# 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
(JANUARY 2017)

The Association of Official Seed Certifying Agencies (AOSCA) Alfalfa and Miscellaneous Legumes Variety Review Board reviewed the following varieties on January 10, 2017, in Denver, CO. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

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

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

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Respectfully submitted,

Mike Moore, Chair
Alfalfa and Miscellaneous Legumes Variety Review Board

# 2017 AOSCA ALFALFA & MISC LEGUMES VARIETY REVIEW BOARD

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

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

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

# Alfalfa

# 098218 (Exp)

## Origin and Breeding History

098218 is a synthetic variety with 134 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at two locations in Argentina. Parent plants were selected from various populations that were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of 098218 traces to Magna 995 (17%), SW9628 (11%), WL625HQ (11%), DK 193 (10%), CUF 101 (10%), Mecca III (7%), Cibola (7%), DK 191 (1%) and miscellaneous Alforex Seeds breeding populations (26%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2009. Seed was bulk harvested from all parent plants.

## Areas of Probable Adaptation

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

## Agronomic and Botanical Characteristics

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

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

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed of 098218 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

## PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## 4A525
## CW 095005 (Exp)

### Origin and Breeding History

4A525 is a synthetic variety developed by Alforex Seeds with 16 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot, anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of 4A525 traces to the following germplasm sources: CW D5-C09 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

4A525 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. 4A525 has been tested in Iowa, Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics

4A525 is a dormant variety with fall dormancy similar to FD class 5 check variety. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white, and yellow. 4A525 has Low multifoliolate leaf expression rating similar to the Low MF check variety.

4A525 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 Stem nematode, and Cow pea aphid. It has moderate resistance to Aphanomyces root rot (race 2), and Blue alfalfa aphid. Reaction to Pea aphid, Spotted alfalfa aphid, and Root knot nematode has not been tested.

### Procedures for Maintaining Seed Stock

Seed increase of 4A525 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 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of 4A525 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# AFX 1060
# CW 090075 (Exp)
# (Amended – Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name AFX 1060

Experimental Designation(s) CW 090075

Date A&MLVRB first recommended this variety January 2015

Date(s) previous amendments were recommended September 2015

Date amendment submitted November 29, 2016

## Origin and Breeding History

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

## Areas of Probable Adaptation

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

## Agronomic and Botanical Characteristics

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

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

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

## PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# AFX 429
# CW 103012 (Exp)
# (Amended – Name Change, Add Stem Nemotode Resistance)

Variety Name AFX 429

Experimental Designation(s) CW 103012

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

## Origin and Breeding History

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

## Areas of Probable Adaptation

AFX 429 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. AFX 429 has been tested in Iowa, Minnesota, and Wisconsin.

## Agronomic and Botanical Characteristics

AFX 429 is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 98% purple, 1% variegated and a trace of white. AFX 429 has Low multifoliolate leaf expression rating similar to the Low MF check variety. AFX 429 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid and Stem Nematode. Reaction to Pea aphid, Spotted alfalfa aphid, and Root knot nematode, has not been tested.

## Procedures for Maintaining Seed Stock

Seed increase of AFX 429 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

## Certified Seed Availability and Publication of Certified Seed Production

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

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# Alfalfa

## AFX 429
## CW 103012 (Exp)
## (Amended – Name Change, Add Stem Nemotode Resistance)

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

**PVP Information**

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AFX 457
## CW A114030 (Exp)
## (Amended – Add Stem Nematode Resistance & Germination Tolerance to Salt Stress)

Variety Name AFX 457

Experimental Designation(s) CW A114030

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

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

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# Alfalfa

## AFX 457
## CW A114030 (Exp)
## (Amended – Add Stem Nematode Resistance & Germination Tolerance to Salt Stress)

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

**PVP Information**

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AFX 469
## CW 105006 (Exp)
## (Amended – Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name AFX 469

Experimental Designation(s) CW 105006

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted November 29, 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

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

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# Alfalfa

## AFX 469
## CW 105006 (Exp)
## (Amended – Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

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

**PVP Information**

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AFX 579
## CW 105023 (Exp)
## (Amended – Name Change, Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name AFX 579

Experimental Designation(s) CW 105023

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

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

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# Alfalfa

## AFX 579
## CW 105023 (Exp)
## (Amended – Name Change, Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

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

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Foothold
## CW A112002 (Exp)
## (Amended – Name Change, Add Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name Foothold

Experimental Designation(s) CW A112002

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

### Origin and Breeding History

Foothold is a synthetic variety developed by Alforex Seeds with 18 parent plants selected for dense crowns, high leaf to stem ratio, vigorous roots, high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Foothold traces to the following germplasm sources: CW 11-005 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

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

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# Alfalfa

## Foothold
## CW A112002 (Exp)
## (Amended – Name Change, Add Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

**Generations Allowed – If None, Please State**

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

**Length of Stand Limitation – Mark All That Apply**

| | |
|---|---|
| Foundation | 3 |
| Registered | |
| Certified | 6 |

**PVP Information**

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# HG4001
# CW 104015 (Exp)
# (Amended - Name Change, Add Resistance to Stem Nematode)

Variety Name HG4001

Experimental Designation(s) CW 104015

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

## Origin and Breeding History

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

## Areas of Probable Adaptation

HG4001 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. HG4001 has been tested in Iowa, Minnesota, and Wisconsin.

## Agronomic and Botanical Characteristics

HG4001 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated. HG4001 has Moderate multifoliolate leaf expression rating similar to the Moderate MF check variety. HG4001 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Aphanomyces root rot (race 2), Blue alfalfa aphid, Cow pea aphid, and Stem Nematode. Reaction to Spotted alfalfa aphid, and root knot nematode has not been tested.

## Procedures for Maintaining Seed Stock

Seed increase of **HG4001** is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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# HG4001
# CW 104015 (Exp)
# (Amended - Name Change, Add Resistance to Stem Nematode)

Variety Name HG4001

Experimental Designation(s) CW 104015

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed of HG4001 will be available in 2016. Certified acreage may not be published by AOSCA or member agencies.

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

## PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Hi-Gest 360
## CW 103009 (Exp)
## (Amended - Add Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name Hi-Gest 360

Experimental Designation(s) CW 103009

Date A&MLVRB first recommended this variety January 2015

Date(s) any previous amendments were recommended

Date this amendment was submitted November 29, 2016

### Origin and Breeding History

Hi-Gest 360 is a synthetic variety with 12 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Hi-Gest 360 traces to the following germplasm sources: CW 10-017 (50%), CW 10-018 (50%). Breeder seed was produced under cage isolation near Woodland, California in 2010. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

Hi-Gest 360 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. Hi-Gest 360 has been tested in Iowa, Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics

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

Hi-Gest 360 has high resistance to anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt; and resistance to Blue Alfalfa Aphid, Cowpea Aphid and Stem Nematode. Reaction to pea aphid, spotted alfalfa aphid, and root knot nematode has not been tested.

### Procedures for Maintaining Seed Stock

Seed increase of Hi-Gest 360 is on a limited generation basis with two generations of breeder, foundation, and certified seed classes. Breeder (Syn.2 or Syn.3), foundation (Syn.3 or Syn.4), and certified (Syn.4 or Syn.5) classes will be recognized. Production of Syn.3 breeder or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2010. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of Hi-Gest 360 will be available in 2015. Certified acreage may not be published by AOSCA or member agencies.

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Hi-Gest 660
## CW 096043 (Exp)
## (Amended - Add High Resistance to Stem Nematode & Germination Tolerance to Salt Stress)

Variety Name Hi-Gest 660

Experimental Designation(s) CW 096043

Date A&MLVRB first recommended this variety January 2015

Date(s) previous amendments were recommended

Date amendment submitted Nov 29, 2016

### Origin and Breeding History
Hi-Gest 660 is a synthetic variety with 215 parent plants which were selected for resistance to Cowpea Aphid from a polycross among eight plants which were selected for low Acid Detergent Lignin (ADL) from spaced plant breeding nurseries. This pedigree is derived from various diverse populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, stem nematode, and cowpea aphid and for low ADL. Parentage of Hi-Gest 660 traces to CW 620 (27%), PGI 608 (13%), Aspire (9%), DK 166 (5%), 5681 (4%), 5683 (4%), GAPP 686+ (3%), Alfa 50 (3%), GrazeKing (2%), and miscellaneous Alforex Seeds breeding populations (30%). Breeder seed was produced under cage isolation near Woodland, California in 2009. Seed was bulk harvested from all parent plants as Synthetic generation 1.

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

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

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

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed of Hi-Gest 660 will be available in 2015. Certified acreage may not be published by AOSCA or member agencies.

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AFX 960
## CW 099079 (Exp)
## (Amended – Name Change, High Resistance (HR) to Stem Nematode; Germination Tolerance (T) to salt stress)

Variety Name AFX 960

Experimental Designation(s) CW 099079

Date A&MLVRB first recommended this variety January 2015

Date(s) previous amendments were recommended

Date amendment submitted November 30, 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

AFX 960 is a very non-dormant variety with fall dormancy similar to FD class 9 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, and a trace of variegated, white, cream, and yellow.

AFX 960 has high resistance to anthracnose (race 1), Fusarium wilt, blue alfalfa aphid, stem nematode, and cowpea aphid; resistance to Phytophthora root rot; moderate resistance to Verticillium wilt: and low resistance to bacterial wilt. Reaction to spotted alfalfa aphid, pea aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested. Germination of AFX 960 under salt stress is similar to the tolerant check variety**.**

### Procedures for Maintaining Seed Stock

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

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

Certified seed of AFX 960 will be available in 2015. Certified acreage may not be published by AOSCA or member agencies.

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Octane
## CW A113010 (Exp)
## (Amended - Name Change, Add High Resistance to Stem Nematode)

Variety Name Octane

Experimental Designation(s) CW A113010

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted November 29, 2016

### Origin and Breeding History

Octane is a synthetic variety developed by Alforex Seeds with 121 parent plants selected for high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from three and four year old Wisconsin selection nurseries and a four year old Wisconsin yield trial, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of Octane traces to the following germplasm sources: CW 11-040 (17%), CW 11-042 (22%), CW 11-044 (12%), CW 11-045 (8%), CW 11-047 (8%), CW 11-049 (8%), and CW 053016 (25%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

Octane is a dormant variety with fall dormancy similar to FD class 3 check varieties. Flower color observed in the Syn.2 generation is approximately 100% purple. Octane has Low multifoliolate leaf expression rating similar to the Low MF check variety. Octane has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Stem nematode. It is resistant to Blue alfalfa aphid. Reaction to pea aphid, spotted alfalfa aphid, and root knot nematode has not been tested.

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 098219 (Exp)

### Origin and Breeding History

098219 is a synthetic variety with 190 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at two locations in Argentina. Parent plants were selected from various populations that were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of 098219 traces to CUF 101 (19%), Cibola (14%), DK 191 (9%), Magna 860 (9%), SW9628 (9%), Magna 995 (8%), Magna 901 (6%), DK 193 (4%), Diamond (3%), DK 192 (1%), and miscellaneous Alforex Seeds breeding populations (18%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2009. Seed was bulk harvested from all parent plants.

### Areas of Probable Adaptation

098219 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina. 098219 has been tested in California and Argentina.

### Agronomic and Botanical Characteristics

098219 is a nondormant variety with fall dormancy similar to FD class 7 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow. Germination of 098219 under salt stress is similar to the tolerant check variety**.**

098219 has high resistance to cowpea aphid, with resistance to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, bacterial wilt, Verticillium wilt, and stem nematode. Reaction to pea aphid, blue alfalfa aphid, spotted alfalfa aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested.

### Procedures for Maintaining Seed Stock

Seed increase of 098219 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Anguil, Argentina in 2009. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of 098219 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## CW A113005 (Exp)

### Origin and Breeding History

CW A113005 is a synthetic variety with 10 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW A113005 traces to the following germplasm sources: CW 11-022 (100%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

CW A113005 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white, and yellow. CW A113005 has high multifoliolate leaf expression rating similar to the high MF check variety. CW A113005 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), Bacterial wilt, Fusarium wilt, Phytophthora root rot, and Verticillium wilt. It has resistance to Stem nematode. Reaction to Pea Aphid, Spotted alfalfa aphid, Blue alfalfa aphid, and Root knot nematode has not been tested.

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## CW A113008 (Exp)

### Origin and Breeding History

CW A113008 is a synthetic variety with 40 parent plants selected for low Acid Detergent Lignin (ADL), high forage dry matter yield, high forage milk per acre using Milk 2000, and/or high forage NDFD. Parent plants were selected from a three year old Wisconsin selection nursery, crossed in the greenhouse, and bulk harvested as Synthetic generation 1. Nursery source plants composed of various populations that were developed by phenotypic recurrent selection for low Acid Detergent Lignin (ADL), winter hardiness, high forage dry matter yield, high NDFD (using Near Infrared Reflectance Spectroscopy), and for resistance to one or more of the following pests: bacterial wilt, Fusarium Wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Aphanomyces root rot (race 2), Anthracnose (race 1), and Leptosphaerulina leaf spot. Parentage of CW A113008 traces to the following germplasm sources: CW 11-038 (50%), and CW 11-067 (50%). Breeder seed was produced under cage isolation near Woodland, California in 2011. Seed was bulk harvested from all parent plants as Synthetic generation 2.

### Areas of Probable Adaptation

CW A113008 is adapted to the North Central area of the U.S. and is intended for use in the North Central, East Central, Great Plains, Moderately Winterhardy Intermountain and Winterhardy Intermountain areas of the U.S. CW A113008 has been tested in Iowa, Minnesota, and Wisconsin.

### Agronomic and Botanical Characteristics

CW A113008 is a dormant variety with fall dormancy similar to FD class 4 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple with a trace of variegated, cream, white, and yellow. CW A113008 has moderate multifoliolate leaf expression rating similar to the moderate MF check variety. CW A113008 has high resistance to Anthracnose (race 1), Aphanomyces root rot (race 1), 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 CW A113008 is on a limited generation basis with two generations of breeder, three generations of foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3 or Syn.4), and certified (Syn.3, Syn.4 or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of CW A113008 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## CW A127043 (Exp)

### Origin and Breeding History

CW A127043 is a synthetic variety with 35 parent clones selected for high mulitfoliolate leaf expression. Six parents were selected from 4 year old California yield trials and 29 parents were chosen from 3 year old California spaced plant nurseries. Parent plants were replicated by vegetative stem cuttings and 5 copies of each parental clones were randomly distributed throughout the breeder seed cage. Nursery plants were also selected for improved forage quality, high forage yield, and resistance to one or more of the following pests: Fusarium wilt, Phytophthora root rot, anthracnose, stem nematode, cowpea aphid, and blue alfalfa aphid. Yield trial plants were also selected for persistence and agronomic type from various populations which were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of CW A127043 traces to the following germplasm sources: CW 704 (21%), PGI 709 (9%), and miscellaneous Alforex Seeds germplasm sources (70%). Breeder seed was produced under cage isolation near Woodland, California in 2012. Seed was bulk harvested from all parent plants as Synthetic generation 1.

### Areas of Probable Adaptation

CW A127043 is adapted to Moderately Winterhardy Intermountain and Southwest areas of the U.S. and Argentina and is intended for use in the Moderately Winterhardy Intermountain and Southwest areas of the U.S. and in Argentina, Australia, and Turkey. CW A127043 has been tested in California and Argentina.

### Agronomic and Botanical Characteristics

CW A127043 is a nondormant variety with fall dormancy similar to FD class 7 check varieties. Flower color observed in the Syn.2 generation is approximately 99% purple, with a trace of variegated, white, cream, and yellow. CW A127043 has multifoliolate leaf expression similar to the high MF check. Germination of CW A127043 under salt stress is similar to the tolerant check variety**.**

CW A127043 has high resistance to anthracnose (race 1), Fusarium wilt, and Phytophthora root rot, with resistance to bacterial wilt, Verticillium wilt, stem nematode, and cowpea aphid. Reaction to pea aphid, blue alfalfa aphid, spotted alfalfa aphid, root knot nematode, and Aphanomyces root rot (race 1) has not been tested.

### Procedures for Maintaining Seed Stock

Seed increase of CW A127043 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Woodland, California in 2012. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of CW A127043 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## CW A129045 (Exp)

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

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

### Procedures for Maintaining Seed Stock

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

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

Certified seed of CW A129045 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## CW A129091 (Exp)

### Origin and Breeding History

CW A129091 is a synthetic variety with 700 parent plants that were selected for aphid resistance, drought tolerance, frost tolerance, leaf disease resistance, persistence and agronomic characteristics from yield trials at four locations in Argentina. Parent plants were selected from various populations that were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of CW A129091 traces to DK 194 (10%), CW 194 Premium (7%), CW 195 (7%), DK 191 (6%), SP 9000 (6%), PGI 908-S (5%), 59N59 (4%), and miscellaneous Alforex Seeds breeding populations (55%). Breeder seed (Syn.1) was produced under cage isolation near Anguil, Argentina in 2012. Seed was bulk harvested from all parent plants.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

Certified seed of CW A129091 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Alfalfa

## DS1168 (Exp)

### Origin and Breeding History

DS1168 is a 12 clone synthetic variety. Parent plants were selected from 4 year old forage yield trial plots or 3 year old spaced plant nurseries. Parent plants were selected from various populations that were developed by a combination of phenotypic recurrent selection and strain crossing with selection for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot, anthracnose (race 1), spotted alfalfa aphid, blue alfalfa aphid, and stem nematode. Parentage of DS1168 traces to Costera (13%), Magnum V (7%), Legendairy 2.0 (6%), Thor (6%), GH 700 (3%), Radiant (2%), Starbuck (2%), and miscellaneous Alforex Seeds breeding populations (61%). Breeder seed (Syn.1) was produced under cage isolation near Sloughhouse, CA in 2011. Seed was bulk harvested from all parent plants.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

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

### Procedures for Maintaining Seed Stock

Seed increase of DS1168 is on a limited generation basis with two generations of breeder, and three generations of the foundation, and certified seed classes. Breeder (Syn.1 or Syn.2), foundation (Syn.2, Syn.3, or Syn.4), and certified (Syn.3, Syn.4, or Syn.5) classes will be recognized. Production of Syn.2 breeder, Syn.3 foundation, or Syn.4 foundation seed requires consent of the breeder. Breeder seed was produced under cage isolation near Sloughhouse, California in 2011. Sufficient foundation seed for the projected life of the variety will be maintained by Alforex Seeds. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed of DS1168 will be available in 2017. Certified acreage may not be published by AOSCA or member agencies.

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

### PVP Information

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

Date this application was submitted: Nov 29, 2016 Date recommended by the VRB: Feb 20, 2017

# Red Clover

## RC08SX-1 (Exp)

### Origin and Breeding History

RC08SX-1 red clover was developed as a strain cross between the variety Cinnamon and an elite breeding line. One hundred plants of each line were started in the greenhouse, and transplanted in an alternating pattern to an isolated crossing block in the field. Syn-1 breeder seed was bulk harvested in 2008.

### Areas of Probable Adaptation

RC08SX-1 is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

### Agronomic and Botanical Characteristics

| | | | |
|---|---|---|---|
| Classification: | Multiple cut (medium) | Productive Persistence | perennial |
| Ploidy | diploid | Flower Color | 1% Red; 24% LP; 56% MP; 19% DP |
| Flowering Seedling Year | 56% | % Leaf Marking at 50% Flowering | 77 |
| Stem Hairiness | 99% | | |

Description of Variants: 23% of plants without watermarks; 1% of plants without stem hairs

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

RC08SX-1 is moderately resistant to northern anthracnose, resistant to powdery mildew, and highly resistant to southern anthracnose.

### Procedures for Maintaining Seed Stock

Seed increase of RC08SX-1 is limited to two generations each of breeder (Syn-1 or Syn-2) and foundation (Syn-2 or Syn-3), and three generations of certified (Syn-2, Syn-3, or Syn-4) classes. Breeder seed was produced in 2008 (Syn-1) and 2012 (Syn-2) sufficient for the life of the variety, and will be maintained by Allied Seed. Length of stand allowed is 2 years each for the foundation and certified classes. Production of foundation seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington.

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

Certified seed of RC08SX-1 will be available in 2018. 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 | 2 |
| Registered | | Registered | |
| Certified | X | Certified | 2 |

### PVP Information:

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 30, 2016 Date recommended by the VRB: Jan 30, 2017

# Red Clover

# RC0902G (Exp)

## Origin and Breeding History

RC0902G red clover was developed using phenotypic recurrent selection. A total of 79 plants were selected for vigorous, healthy crowns from a 3-year old cattle grazing trial at Lexington, KY from the following sources: Evolve and one elite breeding line. These plants were intercrossed and approximately 400 plants of the resulting population were placed in an isolated crossing block at Buck Creek, IN, and breeder seed (syn-1) bulk harvested in 2011.

## Areas of Probable Adaptation

RC0902G is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

## Agronomic and Botanical Characteristics

| | | | |
|---|---|---|---|
| Classification: | Multiple cut (medium) | Productive Persistence | perennial |
| Ploidy | diploid | Flower Color | Trace red; 23% LP; 49% MP; 28% DP |
| Flowering Seedling Year | 57% | % Leaf Marking at 50% Flowering | 81 |
| Stem Hairiness | 98% | | |

Description of Variants: < 1% plants with red flowers; 19% of plants without watermarks; 2% of plants without stem hairs

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

RC0902G is moderately resistant to northern anthracnose and powdery mildew, and highly resistant to southern anthracnose.

## Procedures for Maintaining Seed Stock

Seed increase of RC0902G is limited to two generations each of breeder (Syn-1 or Syn-2) and foundation (Syn-2 or Syn-3), and three generations of certified (Syn-2, Syn-3, or Syn-4) classes. Breeder seed was produced in 2011 (Syn-1) and 2014 (Syn-2) sufficient for the life of the variety, and will be maintained by Allied Seed. Length of stand allowed is 2 years each for the foundation and certified classes. Production of foundation seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington.

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed of RC0902G will be available in 2018. 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 | 2 |
| Registered | | Registered | |
| Certified | X | Certified | 2 |

## PVP Information:

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 30, 2016 Date recommended by the VRB: Jan 30, 2017

# Alfalfa

## Un Padre

**Origin and Breeding History**

Un Padre is a synthetic variety composed of an unknown number of parental clones. These clones can be traced to five source populations with differing selection histories and derived from Lew, CUF 101, and Mesa-Sirsa. Selection was practiced in all populations for resistance to blue alfalfa and cowpea aphids. Traits also selected for in some of these populations include seed yield, crown diameter, and tolerance to salinity, and silverleaf whitefly. Selection that resulted in identification of the parental clones was based on winter growth, and late-summer crown diameter, and stem length in 2002.

**Areas of Probable Adaptation**

Un Padre has been tested for yield and is intended to be used in the low desert environments of southeastern California, southern Arizona and New Mexico, and northern Mexico.

**Agronomic and Botanical Characteristics**

Un Padre is very nondormant, similar to the FD 10 check. Flower color is purple and the variety does not express multifoliolate leaves. Un Padre is susceptible to *Anthracnose* (Race 1), moderately resistant to bacterial wilt, and *Phytophthora* and *Aphanomyces* (Race 1) root rots, and is resistant to *Fusarium* wilt. Un Padre has low resistance to *Verticillium* wilt and stem nematode, and is highly resistant to pea aphid, blue alfalfa aphid, and spotted alfalfa aphids.

**Procedures for Maintaining Seed Stock**

Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Syn 1 seed was produced in 2003. Seed increase is on a limited generation basis with one generation of the foundation seed class and two generations of the certified seed class. Production of Syn 2 foundation seed requires the consent of the Arizona Crop Improvement Association, which 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 4 years, respectively.

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

Certified seed will be available for sale in the fall of 2017 if Un Padre 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 | N/A |
| Certified | X | Certified | 4 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 will not be selected.

Date this application was submitted: Nov 16, 2016 Date recommended by the VRB: Jan 27, 2017

# Red Clover

# Resilience
# RC0901 (Exp)

## Origin and Breeding History

Resilience red clover was developed using phenotypic recurrent selection. A total of 130 plants were selected for vigorous, healthy crowns from a 3-year old variety yield trial at Buck Creek, IN from the following sources: Evolve, Gallant, and 3 elite breeding lines. These plants were intercrossed and approximately 400 plants of the resulting population were placed in an isolated crossing block at Buck Creek and breeder seed (syn-1) bulk harvested in 2011.

## Areas of Probable Adaptation

Resilience is adapted to the east central United States, and is intended for use in that area. It has been tested in Indiana, Kentucky, and Virginia.

## Agronomic and Botanical Characteristics

| | | | |
|---|---|---|---|
| Classification: | Double cut (medium) | Productive Persistence | perennial |
| Ploidy | diploid | Flower Color | Trace red; 37% LP; 52% MP;11% DP |
| % Flowering Seedling Year | 55 | % Leaf Marking at 50% Flowering | 83 |
| Stem Hairiness | 99 | | |

Description of Variants: <1% plants with red flowers; 17% of plants without watermarks; 1% of plants without stem hairs

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

Resilience is moderately resistant to northern anthracnose, resistant to powdery mildew, and highly resistant to southern anthracnose.

## Procedures for Maintaining Seed Stock

Seed increase of Resilience is limited to two generations each of breeder (Syn-1 or Syn-2), foundation (Syn-2 or Syn-3), and registered (Syn-3 or Syn-4), and three generations of certified (Syn-3, Syn-4, or Syn-5) classes. Breeder seed was produced in 2011 (Syn-1) and 2015 (Syn-2) sufficient for the life of the variety, and will be maintained by Byron Seeds. Length of stand allowed is 2 years each for the foundation, registered, and certified classes. Production of foundation and registered seed is limited to the northwest United States, specifically the states of Idaho, Oregon, and Washington, and the Canadian provinces of Alberta, Manitoba, and Saskatchewan.

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed of Resilience will be available in 2018. 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 | 2 |
| Registered | X | Registered | 2 |
| Certified | X | Certified | 2 |

## PVP Information

Application will not be made for Plant Variety Protection. Information in this application may be forwarded to the PVP office.

Date this application was submitted: Nov 30, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## FG 410A176 (Exp)

### Origin and Breeding History

FG 410A176 is a synthetic variety with 110 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race 2) 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

FG 410A176 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

FG 410A176 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 1% variegated with a trace of white, yellow and cream. This variety has high multifoliolate leaf expression.

FG 410A176 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); resistance to pea aphid and stem nematode; with 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 near Nampa, ID in 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG 410A177 (Exp)

## Origin and Breeding History

FG 410A177 is a synthetic variety with 110 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race 2) 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

FG 410A177 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

FG 410A177 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 93% purple, 3% white, 2% variegated, 1% cream with a trace of yellow. This variety has high multifoliolate leaf expression.

FG 410A177 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; resistance to stem nematode and moderate resistance to spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla,) and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG 410A179 (Exp)

## Origin and Breeding History

FG 410A179 is a synthetic variety with 110 parent plants. Parent plants were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race 2) 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

FG 410A179 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

FG 410A179 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 3% variegated, 2% white with a trace of yellow and cream. This variety has high multifoliolate leaf expression.

FG 410A179 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; resistance to 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 near Nampa, ID in 2010. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG 412W201 (Exp)

## Origin and Breeding History

FG 412W201 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

FG 412W201 is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

FG 412W201 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.

The variety is highly resistant to anthracnose (race 1), Fusarium wilt, Phytophthora root rot, Verticillium wilt, Aphanomyces root rot (race 1) 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: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG R410A136 (Exp)

## Origin and Breeding History

FG R410A136 is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

## Areas of Probable Adaptation

FG R410A136 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

FG R410A136 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 95% purple, 2% cream, 1% variegated, 1% yellow and 1% white. This variety has high multifoliolate leaf expression.

FG R410A136 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2) and stem nematode; with resistance to pea aphid. Reaction to root knot nematode (M. hapla), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG RRL42M417 (Exp)

## Origin and Breeding History

FG RRL42M417 is a synthetic variety with 88 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2012.

## Areas of Probable Adaptation

FG RRL42M417 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

FG RRL42M417 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 87% purple, 4% variegated, 4% white, 3% cream and 2% yellow. This variety has high multifoliolate leaf expression.

FG RRL42M417 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (Race 1); resistance to pea aphid, stem nematode and spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

Breeder seed (Syn1) was produced in 2012 near Nampa, Idaho. Seed increase is on a limited generation basis with one generation each of breeder and foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2), and certified (Syn 2 or Syn 3) classes will be recognized. Production of Syn 2 foundation seed requires consent of the breeder. Forage Genetics will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively. At least one glyphosate application is required during early stand establishment so that cp4-epsps null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). The Roundup Ready® trait is a patent protected trait; any and all seed increase on this variety requires a FGI seed production contract for Roundup Ready Alfalfa.

## Certified Seed Availability and Publication of Certified Seed Production

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

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

# FG RRL43M104 (Exp)

## Origin and Breeding History

FG RRL43M104 is a synthetic variety with 215 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

## Areas of Probable Adaptation

FG RRL43M104 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

FG RRL43M104 is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 97% purple, 1% yellow, 1% cream with a trace of variegated and white. This variety has high multifoliolate leaf expression.

FG RRL43M104 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: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG RRL43M113 (Exp)

## Origin and Breeding History

FG RRL43M113 is a synthetic variety with 105 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

## Areas of Probable Adaptation

FG RRL43M113 is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

FG RRL43M113 is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 99% purple with a trace of variegated, white, cream and yellow. This variety has high multifoliolate leaf expression.

FG RRL43M113 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); resistance to spotted alfalfa aphid and moderate resistance to pea aphid. Reaction to root knot nematode, stem nematode and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

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

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

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG RRL913T404 (Exp)

## Origin and Breeding History

FG RRL913T404 is a synthetic variety with 137 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: Fusarium wilt, Phytophthora root rot and stem nematode. Phenotypic and genotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to various FGI experimental populations (100%). Syn1 seed was harvested from an intercross of a field or cage isolation near Nampa, Idaho in the fall of 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

## Areas of Probable Adaptation

FG RRL913T404 is adapted to the nondormant regions of the Southwest U.S. and similar environments. It has been tested in California and is intended for use in the Southwest.

## Agronomic and Botanical Characteristics

FG RRL913T404 is Non-Dormant similar to the FD 8 check. Flower color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white flowers.

FG RRL913T404 is highly resistant to Fusarium wilt and pea aphid and resistant to anthracnose (race 1), bacterial wilt, Phytophthora root rot, spotted alfalfa aphid and stem nematode. 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 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. If application is made, the Title V certification option will not be selected.

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# FG RRL913T455 (Exp)

## Origin and Breeding History

FG RRL913T455 is a synthetic variety with 84 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: Fusarium wilt, Phytophthora root rot and stem nematode. Phenotypic selection and genotypic 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 from an intercross of a field or cage isolation near Nampa, Idaho in the fall of 2013. Seed was harvested in total on all parents and bulked to form breeder seed.

## Areas of Probable Adaptation

FG RRL913T455 is adapted to the nondormant regions of the Southwest U.S. and similar environments. It has been tested in California and is intended for use in the Southwest.

## Agronomic and Botanical Characteristics

FG RRL913T455 is Non-Dormant similar to the FD 8 check. Flower color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white flowers.

FG RRL913T455 is highly resistant to Anthracnose (race 1), Fusarium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode; with moderate resistance to bacterial 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 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. If application is made, the Title V certification option will not be selected.

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Scimitar
## FG 49H344 (Exp)

### Origin and Breeding History

Scimitar is a synthetic variety with 11 parent clones developed by Forage Genetics International. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). A combination of phenotypic and genotypic selection was used to identify the parent clones. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

Scimitar is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 52% purple, 33% variegated, 6% cream, 5% white and 4% yellow.

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

### Procedures for Maintaining Seed Stock

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

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AmeriStand 457TQ RR
## FG R411A107 (Exp)

### Origin and Breeding History

AmeriStand 457TQ RR is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race 2) 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 2011.

### Areas of Probable Adaptation

AmeriStand 457TQ RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Iowa, Wisconsin and Washington and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics

AmeriStand 457TQ RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 93% purple, 2% white, 2% yellow, 2% variegated and 1% cream. This variety has high multifoliolate leaf expression.

AmeriStand 457TQ 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 pea aphid; with resistance to spotted alfalfa aphid and stem nematode. Reaction to root knot nematode (M. hapla) and blue alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## AmeriStand 480 HVXRR
## FG RRL43M119 (Exp)

### Origin and Breeding History

AmeriStand 480 HVXRR is a synthetic variety with 270 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

### Areas of Probable Adaptation

AmeriStand 480 HVXRR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Idaho, Washington, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics

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

AmeriStand 480 HVXRR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1); resistance to pea aphid, stem nematode and spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*) and blue alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## AmeriStand 835NTS RR
## FG R99T939 (Exp)
## (Amended – Add Root Knot Nematode)

Variety Name AmeriStand 835NTS RR

Experimental Designation(s) FG R99T939

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

Date(s) any previous amendments were recommended

Date this amendment was submitted December 1, 2016

### Origin and Breeding History

AmeriStand 835NTS RR is a synthetic variety with 100 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: spotted alfalfa aphid and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to AmeriStand 901TS (20%), WL 625HQ (12%), Sun Quest (6%), WL 656HQ (6%), Triple Play (6%) and FGI experimental Roundup Ready populations (50%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

### Areas of Probable Adaptation

AmeriStand 835NTS RR is adapted to the Southwest U.S. and similar environments. This variety has been tested in California and is intended for use in the Southwest regions.

### Agronomic and Botanical Characteristics

AmeriStand 835NTS RR is nondormant similar to the FD 8 check. Flower color (Syn 2) is 99% Purple, with a trace of Variegated, Yellow, Cream and White. The variety is highly resistant to *Fusarium* wilt, pea aphid, spotted alfalfa aphid, blue alfalfa aphid, Northern root rot nematode (*Meloidogyne hapla*) and stem nematode; resistant to bacterial wilt, Phytophthora root; moderately resistant to *Verticillium* wilt and has low resistance to anthracnose. It has not been tested for other pest reactions. Test variety is "Roundup Ready" with a minimum of 90% of the plants expressing tolerance to Roundup herbicide as measured in a greenhouse grow-out seedling evaluation. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

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

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

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

Certified seed will be available for sale in 2016 if AmeriStand 835NTS RR is accepted for certification agencies. The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

Continued on next page (45)

Continued from previous page (44)

# Alfalfa

## AmeriStand 835NTS RR
## FG R99T939 (Exp)
## (Amended – Add Root Knot Nematode)

Variety Name AmeriStand 835NTS RR

Experimental Designation(s) FG R99T939

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

Date(s) any previous amendments were recommended

Date this amendment was submitted December 1, 2016

| **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 can be provided to the PVP office.

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## FG 68M802 (Exp)

### Origin and Breeding History

FG 68M802 is a synthetic variety with 110 parent plants. Parent plants were selected from forage yield trials and for resistance to one or more of the following pests: Fusarium wilt, Verticillium wilt, Phytophthora root rot and stem nematode. Phenotypic selection was used to identify the parent plants. The germplasm sources used in the development trace to elite FGI experimental populations (100%). Syn1 seed was harvested from a field or cage isolation near Holtville, CA fall 2008.

### Areas of Probable Adaptation

FG 68M802 is adapted to the Southwest and Moderately Winterhardy Intermountain regions. It has been tested in California and is intended for use in the Southwest and Moderately Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics

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

FG 68M802 has high resistance to Fusarium wilt, Phytophthora root rot, pea aphid, spotted alfalfa aphid, blue alfalfa aphid and stem nematode, and resistance to anthracnose (Race 1), with moderate resistance to bacterial wilt and Verticillium wilt. Reaction to other pests have not been tested.

### Procedures for Maintaining Seed Stock

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

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

Pending approval of the review board certified seed will be marketed in 2017.

| **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 concerning Plant Variety Protection Act.
The information in this application may not be forwarded to the PVP office.

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Armour
## FG R410A131 (Exp)

### Origin and Breeding History

Armour is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race 2) 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

Armour 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

Armour is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 94% purple, 2% cream, 2% variegated, 1% yellow and 1% white. This variety has high multifoliolate leaf expression.

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

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## GrandStand II
## FG 410W269 (Exp)
## (Amended – Add Winter Survival)

Variety Name GrandStand II

Experimental Designation(s) FG 410W269

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted December 1, 2016

### Origin and Breeding History

GrandStand II (FG 410W269) is a synthetic variety with 28 parent plants developed by Forage Genetics International. Parent plants were selected from forage nurseries and yield trials in Idaho and Washington. Phenotypic selection was used to identify the parent plants for persistence, vigor and resistance to alfalfa stem nematode (*Ditylenchus dipsaci*). The germplasm sources used in the development trace to Grandstand (60%) and 11 FGI breeding lines (40%). In 2010 Syn1 seed was produced near Nampa, Idaho, harvested in total on all parents and bulked to form breeder seed.

### Areas of Probable Adaptation

GrandStand II is adapted to the winterhardy intermountain regions of the U.S. and similar environments. The variety has been tested in Idaho and Washington.

### Agronomic and Botanical Characteristics

GrandStand II is moderately dormant, similar to the FD 4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower color (Syn 2) is 99% purple with a trace of variegated, yellow, cream and white. It expresses a moderate degree of multifoliolate leafiness. The variety is highly resistant to anthracnose, bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, Phytophthora root rot, *Aphanomyces* root rot (race 1), pea aphid and stem nematode (*Ditylenchus dipsaci*). It is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

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

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

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

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

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

### PVP Information

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

Descriptive information can be provided to the PVP office.

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## HVX DRIVER
## FG RRL43M114 (Exp)

### 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.

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: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## HVX HarvaTron
## FG RRL43A108 (Exp)

### 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.

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: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## 4319.A2 RR
## FG R410A109 (Exp)

### Origin and Breeding History

4319.A2 RR is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

### Areas of Probable Adaptation

4319.A2 RR 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

4319.A2 RR is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 90% purple, 3% white, 3% yellow, 3% cream with a trace of variagated. This variety has high multifoliolate leaf expression.

4319.A2 RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and Aphanomyces root rot (Race 2); resistance to pea aphid and moderate resistance to spotted alfalfa aphid. Reaction to root knot nematode (*M. hapla*), stem nematode and blue alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

# L-450RR
# FG R48M151 (Exp)
# (Amended – Name Change)

Variety Name L-450RR

Experimental Designation(s) FG R48M151

Date A&MLVRB first recommended this variety January 2012

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2016

## Origin and Breeding History

L-450RR is a synthetic variety with 80 parent plants. Parent plants contain the commercial Roundup Ready event J101 and were selected from FGI Kansas-derived breeding lines for glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Genotypic selection was used to identify the parent plants. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

## Areas of Probable Adaptation

L-450RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Iowa, Washington, Idaho and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

L-450RR is Moderately Fall Dormant similar to FD5 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 98% purple, 2% variegated with a trace of white, cream and yellow. This variety has moderate multifoliolate leaf expression.

L-450RR is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. FG R48M151 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and pea aphid; with resistance to stem nematode and moderate resistance to spotted alfalfa aphid. Reaction to root knot nematode (Northern *M. hapla)* and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2012.
Certified seed production acreage may be published by AOSCA and member agencies.

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## Leyenda
## FG 48A178 (Exp)
## (Amended – Name Change)

Variety Name Leyenda

Experimental Designation(s) FG 48A178

Date A&MLVRB first recommended this variety January 2013

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2016

**Origin and Breeding History**
Leyenda is a synthetic variety with 63 parent plants that was developed by Forage Genetics International. 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. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2008.

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

**Agronomic and Botanical Characteristics**
Leyenda is Moderately Fall Dormant similar to FD4 check. Test variety is Extremely Winterhardy, similar to WS1 check. Flower Color (Syn2) is 93% purple, 3% variegated, 2% white and 2% yellow with a trace of cream. This variety has high multifoliolate leaf expression.

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

**Procedures for Maintaining Seed Stock**
Breeder seed (Syn1) was produced near Nampa, ID in 2008. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder.

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

# DKA44-16RR
# FG R47M312 (Exp)
# (Amended – Name Change)

Variety Name DKA44-16RR

Experimental Designation(s) FG R47M312

Date NA&MLVRB first accepted this variety January 2012

Date(s) previous amendments were accepted January 2013

Date amendment submitted September 29, 2016

## Origin and Breeding History

DKA44-16RR is a synthetic variety with 75 parent plants developed by Forage Genetics. Parent plants contain the commercial Roundup Ready event J101 and were selected from F1 progeny from a cross between two populations previously selected for glyphosate tolerance, forage yield, forage quality, persistence and/or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Genotypic selection was used to identify the parent plants. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2007.

## Areas of Probable Adaptation

DKA44-16RR is adapted to the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions. This variety has been tested in Washington, Pennsylvania, Idaho and Wisconsin and is intended for use in the North Central, East Central, Moderately Winterhardy Intermountain and Winterhardy Intermountain regions.

## Agronomic and Botanical Characteristics

DKA44-16RR is Moderately Fall Dormant similar to FD4 check. Test variety is Very Winterhardy, similar to WS2 check. Flower Color (Syn2) is 95% purple, 3% variegated, 1% white and 1% yellow with a trace of cream. This variety has high multifoliolate leaf expression. Test variety exhibits salt tolerance in germinating seeds similar to the tolerant check.

DKA44-16RR is "Roundup Ready®" expressing tolerance to Roundup® herbicide conferred by the *cp4-epsps* transgene. DKA44-16RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot and Aphanomyces root rot (Race 1); with resistance to stem nematode, spotted alfalfa aphid and pea aphid. Reaction to root knot nematode (Northern *M. hapla)* and blue alfalfa aphid has not been tested.

## Procedures for Maintaining Seed Stock

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

## Certified Seed Availability and Publication of Certified Seed Production

Certified seed will be marketed in 2012.
Certified seed production acreage may be published by AOSCA and member agencies.

## PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## DKA50-17
## FG 59M108 (Exp)
## (Amended – Name Change)

Variety Name DKA50-17

Experimental Designation(s) FG 59M108

Date A&MLVRB first recommended this variety January 2014

Date(s) any previous amendments were recommended

Date this amendment was submitted September 29, 2016

### Origin and Breeding History
DKA50-17 is a synthetic variety with 13 parent clones developed by Forage Genetics International. Experimental designation is FG 59M108. Parent clones were selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). A combination of phenotypic and genotypic selection was used to identify the parent clones. Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2009.

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

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

DKA50-17 has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and pea aphid; with resistance to stem nematode. Reaction to root knot nematode (Northern M. *hapla*,), spotted alfalfa aphid and blue alfalfa aphid has not been tested.

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

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 6409HVXR
## FG RRL43Q109 (Exp)

### Origin and Breeding History

6409HVXR is a synthetic variety with 253 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

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

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 6427R
## FG R410M327 (Exp)

### Origin and Breeding History

6427R is a synthetic variety with 110 parent plants. Parent plants contained the commercial Roundup Ready event J101 and were selected for resistance to Aphanomyces root rot resistance (Race 1 and Race2) from FGI breeding populations previously selected for forage yield, persistence and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode and Aphanomyces root rot (Race 1 and Race 2). Phenotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2010.

### Areas of Probable Adaptation

6427R is adapted to the North Central, East Central and Winterhardy Intermountain regions. This variety has been tested in Idaho, Iowa, Wisconsin and Pennsylvania and is intended for use in the North Central, East Central and Winterhardy Intermountain regions.

### Agronomic and Botanical Characteristics

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

6427R has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and stem nematode; resistance to pea aphid and moderate resistance to spotted alfalfa aphid. Reaction to root knot nematode (Northern M. hapla,) and blue alfalfa aphid has not been tested.

### Procedures for Maintaining Seed Stock

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

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## ClearPearl
## FG R48M153 (Exp)
## (Amended – Name Change)

Variety Name ClearPearl

Experimental Designation(s) FG R48M153

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

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

### Procedures for Maintaining Seed Stock

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

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# Alfalfa

## ClearPearl
## FG R48M153 (Exp)
## (Amended – Name Change)

Variety Name ClearPearl

Experimental Designation(s) FG R48M153

Date A&MLVRB first recommended this variety January 2016

Date(s) previous amendments were recommended

Date amendment submitted December 1, 2016

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

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## WL 341HVX.RR
## FG RRL43M115 (Exp)

### Origin and Breeding History

WL 341HVX.RR is a synthetic variety with 220 parent plants. Parent plants contain the commercial HarvXtra event KK179 and the Roundup Ready event J101. Plants were selected from FGI breeding lines for reduced lignin as measured by ADL, glyphosate tolerance, forage yield, persistence and/or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, Fusarium wilt, Verticillium wilt, anthracnose, Phytophthora root rot, stem nematode, northern root rot nematode, and Aphanomyces root rot (Race 1 and Race 2). Phenotypic and genotypic selection was used to identify the parent plants. The following germplasm sources were used in the development of this variety: various FGI experimental populations (100%). Syn1 seed was harvested in total on all parents and bulked to form breeder seed in 2013.

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

WL 341HVX.RR has high resistance to anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1) and spotted alfalfa aphid; resistance to pea aphid 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: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## WL 377HQ
## FG 49W202 (Exp)

### Origin and Breeding History

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

### Areas of Probable Adaptation

WL 377HQ is adapted to the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Washington, Oregon and Idaho and intended use is in the Winterhardy Intermountain and Moderately Winterhardy Intermountain regions

### Agronomic and Botanical Characteristics

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

WL 377HQ is highly resistant to anthracnose (race1), bacterial wilt, Fusarium wilt, Phytophthora root rot, Verticillium wilt, Aphanomyces root rot (race 1), pea aphid, spotted alfalfa aphid, northern root knot nematode *(M. hapla*) and stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

Breeder (Syn 1), foundation (Syn 2 or Syn 3), and certified (Syn 3 or Syn 4) classes will be recognized. Seed increase is on a limited generation basis with one generation each of breeder and two generations of foundation classes and certified seed classes. Production of Syn 2 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in 2009 near Touchet, WA. Forage Genetics will maintain sufficient breeder (Syn1) and/or foundation (Syn2 or Syn3) seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years respectively.

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

Certified seed will be available for sale in 2017 if WL 377HQ is accepted for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## WL 467HQ
## FG 610W265 (Exp)

### 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 FD 6 check. It has moderate multifolilate leaf expression. Flower color (Syn2) is 99% purple with a trace of cream, yellow, variegated and white flowers.

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: Dec 1, 2016 Date recommended by the VRB: Feb 9, 2017

# Alfalfa

## KF 406A2
## LS 1006 (Exp)

**Origin and Breeding History**

KF 406A2 (LS 1006) is a synthetic variety with 91 parent plants that was developed by Legacy Seeds, Inc. The 91 parent plants were selected phenotypically based on high forage yield, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2010.

**Areas of Probable Adaptation**

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

**Agronomic and Botanical Characteristics**

KF 406A2 is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 95% purple and 4% variegated with traces of yellow, white and cream.

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

**Procedures for Maintaining Seed Stock**

Breeder seed was produced in 2010. Two generations each for breeder (Syn 1 or Syn 2), foundation (Syn 2 or Syn 3) and certified seed (Syn 3 or Syn 4) are recognized. Production of Syn 2 breeder or Syn 3 foundation seed requires the consent of the breeder. 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 2017. Certified seed production acreage may not be published by AOSCA and member agencies.

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

**PVP Information**

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## KF 425HD
## LS 1001 (Exp)

**Origin and Breeding History**

KF 425HD (LS 1001) is a synthetic variety with 90 parent plants that was developed by Legacy Seeds, Inc. The 90 parent plants were selected phenotypically based on high forage yield, high forage quality, good winter survival, and the absence of root and crown diseases. The breeder seed was produced in isolation near Nampa, ID in 2010.

**Areas of Probable Adaptation**

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

**Agronomic and Botanical Characteristics**

KF 425HD is a moderately dormant variety similar to the FD4 check. Flower color (Syn 2) is approximately 96% purple and 3% variegated with traces of yellow, white and cream.

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

**Procedures for Maintaining Seed Stock**

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

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

Seed may be marketed in 2017. 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 | none |
| Certified | X | Certified | 6 |

**PVP Information**

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 505005
## 07W01CZ, W07CZ67 (Exp)
## (Amended-Name Change)

Variety Name 505005

Experimental Designation(s) 07W01CZ, W07CZ67

Date A&MLVRB first recommended this variety January, 2012

Date(s) any previous amendments were recommended

Date this amendment was submitted September 30, 2016

### Origin and Breeding History

505005, (Experimental designations: 07W01CZ, W07CZ67) is a synthetic variety with 11 parent genotypes. Parent genotypes were selected by Pioneer Hi-Bred from Pioneer experimentals for forage yield, persistence and or resistance to one or more of the following pests: potato leafhopper, bacterial wilt, *Fusarium* wilt, *Verticillium wilt*, anthracnose (Race 1), *Phytophthora* root rot, and *Aphanomyces* root rot (Race 1 & 2). Parent genotypes were identified using a combination of genotypic and phenotypic selection in nursery and agronomic tests. Breeder seed (Syn1) was produced in the greenhouse the winter of 2006 and under cage in Connell WA in 2007 by crossing the 11 genotypes replicated in a modified polycross design, combining seed from each individual genotype forming the 11 components. Seed was bulked equally by component to form the Syn1 seed.

### Areas of Probable Adaptation

505005 is adapted to the North Central and East Central regions of the US. This variety has been tested in Illinois, Iowa and Wisconsin, and is intended for use in the North Central, East Central, Winterhardy Intermountain and the Great Plains regions of the US and Canada

### Agronomic and Botanical Characteristics

505005 is Moderately Dormant, similar to FD5 check. Flower color (Syn2) is 94% purple, 1% cream, 4% variegated and 1% white with a trace of yellow.

505005 is highly resistant to anthracnose (Race 1), *Aphanomyces* root rot (Race 1 and 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, spotted alfalfa aphid, *Phytophthora* root rot, and potato leafhopper; resistant to pea aphid with moderate resistance to stem nematode. Reaction to blue alfalfa aphid and root knot nematode (*M. hapla*) has not been tested.

### Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or Syn 3) and certified (Syn 2, Syn 3 or Syn 4) classes will be recognized. Breeder seed was produced in the greenhouse in 2006. Pioneer Hi-Bred International will maintain sufficient foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 5 years, respectively.

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

Certified seed may be marketed in 2013

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

### PVP Information

Application for Plant Variety Protection may be made and the certification option will not be requested.

As a means of added varietal protection, information included with the Application for Review of Alfalfa Varieties for Certification may be provided to the PVP office.

Date this application was submitted: Sep 30, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 54HVX42
## L12XXP248, L12XXS248, SW248RL (Exp)

### Origin and Breeding History
54HVX42 (Experimental designations L12XXP248, L12XXS248, SW248RL) is a thirty-clone synthetic variety that was developed using the isolated crossing block method. Parent plants were selected by S&W Seed Company from an S&W Seed Company experimental for forage yield, persistence, forage quality, and or 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&2), and stem nematode. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Parent plants also have reduced lignin content conferred by down regulated caffeoyl CoA 3-*O*-methyltransferase (CCOMT), specifically, USDA deregulated transgenic event KK179 (OECD unique identifier: MON 00179-5). Breeder seed (Syn 1) was produced in greenhouse isolation in 2012 in Arlington, WI. Seed was bulked in total.

### Areas of Probable Adaptation
54HVX42 is adapted to the North Central and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Wisconsin and Washington. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States.

### Agronomic and Botanical Characteristics
54HVX42 is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 67% purple, 30% variegated, 1% cream, 1% white and a trace of yellow. Test variety 54HVX42 is "Roundup Ready®" with a minimum of 90% of plants expressing tolerance to Roundup® herbicide as measured in a greenhouse grow-out seedling evaluation. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Aphanomyces root rot (Race 1), and Verticillium wilt. It is resistant to Phytophthora root rot, pea aphid, spotted alfalfa aphid and stem nematode. It is moderately resistant to Aphanomyces root rot (Race 2). It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
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), and certified (Syn 2 or Syn 3) classes will be recognized. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 1) was produced in greenhouse isolation in 2012 in Arlington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 2017 if 54HVX42 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, 2016 Date recommended by the VRB: Feb 14, 2017

# Alfalfa

## 54Q29
## SW4208, 12XXP08, N11XXP62 (Exp)
## (Amended-Name Change)

Variety Name 54Q29

Experimental Designation(s) SW4208, 12XXP08, N11XXP62

Date A&MLVRB first recommended this variety January, 2016

Date(s) previous amendments were recommended

Date amendment submitted December 2016

### Origin and Breeding History

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

### Areas of Probable Adaptation

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

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

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

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

Certified seed may be available for sale in 2016 of 54Q29.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

### PVP Information

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## 54VR10
## 14XXP20R, R13XXP133 (Exp)

**Origin and Breeding History**
54VR10 (Experimental designation 14XXP20R, R13XXP133) is an intracross of 148 parent plants selected by S&W Seed Company from a S&W Seed Company experimental selected for forage yield, persistence, forage quality, standability, high resistance to Aphanomyces root rot (Race 2), and/or resistance to one or more of the following diseases and pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1), and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for standability (lodging resistance), forage quality, persistence, agronomic characteristics, and improved forage yield. Parent plants contain tolerance to Roundup® (glyphosate) herbicide conferred by the CP4 5-enolpyruvylshikimate-3-phosphate synthase (*cp4-epsps*) transgene, specifically, the USDA deregulated Roundup Ready® alfalfa transgenic events J101 (OECD unique identifiers: MON-00101). Breeder seed (Syn 1) was grown in the greenhouse isolation in early 2014 in Arlington, WI. Seed was bulked in total.

### Areas of Probable Adaptation
54VR10 is adapted to the North Central and Moderately Winterhardy Intermountain regions of the U.S. and similar environments. The variety has been tested in Wisconsin and Washington. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States.

### Agronomic and Botanical Characteristics
54VR10 is moderately dormant, similar to the FD 4 check. It is moderately winterhardy. Flower color (Syn 2) is 98% purple, 1% white, and traces of yellow, variegated and cream. 54VR10 is "Roundup Ready®" with a minimum of 90% of the plants expressing tolerance to Roundup® herbicide as measured in a greenhouse grow-out seedling evaluation. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Aphanomyces root rot (Race 1), Aphanomyces root rot (Race 2), Phytophthora root rot, pea aphid, and Verticillium wilt. It is resistant to spotted alfalfa aphid and stem nematode. It is moderately resistant to Fusarium wilt. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and two generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. At least one glyphosate application is required during early stand establishment so that *cp4-epsps* null segregant plants are removed from the seed field prior to pollination. (Null segregant plants are the plants that do not contain the Roundup Ready® trait due to normal genetic segregation in this variety). Breeder seed (Syn 1) was produced in greenhouse isolation in early 2014 in Arlington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed will be available for sale in the spring of 2017 if 54VR10 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| **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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW4107
## SW4107, 11XXP07, W10XXP83 (Exp)
## (Amended-Name Change)

Variety Name SW4107

Experimental Designation(s) SW4107, 11XXP07, W10XXP83

Date A&MLVRB first recommended this variety January 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted September 30, 2016

### Origin and Breeding History

SW4107, (SW4107, 11XXP07, W10XXP83 experimental designations) is a 168 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of W10XXP83 originated from three S&W experimentals and 55Q27 selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, *Fusarium* wilt, *Verticillium wilt*, *Phytophthora* root rot, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2010 in Arlington, WI. Seed was bulked in total.

### Areas of Probable Adaptation

SW4107 is adapted to the north central, moderately winterhardy intermountain regions of the U.S., Canada and similar environments. The variety has been tested in Washington, Wisconsin, and Ontario, Canada. Intended use will be in the North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains areas of the United States and Canada.

### Agronomic and Botanical Characteristics

SW4107 is Moderately Dormant, similar to FD4 check. Flower color (Syn 3) is 99% purple, with traces of yellow, cream, variegated and white. SW4107 is highly resistant to A*nthracnose* (Race 1), *Aphanomyces* root rot (Race 1), *Aphanomyces* root rot (Race 2), bacterial wilt, *Verticillium* wilt, *Fusarium* wilt, and *Phytophthora* root rot; with resistance to stem nematode and pea aphid; with moderate resistance to spotted alfalfa aphid. Reaction to other pests have not been tested. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

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

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

Certified seed may be available for sale in 2016 of SW4107.

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

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

### PVP Information

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW5210
## SW5210, 12XXP10, N11XXP64 (Exp)
## (Amended-Name Change)

Variety Name SW5210

Experimental Designation(s) SW5210, 12XXP10, N11XXP64

Date A&MLVRB first recommended this variety February, 2016

Date(s) any previous amendments were recommended

Date this amendment was submitted September 30, 2016

### Origin and Breeding History

SW5210, (SW5210, 12XXP10, N11XXP64 experimental designations) is an 81 plant intracross of S&W germplasm. Parent plants were identified using phenotypic recurrent selection in field selection nurseries for standability (lodging tolerance), forage quality, persistence, agronomic characteristics and improved forage yield. Parents of N11XXP64 originated from two S&W experimentals selected for forage yield, persistence, forage quality, and or resistance to one or more of the following pests: bacterial wilt, *Fusarium* wilt, *Verticillium wilt, Phytophthora* root rot, *Aphanomyces* root rot (Race1&2) and stem nematode. Breeder seed (SYN 1) was grown in greenhouse isolation in 2011 in Connell, WA. Seed was bulked in total.

### Areas of Probable Adaptation

SW5210 is adapted to the North Central, and Moderately Winterhardy Intermountain areas of the United States, Canada and similar environments. SW5210 has been tested in Minnesota, Washington, Wisconsin, and Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain, Great Plains, and Canada.

### Agronomic and Botanical Characteristics

SW5210 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 97% purple, 1% cream, and 1% white with traces of yellow and variegated. SW5210 is highly resistance to A*nthracnose* (Race 1), bacterial wilt, *Fusarium* wilt, *Verticillium* wilt, *Phytophthora* root rot, Aphanomyces root rot (Race 1), pea aphid, stem nematode and *Aphanomyces* root rot (Race 2). SW5210 is resistant to spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock

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

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

Certified seed may be available for sale in 2016 of SW5210.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

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

### PVP Information

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW1401Z, 14ZZC01, W13ZZC41 (Exp)

### Origin and Breeding History
SW1401Z, 14ZZC01, W13ZZC41 (all experimental designations) is a 31 clone synthetic in which all parents originated from S&W germplasms, were selected based on half sib performance for forage yield under potato leafhopper pressure, persistence, forage quality, and/or resistance to one or more of the following diseases and/or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2), and potato leafhopper resistance. Seed of the SYN 1 was bulked by component. Breeder seed (SYN 1) was grown in cage isolation in 2014 on 4 replicates of 31 parent plants in Connell, WA. SYN 1 seed was harvested by parent plant bulking all individual replicates and bulked equally by component parent plant.

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

### Agronomic and Botanical Characteristics
SW1401Z is dormant, similar to the FD 3 check. Flower color (Syn 2) is 90% purple, 7% variegated, 2% cream, with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and 2) and potato leafhopper. It is resistant to Verticillium wilt, pea aphid, and spotted alfalfa aphid. It is moderately resistant to stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2014 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW1401Z is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Feb 14, 2017

# Alfalfa

## SW1402Z, 14ZZC02, W13XZS42 (Exp)

### Origin and Breeding History
SW1402Z, 14ZZC02, W13ZZC42 (all experimental designations) is a 19 clone synthetic in which all parents originated from S&W germplasms, were selected based on half sib performance for forage yield under potato leafhopper pressure, persistence, forage quality, and or resistance to one or more of the following diseases and/or pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2), and potato leafhopper resistance. Seed of the SYN 1 was bulked by component. Breeder seed (SYN 1) was grown in cage isolation in 2014 on 6 replicates of 19 parent plants in Connell, WA. SYN 1 seed was harvested by parent plant bulking all individual replicates and bulked equally by component parent plant.

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

### Agronomic and Botanical Characteristics
SW1402Z is moderately dormant, similar to the FD 4 check. Flower color (Syn 2) is 36% purple, 38% variegated, 15% cream, and 10% white with a trace of yellow. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, potato leafhopper and Aphanomyces root rot (Race 1 and 2). It is resistant to pea aphid, and spotted alfalfa aphid. It is moderately resistant to stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2014 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW1402Z is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Feb 14, 2017

# Alfalfa

## SW3211, SW1211, 1XXP11, N11XXP65 (Exp)

### Origin and Breeding History
SW3211, SW1211, 1XXP11, N11XXP65, (experimental designations) is an intracross of 73 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2011. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW3211 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW3211 is dormant, similar to the FD 3 check. Flower color (Syn 3) is 72% purple, 26% variegated, 1% white, with a trace of yellow and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt, pea aphid, and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, stem nematode and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW3211 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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW3220Y, 12YYP20, N11YYP94 (Exp)

### Origin and Breeding History
SW3220Y, SW1220Y, 12YYP20, N11YYP94, (experimental designations) is an intracross 74 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2011. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to North Central and the Moderately Winterhardy Intermountain areas of the United States. SW3220Y has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW3220Y is dormant, similar to the FD 3 check. Flower color (Syn 3) is 84% purple, 13% variegated, 1% white, 1% cream with a trace of yellow. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race 1 and 2) and pea aphid. It is resistant to stem nematode, and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW3220Y 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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW3403, SW1403, 14XXP03, N13XXP70 (Exp)

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

### Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW3403 has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW3403 is dormant, similar to the FD 3 check. Flower color (Syn 3) is 98% purple, 1% white, with a trace of yellow, variegated and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, pea aphid, stem nematode and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2013 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW3403 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW3406, SW1406, 14XXP06, W13XXP60 (Exp)

### Origin and Breeding History
SW3406, SW1406, 14XXP06, W13XXP60, (all experimental designations) is an intracross of 97 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2013. Seed was bulked equally.

### Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW3406 has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW3406 is dormant, similar to the FD 3 check. Flower color (Syn 3) is 58% purple, 1% cream, 40% variegated with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), Verticillium wilt, Phytophthora root rot, pea aphid and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, stem nematode and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2013 in Arlington, Wisconsin. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW3406 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW3407, SW1407, 14XXP07, W13XXS61 (Exp)

### Origin and Breeding History
SW3407, SW1407, 14XXP07, W13XXS61, (all experimental designations) is an intracross of 56 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2013. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW3407 has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW3407 is dormant, similar to the FD 3 check. Flower color (Syn 3) is 71% purple, 1% cream, 27% variegated with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), Fusarium wilt, Phytophthora root rot, Verticillium wilt, and Aphanomyces root rot (Race 1 and 2). It is resistant to pea aphid, stem nematode, and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2013 in Arlington Wisconsin. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW3407 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW4112, SW1112, 11XXP12, N10XXP81 (Exp)

### Origin and Breeding History
SW4112, SW1112, 11XXP12, N10XXP81 (all experimental designations) is an intracross of 150 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2010. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW4112 has been tested in Washington, New York and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW4112 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 65% purple, 1% cream and 33% variegated with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), Verticillium wilt, Phytophthora root rot, and Aphanomyces root rot (Race 1). It is resistant to pea aphid, spotted alfalfa aphid and Aphanomyces root rot (Race 2). It is moderately resistant to stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in the greenhouse in Connell, WA in 2010. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW4112 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW4122Y, SW1122Y, 11YYC22, N10YYC96 (Exp)

### Origin and Breeding History
SW4122Y, SW1122Y, 11YYC22, N10YYC96, (all experimental designations) is an intracross of 24 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals. Parent clones were selected from half sib performance trials across multiple locations for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2010 and crossed as a replicated polycross. Seed was bulked equally from each 24 parent clones.

### Areas of Probable Adaptation
This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States and Canada. SW4122Y has been tested in Washington, New York, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

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

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW4122Y is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW4303, 13XXP03, W12XXP63 (Exp)

### Origin and Breeding History
SW4303, SW1303, 13XXP03, W12XXP63, (experimental designations) is an intracross of 154 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2012. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4303 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW4303 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 58% purple, 40% variegated, 1% white, with a trace of yellow and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt, and Aphanomyces root rot (Race 1 and 2). It is resistant to Fusarium wilt, pea aphid and spotted alfalfa aphid. It is moderately resistant to stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2012 in Arlington, WI. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW4303 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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW4305, SW1305, 13XXP05, N12XXP70 (Exp)

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

### Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4305 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW4305 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 98% purple, 1% white, with a trace of variegated, yellow and cream. The variety is highly resistant to bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, spotted alfalfa aphid, and Aphanomyces root rot (Race 1 and 2). It is resistant to Anthracnose (Race 1) and pea aphid. It is moderately resistant to stem nematode. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2012 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW4305 is recommended for certification.

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

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

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW4309, SW1309, 13XXP09, N12XXP75 (Exp)

### Origin and Breeding History

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

### Areas of Probable Adaptation

This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW4309 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics

SW4309 is moderately dormant, similar to the FD 4 check. Flower color (Syn 3) is 85% purple, 13% variegated, 1% cream, with a trace of yellow and white. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Phytophthora root rot, Verticillium wilt, spotted alfalfa aphid and Aphanomyces root rot (Race 1). It is resistant to Aphanomyces root rot (Race 2), Fusarium wilt, 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

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2012 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed may be available for sale in the spring of 2017 if SW4309 is recommended for certification.

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

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

### PVP Information

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

Date this application was submitted: Dec 1, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW5206, 12XXC06, W11XXC66 (Exp)

### Origin and Breeding History
SW5206, SW1206, 12XXC06, W11XXC66, (experimental designations) is an intracross of 9 parent plants (Syn 1) selected by S&W Seed Company from S&W experimentals. Parent plants selected based on half sib performance for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Breeder seed (Syn 1) was grown in the greenhouse in Arlington, WI in 2011 in a replicated polycross design. Seed was bulked by replicate clone and then equally between each of the 9 clones in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central, East Central, and Moderately Winterhardy Intermountain areas of the United States and Canada. SW5206 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics
SW5206 is moderately dormant, similar to the FD 5 check. Flower color (Syn 3) is 93% purple, 5% variegated, 1% white, with a trace of yellow and cream. The variety is highly resistant to Anthracnose (Race 1), bacterial wilt, Verticillium wilt, Phytophthora root rot, pea aphid, and Aphanomyces root rot (Race 1). It is resistant to Fusarium wilt, stem nematode, Aphanomyces root rot (Race 2) and spotted alfalfa aphid. It has not been tested for other pest reactions. This variety is suitable for use in producing hay, haylage, greenchop, and dehydrated product.

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Arlington Wisconsin S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW5206 is recommended for certification.

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

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW5207, SW1207, 12XXP07, N11XXP61 (Exp)

### Origin and Breeding History
SW5207, SW1207, 12XXP07, N11XXP61 (all experimental designations) is an intracross of 68 parent plants (Syn 1) selected by S&W Seed Company from 2 S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2011. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States and Canada. SW5207 has been tested in Washington, Minnesota, Wisconsin and Ontario, Canada. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

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

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in Connell, WA in 2011. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW5207 is recommended for certification.

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

| **Generations Allowed – Mark All That Apply** | | **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, 2016 Date recommended by the VRB: Jan 31, 2017

# Alfalfa

## SW5212, 12XXP12, N11XXP60 (Exp)

### Origin and Breeding History
SW5212, 12XXP12, N11XXP60 (all experimental designations) is an intracross of 100 plants (Syn 1) selected by S&W Seed Company from two S&W experimentals selected for forage yield, persistence, forage quality, standability and or resistance to one or more of the following pests and/or diseases: bacterial wilt, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Aphanomyces root rot (Race1&2) and stem nematode. Parent plants were identified using phenotypic selection in Northwest selection nurseries for increased forage quality, persistence, agronomic characteristics and improved forage yield. Breeder seed (Syn 1) was grown in the greenhouse in Connell, WA in 2011. Seed was bulked in total.

### Areas of Probable Adaptation
This variety is adapted to the North Central and Moderately Winterhardy Intermountain areas of the United States and Canada. SW5212 has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

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

### Procedures for Maintaining Seed Stock
Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Connell Washington. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

### Certified Seed Availability and Publication of Certified Seed Production
Certified seed may be available for sale in the spring of 2017 if SW5212 is recommended for certification.
The applicant requests that certified seed acreage not be published by AOSCA and its agencies.

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017

# Alfalfa

## SW5223Y, SW4223Y, 12YYP23, W11YYP81 (Exp)

### Origin and Breeding History

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

### Areas of Probable Adaptation

This variety is adapted to North Central, East Central and the Moderately Winterhardy Intermountain areas of the United States. SW5223Y has been tested in Washington and Wisconsin. Areas of intended use are: North Central, East Central, Moderately Winterhardy Intermountain, Winterhardy Intermountain and Great Plains areas of the United States and Canada and similar environments.

### Agronomic and Botanical Characteristics

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

### Procedures for Maintaining Seed Stock

Seed increase is on a limited generation basis with one generation of breeder, two generations of foundation and three generations of certified seed classes. Breeder (Syn 1), foundation (Syn 2 or 3), and certified (Syn 3, 4 or Syn 5) classes will be recognized. Production of Syn 3 foundation seed requires consent of the breeder. Breeder seed (Syn1) was produced in greenhouse isolation in 2011 in Arlington, WI. S&W Seed Co. will maintain sufficient breeder and foundation seed for the projected life of the variety. Stands of foundation and certified seed fields are limited to 3 and 6 years, respectively.

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

Certified seed may be available for sale in the spring of 2017 if SW5223Y is recommended for certification.

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

| Generations Allowed – Mark All That Apply | | 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, 2016 Date recommended by the VRB: Jan 10, 2017