# A REPORT OF THE

# ALFALFA AND MISCELLANEOUS LEGUMES

# VARIETY REVIEW BOARD

## ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

ALFALFA AND MISCELLANEOUS LEGUMES
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ALFALFA AND MISCELLANEOUS LEGUMES
VARIETY REVIEW BOARD

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
(FEBRUARY 2022)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on February 17, 2022. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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Respectfully submitted,

Abed Anouti, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

## 2022 AOSCA ALFALFA & MISC LEGUMES VARIETY REVIEW BOARD

## TABLE OF CONTENTS

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


| Company | Variety Name | Experimental Designation | Type | Page |
|---|---|---|---|---|
| Alforex Seeds | 5C400 | AFX164030 | Alfalfa | 1* |
| Alforex Seeds | AFX 439 | AFX154012 | Alfalfa | 2*, ** |
| Alforex Seeds | AFX 670 | AFX146043 | Alfalfa | 3 |
| Alforex Seeds | CW 199 | AFX140090 | Alfalfa | 4 |
| Alforex Seeds | HybriForce-4420/Wet | AFXH184101 | Alfalfa | 5, 6 |
| Alforex Seeds | Rugged II | AFX163050 | Alfalfa | 7** |
| Alforex Seeds | QuickGold | AFX155025 | Alfalfa | 8* |
| Alforex Seeds | | AFX174012 | Alfalfa | 9 |
| Alforex Seeds | | AFX174038 | Alfalfa | 10 |
| Alforex Seeds | | AFX174083 | Alfalfa | 11 |
| Alforex Seeds | | AFX174085 | Alfalfa | 12 |
| Blue Moon Farms | Dixie II | B-16.4880 | Crimson Clover | 13* |
| Blue Moon Farms | Lightning | B-18.2014 | Berseem Clover | 14* |
| Blue Moon Farms | Raptor | B-16.4532 | Red Clover | 15* |
| Forage Genetics | | FG C0316ML134 | Alfalfa | 16** |
| Forage Genetics | | FG C0317A3152 | Alfalfa | 17 |
| Forage Genetics | | FG C1017ML815 | Alfalfa | 18** |
| Forage Genetics | | FG H0416A3126 | Alfalfa | 19 |
| Forage Genetics | | FG R411M114 | Alfalfa | 20 |
| Forage Genetics | | FG RRL1014T022 | Alfalfa | 21 |
| Forage Genetics (AgReliant Genetics, LLC) | 9R400RR | FG R914T542 | Alfalfa | 22 |
| Forage Genetics (AgReliant Genetics, LLC) | LG 7R400 | FG R713T413 | Alfalfa | 23** |
| Forage Genetics (Allied Seed) | FSG 450 | FG C0516A3158 | Alfalfa | 24* |
| Forage Genetics (America's Alfalfa) | AmeriStand 416NT RR | FG R414W279 | Alfalfa | 25* |
| Forage Genetics (America's Alfalfa) | AmeriStand 445NT | FG 45W271 | Alfalfa | 26** |
| Forage Genetics (America's Alfalfa) | AmeriStand 446NT | FG C0415SN223 | Alfalfa | 27** |
| Forage Genetics (America's Alfalfa) | AmeriStand 481 HVXRR | FG H0415C4115 | Alfalfa | 28** |
| Forage Genetics (America's Alfalfa) | AmeriStand 803T | FG 83T054 | Alfalfa | 29** |
| Forage Genetics (America's Alfalfa) | AmeriStand 955NT RR | FG R813T452 | Alfalfa | 30** |
| Forage Genetics (CROPLAN) | Artesian Sun 6.3 | FG 412W201 | Alfalfa | 31** |
| Forage Genetics (CROPLAN) | Graze N Hay 3.10RR | FG R34BD02 | Alfalfa | 32** |
| Forage Genetics (CROPLAN) | GUNNER AA | FG C0415C4360 | Alfalfa | 33** |


* indicates amendment application for name change

** indicates amendment application for description change

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

| Company | Variety Name | Experimental Designation | Type | Page |
|---|---|---|---|---|
| Forage Genetics (CROPLAN) | HVX DRIVER | FG RRL43M114 | Alfalfa | 34** |
| Forage Genetics (CROPLAN) | HVX HarvaTron | FG RRL43A108 | Alfalfa | 35** |
| Forage Genetics (CROPLAN) | HVX MEGATRON | FG H0415A3144 | Alfalfa | 36** |
| Forage Genetics (CROPLAN) | HVX MegaTron AA | FG H0416A3114 | Alfalfa | 37 |
| Forage Genetics (CROPLAN) | HVX Tundra | FG H0315ML104 | Alfalfa | 38** |
| Forage Genetics (CROPLAN) | Rebound 6XT | FG 410A180 | Alfalfa | 39** |
| Forage Genetics (CROPLAN) | RR AphaTron 2XT | FG R410A138 | Alfalfa | 40** |
| Forage Genetics (CROPLAN) | RR Desert Rose | FG R88T829 | Alfalfa | 41** |
| Forage Genetics (CROPLAN) | RR Saltiva | FG R513W224S | Alfalfa | 42** |
| Forage Genetics (Intermountain Farmers Assn) | Centennial | FG C0415SN208 | Alfalfa | 43 |
| Forage Genetics (La Crosse Seed) | FF 42.A3 | FG C0415C3364 | Alfalfa | 44 |
| Forage Genetics (Nexgrow) | 6453Q | FG C0516A3153 | Alfalfa | 45** |
| Forage Genetics (Nutrien) | DG 4120 | FG C0516A3154 | Alfalfa | 46** |
| Forage Genetics (Western Seed Genetics) | Thumper | FG 412A121 | Alfalfa | 47*, ** |
| Forage Genetics (Wilbur Ellis) | Integra 8562R | FG R414W277 | Alfalfa | 48** |
| Forage Genetics (W-L Reseach, Inc) | WL 3441.RR | FG R413A316 | Alfalfa | 49* |
| Forage Genetics (W-L Research, Inc.) | WL 3471.HVXRR | FG H0415A3138 | Alfalfa | 50** |
| Forage Genetics (W-L Research, Inc.) | WL 349HQ | FG C0415C4149 | Alfalfa | 51** |
| Forage Genetics (W-L Research, Inc.) | WL 3521 | FG C0518A3663 | Alfalfa | 52 |
| Forage Genetics (W-L Research, Inc.) | WL 467HQ | FG 610W265 | Alfalfa | 53** |
| Legacy Seeds | L-470HD | LS 1501 | Alfalfa | 54* |
| Legacy Seeds | L-602 | LS 1508 | Alfalfa | 55** |
| Legacy Seeds | Resolute ST | LS 1713 | Alfalfa | 56 |
| Legacy Seeds | | LS 13JX | Alfalfa | 57 |
| McCarthy Research | Majestic | MRF-CC | Crimson Clover | 58 |
| * indicates amendment application for name change | | | | |
| ** indicates amendment application for description change | | | | |

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

| Company | Variety Name | Experimental Designation | Type | Page |
|---|---|---|---|---|
| S & W Seed Company | High Five | SW15XPQ06, 15XXP06, W14XXP61 | Alfalfa | 59** |
| S & W Seed Company | SW4515 | SW15XPQ15, 15XXP15, N14XXP74 | Alfalfa | 60* |
| S & W Seed Company | SW4602LH | SW16ZPD02, 16ZPD02, W15ZPD41 | Alfalfa | 61*, ** |
| S & W Seed Company | SW4618S | SW5618S, SW16XPS18, W15XPS63 | Alfalfa | 62* |
| S & W Seed Company | SW5615 | SW16XPA15, 16XPA15, N15XPA75 | Alfalfa | 63* |
| S & W Seed Company | SW5616S | SW16XPS16, W15XPS60 | Alfalfa | 64*, ** |
| S & W Seed Company | SW6691 | SW6691, SGI91, SFR27032, RD16IPK91 | Alfalfa | 65* |
| S & W Seed Company | SW7695 | SW7695, RD16NPK95 | Alfalfa | 66* |
| S & W Seed Company | SW8697 | SW8697, SW18NPK90, RD17NPL90, RD16NPK97 | Alfalfa | 67*, ** |
| S & W Seed Company | SW9812S | SW 9812 | Alfalfa | 68*, ** |
| S & W Seed Company | SW9813S | SW 9813 | Alfalfa | 69** |
| S & W Seed Company | | SW15XPQ10, 15XPQ10, W14XXP68 | Alfalfa | 70** |
| S & W Seed Company | | SW15YPQ23, 15YXP23, W14YXP80 | Alfalfa | 71 |
| S & W Seed Company | | SW15YPQ24, 15YXP24, W14YXP81 | Alfalfa | 72 |
| S & W Seed Company | | SW16XCA32, N15XCA22 | Alfalfa | 73 |
| S & W Seed Company | | SW16XCA33, N15XCA23 | Alfalfa | 74 |
| S & W Seed Company | | SW16XPD05, W15XPD65 | Alfalfa | 75 |
| S & W Seed Company | | SW16YPD38, W15YPA84 | Alfalfa | 76 |
| S & W Seed Company | | SW17XCA17, N16XCA79 | Alfalfa | 77 |
| S & W Seed Company | | SW17XPD06, W16XPD62 | Alfalfa | 78 |
| S & W Seed Company | | SW17ZPA02, W16ZPA41 | Alfalfa | 79 |
| * indicates amendment application for name change | | | | |
| ** indicates amendment application for description change | | | | |

# Alfalfa

# 5C400
# AFX164030 (Exp)
# (Amended – Name Change)

Variety Name 5C400

Experimental Designation(s) AFX164030

Date A&MLVRB first recommended this variety January 2021

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2021

## Origin and Breeding History

5C400 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 5C400 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

5C400 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. 5C400 has been tested in Minnesota, and Wisconsin.

## Agronomic and Botanical Characteristics

5C400 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 98% purple, 2% variegated and a trace of cream, white, and yellow. 5C400 has Low multifoliolate leaf expression rating similar to the Low MF check variety. 5C400 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2). Reaction to Blue aphid, Pea aphid, Spotted alfalfa aphid, Stem nematode and Root knot nematode has not been tested.

## Procedures for Maintaining Seed Stock

Seed increase of 5C400 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 5C400 will be available in 2021. Certified acreage may not be published by AOSCA or member agencies.

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

## PVP Information

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

Date this application was submitted: Dec 1, 20201 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# AFX 439

# AFX154012 (Exp)
# (Amended – Name Change
# Add Tolerance to Salt (NaCl) at Germination)

Variety Name AFX 439

Experimental Designation(s) AFX154012

Date A&MLVRB first recommended this variety January 2021

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2021

## 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. 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 **s**alt (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** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

## PVP Information

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

Date this application was submitted: Dec 1, 20201 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AFX 670
## AFX146043 (Exp)

### Origin and Breeding History
AFX 670 is a synthetic variety developed by Alforex Seeds with 18 parent clones selected for high forage dry matter yield, high forage milk per acre using Milk 2000, high forage NDFD and low Acid Detergent Lignin (ADL) from spaced plant breeding nurseries. This pedigree is derived from various diverse populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for high forage dry matter yield, high NDFD, low Acid Detergent Lignin (ADL), and resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, stem nematode, and cowpea aphid. Parentage of AFX 670 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2014. Seed was bulk harvested from all parent plants as Synthetic generation 1.

### Areas of Probable Adaptation
AFX 670 is adapted to the Moderately Winterhardy Intermountain and Southwest areas of the US and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the US, and Argentina. AFX 670 has been tested in California and Argentina.

### Agronomic and Botanical Characteristics
AFX 670 is a semi-dormant variety with fall dormancy similar to FD class 6 check varieties. Flower color observed in the Syn.1 generation is approximately 92% purple, 7% variegated, and a trace of cream, white and yellow. AFX 670 has tolerance to **salt (NaCl) at germination.** AFX 670 has high resistance to Anthracnose (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Pea aphid, Cowpea aphid, and Southern Root knot nematode. It has resistance to Stem nematode. Reaction to Aphanomyces root rot (race 1), Spotted alfalfa aphid, and Blue Alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of AFX 670 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2014. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed of AFX 670 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## CW 199
## AFX140090 (Exp)

### Origin and Breeding History
CW 199 is a synthetic variety with 169 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at five locations in Argentina. Parent plants were selected from various populations that were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of CW 199 traces to Mora (17%), Salina (17%), WL 1058 (5%), and miscellaneous Alforex Seeds breeding populations (61%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2014. Seed was bulk harvested from all parent plants.

### Areas of Probable Adaptation
CW 199 is adapted to the Southwest areas of the US and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the US, and Argentina. CW 199 has been tested in California and Argentina.

### Agronomic and Botanical Characteristics
CW 199 is a very non-dormant variety with fall dormancy similar to FD class 10 check varieties. Flower color observed in the Syn.1 generation is approximately 99% purple, and a trace of variegated, white, cream, and yellow. CW 199 has high resistance to Anthracnose (race 1), Fusarium wilt, Pea aphid, Cowpea aphid, and Stem nematode. It has resistance to Bacterial wilt, Phytophthora root rot, Verticillium wilt, Blue Alfalfa aphid, and Spotted alfalfa aphid. Reaction to Aphanomyces root rot (race 1), and Root knot nematode has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of CW 199 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 Anguil, Argentina in 2014. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed of CW 199 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## HybriForce-4420/Wet
## AFXH184101 (Exp)

### Origin and Breeding History

HybriForce-4420/Wet is a 75-95% hybrid alfalfa variety with parents consisting of a female clone, a maintainer clone, and a synthetic variety as the male pollenizer.

The female clone was originally selected for male sterility, good agronomics, and good visual seed set from a full sib cross that was planted in Sloughhouse, CA. The clone was then progeny tested for seed yield, forage yield, stand persistence, and resistance to Phytophthora root rot, Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). This clone traces to Alforex Seeds experimental germplasm.

The maintainer clone was selected from a full sib greenhouse cross which was first screened for resistance to Phytophthora root rot and Aphanomyces root rot (race 1), and then selected for winterhardiness in a Wisconsin nursery. The clone was progeny tested for maintaining ability and seed yield, and then progeny tested for forage yield, stand persistence, and resistance to Phytophthora root rot, anthracnose (Race 1), Aphanomyces root rot (Race 1), and Aphanomyces root rot (Race 2). The maternal parent of this maintainer clone traces to Alforex Seeds experimental germplasm and the paternal parent of this clone was selected from WIS18 which is a population that was licensed from WARF (Wisconsin Alumni Research Association).

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

Hybrid female breeder seed was first produced in a West Salem,WI, greenhouse in 2017 by handcrossing the female clone to the maintainer clone. Female breeder seed was then later produced on a large scale by harvesting the seed from vegetatively propagated male sterile clones which were pollinated by vegetatively propagated maintainer clones in field isolation near Sloughhouse, CA in 2019 and 2020.

Hybrid male breeder seed (CW A123011) was produced under cage isolation near Woodland, California in 2012. Male seed was bulk harvested from all parent plants as Synthetic generation 1. Synthetic generation 1 seed was planted in field isolation and bulk harvested as Synthetic generation 2.

### Areas of Probable Adaptation

HybriForce-4420/Wet is adapted to the North Central and East Central areas of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. HybriForce-4420/Wet has been tested in Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics

HybriForce-4420/Wet is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the F1 generation is approximately 99% purple and a trace of cream, white, variegated and yellow. HybriForce-4420/Wet has Low multifoliolate leaf expression rating similar to the Low MF check variety. HybriForce-4420/Wet has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. Reaction to Pea aphid, Spotted alfalfa aphid, Blue Alfalfa aphid, Root knot nematode, and Stem nematode has not been tested.

## Procedures for Maintaining Seed Stock

Female Breeder seed must be produced by harvesting seed from vegetatively propagated cytoplasmic male sterile clones that have been pollinated by vegetatively propagated maintainer clones in field isolation. Alforex Seeds will maintain sufficient breeder seed (Syn. 1) for the projected life of the variety.

Male breeder seed was produced under cage isolation near Woodland, California in 2012. Alforex Seeds will maintain sufficient foundation seed (Syn. 3 or Syn. 4) for the projected life of the variety. Production of Syn. 4 foundation seed requires consent of the breeder.

Continued on next page (6)

Continued from previous page (5)

# Alfalfa

## HybriForce-4420/Wet
## AFXH184101 (Exp)

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed of HybriForce-4420/Wet will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

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

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

Seed Stock Designations

| | |
|---|---|
| Female Breeder | D-4013 |
| Male Breeder | CW A123011 |
| Male Foundation | CW A123011 |
| Hybrid Certified | AFXH184101 |

F1 hybrid seed may only be produced from female Syn. 1 breeder seed and from male Syn. 2 breeder seed or male Syn. 3 or Syn. 4 foundation seed. Only the F1 generation is recognized as representing this variety.

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# Rugged II
# AFX163050 (Exp)
# (Amended- Add Tolerance to Salt (NaCl) at Germination)

Variety Name Rugged II

Experimental Designation(s) AFX163050

Date A&MLVRB first recommended this variety January 2021

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2021

## Origin and Breeding History

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

## Areas of Probable Adaptation

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

## Agronomic and Botanical Characteristics

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

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

## PVP Information

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## QuickGold
## AFX155025 (Exp)
## (Amended – Name Change)

Variety Name QuickGold

Experimental Designation(s) AFX155025

Date A&MLVRB first recommended this variety January 2021

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2021

### Origin and Breeding History

QuickGold is a synthetic variety developed by Alforex Seeds with 35 parent plants selected for high forage dry matter yield, high forage quality, and persistence. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants were composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high forage quality, and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of QuickGold 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

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

| **Generations Allowed – If None, Please State** | | **Length of Stand Limitation – Mark All That Apply** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

### PVP Information

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AFX174012 (Exp)

### Origin and Breeding History
AFX174012 is a synthetic variety developed by Alforex Seeds with 200 parent plants selected sequentially for resistance to Phytophthora root rot, Aphanomyces root rot (race 1 and race 2), and Anthracnose. Parent plants were selected from crosses between selections of various Alforex Seeds populations that were developed by phenotypic recurrent selection for 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 AFX174012 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2017. Seed was bulk harvested from all parent plants as Synthetic generation 1.

### Areas of Probable Adaptation
AFX174012 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. AFX174012 has been tested in Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics
AFX174012 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 82% purple, 15% variegated, 2% cream, and a trace of white and yellow. AFX174012 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX174012 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has moderate resistance to Aphanomyces root rot (race 2). Reaction to Pea aphid, Spotted alfalfa aphid, Blue Alfalfa aphid, Root knot nematode and Stem nematode has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of AFX174012 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 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 AFX174012 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AFX174038 (Exp)

### Origin and Breeding History
AFX174038 is a synthetic variety developed by Alforex Seeds with 23 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 AFX174038 traces 100% to miscellaneous Alforex Seeds breeding populations. Breeder seed was produced under cage isolation near Woodland, California in 2017. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation
AFX174038 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. AFX174038 has been tested in Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics
AFX174038 is a moderately dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 95% purple, 2% variegated, 2% cream, and a trace of white and yellow. AFX174038 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX174038 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has moderate resistance to Aphanomyces root rot (race 2). Reaction to Pea aphid, Spotted alfalfa aphid, Blue Alfalfa aphid, Root knot nematode and Stem nematode has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of AFX174038 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 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 AFX174038 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AFX174083 (Exp)

### Origin and Breeding History
AFX174083 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 AFX174083 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
AFX174083 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. AFX174083 has been tested in Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics
AFX174083 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. AFX174083 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX174083 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, Root knot nematode and Stem nematode has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of AFX174083 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 AFX174083 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| **Generations Allowed – Mark All That Apply** | | **Length of Stand Limitation – If None, Please State** | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AFX174085 (Exp)

### Origin and Breeding History
AFX174085 is a synthetic variety developed by Alforex Seeds with 150 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 AFX174085 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
AFX174085 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. AFX174085 has been tested in Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics
AFX174085 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 95% purple, 4% variegated and a trace of cream, white and yellow. AFX174085 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX174085 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, Root knot nematode and Stem nematode has not been tested.

### Procedures for Maintaining Seed Stock
Seed increase of AFX174085 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 AFX174085 will be available in 2022. Certified acreage may not be published by AOSCA or member agencies.

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | Syn.2, Syn.3 or Syn.4 | Foundation | 3 |
| Registered | | Registered | |
| Certified | Syn.3, Syn.4, or Syn.5 | Certified | 6 |

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Crimson Clover

## Dixie II
## B-16.4880 (Exp)
## (Amended – Name Change)

Variety Name Dixie II

Experimental Designation(s) B-16.4880

Date A&MLVRB first recommended this variety March 2021

Date(s) previous amendments were recommended

Date amendment submitted March 12, 2021

### Origin and Breeding History

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

### Areas of Probable Adaptation

East central.

### Agronomic and Botanical Characteristics

| | | | |
|---|---|---|---|
| Species | *Trifolium incarnatum* L | Maturity | medium |
| Plant Height | 72.7 cm. | Flower Petal Color | Red |
| Leaf Color | Medium green | Stem Growth Habit | Erect |

Variants

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

### Procedures for Maintaining Seed Stock

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

### Certified Seed Availability and Publication of Certified Seed Production

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

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | x | Foundation | 2 |
| Registered | x | Registered | 2 |
| Certified | x | Certified | 5 |

### PVP Information

It is not decided whether PVP will be sought.

Date this application was submitted: Mar 12, 2021 Date recommended by the VRB: Feb 17, 2022

# Berseem Clover

## Lightning
## B-18.2014 (Exp)
## (Amended – Name Change)

Variety Name Lightning

Experimental Designation(s) B-18.2014

Date A&MLVRB first recommended this variety March 2021

Date(s) previous amendments were recommended

Date amendment submitted March 12, 2021

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

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

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

Variants

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

### Procedures for Maintaining Seed Stock

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

### Certified Seed Availability and Publication of Certified Seed Production

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

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | x | Foundation | 2 |
| Registered | x | Registered | 2 |
| Certified | x | Certified | 5 |

### PVP Information

It is undecided whether PVP will be sought.

Date this application was submitted: Mar 12, 2021 Date recommended by the VRB: Feb 17, 2022

# Red Clover

## Raptor
## B-16.4532 (Exp)
## (Amended – Name Change)

Variety Name Raptor

Experimental Designation(s) B-16.4532

Date A&MLVRB first recommended this variety March 2021

Date(s) previous amendments were recommended

Date amendment submitted March 12, 2021

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

Classification: Double cut (medium) Productive Persistence Weakly perennial

Ploidy diploid Flower Color red

% Flowering Seedling Year 60% % Leaf Marking at 50% Flowering 87.3

Stem Hairiness 64.3 cm.

Description of Variants: <5% red flowers;

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

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

### Procedures for Maintaining Seed Stock

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

### Certified Seed Availability and Publication of Certified Seed Production

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

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | x | Foundation | 2 |
| Registered | x | Registered | 2 |
| Certified | x | Certified | 3 |

### PVP Information

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

Date this application was submitted: Mar 12, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FG C0316ML134 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name _____

Experimental Designation(s) FG C0316ML134

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended Feb 2020 Aph2; Feb 2021 SN, Aph2

Date this amendment was submitted November 30, 2021 salt germination

### Origin and Breeding History
FG C0316ML134 is a synthetic variety with 115 parent plants. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2016.

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

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

FG C0316ML134 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid and stem nematode. Reaction to root knot nematode (*M. hapla*), stem nematode, spotted alfalfa aphid and blue alfalfa aphid has not been tested.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FG C0317A3152 (Exp)

### Origin and Breeding History
FG C0317A3152 is a synthetic variety with 165 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 C0317A3152 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Pennsylvania and Wisconsin and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
FG C0317A3152 is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

FG C0317A3152 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 2022 if this variety this variety is accepted for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FG C1017ML815 (Exp)
## (Amended – Add Blue Alfalfa Aphid Insect)

### Origin and Breeding History
FG C1017ML815 is a synthetic variety with 245 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium Wilt, Anthracnose (Race 1), Verticillium Wilt, Phytophthora Root Rot and aphids. Phenotypic selection was used to identify the parent plants (persistence, fall plant height, vigor, and freedom from leaf diseases). The germplasm sources used in the development trace to FGI elite breeding populations (100%). Syn1 seed was harvested in total on all parents near Holtville, CA and bulked to form breeder seed in 2017.

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

### Agronomic and Botanical Characteristics
FG C1017ML815 is Very nondormant similar to the FD 10 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG C1017ML815 is highly resistant to Fusarium wilt and Verticillium wilt; with resistance to Anthracnose (Race 1), Phytophthora root rot, Bacterial Wilt, Blue Alfalfa Aphid and Aphanomyces root rot (race 1). It has not been tested for other pest reactions.

### Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced near Holtville, CA in 2017. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# FG H0416A3126 (Exp)

## Origin and Breeding History

FG H0416A3126 is a synthetic variety with 51 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2016.

## Areas of Probable Adaptation

FG H0416A3126 is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions. This variety has been tested in Minnesota, Pennsylvania, Wisconsin and Washington and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

FG H0416A3126 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG H0416A3126 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to spotted alfalfa aphid, 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 in 2016 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FG R411M114 (Exp)

### Origin and Breeding History
FG R411M114 is a synthetic variety with 96 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 2011.

### Areas of Probable Adaptation
FG R411M114 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions. This variety has been tested in Iowa, Idaho, Wisconsin, and Washington and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
FG R411M114 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, cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG R411M114 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, pea aphid, spotted alfalfa aphid, Phytophthora root rot and Aphanomyces root rot (Race 1); with resistance to Aphanomyces root rot (Race 2) 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 2011 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FG RRL1014T022 (Exp)

**Origin and Breeding History**
FG RRL1014T022 is a synthetic variety with 90 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in August 2014.

### Areas of Probable Adaptation
FG RRL1014T022 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 RRL1014T022 is Very Non-Dormant similar to FD9 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FG RRL1014T022 has high resistance to anthracnose (Race 1), Fusarium wilt, pea aphid, Phytophthora root rot and spotted alfalfa aphid, with resistance to bacterial wilt, Verticillium wilt, blue alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) 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® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 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.

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## 9R400RR
## FG R914T542 (Exp)

### Origin and Breeding History
9R400RR is a synthetic variety with 114 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 2014.

### Areas of Probable Adaptation
9R400RR 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
9R400RR is Very Non-Dormant similar to FD9 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

9R400RR has high resistance to stem nematode, Fusarium wilt, pea aphid, spotted alfalfa aphid and Phytophthora root rot; with resistance to anthracnose (Race 1), Verticillium wilt, bacterial wilt and blue alfalfa aphid. Reaction to root knot nematode (M. hapla) 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 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.

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# LG 7R400
# FG R713T413 (Exp)
# (Amended – Add Resistance [R] to Blue Alfalfa Aphid Insect Add Resistance [R] to Stem Nematode)

Variety Name LG 7R400

Experimental Designation(s) FG R713T413

Date A&MLVRB first recommended this variety February, 2020

Date(s) any previous amendments were recommended August 2021 name

Date this amendment was submitted November 30, 2021 BAA, SN

**Origin and Breeding History**

LG 7R400 is a synthetic variety from 120 parents which were field polycrossed. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Non-dormant and Semi-Dormant breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Anthracnose (Race 1), Fusarium wilt, Bacterial Wilt, Verticillium wilt, Phytophthora root rot, stem nematode, and Aphids. Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Seed was harvested in total on all parents and bulked near Nampa, ID to form breeder seed in 2013.

**Areas of Probable Adaptation**

LG 7R400 is adapted to the Southwest and the Moderately Winterhardy Intermountain regions. This variety has been tested in California and is intended for use in the Southwest and the Moderately Winterhardy Intermountain regions.

**Agronomic and Botanical Characteristics**

LG 7R400 is Non-dormant similar to FD7 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

LG 7R400 has high resistance to Fusarium wilt, Verticillium wilt, Pea Aphid, Phytophthora Root Rot and Spotted Alfalfa Aphid; with resistance to Blue Alfalfa Aphid, Stem Nematode, Anthracnose (Race 1), Bacterial wilt and Aphanomyces Root Rot (Race 1). Reaction to other pests has not yet been tested.

**Procedures for Maintaining Seed Stock**

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

**Certified Seed Availability and Publication of Certified Seed Production**

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

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

**PVP Information**

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## FSG 450
## FG C0516A3158 (Exp)
## (Amended – Name Change)

Variety Name FSG 450

Experimental Designation(s) FG C0516A3158

Date A&MLVRB first recommended this variety February, 2021

Date(s) any previous amendments were recommended

Date this amendment was submitted March 18, 2021 Name

### Origin and Breeding History
FSG 450 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
FSG 450 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
FSG 450 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FSG 450 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid, stem nematode and spotted alfalfa aphid. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

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

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

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

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

Date this application was submitted: Mar 18, 2021 Date recommended by the VRB: Feb 17, 2022

## Alfalfa

## AmeriStand 416NT RR
## FG R414W279 (Exp)
## (Amended – Name Change)

Variety Name AmeriStand 416NT RR

Experimental Designation(s) FG R414W279

Date A&MLVRB first recommended this variety February, 2021

Date(s) any previous amendments were recommended

Date this amendment was submitted March 18, 2021 Name

### 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. 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 | | Registered | None |
| Certified | X | Certified | 6 |

### PVP Information

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

Date this application was submitted: Mar 18, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AmeriStand 445NT
## FG 45W271 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 445NT

Experimental Designation(s) FG 45W271

Date A&MLVRB first recommended this variety February, 2010

Date(s) any previous amendments were recommended February 2011 name

Date this amendment was submitted November 30, 2021 salt germination

### Breeding History
FG 45W271 is a synthetic variety consisting of 14 parent plants. Plants were selected based on forage yield, fall dormancy reaction, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, stem nematode and Phytophthora root rot. A combination of genotypic and phenotypic recurrent selection was used in the development of this variety.

### Area of Probable Adaptation
This variety is adapted to the Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington and Colorado and is intended for use in the Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
This variety is Moderately Dormant similar to FD4 check. Flower Color (Syn2) is 95% purple, 3% variegated, 2% yellow and a trace of white and cream. It has moderate multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.
This variety has high resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, spotted alfalfa aphid, stem nematode, anthracnose (Race 1), and root knot nematode (Northern *M. hapla)*; with resistance to Verticillium wilt, Aphanomyces root rot (Race 1) and pea aphid. Reaction to blue alfalfa aphid has not been tested.

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

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2010.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

### PVP Information
No decision has been made concerning Plant Variety Protection Act.

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AmeriStand 446NT
## FG C0415SN223 (Exp)
## (Amended – Add Winter Survival)

Variety Name AmeriStand 446NT

Experimental Designation(s) FG C0415SN223

Date A&MLVRB first recommended this variety February 2020

Date(s) any previous amendments were recommended Feb 2021, salt germination; Aug 2021 name

Date this amendment was submitted November 30, 2021 winter survival

### Origin and Breeding History
AmeriStand 446NT is a synthetic variety with 144 parent plants from a field polycross. Parent plants were selected from FGI Stem Nematode breeding lines for forage yield, persistence, and/or for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Bacterial Wilt, Phytophthora root rot, stem nematode, aphids, and Aphanomyces root rot (Race 1). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Seed was harvested in total on all parents near Nampa, ID and bulked to form breeder seed in 2015.

### Areas of Probable Adaptation
AmeriStand 446NT is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain, regions. This variety has been tested in Idaho and Washington and is intended for use in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
AmeriStand 446NT is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple, with a trace of cream, white, yellow and variegated. This variety has moderate multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 446NT has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, pea aphid and stem nematode; with resistance to Aphanomyces root rot (Race 1) and spotted alfalfa aphid. Reaction to other pests has not been tested.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# AmeriStand 481 HVXRR
# FG H0415C4115 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 481 HVXRR

Experimental Designation(s) FG H0415C4115

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

**Origin and Breeding History**

AmeriStand 481 HVXRR is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by Acid Detergent Lignin (ADL), glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

**Areas of Probable Adaptation**

AmeriStand 481 HVXRR is adapted to the North Central and East Central areas. This variety has been tested in Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

**Agronomic and Botanical Characteristics**

AmeriStand 481 HVXRR 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 has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 481 HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

**Procedures for Maintaining Seed Stock**

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

**Certified Seed Availability and Publication of Certified Seed Production**

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

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

**PVP Information**

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## AmeriStand 803T
## FG 835054(Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds

Variety Name AmeriStand 803T

Experimental Designation(s) FG 83T054

Date A&MLVRB first recommended this variety February, 2009

Date(s) any previous amendments were recommended Feb, 2010 name, Feb 2013 BAA

Date this amendment was submitted November 30, 2021 salt germination

### Breeding History
AmeriStand 803T is a synthetic variety consisting of 300 parent plants. Plants were selected based on forage yield, fall dormancy reaction and persistence. A combination of genotypic and phenotypic recurrent selection was used in the development of this variety.

### Area of Probable Adaptation
This variety is adapted to the Southwest region. This variety has been tested in California and is intended for use in the Southwest regions.

### Agronomic and Botanical Characteristics
Test variety is Non-Dormant similar to FD8 check. Flower Color (Syn2) is 100% purple with a trace of variegated, cream, white and yellow. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder and two generations of foundation and certified seed classes. Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder.

Breeder seed was produced in the field near Nampa, ID in 2003. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Date Certified Seed to be First Offered for Sale
Certified seed will be marketed in 2009.

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# AmeriStand 955NT RR
# FG R813T452 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name AmeriStand 955NT RR

Experimental Designation(s) FG R813T452

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

**Origin and Breeding History**
AmeriStand 955NT RR is a synthetic variety with 112 parent plants that was developed by Forage Genetics International. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: Fusarium wilt, Phytophthora root rot and stem nematode. A combination of Genotypic and Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed near Nampa, ID in 2013.

**Areas of Probable Adaptation**
AmeriStand 955NT RR is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and is intended for use in the Southwest region.

**Agronomic and Botanical Characteristics**
AmeriStand 955NT RR is Very Non-dormant similar to the FD 9 check. Flower color (Syn 2) is 99% purple, with a trace of variegated, yellow, cream and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

AmeriStand 955NT RR is highly resistant to bacterial wilt, Fusarium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode; resistant to Verticillium wilt and blue alfalfa aphid; and moderately resistant to anthracnose. It has not been tested for other pests.

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

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## ArtesianSun 6.3
## FG 412W201 (Exp)
## (Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name ArtesianSun 6.3

Experimental Designation(s) FG 412W201

Date A&MLVRB first recommended this variety February 2017

Date(s) any previous amendments were recommended February 2018 name, PA

Date this amendment was submitted November 30, 2021 salt germination

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

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

**Agronomic and Botanical Characteristics**
ArtesianSun 6.3 is moderately fall dormant similar to the FD 6 check. Flower color (Syn 2) is 98% Purple, 1% cream, with a trace of Variegated, White and Yellow. It expresses a high degree of multifoliolate leafiness. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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

**Certified Seed Availability and Publication of Certified Seed Production**
Certified seed will be available for sale in 2017 if 412W201is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Descriptive information cannot be provided to the PVP office.

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## Graze N Hay 3.10RR
## FG R34BD02 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name Graze N Hay 3.10RR

Experimental Designation(s) FG R34BD02

Date A&MLVRB first recommended this variety February, 2007

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

The selection criteria used in the development of this variety include Roundup herbicide tolerance, forage yield, forage quality, grazing tolerance, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (Race 1), Phytophthora root rot, and Aphanomyces root rot (Race 1 and Race 2). Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 and/or J163 (OECD unique identifiers: MON-00101-8 and MON-00163-7, respectively).

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

Test variety is Dormant, similar to FD3 check. Test variety is Very Winterhardy, similar to WS2 check. Flower color (Syn2) is 100% purple with a trace of variegated, cream, yellow and white. Test variety is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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. Breeder seed (Syn1) was produced in the greenhouse in 2003 and in the field near Nampa, ID in 2004. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety.)

Certified seed will be marketed in 2007.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

No decision has been made concerning Plant Variety Protection Act.

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## GUNNER AA
## FG C0415C4360 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds, Add High Resistance [HR] to Stem Nematode

Variety Name GUNNER AA

Experimental Designation(s) FG C0415C4360

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended August 2021 name

Date this amendment was submitted November 30, 2021 stem nematode, salt germination

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

### Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced 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 | | Registered | None |
| Certified | X | Certified | 6 |

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# HVX DRIVER
# FG RRL43M114 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name HVX Driver

Experimental Designation(s) FG RRL43M114

Date A&MLVRB first recommended this variety February, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

**Origin and Breeding History**
HVX DRIVER is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

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

**Agronomic and Botanical Characteristics**
HVX DRIVER is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 90% purple, 5% cream, 4% white with a trace of variegated and yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# HVX HarvaTron
# FG RRL43A108 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name HVX HarvaTron

Experimental Designation(s) FG RRL43A108

Date A&MLVRB first recommended this variety February, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

**Origin and Breeding History**
HVX HarvaTron is a synthetic variety with 296 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

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

**Agronomic and Botanical Characteristics**
HVX HarvaTron is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 3% white, 2% cream with a trace of variegated and yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# HVX MEGATRON
# FG H0415A3144 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds Add Resistance [R] to Spotted Alfalfa Aphid)

Variety Name HVX MegaTron

Experimental Designation(s) FG H0415A3144

Date A&MLVRB first recommended this variety February, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ, SAA

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

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

**Agronomic and Botanical Characteristics**
HVX MEGATRON is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 92% purple, 3% cream, 2% white, 2% variegated with a trace of yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## HVX MegaTron AA
## FG H0416A3114 (Exp)

### Origin and Breeding History
HVX MegaTron AA is a synthetic variety with 55 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: HVX MegaTron (60%) and various FGI experimental populations (40%). 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
HVX MegaTron AA is adapted to the North Central, East Central and Moderately Winterhardy Intermountain regions. This variety has been tested in Iowa, Pennsylvania, Wisconsin and Washington and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
HVX MegaTron AA 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, cream, yellow and white. 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.

HVX MegaTron AA has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, pea aphid, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (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® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# HVX Tundra
# FG H0315ML104 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name HVX Tundra

Experimental Designation(s) FG H0315ML104

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

**Origin and Breeding History**
HVX Tundra is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

**Areas of Probable Adaptation**
HVX Tundra is adapted to the North Central and East Central areas. This variety has been tested in Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

**Agronomic and Botanical Characteristics**
HVX Tundra is Fall Dormant similar to FD3 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% white, 1% cream with a trace of variegated and yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

HVX Tundra has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); with resistance to pea aphid and moderate resistance to stem nematode. Reaction to root knot nematode (*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® and HarvXtra™ traits are patent protected; any and all seed increases of this variety requires an FGI seed production contract for the respective traits.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## Rebound 6XT
## FG 410A180 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds

Variety Name Rebound 6XT

Experimental Designation(s) FG 410A180

Date A&MLVRB first recommended this variety February, 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

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

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

### Agronomic and Botanical Characteristics
Rebound 6XT is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 96% purple, 2% variegated, 1% cream with a trace of white and yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# RR AphaTron 2XT
# FG R410A138 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name RR AphaTron 2XT

Experimental Designation(s) FG R410A138

Date A&MLVRB first recommended this variety February, 2015

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

## Origin and Breeding History

RR AphaTron 2XT is a synthetic variety with 105 parent plants. Forage Genetics International experimental designation is FG R410A138. Parent plants contained the commercial Roundup Ready event J101and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

## Areas of Probable Adaptation

RR AphaTron 2XT is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Pennsylvania, Iowa, Idaho and Wisconsin and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

RR AphaTron 2XT is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 93% purple, 4% variegated, 1% white, 1% cream and 1% yellow. This variety has high multifoliolate leaf expression. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

RR AphaTron 2XT is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. RR AphaTron 2XT has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and pea aphid, with resistance to stem nematode. Reaction to root knot nematode (Northern *M. hapla,)*, blue alfalfa aphid and spotted alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2015.
Certified seed production acreage may not be published by AOSCA and member agencies.

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## RR Desert Rose
## FG R88T829 (Exp)
## (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name RR Desert Rose

Experimental Designation(s) FG R88T829

Date A&MLVRB first recommended this variety February, 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germ

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

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

**Agronomic and Botanical Characteristics**
RR Desert Rose is nondormant similar to the FD 9 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White.

The variety is highly resistant to anthracnose, *Fusarium* wilt, Phytophthora root, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, resistant to bacterial wilt, *Verticillium* wilt and stem nematode. It has not been tested for other pest reactions. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.
Test variety is "Roundup Ready" with a minimum of 90% of the plants expressing tolerance to Roundup herbicide as measured in a greenhouse grow-out seedling evaluation. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

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

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

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

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

Descriptive information may not be provided to the PVP office.

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# RR Saltiva
# FG R513W224S
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds

Variety Name RR Saltiva

Experimental Designation(s) FG R513W224S

Date A&MLVRB first recommended this variety February, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

**Origin and Breeding History**

RR Saltiva is a synthetic variety with 15 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were elite plants chosen out of salt nurseries from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was produced from a field isolation near Nampa, ID in 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

**Areas of Probable Adaptation**

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

**Agronomic and Botanical Characteristics**

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

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

**Procedures for Maintaining Seed Stock**

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

**Certified Seed Availability and Publication of Certified Seed Production**

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

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

**PVP Information**

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## Centennial
## FG C0415SN208 (Exp)

### 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.

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 this variety is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: May 19, 2022

# Alfalfa

## FF 42.A3
## FG C0415C3364 (Exp)
## (Amended – Name Change)

Variety Name FF 42.A3

Experimental Designation(s) FG C0415C3364

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted March 18, 2021 Name

### Origin and Breeding History

FF 42.A3 is a synthetic variety with 110 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

### Areas of Probable Adaptation

FF 42.A3 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

FF 42.A3 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 90% purple, 5% variegated, 2% yellow, 2% cream with a trace of white. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

FF 42.A3 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2); with resistance to stem nematode. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid, pea aphid and blue alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced near Nampa, ID in 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 | | Registered | None |
| Certified | X | Certified | 6 |

### PVP Information

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

Date this application was submitted: Mar 18, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## 6453Q
## FG C0516A3153 (Exp)
## (Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name 6453Q

Experimental Designation(s) FG C0516A3153

Date A&MLVRB first recommended this variety February 2019

Date(s) any previous amendments were recommended Feb, 2020 SN; Aug 2020 name

Date this amendment was submitted December 1, 2021 salt germination

### Origin and Breeding History
6453Q is a synthetic variety with 115 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2016.

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

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

6453Q has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); with resistance to pea aphid, spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# DG 4120
# FG C0516A3154 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name DG 4120

Experimental Designation(s) FG C0516A3154

Date A&MLVRB first recommended this variety February, 2020

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

## Origin and Breeding History

DG 4120 is a synthetic variety with 220 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested and bulked to form breeder seed from a field or cage isolation near Nampa, ID in fall 2016

## Areas of Probable Adaptation

DG 4120 is adapted to the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain areas. This variety has been tested in Iowa, Pennsylvania, Wisconsin, Idaho, and Washington and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

DG 4120 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 98% purple, 1% variegated with a trace of white, cream, and yellow. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

DG 4120 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces (Race 2); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to other pests has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## Thumper
## FG 412A121 (Exp)
## (Amended – Name Change,
## Add Salt Tolerance of Germinating Alfalfa Seeds

Variety Name Thumper

Experimental Designation(s) FG 412A121

Date A&MLVRB first recommended this variety February, 2018

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 Name, Salt Germination

### Origin and Breeding History
Thumper is a synthetic variety with 110 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2012.

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

### Agronomic and Botanical Characteristics
Thumper is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 2% variegated, 2% cream with a trace of white and yellow. This variety has high multifoliolate leaf expression. Thumper has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

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

### Procedures for Maintaining Seed Stock
Breeder seed (Syn1) was produced near Nampa, ID in 2012. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# Integra 8562R
# FG R414W277 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name Integra 8562R

Experimental Designation(s) FG R414W277

Date A&MLVRB first recommended this variety February, 2021

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

**Origin and Breeding History**

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

**Areas of Probable Adaptation**

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

**Agronomic and Botanical Characteristics**

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# WL 3441.RR
# FG R413A316 (Exp)
# (Amended – Name Change)

Variety Name WL 3441.RR

Experimental Designation(s) FG R413A316

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

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

Date this amendment was submitted March 18, 2021 Name

## Origin and Breeding History

WL 3441.RR is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected from breeding populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root knot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

## Areas of Probable Adaptation

WL 3441.RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

WL 3441.RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 3% cream, 2% variegated with a trace of white and yellow. This variety has high multifoliolate leaf expression.

WL 3441.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Aug 9, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# WL 3471.HVXRR
# FG H0415A3138 (Exp)
# (Amended – Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 3471.HVXRR

Experimental Designation(s) FG H0415A3138

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended March 2021 name

Date this amendment was submitted November 30, 2021 Salt Germination

**Origin and Breeding History**
WL 3471.HVXRR is a synthetic variety with 115 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

**Areas of Probable Adaptation**
WL 3471.HVXRR is adapted to the North Central and East Central areas. This variety has been tested in Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

**Agronomic and Botanical Characteristics**
WL 3471.HVXRR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple 3% cream, 1% white, 1% yellow with a trace of variegated. This variety has high multifoliolate leaf expression. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. WL 3471.HVXRR has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 3471.HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2); with resistance to stem nematode and pea aphid. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# WL 349HQ
# FG C0415C4149 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds)

Variety Name WL 349HQ

Experimental Designation(s) FG C0415C4149

Date A&MLVRB first recommended this variety February, 2019

Date(s) any previous amendments were recommended Feb 2021 Stem Nematode

Date this amendment was submitted November 30, 2021 salt germination

## Origin and Breeding History

WL 349HQ is a synthetic variety with 110 parent plants. Parent clones were selected for forage yield, persistence, and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose (multiple races), Phytophthora root rot, stem nematode, northern root knot nematode and Aphanomyces root rot (multiple races). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2015.

## Areas of Probable Adaptation

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

## Agronomic and Botanical Characteristics

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

WL 349HQ has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and pea aphid, with resistance to stem nematode. Reaction to root knot nematode (*M. hapla*), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## WL 3521
## FG C0518A3663 (Exp)

### Origin and Breeding History
WL 3521 is a synthetic variety with 48 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 2018.

### Areas of Probable Adaptation
WL 3521 is adapted to the North Central and East Central regions. This variety has been tested in Iowa, New York, Minnesota, Pennsylvania, and Wisconsin and is intended for use in the North Central, East Central, Great Plains, Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics
WL 3521 is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 99% purple with a trace of variegated, cream, yellow and white. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 3521 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 Aphanomyces root rot (Race 2); with resistance to 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 2018. 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 this variety is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# WL 467HQ
# FG 610W265 (Exp)
# (Amended - Add Salt Tolerance of Germinating Alfalfa Seeds

Variety Name WL 467HQ

Experimental Designation(s) FG 610W265

Date A&MLVRB first recommended this variety February, 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted November 30, 2021 salt germination

## Origin and Breeding History

WL 467HQ is a synthetic variety with 100 parent plants. Parent plants were selected from old forage yield trials. Phenotypic selection was used to identify the parent plants (persistence, vigor and freedom from leaf diseases). The germplasm sources used in the development trace to WL 440 (50%) FG 55W255 (30%) and FGI breeding lines (20%). Syn1 seed was harvested from a field or cage isolation near Touchet, WA in 2010 and bulked to form breeder seed.

## Areas of Probable Adaptation

WL 467HQ is adapted to the Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the U.S. and similar environments. It has been tested in Idaho and Washington. Proposed areas of intended use are Moderately Winterhardy Intermountain and Winterhardy Intermountain.

## Agronomic and Botanical Characteristics

WL 467HQ is Moderately Fall Dormant similar to the FD6 check. It has moderate multifolilate leaf expression. Flower color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white flowers. Test variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check.

WL 467HQ is highly resistant to Anthracnose (race 1), bacterial wilt, Fusarium wilt, Phytophthora root rot, pea aphid, northern root knot nematode (*M. hapla)*, and stem nematode with resistance to spotted alfalfa aphid and Verticillium wilt. It has not been tested for other pest reactions. The variety is suitable for producing hay, haylage, greenchop or dehydrated product.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## L-470HD
## LS 1501 (Exp)
## (Amended – Name Change)

Variety Name L-470HD

Experimental Designation(s) LS 1501

Date A&MLVRB first recommended this variety Feb. 7, 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted Nov. 30, 2021

### Origin and Breeding History
L-470HD is a synthetic variety with 72 parent plants that was developed by Legacy Seeds, LLC. The 72 parent plants were selected near Evansville, WI in the spring of 2015 from an old yield trial. Phenotypic selection was based on good winter survival after four winters and the absence of root and crown diseases. All of the components had previously been selected for high forage yield and high forage quality. The breeder seed was produced near Nampa, ID in 2015.

### 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-470HD is a moderately dormant variety similar to the FD5 check. Flower color (Syn 2) is approximately 96% purple and 3% variegated with traces of white, yellow and cream.

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

### Procedures for Maintaining Seed Stock
Breeder seed was produced in 2015. 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 | | Registered | |
| Certified | X | Certified | 6 |

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## L-602
## LS 1508 (Exp)
## (Amended – Add High Resistance [HR] to Phytophthora Root Rot

Variety Name L-602

Experimental Designation(s) LS 1508

Date A&MLVRB first recommended this variety Feb. 6, 2020 (as LS 1508)

Date(s) any previous amendments were recommended Feb. 17, 2021 (as L-602)

Date this amendment was submitted Nov. 30, 2021

### 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 Phytophthora root rot, pea aphid, spotted aphid, blue alfalfa aphid or root knot nematode.

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

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## Resolute ST
## LS 1713 (Exp)

**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.

**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 |
| Registered | | Registered | |
| Certified | X | Certified | 6 |

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

Date this application was submitted: Nov 29, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## LS 13JX (Exp)

**Origin and Breeding History**
LS 13JX is a synthetic variety with 105 parent plants. The parent plants were selected near Waupaca, WI and Evansville, WI in the spring of 2018 from performance nursery plots. Phenotypic selection was based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The plants were grown under cage for breeder seed production (Syn 1) in 2018 near Nampa, ID.

**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 13JX is a moderately dormant variety similar to the FD5 check. Flower color (Syn 2) is approximately 92% purple and 7% variegated, with trace amounts of white, yellow, and cream.

LS 13JX has high resistance to Anthracnose (Race 1), Bacterial Wilt, Fusarium Wilt, Verticillium Wilt, Phytophthora Root Rot, Aphanomyces Root Rot (Race 1), and Aphanomyces Root Rot (Race 2). It has not been tested for resistance to Pea Aphid, Spotted Aphid, Blue Alfalfa Aphid, Stem Nematode, or Root Knot Nematode.

**Procedures for Maintaining Seed Stock**
Breeder seed was produced in 2018. 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 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 |
| Registered | | Registered | |
| Certified | X | Certified | 6 |

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

Date this application was submitted: Nov 29, 2021 Date recommended by the VRB: Feb 17, 2022

# Crimson Clover

## Majestic
## MRF-CC (Exp)

### Origin and Breeding History
Majestic Crimson clover was developed by McCarthy Research Farm LLC. in Forest Grove, OR. Germplasm sources were collected from the highest seed yielding fields in the Willamette Valley of Oregon. The fields were planted with uncertified seed that produced the highest seed yields after years of production. The genetic origin likely traces back to the varieties: Dixie, Flame, and Tibbee. The exact contributions of each variety are unknown. During the five cycles of recurrent phenotypic selection, parent lines were selected for seedling vigor, winter hardiness and seed yield. Breeder seed of Majestic was first produced in 2016.

### Areas of Probable Adaptation:
Majestic Crimson Clover has been tested and is adapted to areas with similar climatic conditions to: Starkville, Mississippi; Milan, Spring Hill, and Knoxville Tennessee; and South Charleston, Ohio. It is also well adapted for seed production in the Willamette Valley of Oregon.

### Agronomic and Botanical Characteristics

| | | | |
|---|---|---|---|
| Species | Trifolium incarnatum | Maturity | Medium Early |
| Plant Height | 48.3 cm | Flower Petal Color | Crimson Red |
| Leaf Color | Medium Green | Stem Growth Habit | Upright |

Variants: At bloom, Majestic will contain an occasional white flower (<0.01%). This is part of the variety.

### Additional Descriptive Information about Physiology, Pest Reactions, or Other Attributes
None

### Procedures for Maintaining Seed Stock
Breeder seed will be kept in cold storage at McCarthy Research Farm LLC located in Verboort, Oregon. Breeder seed will be the source of regenerating additional seed stock by the breeder.

### Certified Seed Availability and Publication of Certified Seed Production:
Seed of Majestic will be available for sale in the fall of 2022. Production information will be confidential.

| Generations Allowed – Mark All That Apply | | Length of Stand Limitation – If None, Please State | |
|---|---|---|---|
| Foundation | X | Foundation | 1 Year |
| Registered | X | Registered | 1 Year |
| Certified | X | Certified | 1 Year |

### PVP Information:
Application for PVP is yet to be decided. AOSCA will not provide descriptive information to the PVP office.

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## High Five
## SW15XPQ06, 15XXP06, W14XXP61 (Exp)
## (Amended – Add High Resistance [HR] to Bacterial Wilt
## Add High Resistance [HR] to Fusarium Wilt)

Variety Name High Five

Experimental Designation(s) SW15XPQ06, 15XXP06, W14XXP61

Date A&MLVRB first recommended this variety 2/7/2019

Date(s) any previous amendments were recommended 2/6/2020, 2/17/2021

Date this amendment was submitted 11/30/2021

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

**Areas of Probable Adaptation**
This variety is adapted to the North Central, East Central, Winterhardy Intermountain, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW15XPQ06 has been tested in Wisconsin, Idaho, Washington, Minnesota, Pennsylvania, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

**Agronomic and Botanical Characteristics**
SW15XPQ06 is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 3) is 99% purple, with a trace of variegated, white, yellow, and cream. High Five is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), Verticillium wilt, pea aphid, bacterial wilt, Fusarium wilt and Phytophthora root rot; with resistance to spotted alfalfa aphid and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in greenhouse isolation in Arlington, WI in 2014. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: May 19, 2022

# Alfalfa

# SW4515
# SW15XPQ15, 15XXP15, N14XXP74 (Exp)
# (Amended – Name Change)

Variety Name SW4515

Experimental Designation(s) SW15XPQ15, 15XXP15, N14XXP74

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

Date(s) any previous amendments were recommended 2020

Date this amendment was submitted November 30, 2021

## Origin and Breeding History

SW4515 (SW15XPQ15, 15XXP15, N14XXP74 – all experimental designations), is an intercross of 144 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and Race 2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in greenhouse isolation in Connell, WA in 2014. Seed was bulked in total.

## Areas of Probable Adaptation

SW4515 is adapted to the North Central, East Central, Winterhardy Intermountain, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4515 has been tested in Wisconsin, Idaho, Washington, Minnesota, Pennsylvania, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

## Agronomic and Botanical Characteristics

SW4515 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 99% purple, with a trace of variegated, white, yellow, and cream. SW4515 is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, Phytophthora root rot, stem nematode and Fusarium wilt; with resistance to spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

## Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in greenhouse isolation in Connell, WA in 2014. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2019 if SW4515 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW4602LH
## SW16ZPD02, 16ZPD02, W15ZPD41 (Exp)
## (Amended – Name Change
## Add High Resistance [HR] to Fusarium Wilt, Add Winter Survival)

Variety Name SW4602LH

Experimental Designation(s) SW16ZPD02, 16ZPD02, W15ZPD41

Date A&MLVRB first recommended this variety 2/7/2019

Date(s) any previous amendments were recommended

Date this amendment was submitted 11/30/2021

### Origin and Breeding History

SW4602LH (SW16ZPD02, 16ZPD02, W15ZPD41 experimental designations), is an intracross of 134 parent plants (Syn 1) in which all parents originated from S&W germplasms, and were selected for forage yield under potato leafhopper pressure, persistence, forage quality, and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and Races 2), and potato leafhopper resistance. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, potato leafhopper resistance, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in 2016 in Connell, WA, and was bulked in total.

### Areas of Probable Adaptation

This variety is adapted to the North Central and East Central areas of the United States. SW4602LH has been tested in Ohio and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics

SW4602LH is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 98% purple, 1% yellow, with a trace of variegated, white and cream. SW4602LH is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, potato leafhopper, Fusarium wilt and Phytophthora root rot, with resistance to pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in cage isolation in 2016 in Connell, WA. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2019 if SW4602LH is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

### PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW4618S
## SW5618S, SW16XPS18, W15XPS63 (Exp)
## (Amended – Name Change_

Variety Name SW4618S

Experimental Designation(s) SW5618S, SW16XPS18, W15XPS63

Date A&MLVRB first recommended this variety February 7, 2020

Date(s) any previous amendments were recommended

Date this amendment was submitted December 16, 2020

**Origin and Breeding History**

SW4618S, experimental names SW5618S, SW16XPS18, W15XPS63, is an intercross of 99 parent plants (Syn 1) selected by S&W Seed Company from 3 S&W experimental varieties selected for forage yield, persistence, germination/growth under salt, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose (Race 1), Phytophthora root rot, and Aphanomyces root rot Race 1. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2016. Seed was bulked in total.

**Areas of Probable Adaptation**

This variety is adapted to the North Central, East Central and Winterhardy Intermountain regions of the United States. SW4618S has been tested in Idaho, Wisconsin, Minnesota, and Pennsylvania. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winter hardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

**Agronomic and Botanical Characteristics**

SW4618S is moderately dormant, similar to the FD 5 check. It is winterhardy. Flower color (Syn 3) is 88% purple, 11% variegated, and traces of yellow, white and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Phytophthora root rot, and Fusarium wilt. It is resistant to Verticillium wilt and stem nematode. It has low resistance to Aphanomyces root rot (Race 2). SW5418S has improved forage production under salt stress similar to the tolerant check. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

**Procedures for Maintaining Seed Stock**

S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2016.

**Certified Seed Availability and Publication of Certified Seed Production**

Certified seed may be available for sale in the spring of 2020 if SW4618S is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# SW5615
# SW16XPA15, 16XPA15, N15XPA75 (Exp)
# (Amended – Name Change)

Variety Name SW5615

Experimental Designation(s) SW16XPA15, 16XPA15, N15XPA75

Date A&MLVRB first recommended this variety 2/06/2020

Date(s) any previous amendments were recommended

Date this amendment was submitted 1/03/2022

## Origin and Breeding History

SW5615 (SW16XPA15, 16XPA15, N15XPA75, - all experimental designations), is an intracross of 107 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose (Race 1), Phytophthora root rot, Aphanomyces root rot (Race1&2), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016. Seed was bulked in total.

## Areas of Probable Adaptation

SW5615 is adapted to the North Central, East Central and Winterhardy Intermountain regions of the United States. SW5615 has been tested in Idaho, Wisconsin, Minnesota, and Pennsylvania Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winter hardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

## Agronomic and Botanical Characteristics

SW5615 is moderately dormant, similar to the FD 5 check. It is extremely winterhardy. Flower color (Syn 2) is 97% purple, 2% white, and traces of yellow, variegated and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, Verticillium wilt, and stem nematode. It is resistant to spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

## Procedures for Maintaining Seed Stock

S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2, or Syn 3) and/or certified seed (Syn 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016.

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2020 if SW5615 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

## Alfalfa

## SW5616S
## SW16XPS16, W15XPS60 (Exp)
## (Amended – Name change to 5616S
## Add Highly Resistance [HR] to Fusarium Wilt
## Add Highly Resistance [HR] to Stem Nematode
## Add Winter Survival)

Variety Name SW5616S

Experimental Designation(s) SW16XPS16, W15XPS60

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

Date(s) any previous amendments were recommended

Date this amendment was submitted December 1, 2021

**Origin and Breeding History**

SW5616S (SW16XPS16, W15XPS60 experimental designations), is an intracross of 99 parent plants (Syn 1) selected by S&W Seed Company from 2 S&W varieties selected for forage yield, persistence, forage quality, salt tolerance and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (Race 1). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in greenhouse isolation in Arlington, WI in 2015. Seed was bulked in total.

### Areas of Probable Adaptation

This variety is adapted to the North Central, East Central, and Winterhardy Intermountain areas of the United States and Canada. SW5616S has been tested in Wisconsin, Idaho, Minnesota, Pennsylvania, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

**Agronomic and Botanical Characteristics**

SW5616S is moderately dormant, similar to the FD 5 check. It is winterhardy. Flower color (Syn 3) is 96% purple, 3% white, with a trace of variegated, yellow, and cream. SW5616S is highly resistant to Anthracnose (Race 1), Aphanomyces root rot (Race 1), bacterial wilt, Verticillium wilt, Fusarium wilt, stem nematode and Phytophthora root rot; with resistance to Aphanomyces root rot (Race 2), pea aphid, and spotted alfalfa aphid. SW5616S has improved forage production under salt stress similar to the tolerant check. This variety has improved salt tolerance of germinating alfalfa seeds similar to the tolerant check. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

**Procedures for Maintaining Seed Stock**

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in in greenhouse isolation in Arlington, WI in 2015. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

**Certified Seed Availability and Publication of Certified Seed Production**

Certified seed may be available for sale in the spring of 2019 if SW5616S is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

### PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW6691
## SW6691, SGI91, SFR27032, RD16IPK91 (Exp)
## (Amended – Name Change)

Variety Name SW6691

Experimental Designation(s) SW6691, SGI91, SFR27032, RD16IPK91

Date A&MLVRB first recommended this variety 2/17/2021

Date(s) any previous amendments were recommended

Date this amendment was submitted 11/30/2021

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

**Areas of Probable Adaptation**
SW6691 is adapted to Australia, and the Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US. This variety is intended for Australia and the Southwest, Southeast, East Central, North Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and similar environments. This variety has been tested in California, Idaho, and Australia.

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

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

**Procedures for Maintaining Seed Stock**
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations seed (Syn 2, or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 2 foundation seed requires the consent of the breeder. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities.

**Certified Seed Availability and Publication of Certified Seed Production**
Certified seed may be available for sale in the spring of 2021 if SW6691 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW7695
## SW7695, RD16NP95 (Exp)
## (Amended – Name Change)

Variety Name SW7695

Experimental Designation(s) SW7695, RD16NPK95

Date A&MLVRB first recommended this variety 2/17/2021

Date(s) any previous amendments were recommended

Date this amendment was submitted 11/30/2021

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

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

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

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

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations seed (Syn 2, or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 2 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa-

## SW8697
## SW8697, SW18NPK90, RD17NPK97, RD16NPK97 (Exp)
## (Amended - Name change to SW8697
## Add Resistance [R] to Spotted Alfalfa Aphid Insect)

Variety Name SW8697

Experimental Designation(s) SW8697, SW18NPK90, RD17NPL90, RD16NPK97

Date A&MLVRB first recommended this variety 2/17/2021

Date(s) any previous amendments were recommended

Date this amendment was submitted 11/30/2021

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

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

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

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

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations seed (Syn 2, or Syn 3) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 2 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder (Syn 1) was grown in cage isolation in Keith, AU in 2016.

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

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW9812S
## SW 9812 (Exp)
## (Amended – Name Change
## Add Salt Tolerance)

Variety Name SW9812S

Experimental Designation(s) SW 9812

Date A&MLVRB first recommended this variety 2/6/2013

Date(s) any previous amendments were recommended

Date this amendment was submitted 11/30/2021

### Origin and Breeding History
This synthetic variety, SW9812S, was developed by S&W Seed Company, Bob Sheesley, and Tim Jacobsen, using the outdoor cages crossing method with both honeybees and leaf cutting bees from selections from two parent lines. The selection criteria used in the development of this variety include forage yield and resistance to Spotted Alfalfa Aphid, Bacterial Wilt, Fusarium Wilt, Pea Aphid, Phytophthora Root Rot, Blue Alfalfa Aphid, and Stem Nematode. Breeder seed was produced in 2008.

### Areas of Probable Adaptation
SW9812S is adapted to the Southwestern region. This variety has been tested in the Central Valley of California and Tucson, Arizona and is intended for use in the Southwest area.

### Agronomic and Botanical Characteristics
This variety is a non-dormant similar to FD 9 check. Flower color (Syn 2) is 98% purple and 2% variegated. SW9812S has high resistance to Spotted Alfalfa Aphid: with resistance to Bacterial Wilt and Fusarium Wilt, Pea Aphid, and moderate resistance to Phytophthora Root Rot, Blue Alfalfa Aphid, and Stem Nematode. Reaction to Aphanomyces root rot, Root Knot nematode, Verticillium Wilt, and Anthracnose has not been tested. SW9812S is salt tolerant.

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

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2013. Certified seed acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW9813S
## SW 9813 (Exp)
## (Amended – Add Salt Tolerance)

Variety Name SW9813S

Experimental Designation(s) SW 9813

Date A&MLVRB first recommended this variety 2/6/2013

Date(s) any previous amendments were recommended 2/17/2020

Date this amendment was submitted 11/30/2021

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

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

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

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

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be marketed in 2013. Certified seed acreage may not be published by AOSCA and member agencies.

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW15XPQ10, 15XPQ10, W14XXP68 (Exp)
## (Amended – Add Winter Survival)

Variety Name _____

Experimental Designation(s) SW15XPQ10, 15XPQ10, W14XXP68

Date A&MLVRB first recommended this variety 2/6/2020

Date(s) any previous amendments were recommended _____

Date this amendment was submitted 11/30/2021

### Origin and Breeding History
SW15XPQ10, 15XPQ10, W14XXP68, (all experimental designations), is an intracross of 27 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose (Race 1), Phytophthora root rot, and Aphanomyces root rot (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage, reduced lignin, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central, and Winterhardy Intermountain regions of the United States. SW15XPQ10 has been tested in Wisconsin, Minnesota, and Idaho. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winter hardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW15XPQ10 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 3) is 90% purple, 3% cream, 6% variegated and traces of yellow, and white. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, and Verticillium wilt. It is resistant to spotted alfalfa aphid, pea aphid, and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2020 if SW15XPQ10 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW15YPQ23, 15YXP23, W15YXP80 (Exp)

### Origin and Breeding History
SW15YPQ23, 15YXP23, W14YXP80, (all experimental designations), is an intracross of 155 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, non-lodging, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose, Phytophthora root rot, and Aphanomyces root rot (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

### Areas of Probable Adaptation
SW15YPQ23 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US and Canada. This variety has been tested in Wisconsin, Minnesota, Pennsylvania, Idaho, and Canada. SW15YPQ23 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW15YPQ23 is moderately dormant, similar to the FD 4 check. It is extremely winter hardy. Flower color (Syn 2) is 92% purple, 7% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, and Stem nematode. It is resistant to pea aphid and spotted aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundation seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 2) was grown in cage isolation in 2015 in Connell, WA.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW15YPQ23 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW15YPQ24, 15YXP24, W14YXP81 (Exp)

### Origin and Breeding History
SW15YPQ24, 15YXP24, W14YXP81, (all experimental designations), is an intracross of 120 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, non-lodging, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, and Aphanomyces root rot (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 2) was grown in cage isolation in Connell, WA in 2015. Seed was bulked in total.

### Areas of Probable Adaptation
SW15YPQ24 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US and Canada. This variety has been tested in Wisconsin, Minnesota, Idaho and Ontario, Canada. SW15YPQ24 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW15YPQ24 is moderately dormant, similar to the FD 5 check. It is very winterhardy. Flower color (Syn 2) is 90% purple, 9% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, pea aphid, and stem nematode. It is resistant to spotted aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 2) and/or foundations seed (Syn 3, or Syn 4) and/or certified seed (Syn 3, Syn 4 or Syn 5) for the projected life of the variety. Production of Syn 4 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 2) was grown in cage isolation in 2015 in Connell, WA.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW15YPQ24 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW16XCA32, N15XCA22 (Exp)

### Origin and Breeding History
SW16XCA32, N15XCA22, (all experimental designations), is a 12 clone synthetic in which all parents originated from S&W germplasms, and were selected by S&W Seed Company from S&W experimentals based on half sib performance for forage yield, persistence, forage quality, standability and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1 and Race 2). Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016 on 12 replicates of 12 parent plants. Seed was harvested by parent and bulked in total.

### Areas of Probable Adaptation
SW16XCA32 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US. This variety has been tested in Wisconsin, Minnesota, Pennsylvania, and Idaho. SW16XCA32 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW16XCA32 is moderately dormant, similar to the FD 5 check. It is very winterhardy, similar to WS2 check. Flower color (Syn 2) is 88% purple, 11% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, and stem nematode. It is resistant to pea aphid, and moderately resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations seed (Syn 2, or Syn 3) and/or certified seed (Syn 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 1) was grown in cage isolation in 2016 in Connell, WA.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW16XCA32 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Dec 1, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW16XCA33, N15XCA23 (Exp)

### Origin and Breeding History
SW16XCA33, N15XCA23, (all experimental designations), is a 12 clone synthetic (Syn 1), in which all parents originated from S&W germplasms, and were selected by S&W Seed Company from S&W experimentals based on half sib performance for forage yield, persistence, forage quality, standability and resistance to one or more of the following diseases or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1 and Race 2). Breeder seed (Syn 1) was grown in the greenhouse in 2015 and the same plants transplanted to cage isolation in Connell, WA in 2016 on 6 replicates of 12 parent plants. Seed was harvested by parent and bulked equally.

### Areas of Probable Adaptation
SW16XCA33 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US. This variety has been tested in Wisconsin, Minnesota, Pennsylvania and Idaho. SW16XCA33 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and similar environments.

### Agronomic and Botanical Characteristics
SW16XCA33 is moderately dormant, similar to the FD 5 check. It is very winterhardy, similar to WS2 check. Flower color (Syn 2) is 87 purple, 12% variegated with traces of cream, yellow and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, and stem nematode. It is resistant to pea aphid, and moderately resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundations seed (Syn 2, or Syn 3) and/or certified seed (Syn 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 1) was grown in the greenhouse in 2015 in Nampa, ID.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW16XCA33 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW16XPD05, W15XPD65 (Exp)

### Origin and Breeding History
SW16XPD05, W15XPD65, (all experimental designations), is an intracross of 148 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: Bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose, Phytophthora root rot, and Aphanomyces root rot (Race1&2). Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central, and East Central regions of the United States. SW16XPD05 has been tested in Idaho, Wisconsin, Minnesota, and Pennsylvania Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, and Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW16XPD05 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 93% purple, 6% variegated, and traces of yellow, white, and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, Fusarium wilt, Verticillium wilt, and stem nematode. It is resistant to spotted alfalfa aphid, and pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2, or Syn 3) and/or certified seed (Syn 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW16XPD05 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW16YPD38, W15YPA84 (Exp)

### Origin and Breeding History
W16YPD38, W15YPA84, (all experimental designations), is an intracross of 118 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Anthracnose, Aphanomyces root rot (Race1&2), and Stem Nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in Connell, WA in 2016. Seed was bulked in total.

### Areas of Probable Adaptation
SW16YPD38 is adapted to the North Central, East Central, and Winterhardy Intermountain regions of the US. This variety has been tested in Wisconsin, Minnesota, Pennsylvania, and Idaho. SW16YPD38 is intended for culture in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions of the US and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW16YPD38 is dormant, similar to the FD 3 check. It is extremely winterhardy. Flower color (Syn 2) is 84% purple, 15% variegated with traces of cream, yellow, and white. The variety is highly resistant to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, and stem nematode. It is resistant to pea aphid, and moderately resistant to spotted aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
S&W Seed Company will maintain sufficient breeder seed (Syn 1) and/or foundation seed (Syn 2, or Syn 3) and/or certified seed (Syn 2, Syn 3 or Syn 4) for the projected life of the variety. Production of Syn 3 foundation seed requires the consent of the breeder. Seed stock will be maintained in secure climate-controlled S&W Seed Company seed storage facilities. Breeder seed (Syn 1) was grown in cage isolation in 2016 in Connell, WA.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW16YPD38 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW17XCA17, N16XCA79 (Exp)

### Origin and Breeding History
SW17XCA17, N16XCA79, (all experimental designations), is a 17 clone synthetic in which all parents originated from S&W germplasms, and were selected by S&W Seed Company from S&W experimentals based on half sib performance for forage yield, persistence, forage quality, and resistance to one or more of the following diseases or pests: anthracnose, bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and Race 2) and Stem nematode. Breeder seed (Syn 1) was grown in cage isolation in Nampa, ID in 2017 on 12 replicates of 17 parent plants. Seed was harvested by parent and bulked equally.

### Areas of Probable Adaptation
This variety is adapted to the North Central, Winter hardy Intermountain areas of the United States. SW17XCA17 has been tested in Idaho and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW17XCA17 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 89% purple, 10% variegated, with traces of white, yellow, and cream. SW17XCA17 is highly resistant to anthracnose, Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, Phytophthora root rot and stem nematode; with resistance to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 2, 3 or Syn 4) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in cage isolation in Nampa, ID in 2017. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW17XCA17 is recommended for certification. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

# SW17XPD06, W16XPD62 (Exp)

## Origin and Breeding History

SW17XPD06, W16XPD62, (all experimental designations), is an intracross of 113 parent plants (Syn 1) selected by S&W Seed Company from an S&W experimental selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: Bacterial wilt, Fusarium wilt, Verticillium wilt, Anthracnose, Phytophthora root rot, Aphanomyces root rot (Race1&2), and Stem Nematode. Parent plants were identified using phenotypic selection in the greenhouse for resistance to Verticillium wilt, Anthracnose, Phytophthora root rot, and Aphanomyces root rot (Race1&2). Breeder seed (Syn 1) was grown in cage isolation in Nampa, ID in 2017. Seed was bulked in total.

## Areas of Probable Adaptation

This variety is adapted to the North Central, and Winterhardy Intermountain areas of the United States. SW17XPD06 has been tested in Idaho and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

## Agronomic and Botanical Characteristics

SW17XPD06 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 85% purple, with 14% variegated, and a trace of white, yellow, and cream. SW17XPD06 is highly resistant to anthracnose, Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Fusarium wilt, Verticillium wilt, and Phytophthora root rot; with resistance to spotted alfalfa aphid and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

## Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 2, 3 or Syn 4) classes will be recognized. Production of Syn 4 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in cage isolation in Nampa, ID in 2017. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed may be available for sale in the spring of 2023 if SW17XPD06 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

## PVP Information

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022

# Alfalfa

## SW17ZPA02, W16ZPA41 (Exp)

### Origin and Breeding History
SW17ZPD02, W16ZPA41 (all experimental designations), is an intracross of 90 parent plants (Syn 1) in which all parents originated from S&W germplasms, and were selected for forage yield under potato leafhopper pressure, persistence, forage quality, and or resistance to one or more of the following diseases and/or pests: Bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2), and potato leafhopper resistance. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics, potato leafhopper resistance, and improved forage yield. Breeder seed (Syn 1) was grown in cage isolation in 2017 in Nampa, ID and was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central and East Central areas of the United States. SW17ZPA02 has been tested in Ohio and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW17ZPA02 is moderately dormant, similar to the FD 4 check. It is very winterhardy. Flower color (Syn 2) is 84% purple, 4% yellow, 11% variegated, and trace amounts of white and cream. SW17ZPA02 is highly resistant to anthracnose (Race 1), Aphanomyces root rot (Race 1 and Race 2), bacterial wilt, Verticillium wilt, potato leafhopper, and Phytophthora root rot, with resistance to pea aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 2, 3 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn 1) was grown in cage isolation in 2017 in Nampa, ID. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2023 if SW17ZPA02 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

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

Date this application was submitted: Nov 30, 2021 Date recommended by the VRB: Feb 17, 2022