety: February 2019
Date(s) any previous amendments were recommended: August 2021, February 2022 SN, ST
Date this amendment was submitted: December 1, 2023, spotted alfalfa aphid

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

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

Agronomic and Botanical Characteristics:
GUNNER AA is Moderately Fall Dormant similar to FD5 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 87% purple, 5% variegated, 4% cream, 2% yellow and 2% white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.
GUNNER AA has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), stem nematode, spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:
Breeder seed (Syn1) was produced near Nampa, ID in 2015. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 2019 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Alfalfa
Variety Name: 4C450
Experimental Designation: FG C0416C4164

Date A&MLVRB first recommended this variety: February 2021
Date(s) any previous amendments were recommended: February 2023 name
Date this amendment was submitted: December 1, 2023, salt germination

Origin and Breeding History:
4C450 is a synthetic variety with 279 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2016.

Areas of Probable Adaptation:
4C450 is adapted to the North Central and East Central regions. This variety has been tested in Iowa, Pennsylvania, Wisconsin and Minnesota and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

Agronomic and Botanical Characteristics:
4C450 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 2% cream with a trace of variegated, yellow and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.
4C450 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid and spotted alfalfa aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:
Breeder seed (Syn1) was produced near Nampa, ID in 2016. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 2021 if is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Alfalfa
Variety Name: 4HVXR100
Experimental Designation: FG RRL44M377
Name Change Amendment

Date A&MLVRB first recommended this variety: January 2018
Date(s) any previous amendments were recommended: February 2020, Aphanomyces Race 2
Date this amendment was submitted: August 8, 2023

Origin and Breeding History:

4HVXR100 is a synthetic variety with 54 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2014.

Areas of Probable Adaptation:

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

Agronomic and Botanical Characteristics

4HVXR100 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of white, variegated, cream and yellow. This variety has high multifoliolate leaf expression.

4HVXR100 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to stem nematode, pea aphid and Aphanomyces root rot (Race 2). Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

Procedures for Maintaining Seed Stock:

Breeder seed (Syn1) was produced in 2014 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

Certified Seed Availability and Publication of Certified Seed Production

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

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

PVP Information

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

Alfalfa
Variety Name: 10C400
Experimental Designation: FG 1013M185
Name Change Amendment

Date A&MLVRB first recommended this variety: January 2018
Date(s) any previous amendments were recommended: Feb 2020 BW, SN; Feb 2021 BAA
Date this amendment was submitted: August 8, 2023, name change

Origin and Breeding History

10C400 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

10C400 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

10C400 is very nondormant similar to the FD 10 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

This variety is highly resistant to anthracnose (Race 1) and Fusarium wilt; resistant to Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race1), spotted alfalfa aphid, blue alfalfa aphid, bacterial wilt and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

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

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

PVP Information

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

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

Alfalfa
Variety Name: L46-08
Experimental Designation: LS 03JR
Varietal and Name Change Amendment

Date first recommended by the VRB: Feb 6, 2023
Name change & amendment submitted 11/30/2023

Origin and Breeding History:
L46-08 is a synthetic variety with 99 parent plants that were selected out of a space-plant nursery in Evansville, WI in the spring of 2018. Phenotypic selection was based on high forage yield, good winter survival, and the absence of root and crown diseases. Along with high plant yield and vigor, 13 plants were selected for being resistant plants out of a stem nematode screen. The plants were grown under cage in 2018 near Nampa, ID and seed from all 99 parent plants was bulk harvested to form the breeder seed (Syn 1).

Areas of Probable Adaptation:
This variety has been tested in Wisconsin and is adapted for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics:
L46-08 is a moderately dormant variety, similar to the FD5 check. Flower color (Syn 1) is approximately 90% purple and 9% variegated, with trace amounts of white, yellow, and cream colored flowers.

L46-08 has high resistance to Anthracnose (Race 1), Bacterial Wilt, Fusarium Wilt, Verticillium Wilt, Phytophthora Root Rot, Aphanomyces Root Rot (Race 1 and Race 2). It has not been tested for resistance to Stem Nematode, Pea Aphid, Spotted Alfalfa Aphid, Blue Alfalfa Aphid, Root Knot Nematode. This variety has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

Procedures for Maintaining Seed Stock:
Legacy Seeds produced breeder seed near Nampa, ID in 2018; one generation of breeder seed (Syn 1) is recognized. Foundation seed was produced near Yuma, AZ in 2019; two generations (Syn 2 and/or Syn 3) are recognized. Two generations (Syn 3 and/or Syn 4) for certified seed are recognized. Legacy Seeds will maintain sufficient foundation seed stock in Idaho for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production:
Certified seed may be marketed in 2023; certified seed production acreage may not be published by AOSCA and member agencies.

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

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

Alfalfa
Variety Name: L-455HD
Experimental Designation: LS 904
Varietal Amendment

Date first recommended by the VRB: Jan 22, 2014
This amendment submitted: Nov 30, 2023

Origin and Breeding History
L-455HD (LS 904) is a synthetic variety with 101 parent plants that was developed by Legacy Seeds, Inc. The parent plants trace to 3 populations that were selected for resistance to Phytophthora root rot and Aphanomyces root rot (race 1). The resistant plants were transplanted to a performance nursery near Evansville, WI. The 101 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 Syn 1 seed was produced in an isolation field near Nampa, ID. Seed was harvested from all parent plants and bulked to form the breeder seed in 2009.

Areas of Probable Adaptation
This variety is adapted to the North Central and East Central regions of the U.S. It has been tested in Wisconsin and is intended for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics:
This variety is a Moderately Fall Dormant cultivar with a fall dormancy similar to the FD4 check. Flower color is approximately 93% purple and 6% variegated with traces of cream, yellow and white. L-455HD (LS 904) has high resistance to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). Resistance to stem nematode, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, and root-knot nematode has not been determined. This variety has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

Procedures for Maintaining Seed Stock
Seed classes for this variety will be breeder (Syn 1), foundation (Syn 2) and certified (Syn 2 or Syn 3). Legacy Seeds will maintain sufficient seed stocks for the life of this variety. Breeder seed was produced near Nampa, ID in 2009. There are no limitations to seed production in the Breeder and Certified seed classes; Foundation seed production is limited to Idaho, Oregon, and Wyoming.

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

PVP Information
Plant Variety Protection will not be applied for. This information can be forwarded to the PVP office.

Alfalfa
Variety Name: L-602
Experimental Designation: LS 1508
Varietal Amendment

This amendment submitted 11/30/2023

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

Areas of Probable Adaptation:
This variety is adapted for use in the North central and East central regions. It has been tested in Wisconsin and is intended for use in the North central and East central regions.

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

This variety has high resistance to Anthracnose (race 1), Bacterial wilt, Fusarium wilt, Phytophthora Root Rot, Verticillium wilt and Aphanomyces (race 1). It has resistance to Aphanomyces (race 2) and Stem Nematode. It has not been tested for resistance to pea aphid, spotted aphid, blue alfalfa aphid or root knot nematode. L-602 has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

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

Certified Seed Availability and Publication of Certified Seed Production:
Seed may be marketed in 2020. Certified seed production acreage may not be published by AOSCA and member agencies.

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

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

Alfalfa
Experimental Designation: LS 10RJ
Varietal Amendment

Date first recommended by the VRB: Feb 6, 2023
AOSCA Alfalfa VRB Final Report June 28, 2023
Amendment submitted 11/30/2023

Origin and Breeding History:
LS 10RJ is a synthetic variety with 92 parent plants that were selected out of a space-plant nursery in Evansville, WI in the spring of 2018. Phenotypic selection was based on high forage yield, good winter survival, and the absence of root and crown diseases. The plants were grown under cage in 2018 near Nampa, ID and seed from all 92 parent plants was bulk harvested to form the breeder seed (Syn 1).

Areas of Probable Adaptation:
This variety has been tested in Wisconsin and is adapted for use in the North Central and East Central regions.

Agronomic and Botanical Characteristics:
LS 10RJ is a moderately dormant variety, similar to the FD5 check. Flower color (Syn 1) is approximately 95% purple and 4% variegated, with trace amounts of white, yellow, and cream colored flowers.

LS 10RJ has high resistance to Anthracnose (Race 1), Bacterial Wilt, Fusarium Wilt, Verticillium Wilt, Phytophthora Root Rot, Aphanomyces Root Rot (Race 1 and Race 2). It has not been tested for resistance to Stem Nematode, Pea Aphid, Spotted Alfalfa Aphid, Blue Alfalfa Aphid, Root Knot Nematode. This variety has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

Procedures for Maintaining Seed Stock:
Legacy Seeds produced breeder seed near Nampa, ID in 2018; one generation of breeder seed (Syn 1) is recognized. Foundation seed was produced near Yuma, AZ in 2019; two generations (Syn 2 and/or Syn 3) are recognized. Two generations (Syn 3 and/or Syn 4) for certified seed are recognized. Legacy Seeds will maintain sufficient foundation seed stock in Idaho for the projected life of the variety.

Certified Seed Availability and Publication of Certified Seed Production:
Certified seed may be marketed in 2023; certified seed production acreage may not be published by AOSCA and member agencies.

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

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

Alfalfa
Experimental Designation: LS 1401
Varietal Amendment

Date first recommended by the VRB: Feb 7, 2019
This amendment submitted: Nov 30, 2023

Origin and Breeding History

LS 1401 is a synthetic variety with 102 parent plants that was developed by Legacy Seeds, LLC. The 102 parent plants were selected phenotypically based on high forage yield, good winter survival and the absence of root and crown diseases. The breeder seed was produced near Nampa, ID in 2014.

Areas of Probable Adaptation

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

Agronomic and Botanical Characteristics

LS 1401 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, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2) and Stem Nematode. It has not been tested for resistance to pea aphid, spotted aphid, blue alfalfa aphid or root-knot nematode. This variety has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

Procedures for Maintaining Seed Stock

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

Certified Seed Availability and Publication of Certified Seed Production

Seed may be marketed in 2019. Certified seed production acreage may not be published by AOSCA and member agencies.

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

PVP Information

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

Alfalfa
Variety Name: Resolute ST
Experimental Designation: LS 1713
Varietal Amendment

Date first recommended by the VRB: Feb 17, 2022
Date this amendment was submitted: Nov 30, 2023

Origin and Breeding History

Resolute ST is a 100-parent plant synthetic alfalfa. It was selected out of eight-year-old alfalfa stands near Fairfield and Mud Lake, ID. Plants were selected for spring growth, forage yield, persistence and resistance to root and crown rots that include Fusarium wilt, bacterial wilt and Phytophthora root rot. The breeder seed was produced in Idaho in 2017.

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

Resolute ST is a dormant variety similar to the FD3 check. Flower color (Syn 2) is approximately 70% purple and 29% variegated with traces of white, yellow and cream.

This variety has high resistance to Bacterial wilt, Fusarium wilt, and Phytophthora root rot. It has moderate resistance to Aphanomyces (race 1) and Anthracnose (race 1). It has low resistance to Aphanomyces root rot (race 2). It has not been tested for resistance to Verticillium wilt, pea aphid, spotted aphid, blue alfalfa aphid, stem nematode or root knot nematode. Resolute ST has improved salt tolerance of germinating alfalfa seeds, better than the tolerant check.

Procedures for Maintaining Seed Stock

Breeder seed was produced in 2017. 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 2022. Certified seed production acreage may not be published by AOSCA and member agencies.

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

PVP Information

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

White Clover

Variety Name: Stamina
Experimental Designation: PPG-TR 101

Origin and Breeding History

Stamina was bred in the state of Oregon by Peak Plant Genetics, LLC. It was developed using phenotypic recurrent selection. Selection criteria were plant vigor, a high number of flowers and medium-large leaf size. Germplasm used to develop the variety traces 50% to Kopu II and 50% to an eco-type from Argentina. The variety Patriot contributed pollen during the development of the variety. Breeder seed was first produced in 2014.

Areas of Probable Adaptation

Stamina has been tested in Kentucky and Oregon. It is adapted to the adapted to the East Central United State and the Moderately Winter Hardy Intermountain Region.

Agronomic and Botanical Characteristics

Classification	Medium leaved		Persistence	Perennial	
% Flowering Seeding Year	100%		Leaf Marking at 50% Flower:	15.4	% Marked
Flower Color		% White 46.2	% Pinkish 46.2	% Pink or Darker 7.6	
Stolon Density		Number of stolons intersecting within one meter	47.1		

Description of variants 7.6% plants with pink or darker flowers; 15.4% plants with marked leaves

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

None

Procedures for Maintaining Seed Stock

A residual supply of Syn-1 Breeder Seed Breeder is maintained by Peak Plant Genetics, LLC, Oregon and may be used to produce Syn-2 breeder seed as needed. Foundation seed is maintained by Mountain View Seeds, Salem, Oregon. Seed increase of Stamina is limited to two generations each of breeder seed (Syn1 or Syn2), foundation (Syn2 or Syn3), and registered (Syn2, Syn3 or Syn4), and three generations of certified (Syn2, Syn3, Syn4, or Syn5) classes. Length of stand allowed is two years each for foundation, registered, and four years for the certified classes

Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2023 if the variety is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Generations Allowed – Mark All That Apply		Length of Stand Limitation – If None, Please State	
Foundation	X	Foundation	2
Registered	X	Registered	2
Certified	X	Certified	4

PVP Information

Plant variety protection will not be applied for. Information in this application may be forwarded to the PVP Office.

Alfalfa
Variety Name: Alphatec 821
Experimental Designation: FA1808003

Origin and Breeding History:
Alphatec 821 is a synthetic population developed in 2017 from 92 plants, selected using mass selection from yield trials managed by Forratec Argentina. Plants were selected for fall dormancy, resistance to leaf and crown diseases, and persistence. The plants were moved to San Juan, Argentina, where they were pollinated under cage cover to produce breeder (Syn1 generation) seed in March of 2018. Seed was harvested in bulk from the cage without regard to quantity of seed per clone. The germplasm used in the development traces back to Monarca (40%), Magna 860 (29%) experimental lines (23%), and L820 (8%).

Areas of Probable Adaptation
Alphatec 821 is adapted to the humid pampas of Argentina and the Southwest USA, including California.

Agronomic and Botanical Characteristics
Alphatec 821 has a fall dormancy of 8. The flower color is 99% purple with traces of white, cream, and variegated flowers in the syn2 generation.
This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated alfalfa products.
Alphatec 821 has the following disease and pest resistance characteristics: bacterial wilt, R: Fusarium wilt, R: Verticillium wilt, LR: Phytophthora root rot, MR: stem nematode, MR: spotted alfalfa aphid, R: blue alfalfa aphid, MR: Aphanomyces root rot (Race 1), LR.

Procedures for Maintaining Seed Stock:
Breeder seed was first produced in 2018 in isolation cages near San Juan, Argentina. Zinma Seeds will maintain sufficient breeder (syn 1 or 2), or foundation (syn 2, 3 or 4) seed for the like of the variety. Production of syn 4 foundation requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 years and 6 years respectively.

Certified Seed Availability and Publication of Certified Seed Production:
Certified seed has been grown in the USA and sold in Argentina starting with USA crop year 2020. Seed production acres of this variety may be published by state certification agencies.

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

PVP Information: This variety will not be protected under PVP.