



**AMERICA'S
ALFALFA®**

2024
★ ★ ★ ★ ★
**SEED
GUIDE**



**PLEDGE YOUR
ALLEGIANCE TO FREEDOM
AND FLEXIBILITY**



TO LEARN MORE, CONTACT AMERICA'S ALFALFA

americasalfalfa.com

| 1-800-406-7662

| info@americasalfalfa.com





AGRONOMIC AND PEST RESISTANCE TRAITS

ALFALFA PERFORMANCE ★★★★★★

	FALL DORMANCY	WINTERHARDINESS	ANTHRACNOSE RACE 1	ANTHRACNOSE RACE 5 ²	APHANOMYCES ROOT ROT RACE 1	APHANOMYCES ROOT ROT RACE 2	EVOLVING APHANOMYCES STRAINS ¹	PHYTOPHTHORA ROOT ROT	BACTERIAL WILT	FUSARIUM WILT	VERTICILLIUM WILT	SPOTTED ALFALFA APHID	PEA APHID	BLUE ALFALFA APHID	STEM NEMATODE	ROOT KNOT NEMATODE	SALT TOLERANCE	SEED GUIDE
HARVXTRA®																		
AMERISTAND 481 HVXRR	4	2	HR	R	HR	HR	HR	HR	HR	HR	HR	R	R	—	R	—	G	PG 10
HVX614RR BRAND	6	—	R	—	R	—	—	HR	MR	HR	—	HR	HR	MR	R	—	—	PG 11
AMERISTAND 972 HVXRR BRAND	9	—	HR	—	—	—	—	HR	MR	HR	R	HR	HR	—	R	—	G	PG 12
ROUNDUP READY®																		
AMERISTAND 435TQ RR	3	1	HR	—	HR	R	—	HR	HR	HR	HR	R	HR	—	MR	—	G	PG 13
FREEDOMSTAR™ RR BRAND	4	2	R	—	R	—	—	HR	HR	HR	HR	—	—	—	—	—	—	PG 14
AMERISTAND 423TQ RR	4	1	HR	HR	HR	HR	HR	HR	HR	HR	HR	R	R	—	R	—	G	PG 15
AMERISTAND 455TQ RR	4	2	HR	—	HR	R	—	HR	HR	HR	HR	—	R	—	HR	HR	G	PG 16
AMERISTAND 457TQ RR	4	2	HR	—	HR	HR	—	HR	HR	HR	HR	R	HR	—	R	—	G	PG 17
AMERISTAND 416NT RR	4	2	HR	—	HR	—	—	HR	HR	HR	HR	R	R	—	HR	—	G	PG 18
AMERISTAND 545NT RR	5	—	HR	—	HR	—	—	HR	R	R	HR	HR	HR	—	HR	HR	G	PG 19
ALFAGRAZE 660 RR BRAND	6	—	HR	—	HR	—	—	HR	HR	HR	HR	R	HR	R	HR	—	G	PG 20
AMERISTAND 716NT RR BRAND	7	—	HR	—	—	—	—	—	R	HR	R	R	HR	R	HR	—	G	PG 21
AMERISTAND 835NTS	8	—	MR	—	—	—	—	R	R	HR	MR	HR	HR	HR	HR	HR	G	PG 22
AMERISTAND 836NT RR BRAND	8	—	R	—	R	—	—	HR	R	R	—	HR	HR	—	HR	—	G	PG 23
AMERISTAND 956NT RR BRAND	9	—	HR	—	R	—	—	HR	R	HR	R	HR	R	—	HR	—	—	PG 24
CONVENTIONAL																		
AMERISTAND 201T	2	1	R	—	HR	—	—	HR	HR	HR	HR	—	R	—	—	—	—	PG 25
AMERISTAND 318TQ	3	1	HR	—	HR	—	—	HR	HR	HR	HR	R	HR	—	R	—	—	PG 26
AMERISTAND 419LH BRAND	4	2	HR	—	HR	R	—	HR	HR	HR	HR	MR	R	—	R	—	—	PG 27
AMERISTAND 428TQ	4	1	HR	HR	HR	HR	HR	HR	HR	HR	HR	R	R	—	HR	—	G	PG 28
AMERISTAND 446NT	4	2	HR	—	R	—	—	HR	HR	HR	HR	R	HR	—	HR	—	G	PG 29
AMERISTAND 518NT	5	2	HR	—	HR	—	—	HR	HR	HR	HR	HR	HR	—	HR	HR	G	PG 30
AMERISTAND 618NT	7	—	HR	—	—	—	—	HR	MR	HR	MR	HR	HR	HR	HR	—	G	PG 31
AMERISTAND 803T	8	—	MR	—	—	—	—	HR	MR	HR	—	R	HR	HR	HR	HR	G	PG 32
AMERISTAND 901TS	9	—	R	—	—	—	—	HR	R	HR	MR	—	HR	R	R	HR	G	PG 33

HR	> 51% Resistance	MR	15–30% Resistance	G	Germination
R	31–50% Resistance	LR	6–14% Resistance	F	Forage

¹Includes race 1 and race 2 protection. In addition, Forage Genetics International, LLC (FGI) has identified a novel source of Aphanomyces resistance in the greenhouse and field that visibly outperforms unrelated varieties on the market when grown under natural or artificial disease pressure. FGI researchers have been working cooperatively with universities collecting and testing the most virulent strains of Aphanomyces to help determine the level of resistance to this novel source.

²Includes race 1 protection, along with Anthracnose Race 5, which was recently confirmed by USDA's Agricultural Research Service.



TECHNOLOGY

SEED TREATMENTS & COATINGS



Standard Seed Treatment Package Offerings

TREATMENT OPTIONS	DESCRIPTION	STAMINA®	APRON XL®	NITRAGIN® GOLD	OPTIMIZE® GOLD	MICRONUTRIENTS OMRI LISTED	
GROZONE® 34% NUTRIENT COAT	COS	X	X	X	X	X	NO
APEX GREEN 34% ORGANIC COAT	OC			X			YES
AVAILABLE ON SELECT PRODUCTS							

GROZONE® Package Details

Optimize® Gold with LCO Promoter Technology® for Alfalfa

When present at the time of planting, LCO Promoter Technology® enables your crop to achieve its full genetic potential by enhancing nutritional capabilities that drive natural growth processes, maximizing plant health and crop performance.

Stamina® Fungicide

Protects seed and new seedlings from fungal disease and enhances plant health, especially under tough soil conditions with elevated disease pressure. May result in higher germination rates, increased nodulation, healthier roots and larger plants.

Nitragin® Gold

Specially selected natural rhizobia strains (pre-inoculant) result in high levels of nitrogen fixation for maximum yield potential.

Apron XL® Fungicide

Protects against seedling damping-off diseases, especially in cool wet soils.

Micronutrients

Assists in early vigor and stand establishment

Protective Coating

Preserves and extends shelf life of active rhizobia within seed treatment.

GROZONE® Advantages

BETTER EMERGENCE IN WET OR DRY CONDITIONS

- Micronutrients surrounding the seed increases germination and emergence
- Controls early season diseases that attack new seedlings in wet environments

OPTIMAL NODULE FORMATION FOR IMPROVED NITROGEN FIXATION

- Unique mix of Rhizobium strains improves nodulation and promotes nitrogen-fixation

OPTIMAL STAND ESTABLISHMENT

- Root and shoot development is enhanced independent of soil conditions
- Improved plant health with multi-season benefits of greater yield potential
- Smooth finish and uniform seed size improves planting accuracy
- Ideal for reduced tillage

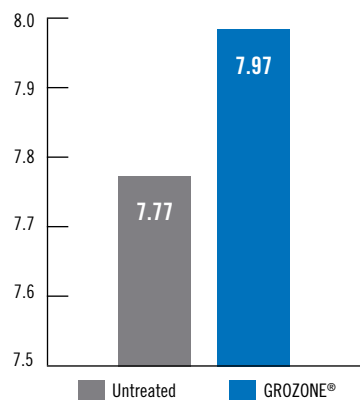
Improved Root System



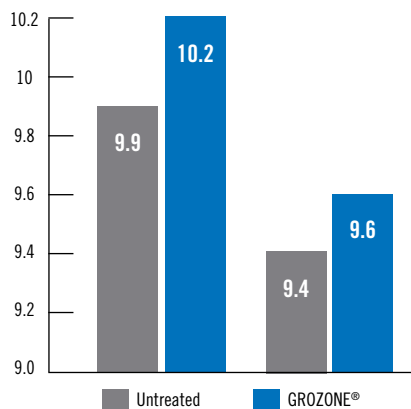
Untreated

Treated with Optimize® Gold

Yield Summary Solid ROI-Multi-year
(43 Trials)



Continued Returns with 2nd Year Crop
(4 Trials)

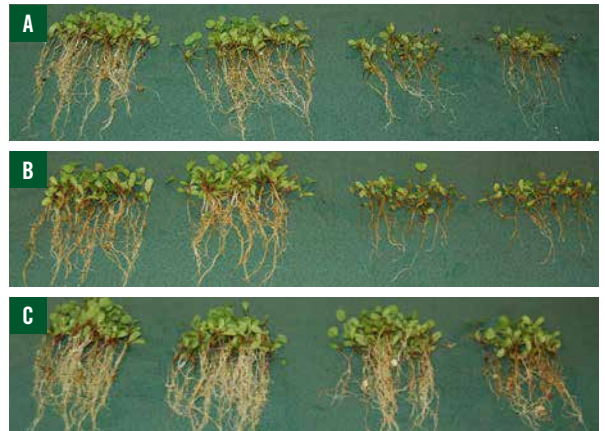


Why Use Stamina® Fungicide?

BENEFITS

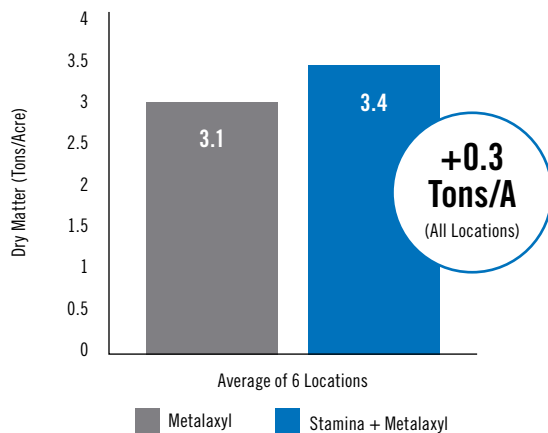
- Powered by F500® fungicide, the same active ingredient that is in Headline® fungicide
- Stamina® fungicide is a broad spectrum, seed-applied and provides suppression of seed and emerging seedling disease caused by these target diseases:
 - *Aphanomyces euteiches*
 - *Rhizoctonia solani*
 - *Fusarium spp.*
 - *Phytophthora medicaginis*
- Seed treated with Stamina® results in:
 - A healthier stand with faster developing plants
 - Increased forage yield potential
 - More rapid and increased emergence of seedlings even under certain cold conditions

Stamina Stamina + Metalaxyl Metalaxyl Untreated



Seedlings inoculated with (A) *Aphanomyces euteiches* Race 1, (B) *Aphanomyces euteiches* Race 2 (C) *Phytophthora medicaginis*. Stamina applied at 3.1 fl oz/cwt & metalaxyl applied at 0.91 fl oz/cwt. 2011 Laboratory test conducted by an independent third party researcher.

Summary of Alfalfa Forage Yield, Seeding Year
Data Across Midwest Locations



Stamina applied at 3.1 fl oz/cwt. Metalaxyl applied at 0.91 fl oz/cwt. 2013 replicated trials conducted in West Salem, WI.

Untreated

Stamina + Metalaxyl



Alfalfa spring seeded May 6, 2013. Photos taken on June 29, 2013 in West Salem, WI. 54 Days After Seeding. Stamina 3.1 fl oz/cwt, metalaxyl 0.91 fl oz/cwt.



An alfalfa that gives you options, not limits.

THE BIGGEST ADVANCEMENT IN THE FIELD

HarvXtra® alfalfa with Roundup Ready® technology gives you unprecedented flexibility by widening cutting windows so you can better manage the yield-versus-quality trade-off. It also adds unsurpassed weed control with Roundup Ready® technology.

Choose to maintain your
current harvest schedule for
higher quality forage

OR

Delay harvest a few days
for increased tonnage without
sacrificing forage quality

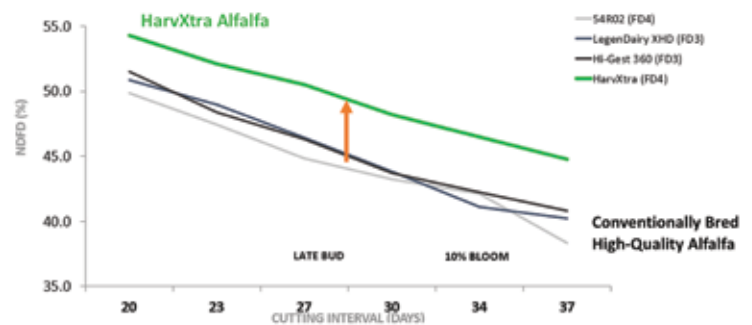
IT'S A TRUE GAME CHANGER

By reducing the amount of lignin in the plant, the HarvXtra® alfalfa trait technology fundamentally changes the relationship between forage quality and stage of maturity. Higher neutral detergent fiber digestibility (NDFD) improves digestibility, and higher relative forage quality (RFQ) can command a higher price tag at harvest.

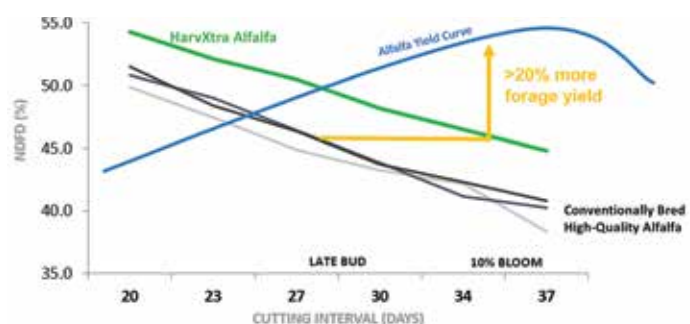
To learn more about HarvXtra® with Roundup Ready® technology, visit harvxtra.com.



Delivers Exceptional Forage Quality



Extend Harvest Without Sacrificing Quality



Extend Harvest for Higher Yield Potential





TECHNOLOGY

APEX™ GREEN SEED COATING



Proven Performance OMRI SSC-2409

Independent field studies and University testing have shown:

Apex™ Green Seed Coating encapsulates each seed with a specifically formulated mix of OMRI listed and NOP approved minerals and nutrients.

The natural color of Apex™ Green Seed Coating improves monitoring of the seeded area and seeding rates. The change in color also disguises the seed from natural predators, such as birds, increasing seed survivability.

Seeds coated with Apex™ Green Seed Coating are larger and distribute more evenly. The added size increases spread width up to 40% and helps seed penetrate stubble or thatch for maximum seed-soil contact, a crucial step to germination.

Every seed planted with Apex™ Green Seed Coating is surrounded with a natural micronutrient rich environment, stimulating vigorous growth in young seedlings. When applied to legumes Apex™ Green Seed Coating increases Nitrogen fixing rhizobia, improving nodulation.

The hygroscopic nature of Apex™ Green Seed Coating helps pull and hold moisture, aiding in germination. Our new Apex™ Green HydroLoc contains an organic hydration component that helps maximize water absorption for enhanced germination and accelerated growth.





Enhance your alfalfa's yield potential with the UltraCut™ alfalfa disease package

The UltraCut™ alfalfa disease package helps you grow a healthy alfalfa crop even in fields susceptible to Anthracnose and Aphanomyces. Its protection can help deliver an advantage through improved agronomic performance and yield potential.

Crown, stem, and root diseases can cause significant losses to alfalfa yield, quality, and persistence. The UltraCut alfalfa disease package enables strong stand establishment through unmatched seedling genetic disease resistance.

The best way to protect against evolving Anthracnose and Aphanomyces disease strains in your alfalfa stands is to plant a variety with more advanced resistance.

See healthier stands and more yield potential in your fields* by planting varieties with the UltraCut alfalfa disease package.



UltraCut™ alfalfa disease package varieties (in the middle) compared to susceptible competitive check varieties (on outsides), Photo taken at FGI Research Facility, June 2018, West Salem, WI

*Compared to varieties without the UltraCut alfalfa disease package in fields with disease pressure.



TECHNOLOGY

ROUNDUP READY® ALFALFA



Experience the Advantages of Roundup Ready® Alfalfa

EASIER WEED CONTROL

Get unsurpassed control of broadleaf and grass weeds, as well as suppression of most persistent, parasitic or poisonous weeds.

CLEANER STAND ESTABLISHMENT

Roundup Ready® Alfalfa's weed control helps you establish a strong stand.

DECREASED DAMAGE FROM HERBICIDES

Roundup Ready® Systems provide excellent crop safety with no crop rotation restrictions compared to conventional herbicide systems.

FLEXIBILITY IN APPLICATION TIMING

Enjoy the broadest application timing window for both crops and weeds. Wait only five days before grazing or harvest.

Controlling weed pressure during establishment provides these benefits:

MORE YIELD POTENTIAL

Roundup Ready® Alfalfa lowers weed pressure early on, leading to greater yield potential.

MORE QUALITY POTENTIAL

With fewer weeds in every ton, you can harvest a higher percentage of pure alfalfa.

MORE PERSISTENCE POTENTIAL

The Roundup Ready® Alfalfa trait helps establish a strong stand, giving you thicker, denser alfalfa year after year.



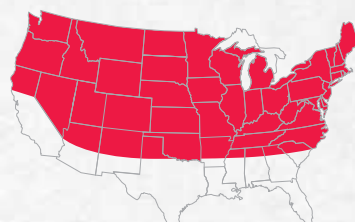
Learn more at RoundupReadyAlfalfa.com

AMERISTAND 481 HVXRR

FALL DORMANCY: 4.0 | WINTERHARDINESS: 1.9

A Technology Powerhouse: HarvXtra® Alfalfa Paired with the UltraCut™ Alfalfa Disease Package

- Latest advancement in disease resistance, featuring the UltraCut™ alfalfa disease package with a DRI of 39/40, which includes High Resistance to Aphanomyces Root Rot Race 1, 2 and evolving strains¹; and includes multi-race resistance to Anthracnose²
- HarvXtra® Alfalfa gives growers the ability to better manage the yield-versus-quality tradeoff. It offers more flexibility in cutting schedule to achieve improved forage quality or greater yield potential, when compared to conventional alfalfa at the same stage of maturity



• Primary Adaptation

Potential Benefits of HarvXtra® Alfalfa with Roundup Ready® Technology

FORAGE QUALITY ADVANTAGE

- Maintain current harvest schedule
- Higher likelihood of harvesting premium quality hay

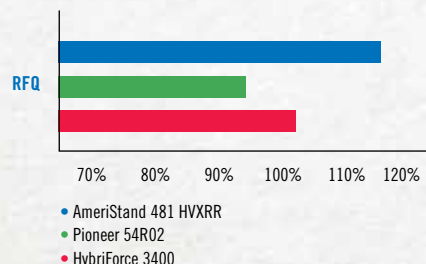
FLEXIBILITY

- Increased harvest timing flexibility

DELAYED HARVEST

- Potential for fewer harvests, higher forage yield and improved persistence

Forage Quality (% of Commercial Checks)



Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 481 HVXRR	106
54VR10	104
54Q29	102
AFX 579	99
L-451APH2+	97
HYBRIFORCE-3400	94

Data from FGI Trials in Wisconsin and Pennsylvania from 2019-2022



PERFORMANCE

Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	HR
Evolving Strains ¹ :	HR
Anthracnose	
Race 1:	HR
Race 5 ² :	R
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	R
Stem Nematode:	R

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

¹Includes race 1 and race 2 protection. In addition, Forage Genetics International, LLC (FGI) has identified a novel source of Aphanomyces resistance in the greenhouse and field that visibly outperforms unrelated varieties on the market when grown under natural or artificial disease pressure. FGI researchers have been working cooperatively with universities collecting and testing the most virulent strains of Aphanomyces to help determine the level of resistance to this novel source.

²Includes race 1 protection, along with Anthracnose Race 5 protection, which is patented by FGI.

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

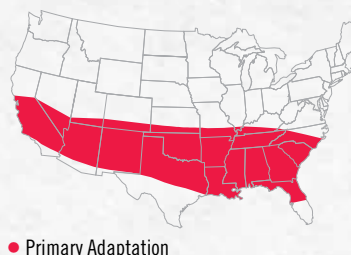
HVX614RR BRAND

FALL DORMANCY: 6.0



The First FD6 Release of a HarvXtra® Alfalfa Product

- HarvXtra® Alfalfa gives growers the ability to better manage the yield-versus-quality tradeoff. It offers more flexibility in cutting schedule to achieve improved forage quality or greater yield potential, when compared to conventional alfalfa at the same stage of maturity
- The HarvXtra® technology provides unprecedented flexibility by widening cutting windows, which gives growers the option at each cutting to:
 - Maintain their normal harvest schedules for higher-quality forage, or
 - Extend harvest for up to 10 days for increased yield potential, without sacrificing forage quality, compared to conventional alfalfa at the same stage of maturity
- HarvXtra® Alfalfa has 10-15% higher neutral detergent fiber digestibility (NDFd) than conventional alfalfa harvested at the same stage of maturity
- HarvXtra® Alfalfa is stacked with the Roundup Ready® Technology for unsurpassed weed control with excellent crop safety



PERFORMANCE

Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	R
Anthrachnose Race 1:	R
Bacterial Wilt:	MR
Fusarium Wilt:	HR
Blue Alfalfa Aphid:	MR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	R

Variety Performance

PRODUCT	FALL DORMANCY	FORAGE YIELD (% COMMERCIAL CHECKS)			FORAGE QUALITY (NDFd, % COMMERCIAL CHECKS)		
		Canyon, TX	Davis, CA	Los Banos, CA	Canyon, TX	Davis, CA	Los Banos, CA
HVX614RR	6	97	104	99	115	110	112
RR SIX SHOOTER	6	99	-	-	100	-	-
RRALF 6R200	6	-	105	96	-	101	101
WL 454HQ.RR	6	105	98	102	95	101	101
AMERISTAND 715NT	7.4	-	-	98	-	-	101

Note: Data come from FGI trials comparing HarvXtra Alfalfa with Roundup Ready Technology to commercial checks. Seeded Fall of 2015 in Davis, Los Banos, Canyon. Data collected 2016-2019 in Davis and Los Banos, 2016-2017 in Canyon in 2015 trials.

HR > 51% Resistance
R 31-50% Resistance
MR 15-30% Resistance
LR 6-14% Resistance

AMERISTAND 972 HVXRR BRAND

FALL DORMANCY: 9



Latest Non-Dormant Release of HarvXtra® in FD9

- Winter-active, non-dormant FD=9.0
- HarvXtra® Alfalfa gives growers the ability to better manage the yield-versus-quality tradeoff. It offers more flexibility in cutting schedule to achieve improved forage quality or greater yield potential, when compared to conventional alfalfa at the same stage of maturity
- The HarvXtra® technology provides unprecedented flexibility by widening cutting windows, which gives growers the option at each cutting to:
 - Maintain their normal harvest schedules for higher-quality forage, or
 - Delay harvest for 5-7 days for increased yield potential, without sacrificing forage quality, compared to conventional alfalfa at the same stage of maturity
- Non-dormant HarvXtra® Alfalfa has on average 12-14% less lignin and 8-10% higher neutral detergent fiber digestibility (NDFD) than conventional alfalfa harvested at the same stage of maturity
- HarvXtra® Alfalfa is stacked with the Roundup Ready® Technology for unsurpassed weed control with excellent crop safety



• Primary Adaptation

PERFORMANCE

Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Anthraxnose Race 1:	HR
Bacterial Wilt:	MR
Fusarium Wilt:	HR
Verticillium Wilt:	R
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	R

Variety Performance

PRODUCT	YIELD (% OF CHECK)		
	Maricopa, AZ	Los Banos, CA	Davis, CA
AMERISTAND 972 HVXRR BRAND	108	129	106
HVX840RR BRAND	-	115	101
6829R	101	-	94
RRALF 9R100	96	109	107
6015R	-	108	-

Note: Data comes from FGI trials comparing HarvXtra® Alfalfa with Roundup Ready® Technology to commercial checks. Trials were harvested in 2018 from Maricopa, AZ, Los Banos, CA and Davis, CA.

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

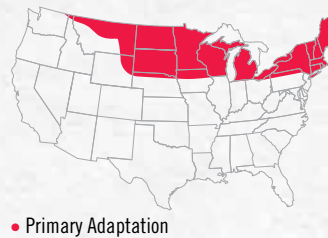


AMERISTAND 435TQ RR

FALL DORMANCY: 3.1 | WINTERHARDINESS: 1.2

Traffic Tested® Alfalfa with Roundup Ready® Technology

- Outstanding leaf retention and stem quality for optimizing digestibility and forage quality potential
- High yield potential with excellent stand persistence
- High resistance to common yield-robbing diseases
- Improved salt tolerance of germinating seeds*



Selected for Survival and Persistence

Traffic Tested® varieties are bred and selected for improved plant types with:

- Large deep-seated crowns
- Heavy plant weight
- Fine stems
- Large roots to store energy
- Abundant leaf mass



Traffic Tested®



Non-Traffic Tested®

Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 435TQ RR	105
HI-GEST 360	101
54V09	98
HYBRIFORCE-3400	94

Data from FGI Trials in Wisconsin, Iowa and Pennsylvania from 2016-2021

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 435TQ RR	104
54QR04	98

Data from FGI Trials in Washington and Idaho from 2018-2020

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	R
Anthraxnose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	MR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



FREEDOMSTAR™ RR BRAND

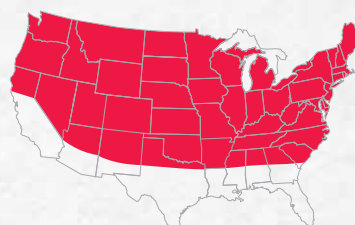


FALL DORMANCY: 4

WINTERHARDINESS: 2

Exceptional Quality for an Exceptional Value

- An economical Roundup Ready® alfalfa blended for dependable forage yield potential and good quality
- Good winterhardiness and pest package with resistance to key diseases
- Moderate to fast recovery after cutting for optimum yield potential



• Primary Adaptation

Utilizing the Roundup Ready® Weed Control System Provides Many Benefits

- Weed control at both stand establishment and in established stands means fewer weeds and higher quality hay and haylage
- Optimal crop safety at all growth stages provides increased yield potential in both the establishment and subsequent years
- Flexibility in timing of application allows growers to spray when necessary; no carryover or crop rotation limitations
- Minimal wait (5 days) after Roundup® application before haying/feeding

PERFORMANCE

Yield Potential:	Very Good
Forage Quality:	Excellent
Stand Persistence:	Excellent

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	R
Anthrachnose Race 1:	R
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Diseases Index Rating:	28/30

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

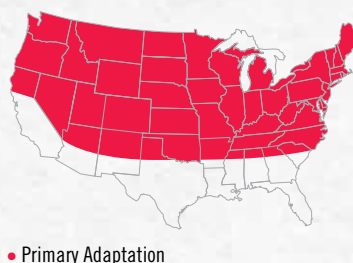


AMERISTAND 423TQ RR

FALL DORMANCY: 4 | WINTERHARDINESS: 1

High Quality Traffic Tested® Alfalfa with UltraCut™ Alfalfa Disease Package and Roundup Ready® Technology

- Highly resistant to multiple races of Aphanomyces for protection during establishment and early season cool and wet soil conditions
- Highly resistant to multiple races of Anthracnose for protection during warm and humid weather conditions
- Top choice for heavy, compacted and saturated soils
- Extremely winterhardy providing superb cold tolerance
- Salt tolerance at germination
- High multifoliate expression for maximum quality
- The Roundup Ready® Alfalfa trait provides optimal weed control, making crop management easier than ever before. It helps produce better feed quality and stand during establishment while increasing yield potential.
- Disease resistance index (DRI) of 40/40 for solid yield potential and stand persistence across a wide range of soil types and climates
- Quick regrowth after cutting with outstanding standability for intensive management systems
- Dark green, fine-stemmed and a highly palatable HQ variety
- Very well-adapted and selected for use in the Midwestern, Northwestern, Central Plains or Northeastern regions of the U.S.



• Primary Adaptation

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	HR
Evolving Strains ¹ :	HR
Anthracnose	
Race 1:	HR
Race 5 ² :	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	R
Stem Nematode:	R

Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 423TQ RR	103
54VR10	101
L-451APH2+	99
HYBRIFORCE-4400	95

Data from FGI Trials in Marshfield, Wisconsin from 2021-2022

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 423TQ RR	111
54VR10	110
55VR08	105

Data from FGI Trials in Idaho from 2021-2022

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

¹Includes race 1 and race 2 protection. In addition, Forage Genetics International, LLC (FGI) has identified a novel source of Aphanomyces resistance in the greenhouse and field that visibly outperforms unrelated varieties on the market when grown under natural or artificial disease pressure. FGI researchers have been working cooperatively with universities collecting and testing the most virulent strains of Aphanomyces to help determine the level of resistance to this novel source.

²Includes race 1 protection, along with Anthracnose Race 5 protection, which is patented by FGI.

* In tests established by the NAAC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



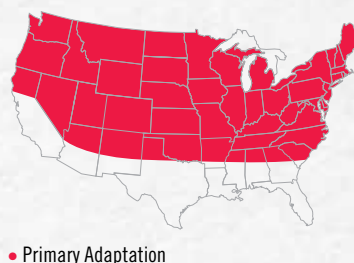
AMERISTAND 455TQ RR

FALL DORMANCY: 4.4 | WINTERHARDINESS: 2.0



High Quality Traffic Tested® Alfalfa with Roundup Ready® Technology

- Excellent forage quality for optimal animal performance
- Improved salt tolerance of germinating seeds*
- Highly resistant to Stem Nematode and Root Knot Nematode



Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 455TQ RR	109
54V09	99
HYBRIFORCE-440	99

Data from FGI Trials in Idaho and Oregon from 2010-2012

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	R
Anthracoze Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Root Knot Nematode:	HR
Stem Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



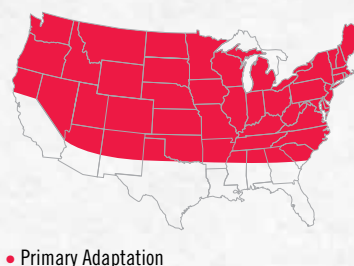
AMERISTAND 457TQ RR

FALL DORMANCY: 4.2 | WINTERHARDINESS: 1.8



High Quality Traffic Tested® Alfalfa with Roundup Ready® Technology

- Excellent forage quality for optimal animal performance
- Perfect disease resistance score of 35/35 DRI with HR for both races 1 and 2 of Aphanomyces
- Very fast recovery for frequent harvest schedules under intensive management



• Primary Adaptation

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	HR
Anthrachnose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	R

Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 457TQ RR	109
54VR10	106
54Q29	104
HI-GEST 360	100
L-451APH2+	97
AFX 579	96

Data from FGI Trials in Wisconsin from 2019-2022

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 457TQ RR	105
HYBRIFORCE-3400	104
54VR10	101
55VR08	101
L-451APH2+	97
AFX 579	93

Data from FGI Trials in Washington from 2019-2021

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



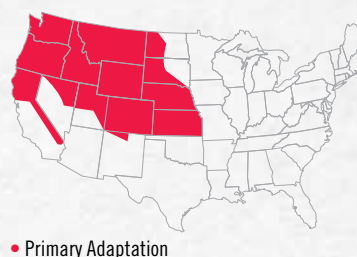
AMERISTAND 416NT RR

FALL DORMANCY: 4.3 | WINTERHARDINESS: 1.5



Nematode Resistant Traffic Tested® Variety with Roundup Ready® Technology

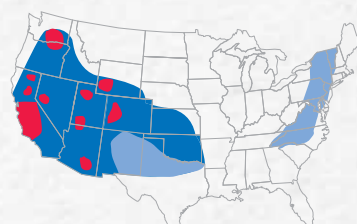
- High quality and high yield potential
- Compliments conventional AmeriStand 446NT in the PNW
- Excellent choice to maximize forage production while benefiting from the Roundup Ready® weed control system
- High resistance to yield-robbing pests including stem nematode
- Improved salt tolerance of germinating seeds*



• Primary Adaptation

Traffic Tested® Genetics with High Nematode Resistance

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity over the remaining life of the stand.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 416NT RR	112
54Q29	105
54VR10	104
L-451APH2+	103
55VR08	100
AFX 579	97

Data from FGI Trials in Idaho and Kansas from 2020-2022

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Anthracoze Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	R
Stem Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



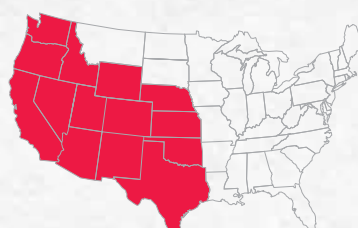
AMERISTAND 545NT RR

FALL DORMANCY: 5.4



Nematode Resistant Traffic Tested® Alfalfa with Roundup Ready® Technology

- High quality and high yield potential while complimenting conventional AmeriStand 518NT in adapted regions
- Excellent choice to maximize forage production while benefiting from the Roundup Ready® weed control system
- High resistance to multiple yield-robbing pests including root knot nematode and stem nematode

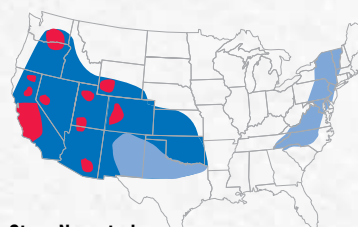


• Primary Adaptation

Traffic Tested® Genetics with High Nematode Resistance

Root Knot Nematodes, like stem nematodes, increase infection with other diseases such as bacterial wilt, Phytophthora Root Rot, and Fusarium Wilt. Symptoms of infection are small distinct galls on roots.

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity for two to three years.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 545NT RR	111
55VR08	105
54VR10	104
54Q29	103
AFX 579	98

Data from FGI Trials in Idaho and Kansas from 2019-2022

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Anthraco nose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	R
Fusarium Wilt:	R
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	HR
Root Knot Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



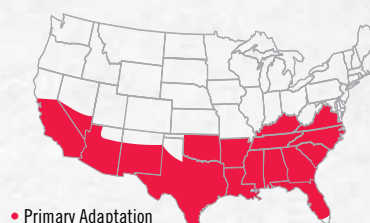
ALFAGRAZE 660 RR BRAND



FALL DORMANCY: 6

Salt Tolerant Variety with Exceptional Yield Potential and Outstanding Hay Quality

- Exceptional salt tolerance derived from our salt breeding program
- Excellent choice to maximize forage production while benefiting from the Roundup Ready® weed control system
- Resistant to all major aphid pests
- Resistant to all major nematode pests



Fight Aphids and Nematodes

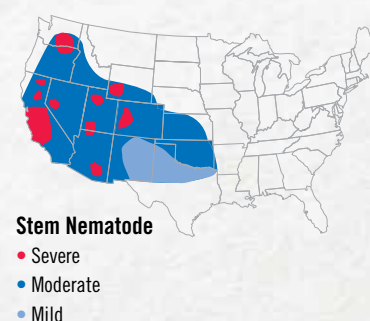
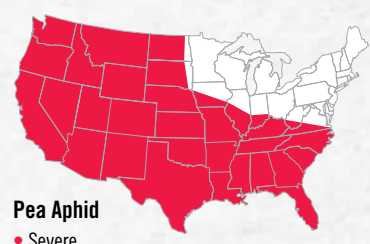
Aphids feed by sucking nutrients out of alfalfa plants. Heavily infested plants wilt during the hottest part of the day. Aphids also may transmit viruses which cause mottling, yellowing, or curling of leaves and stunting of plant growth.

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity for two to three years.

Variety Performance

VARIETY	MULTI-YEAR % OF CHECKS
ALFAGRAZE 660 RR BRAND	108
HYBRIFORCE 2600	104
HI-GEST 660	102
CISCO II	101
6R200	101
CW 704	100

Data from FGI Trials in Garden City, KS 2021-2023.



PERFORMANCE

Yield Potential:	Excellent
Forage Quality:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Anthraco nose Race 1:	HR
Bacterial Wilt:	HR
Verticillium Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Blue Alfalfa Aphid:	R
Stem Nematode:	HR

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance



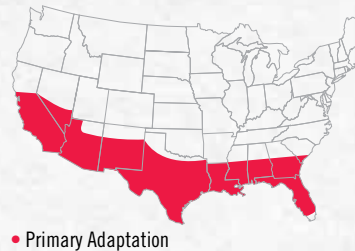
AMERISTAND 716NT RR BRAND



FALL DORMANCY: 7.3

Nematode Resistant Traffic Tested® Alfalfa with Roundup Ready® Technology

- Exceptional salt tolerance
- Superior resistance to stem nematodes
- Excellent forage quality and yield potential
- High resistance to Pea aphid, Phytophthora root rot and other common yield robbing pests and diseases
- Improved salt tolerance of germinating seeds
- Parentage selected and screened for SN from elite semi-dormant lines
- Moderate multifoliolate leaf expression improving forage quality
- The Roundup Ready® Alfalfa trait provides optimal weed control, making crop management easier than ever before. It helps produce better feed quality and stand during establishment while increasing yield potential.



• Primary Adaptation

PERFORMANCE

Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

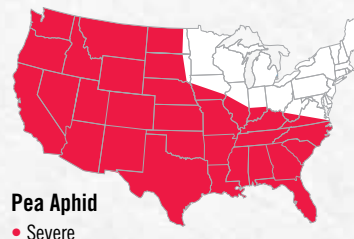
RESISTANCE

Anthracoze Race 1:	HR
Verticillium Wilt:	R
Bacterial Wilt:	R
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	HR
Blue Alfalfa Aphid:	R

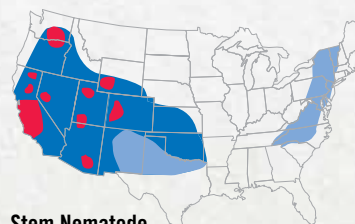
Fight Aphids and Nematodes

Aphids feed by sucking nutrients out of alfalfa plants. Heavily infested plants wilt during the hottest part of the day. Aphids also may transmit viruses which cause mottling, yellowing, or curling of leaves and stunting of plant growth.

Stem Nematodes Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity for two to three years.



Pea Aphid
• Severe



Stem Nematode
• Severe
• Moderate
• Mild

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



AMERISTAND 835NTS RR

FALL DORMANCY: 8.4



Nematode Resistant Traffic Tested® Alfalfa with Roundup Ready® Technology

- Improved salt tolerance of germinating seeds*

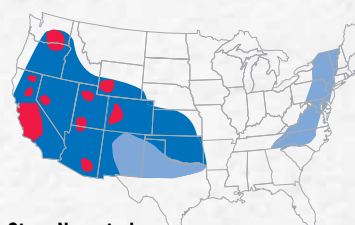


• Primary Adaptation

Traffic Tested® Genetics with High Nematode Resistance

Root Knot Nematodes, like stem nematodes, increase infection with other diseases such as bacterial wilt, Phytophthora Root Rot, and Fusarium Wilt. Symptoms of infection are small distinct galls on roots.

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity for two to three years.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 835NTS RR	109
MAGNA 995	107

Data from FGI Trials in California from 2011-2020

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	R
Anthracoze Race 1:	MR
Verticillium Wilt:	MR
Bacterial Wilt:	R
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Blue Alfalfa Aphid:	HR
Stem Nematode:	HR
Root Knot Nematode:	HR

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



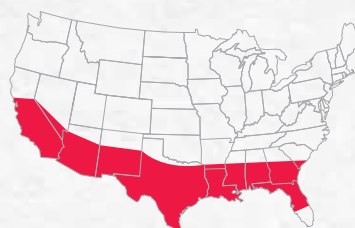
AMERISTAND 836NT RR BRAND

FALL DORMANCY: 8.3



Nematode Resistance Traffic Tested® Variety with Roundup Ready® Technology

- Improved salt tolerance of germinating.
- Strong aphid resistance
- Combination of salt tolerance and high resistance to Phytophthora Root Rot provides improved establishment success.
- The Roundup Ready® Alfalfa trait provides optimal weed control, making crop management easier than ever before. It helps produce better feed quality and stand during establishment while increasing yield potential.



• Primary Adaptation

PERFORMANCE

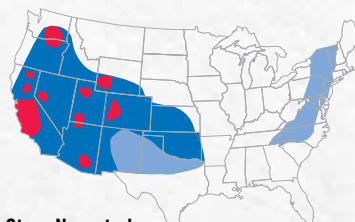
Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Anthrachnose Race 1:	R
Aphanomyces Root Rot Race 1	R
Bacterial Wilt:	R
Fusarium Wilt:	R
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	HR

Traffic Tested® Genetics with Nematode Resistance

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity for two to three years.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 836NT RR BRAND	126
6829R	92
RRALF 9R100	108

Data from FGI Trials in California from 2021-2023

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



AMERISTAND 956NT RR BRAND

FALL DORMANCY: 9.3

9+ Dormancy Traffic Tested® Alfalfa with Roundup Ready® Technology

- Winter active Non-Dormant FD9
- Solid disease package supporting strong seedling establishment and enhanced persistence
- Highly resistant to stem nematode and Phytophthora Root Rot
- Ideal non-dormant variety for the cash hay or dairy producer:
- AmeriStand 956NT RR produces big yields of leafy, fine-stemmed hay with dark green color
- Quick regrowth and canopy closure coupled with Roundup Ready® system should keep invasive weeds minimized
- Excellent tolerance to leaf diseases delivers improved leaf retention and overall forage quality

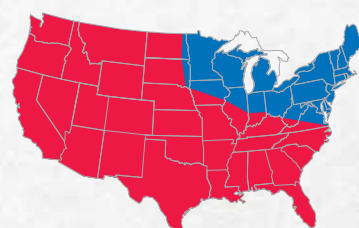


• Primary Adaptation

Aphids and Salt Are Yield Robbers

Aphids cause plants to wilt and turn yellow, lowering productivity. The tiny spotted alfalfa aphid is the most devastating aphid pest of seedling alfalfa. The large green pea aphid builds up populations that can cover the stems and terminal buds to stunt growth.

Soil salinity is a limiting factor for crop production in parts of the western United States. Saline soils reduce yield and accelerate stand decline. To produce high quality hay in saline environments, planting a variety proven to tolerate salt is a key best management practice. Note that proper soil amendments and proper irrigation are also needed to maximize yield.



Pea Aphid

- Severe
- Moderate

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 956NT RR BRAND	118
6829R	95
RRALF 9R100	105
MAGNA 801FQ	101
MAGNA 995	109

Data from FGI trials in CA from 2020-2022



PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Tolerant

RESISTANCE

Phytophthora Root Rot:	HR
Anthraco Race 1:	HR
Aphanomyces Root Rot Race 1	R
Verticillium Wilt:	R
Bacterial Wilt:	R
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	HR
Stem Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

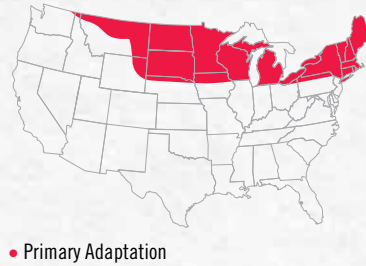
AMERISTAND 201T

FALL DORMANCY: 2.0 | **WINTERHARDINESS: 1.5**



The Diehard of Alfalfas

- High resistance to common disease threats in areas of intended use
- Withstands stressful growing conditions and grazing
- Broad deep-set crowns and healthy root systems



PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Good
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Anthrachnose Race 1:	R
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R

Selected for Survival and Persistence

Under severe selection pressure for Phytophthora root rot and winter injury, the surviving parent plants had the best root and crown health. The exposure to traffic for three years helped create large and deeper crowns, high root and crown carbohydrate reserves for re-growth and winter survival. The increased resistance to the crown rot complex including Phoma crown rot increases potential for higher yields and stand establishment. Young seedlings are vigorous and resistant to root rots in the critical first two weeks after planting.

Traffic Tested® varieties are bred and selected for improved plant types with:

- Large deep-seated crowns
- Fine stems
- Abundant leaf mass
- Heavy plant weight
- Large roots to store energy



Traffic Tested®



Non-Traffic Tested®

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance



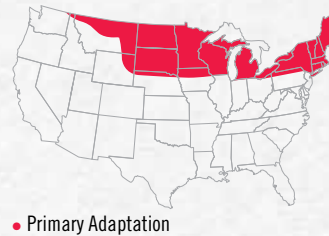
AMERISTAND 318TQ

FALL DORMANCY: 3.1 | WINTERHARDINESS: 1.0



Enhanced Yield, Traffic Tolerance and Stand Persistence

- Dependable variety for less intensively managed fields
- Latest generation of products that combine excellent winterhardiness, fast recovery after cutting and improved forage yield potential
- Excellent quality potential as compared to commercial checks



• Primary Adaptation

Selected for Survival and Persistence

Traffic Tested® varieties are bred and selected for improved plant types with:

- Large deep-seated crowns
- Abundant leaf mass
- Fine stems
- Large roots to store energy



Traffic Tested®



Non-Traffic Tested®

Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 318TQ	103
54V09	99
HYBRIFORCE-3400	97
LEGACY 449 APH2	97

Data from FGI Trials in Wisconsin, Iowa and Pennsylvania from 2016-2021

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 318TQ	106
HYBRIFORCE-3400	102
54V09	97

Data from FGI Trials in Washington and Idaho from 2015-2020

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Anthrachnose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	R

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

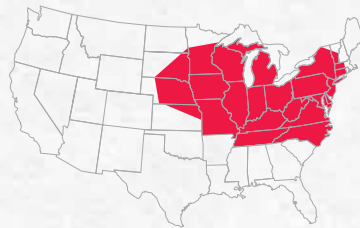
AMERISTAND 419LH BRAND



FALL DORMANCY: 4 | WINTERHARDINESS: 2

High Resistance to Potato Leafhopper with Increased Yield and Forage Quality Potential

- Selected for enhanced glandular hair trait expression with excellent winterhardiness
- High resistance to common alfalfa diseases plus leafhopper
- Fast recovery after cutting with very good forage yield potential



• Primary Adaptation

PERFORMANCE

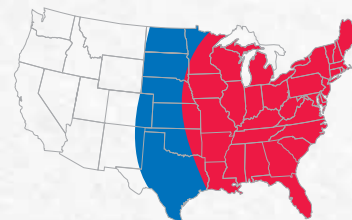
Yield Potential:	Excellent
Forage Quality:	Very Good
Stand Persistence:	Excellent

RESISTANCE

Leafhopper:	HR
Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Race 2:	R
Anthraxnose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	MR
Stem Nematode:	R

Alfalfa Stands Suffer Loss From Potato Leafhoppers

Potato leafhopper attacks can reduce crude protein, lower dry matter yield and reduce winter survival. These mid-to-late season alfalfa pests suck sap from plants and damage leaflets. Restriction of water and nutrient flow causes yellowing on the wedge-shaped areas on leaf tips. Severely damaged plants will be stunted if leafhoppers are not controlled. Damage typically first appears along the edge of fields, but field scouting is recommended to detect leafhoppers before yellowing appears. Highly resistant varieties suffer significantly less damage and inhibit leafhopper populations.



PLH Severity

- Severe
- Moderate

Variety Performance

YIELD TRIAL LOCATION	TRIAL YEARS REPORTED	MULTI-YEAR TOTAL TONS PER ACRE	MULTI-YEAR % OF CHECKS
BOONE, IA	4	28.44	111%
MOUNT JOY, PA	3	23.76	106%

The above table compares variety performance in locations with positive results relative to trial means.
*Potato Leafhopper was not managed – no spray treatment in trials listed above.

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

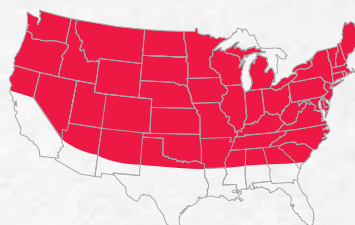
AMERISTAND 428TQ

FALL DORMANCY: 4.4 | **WINTERHARDINESS: 1.3**



UltraCut™ Alfalfa Disease Package Ups Ante on Yield and Persistence Leader

- Outstanding yield potential and agronomic performance under 4 to 5-cut harvest management systems (FD=4.4) in various locations throughout dormant alfalfa use areas
- A new day in disease resistance greatly affecting establishment and in-crop performance, AmeriStand 428TQ features the UltraCut™ alfalfa disease package with a perfect Disease Resistance Index (DRI) of 40/40 including HR (high resistance) to aphanomyces race 1, race 2, and evolving strains¹, and HR to anthracnose race 1 and race 5²
- Superb winterhardiness (WH=1.3); AmeriStand 428TQ delivers excellent cold tolerance and persistence
- AmeriStand 428TQ contains high-quality feed values for dairy and cash hay producers
- AmeriStand 428TQ delivers fast recovery in an FD4 package
- Great standability for intensive management systems
- Dark green, fine-stemmed, and a highly palatable variety
- Very well-adapted and selected for use in the Midwest, Northeast, Intermountain regions, Pacific Northwest or Central and Northern Plains of the U.S.
- Improved salt tolerance of germinating seeds*



• Primary Adaptation

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot	
Race 1:	HR
Race 2:	HR
Evolving Strains ¹ :	HR
Anthracnose	
Race 1:	HR
Race 5 ² :	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	R
Spotted Alfalfa Aphid:	R
Stem Nematode:	HR

Variety Performance: East

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 428TQ	118
54Q29	103
L-451APH2+	98
AFX 579	98
HYBRIFORCE-4400	89

Data from FGI Trials in Wisconsin and Pennsylvania from 2020-2022

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 428TQ	110
54Q29	106
L-451APH2+	102
AFX 579	98

Data from FGI Trials in Idaho and Kansas from 2020-2022

¹Includes race 1 and race 2 protection. In addition, Forage Genetics International, LLC (FGI) has identified a novel source of Aphanomyces resistance in the greenhouse and field that visibly outperforms unrelated varieties on the market when grown under natural or artificial disease pressure. FGI researchers have been working cooperatively with universities collecting and testing the most virulent strains of Aphanomyces to help determine the level of resistance to this novel source.

²Includes race 1 protection, along with Anthracnose Race 5 protection, which is patented by FGI.

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

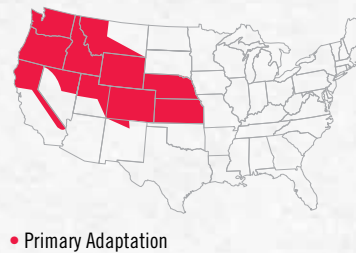
AMERISTAND 446NT

FALL DORMANCY: 4.4 | **WINTERHARDINESS: 2**



Excellent Yield Potential with High Nematode Resistance

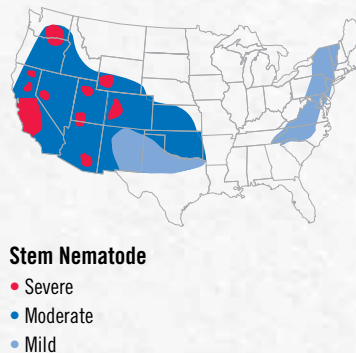
- Ideal 4 to 5 cut variety adapted for western US areas with nematode pressure
- High resistance to diseases and pests, including stem nematode
- Excellent rotation variety for nematode resistance



Traffic Tested® Genetics with High Nematode Resistance

Proven, **Traffic Tested®** varieties are named for their ability to withstand aggressive traffic from grazing and harvesting equipment for more yield potential than non-Traffic Tested varieties.

Stem Nematodes are the most serious nematode for alfalfa. A stem nematode infection destroys chloroplasts causing “white flags,” or pale leaf tissue. When established, stem nematodes can severely limit productivity over the remaining life of the stand.



Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 446NT	114
54Q29	104
L-451APH2+	102
HYBRIFORCE-3400	97
AFX 579	96

Data from FGI Trials in Washington and Idaho from 2019-2022

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Forage Quality:	Very Good
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	R
Anthrachnose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.



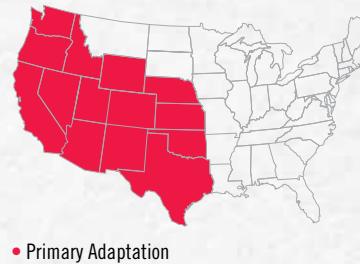
AMERISTAND 518NT

FALL DORMANCY: 5.2 | WINTERHARDINESS: 2



High Yield Potential With High Nematode Resistance

- Widely adapted variety with excellent winter hardiness
- High resistance to yield-robbing diseases and pests
- Very fast recovery for frequent harvest schedules under intensive management

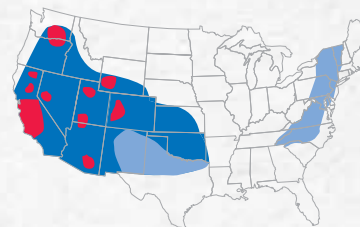


• Primary Adaptation

Nematodes are Yield Robbers

Stem Nematodes infestations can cause stunted plants and thin stands. Under warm, humid conditions, they can migrate into leaf tissue, killing chloroplasts and turning the leaves white. Infestations can cause stunted plants and thin stands.

Root Knot Nematodes are among the most widespread and economically damaging to alfalfa. They are most abundant in sandy loam soils and infect roots, causing galls and lateral root growth. Bacterial wilt, Phytophthora root rot, Fusarium wilt and stem nematode damage may be enhanced when Northern root knot is present.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 518NT	105
AFX 579	98
HYBRIFORCE-4400	87

Data from FGI Trials in Idaho from 2021-2022

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Aphanomyces Root Rot Race 1:	HR
Anthraco nose Race 1:	HR
Verticillium Wilt:	HR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	HR
Root Knot Nematode:	HR

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

AMERISTAND 618NT



FALL DORMANCY: 7

Highly Resistant to Aphids and Nematodes

- High resistance to spotted alfalfa aphid, pea aphid, blue alfalfa aphid and stem nematode; thus minimizing the introduction of diseases and protecting yield, quality and stand
- Excellent yield potential with improved stand persistence



• Primary Adaptation

PERFORMANCE

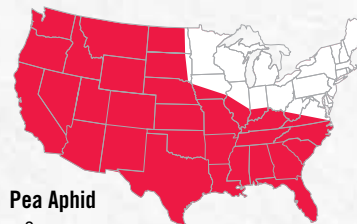
Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

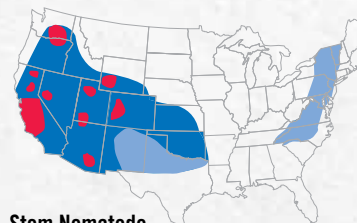
Phytophthora Root Rot:	HR
Anthrachnose Race 1:	HR
Verticillium Wilt:	MR
Bacterial Wilt:	HR
Fusarium Wilt:	HR
Pea Aphid:	HR
Blue Alfalfa Aphid:	HR
Spotted Alfalfa Aphid:	HR
Stem Nematode:	HR

Nematodes are Yield Robbers

Stem Nematodes infestations can cause stunted plants and thin stands. Under warm, humid conditions, they can migrate into leaf tissue, killing chloroplasts and turning the leaves white. Infestations can cause stunted plants and thin stands.



Pea Aphid
• Severe



Stem Nematode
• Severe
• Moderate
• Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 618NT	111
CW 704	101
HYBRIFORCE-2600	92

Data from FGI Trials in California from 2013-2021

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

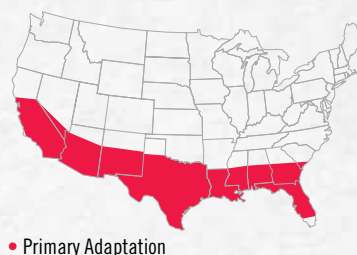


AMERISTAND 803T

FALL DORMANCY: 8.3

Fine Stems for High Quality and Yield

- Traffic Tested® for improved persistence under heavy traffic conditions
- Good forage quality potential with fine stems excellent leaf retention and dark green color

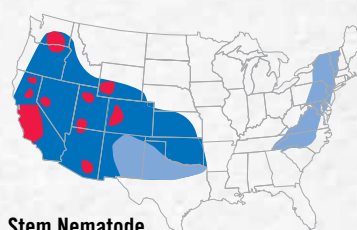


• Primary Adaptation

Nematodes are Yield Robbers

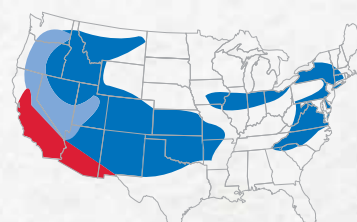
Stem Nematodes infestations can cause stunted plants and thin stands. Under warm, humid conditions, they can migrate into leaf tissue, killing chloroplasts and turning the leaves white. Infestations can cause stunted plants and thin stands.

Root Knot Nematodes are among the most widespread and economically damaging to alfalfa. They are most abundant in sandy loam soils and infect roots, causing galls and lateral root growth. Bacterial wilt, Phytophthora root rot, Fusarium wilt and stem nematode damage may be enhanced when Northern root knot is present.



Stem Nematode

- Severe
- Moderate
- Mild



Root Knot Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 803T	108
MAGNA 801FQ	101
CW 704	98
HYBRIFORCE-2600	95

Data from FGI Trials in California from 2014-2021



PERFORMANCE

Traffic Tested:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Anthracoze Race 1:	MR
Bacterial Wilt:	MR
Fusarium Wilt:	HR
Pea Aphid:	HR
Blue Alfalfa Aphid:	HR
Spotted Alfalfa Aphid:	R
Stem Nematode:	HR
Root Knot Nematode:	HR

HR > 51% Resistance
R 31–50% Resistance
MR 15–30% Resistance
LR 6–14% Resistance

* In tests established by the NAAC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

AMERISTAND 901TS



FALL DORMANCY: 9

Top Quality, Yield and Persistence

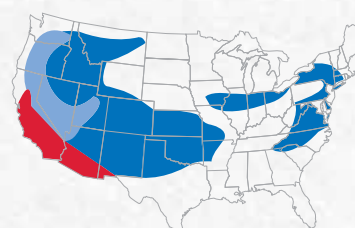
- Excellent persistence and fast recovery for aggressive cutting cycles
- Proven yield potential in the Southwest US
- High resistance to Phytophthora root rot, Fusarium wilt, pea aphid and root knot nematode
- Top quality with excellent color and vigor
- Improved salt tolerance of germinating seeds*



Nematodes and Salt are Yield Robbers

Nematodes are often an unrecognized cause of severe yield and stand loss. Alfalfa varieties with resistance can protect from the most troublesome nematodes including Northern and Southern Root Knot Nematode and Stem Nematode. Nematode resistance also reduces susceptibility to other diseases, such as Fusarium and Bacterial Wilt.

Soil salinity is a limiting factor for crop production in parts of the western United States. Salinity reduces yield and accelerates stand decline. To produce high quality hay in saline environments, planting a variety proven to tolerate salt is a key best management practice. Note that proper soil amendments and proper irrigation are also needed to maximize yield.



Stem Nematode

- Severe
- Moderate
- Mild

Variety Performance: West

VARIETY	MULTI-YEAR % OF CHECKS
AMERISTAND 901TS	117
MAGNA 995	106
MAGNA 801FQ	102

Data from FGI Trials in California from 2019-2021

PERFORMANCE

Traffic Tested®:	Excellent
Yield Potential:	Excellent
Stand Persistence:	Excellent
Salt Tolerance*:	Germination

RESISTANCE

Phytophthora Root Rot:	HR
Anthracoze Race 1:	R
Verticillium Wilt:	MR
Bacterial Wilt:	R
Fusarium Wilt:	HR
Pea Aphid:	HR
Blue Alfalfa Aphid:	R
Stem Nematode:	R
Root Knot Nematode:	HR

HR	> 51% Resistance
R	31–50% Resistance
MR	15–30% Resistance
LR	6–14% Resistance

* In tests established by the NAAIC Review Board, this variety demonstrated improved salt tolerance of germinating seeds as compared to the industry salt tolerant checks. References available upon request.

NOTES

In the following states, purchase and use of HarvXtra® Alfalfa with Roundup Ready® Technology is subject to a Seed and Feed Use Agreement, requiring that products of this technology can only be used on farm or otherwise be used in the United States: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. In addition, due to the unique cropping practices do not plant HarvXtra® Alfalfa with Roundup Ready® Technology in Imperial County, California, pending import approval and until Forage Genetics International, LLC (FGI) grants express permission for such planting.

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ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate. Glyphosate herbicides will kill crops that are not tolerant to glyphosate.

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