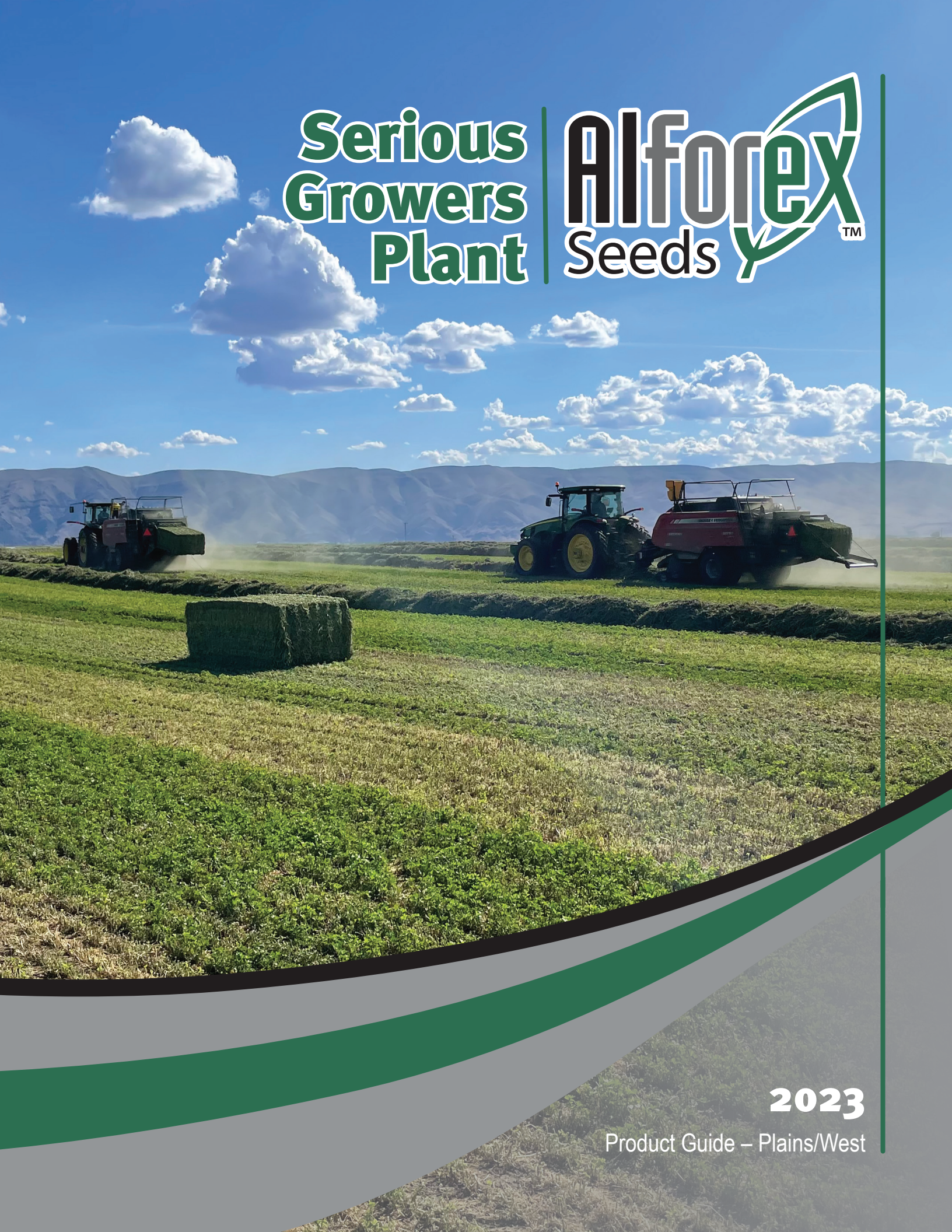


Serious Growers Plant

Alforex™ Seeds

2023

Product Guide – Plains/West

AT ALFOREX® we think you should expect more from your alfalfa and forage crops. High yields, solid agronomics, better forage quality and improved fiber digestibility are all reasonable requirements for these crops, but perhaps now is the time to reach a little higher. **Time to grow your performance expectations.**

That may be a bold challenge, but over the last several years we've seen the power in that type of thinking. Whether it's Hi-Ton® alfalfa, Hi-Salt salinity tolerant varieties or the industry leading Hi-Gest® family of performance alfalfas, each can make a real difference on the farm. And if you could take a peek at our pipeline, you'd see we've only just scratched the surface.

Our promise to you is that we'll continue leading the way and pushing the industry to new heights. We'll stay committed to alfalfa and forage. And we'll do our best to help you get more out of your alfalfa and forage crops.

Our name stands for ALFalfa and FORage EXcellence. That's our focus, and when you use our products, that commitment shines through in every bag.

FOCUSED ON PERFORMANCE

Alforex® brand products deliver a wide range of agronomic solutions tailored to where and how you farm. Real solutions–like salinity and stress tolerance, improved persistence, yield performance, better fiber digestibility for feed efficiency and nutrition, adding value through more milk, more meat and greater productivity per acre.

FOCUSED ON INNOVATION

Decades of alfalfa research results in a fast paced environment of continual innovation devoted exclusively to alfalfa and forages. That means you can rely on us for groundbreaking products along with steady advances in yield, quality, pest resistance, stress tolerance and persistence.

FOCUSED ON YOU

When you choose Alforex Seeds, you benefit from dedicated technical experts and a sales team who focuses solely on alfalfa and forages. Their insight and experience across millions of acres when combined with the knowledge you have of the specific conditions on your farm, will find the best seed solution for you. When it comes time to plant, you won't rely on speculation; you'll rely on proven expertise.

A Commitment to Growing Progress We bring our global presence, deep knowledge and diverse resources so that farms can flourish, moving our world forward.

Dedicated to agriculture Corteva Agriscience is the only major agriscience company completely dedicated to agriculture. By combining the strengths of Dow AgroSciences, DuPont Crop Protection, and DuPont Pioneer we've harnessed agriculture's brightest minds and expertise gained over two centuries of scientific achievement.

Our Purpose To enrich the lives of those who produce and those who consume, ensuring progress for generations to come.

Our values We are driven by our beliefs and our purpose, which is to enrich the lives of those who produce and those who consume, ensuring progress for generations to come.

Enrich lives We commit to enhancing lives and the land. As leaders, we pursue a purpose which goes beyond our immediate interests to benefit society.

Stand tall We are leaders who act boldly. We accept the challenges that confront our industry as our own and will step up to ensure that agriculture progresses and thrives.

Be curious We innovate relentlessly. We accelerate our pace of innovation to create solutions that will deliver abundant high-quality food, now and for the future.

Build together We grow by working together. We embrace diversity and collaboration in order to build one company and reach out across the food system, creating shared value.

Be upstanding We always do what's right, maintaining high ethical standards and conducting business safely and transparently.

Live safely We embrace safety and the environment in all we do.

CORTEVA™ agriscience

Serious Growers Plant ALFOREX SEEDS

Table of Contents

Hi-Gest® ALFALFA TECHNOLOGY

Patents Pending

- **Elite, conventional genetics with improved rate and extent of fiber digestibility**
- **Elite genetics selected for high yield and quality, with a high leaf to stem ratio and more crude protein**
- **Elite genetics with a track record of on-farm performance**

On-farm performance

Varieties with Hi-Gest® have been proving their extra performance and value since the 2015 growing season. Livestock respond to the improved fiber digestibility and forage intake increases as expected when Hi-Gest forage is included in the ration. Dairymen who grow their own forage are rapidly converting their acres to Hi-Gest to take advantage of the higher digestibility, while commercial hay growers who focus on quality for their clients are being rewarded for preserving the identity of these higher performing lots of hay.

Balancing yield and quality

Lignin is the complex organic compound that hardens and strengthens the plant's cell walls. In mature plants, **lignin increases yield, but negatively affects forage quality** and interferes with animal digestion. To minimize this dilemma, producers have traditionally found a compromise between yield and quality by harvesting at late-bud stage to one-tenth flower. Today's Hi-Gest varieties with faster fiber digestibility provide growers additional management flexibility around the traditional yield versus quality dilemma.

Through focused breeding Hi-Gest developed varieties offer high yield potential, **a 5-10% increased rate of fiber digestion** which improves animal intake; **increased extent of fiber digestion (as measured by UNDF 240) by 5-10%, and raises crude protein of the forage by 3-5%** when compared to other conventional varieties*. The net impact is higher testing, higher value hay which can mean 2.5 or more pounds of milk per cow per day when fed versus other conventional varieties.

Management flexibility

Alfalfa varieties with Hi-Gest will easily fit into your alfalfa management system. The varieties have the flexibility to adjust to aggressive harvest systems to maximize yield and quality or to more relaxed schedules focused on tonnage. Either way, growers put the odds of improved returns per acre and animal performance in their favor.

Ask your Alforex Seeds Dealer

They can tell you who's growing Hi-Gest alfalfa in your area and share their experiences with you. You may be surprised who has already made the move!

* The increased rate of fiber digestion, extent of digestion, and crude protein data was developed from replicated research and on-farm testing. During the 2015 growing season at West Salem, WI and Woodland, CA, the following commercial dormant, semi-dormant and non-dormant alfalfa varieties were compared head-to-head with Hi-Gest® alfalfa for rate of digestion, extent of digestion and percent crude protein; America's Alfalfa Brand Ameristand 427TQ, Cropland Brands Legendairy XHD and Artesia Sunrise, Fertizona Brand Fertilac, S&W Seeds Brands SW6330, SW7410 and SW10, and WL Brands WL 319HQ and WL 354HQ. Also during the 2015 growing season, 32 on-farm Hi-Gest hay and silage samples were submitted to Rock River Laboratory, Inc. for forage analysis. The results for rate of digestion, extent of digestion and percent crude protein were averaged and compared to the 60 day and four year running averages for alfalfa in the Rock River database which included approximately 1,700 alfalfa hay and 3,800 silage 60 day test results and 23,000 hay and 62,000 silage tests results in the four year average.

Hi-Gest® ALFALFA TECHNOLOGY

Patents Pending

Products

PERFORMANCE

"On our farms, we are focused on producing dairy quality hay and for that reason the only Alfalfa product we grow is AFX 460 Hi-Gest®. It consistently produces high yielding, high quality hay year after year. "

Josh Hess
Revolution Soil and Seed
Fort Lupton, CO

YIELD Hi-Ton® PERFORMANCE ALFALFA

- **Maximize productive harvests and total seasonal yield**
- **Maximize milk/meat per ton and per acre**
- **Maximize heat units and conserve soil moisture for crop growth**

Hi-Ton® Performance Alfalfa

There are five Alforex alfalfa varieties that have earned the Hi-Ton® designation. These varieties are AFX 429, AFX 439, AFX 469, AFX 579 and AFX 779. Each has exceeded the yield of peer experimentals, and commercial alfalfa varieties by 5% in Alforex Seeds replicated testing, the minimum threshold for Hi-Ton® alfalfa. Alforex alfalfa varieties carrying the Hi-Ton® designation are the first choice for the aggressive manager pushing their alfalfa acres to maximize seasonal dry matter yield.

When alfalfa fields are green and growing, chances are they are generating extra yield. The faster recovery after harvest **speeds green-up by 3 to 5 days,** shortening the days to harvest maturity and the next cutting. This faster growth starts with the first crop and gives a head start to each season and the number of cuts taken before the fall cutoff. Along the way, more of the season's total yield is harvested at mid-summer when heat units are at their peak and weather can be more cooperative.

To carry the FastGrowth rating, Hi-Ton varieties must average at least 1.98 cm of growth per day starting with spring green-up. Most commercial varieties range from 1.5 to 1.8 cm per day, which gives FastGrowth varieties a performance advantage in the field.

Alfalfa Recommended Seeding Rates

		Seeding Method and Pounds Per Acre				
Product	**Bag Size**	**Drilled Pure Stands**	**Broadcast Pure Stands**	**Interseeding**	**Over/Frost Seeding**	**Alfalfa/Grass Mixture**
Alforex Alfalfa	50	18-25	20-28	not recommended	not recommended	15-20

HIGH YIELD

"I have planted Alforex Seeds AFX 469 across multiple soil types and locations. It performs anywhere. Sandy soils to heavy, high pH soils, AFX 469 just yields. I sell much of my hay to an exporter. I was behind two years ago and the exporter came in and swathed one of my fields. The exporter crew lead called immediately wanting to know what variety I had. Heaviest windrows they had ever witnessed in first cutting. If you want hay that goes up nice and makes great feed, look no further than AFX 469."

Sam Krautscheid
St. Isidore Farms, Inc.
George, WA

YIELD Hi-Ton® PERFORMANCE ALFALFA

Hi-Ton® Products

Hi-Salt

SALINITY TOLERANT ALFALFA

- **Reduces seedling loss during stand establishment**
- **Increases total farm yield**
- **Helps curb and remediate salinity**

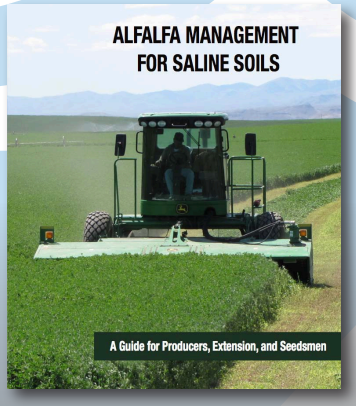
Soil salinity's impact on yield

Salinity is a natural byproduct of irrigated and dryland agriculture in low rainfall areas. Over time, soluble salts move upward in the soil profile and when rainfall or irrigation are not sufficient to leach accumulating soluble salts from the root zone, salinity begins to interfere with crop growth.

Salinity of soil and irrigation water is usually measured and expressed as ECs or Electrical Conductivity. Soil with an EC range of less than 1.0 will have little effect on germination or yield. Soils with an EC measurement of 4.0 can increase seeding mortality by 35% and decrease yield by 15%. **For every EC point above a variety's salinity threshold, yield decreases by 7.5%.***

Alforex® Salinity Tolerant Alfalfa

Through focused breeding, Alforex has developed salinity tolerant varieties that reduce the impact of salinity by 2.0 to 3.0 EC points. For a field with EC measurements approaching EC 4.0, the expected 35% seedling mortality and 15% yield loss can be reduced to a negligible amount.** And for fields with even higher levels of salinity, varieties with the salinity tolerant trait have allowed producers to plant alfalfa in areas where it was otherwise thought to be impossible.



Download the Guide

To learn more about alfalfa management for saline soils, visit alforexseeds.com/seed-guides-alfalfa-forage/ for access to a 24-page guide for producers, extension agents and seedsmen.

* Maas,E.V. 1984. Salt Tolerance of plants. In Handbook of Plant Science in Agriculture (ed). B.R. Christie CRC Press Inc.

** Benes, S., et. al., What Is The Ability Of Alfalfa To Sustain Saline Conditions? In Proceedings, 2014 California Alfalfa, Forage, and Grain Symposium,Long Beach, CA, 10-12 December, 2014. UC Cooperative Extension, Plant Sciences Department, University of California, Davis, CA 95616. (See http://alfalfa.ucdavis.edu for this and other Alfalfa Symposium Proceedings.)

Hi-Salt Products

"I choose the Rugged Alfalfa for grazing our cattle knowing that we had saline issues with the pasture and on average receive very little rainfall. We are happy with how it's performing for grazing cattle in the first year with almost no rainfall."

Willie Kist
Mandan, ND

HarvXtra® Alfalfa with Roundup Ready® Technology can increase your cutting flexibility giving you higher quality or increased yield potential. Conventional alfalfa breeding doesn't compete with those valuable xtras.

XTRA QUALITY

HarvXtra Alfalfa delivers a higher RFQ and NDFd than conventional varieties cut on the same day. On average, 14-18 percent higher forage quality (RFQ) and NDFd across cuttings than conventional varieties harvest at the same stage of maturity.[1]

XTRA YIELD POTENTIAL

If your operation needs more tonnage, you have the flexibility to achieve up to a 20% higher yield at harvest2 by extending your cutting window up to 10 days.

XTRA CLEAN FIELDS

Roundup Ready® Technology delivers unsurpassed weed control and crop safety.

XTRA TIME

HarvXtra Alfalfa with Roundup Ready Technology puts you back in charge of your cutting schedule.

Roundup Ready® Alfalfa system provides the opportunity to deliver unsurpassed weed control with superior crop safety, allowing you to grow more, higher-quality alfalfa.

Better Stand During Establishment Means Better Stand Persistence

Roundup Ready Alfalfa offers significant establishment advantage in both yield potential and quality. This is a result of improved weed control and crop safety through Roundup Ready PLUS® Crop Management Solutions.

Broadest Application Flexibility

With the broadest application timing window plus excellent crop safety, Roundup Ready Alfalfa requires minimal waiting — only 5 days before grazing or harvest.

Increased, High-Quality Yield Opportunity

Roundup Ready Alfalfa can deliver a higher percentage of pure alfalfa in hay and haylage than competitors, along with improved quality. Roundup Ready Alfalfa has low ADF (acid detergent fiber), low NDF (neutral detergent fiber) and high RFV (relative feed value).

TRAITED

HarvXtra® Products

AFX 455 HVX ---------- page 16

Roundup Ready® Products

AFX 463 RR ---------- page 16

Hi-Gest ALFALFA TECHNOLOGY Hi-Salt SALINITY TOLERANT ALFALFA

AFX 1060

A patent pending variety

Performance

- A high yield potential, non-dormant fall dormancy 10 variety with Hi-Gest® Alfalfa Technology with improved fiber digestibility for Southwestern U.S. commercial hay growers, dairymen and exporters
- A product of conventional plant breeding and selected for high leaf to stem ratio

Management

- Responds to today's recommended alfalfa best management practices for low desert production areas
- A variety that offers management flexibility through the growing season to adjust to market needs
- Stable yield performance through the season with winter productivity comparable to other non-dormant varieties
- Use accurate feed sampling procedures to measure the advantage of the Hi-Gest technology. Rations using Hi-Gest alfalfa are easily balanced by nutritionists

Appearance at Harvest Maturity

- Plants are medium-tall with a dense canopy of medium-dark green leaves and a visibly higher leaf-to-stem ratio
- Features broad crowns that are not typical for non-dormant varieties

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 10
Multifoliate leaf expression:	Low MF
FastGrowth rating:	Very Fast
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose		●			
Aphanomyces-Race 1				●	
Bacterial wilt				●	
Fusarium wilt		●			
Phytophthora root rot		●			
Verticillium wilt		●			
Insects					
Blue alfalfa aphid		●			
Cowpea aphid	●				
Pea aphid		●			
Spotted alfalfa aphid	●				
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode	●				

Hi-Gest ALFALFA TECHNOLOGY Hi-Salt SALINITY TOLERANT ALFALFA

AFX 960

A patent pending variety

Performance

- A widely adapted, high yield potential fall dormancy 9 variety with Hi-Gest® Alfalfa Technology with improved fiber digestibility, intake and extend of digestion for livestock producers around the world
- Consistent forage tests through the season for commercial growers and exporters
- A conventionally developed variety with stable performance from the first spring crop through the heat of summer to the last fall cut

Management

- Responds to today's recommended best alfalfa management practices for non-dormant U.S. alfalfa production areas
- Higher forage quality from early bud stage through mid flower for management flexibility
- No known soil type or management limitations

Appearance at Harvest Maturity

- Plants are tall, with a dense canopy of medium-green leaves spread down the stem resulting in a higher leaf-to-stem ratio and higher crude protein when compared to other semi-dormant varieties

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 9
Multifoliate leaf expression:	Low MF
FastGrowth rating:	Very Fast
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1				●	
Bacterial wilt				●	
Fusarium wilt	●				
Phytophthora root rot		●			
Verticillium wilt			●		
Insects					
Blue alfalfa aphid	●				
Cowpea aphid	●				
Pea aphid	●				
Spotted alfalfa aphid	●				
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode	●				

NEW

Hi-Gest ALFALFA TECHNOLOGY Hi-Salt SALINITY TOLERANT ALFALFA

AFX 670

A patent pending variety

Performance

- A high yield potential variety with Hi-Gest® Alfalfa Technology with improved fiber digestibility, intake and extent of digestion versus other semi-dormant alfalfas
- A product of conventional plant breeding
- Elite genetics with a 5-8% increase in leaf-to-stem ratio to improve quality and crude protein

Management

- Responds to today's recommended alfalfa best management practices
- Adapted to aggressive high quality or more relaxed high tonnage management systems
- Rations are easily balanced by a nutritionist with an accurate feed test to take advantage of this technology

Appearance at Harvest Maturity

- Plants are medium-tall, very leafy and have more stems per crown than most semi-dormant alfalfas
- High leaf-to-stem ratio results in more crude protein than most other conventionally bred semi-dormant alfalfa varieties at harvest maturity

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 6
Multifoliate leaf expression:	High MF
Salinity tolerance:	
Germination:	Tolerant

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Cowpea aphid	●				
Pea aphid	●				
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode		●			

Yield Ratings: Based on performance between Alforex Seeds varieties
5 = Best
3 = Average
1 = Poor

Hi-Gest® ALFALFA TECHNOLOGY Hi-Salt SALINITY TOLERANT ALFALFA

Hi-Gest® 660

Patented Variety

Performance

- A high yield potential variety with Hi-Gest® Alfalfa Technology with improved fiber digestibility, intake and extent of digestion versus other semi-dormant alfalfas
- A product of conventional plant breeding with a variety patent–U.S. Patent No. 9,648,826
- Consistent, stable on-farm performance

Management

- Responds to today's recommended alfalfa best management practices
- Adapted to aggressive high quality production systems or more relaxed high yield practices
- Rations are easily balanced by a nutritionist with an accurate feed test to take advantage of this trait

Appearance at Harvest Maturity

- Plants are medium-tall, very leafy and have more stems per crown than most semi-dormant alfalfas
- High leaf-to-stem ratio, and more crude protein than most other conventionally bred semi-dormant alfalfa varieties at harvest maturity

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 6
Multifoliate leaf expression:	High MF
FastGrowth rating:	1.86cm per day/Average
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Bacterial wilt		●			
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt		●			
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid	●				
Spotted alfalfa aphid	●				
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode	●				

Hi-Gest® ALFALFA TECHNOLOGY

AFX 460

A patent pending variety

Performance

- A high yield potential variety with Hi-Gest® Alfalfa Technology for geographies using fall dormancy 4-5 varieties
- A product of forward breeding for improved yield and forage quality
- Features improved fiber digestibility and better animal performance when compared to other conventionally bred varieties. Variety patent pending

Management

- Responds to today's recommended best management practices
- Adapted to aggressive high quality production systems or more relaxed high yield practices
- No known soil type limitations

Appearance at Harvest Maturity

- Plants are medium-tall with a dense canopy of dark green leaves up and down the stems
- A strong foliar leaf disease package contributes to a high leaf-to-stem ratio and higher crude protein

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 1.5
Multifoliate leaf expression:	93%/High MF
FastGrowth rating:	2.03cm per day/Fast

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid			●		
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot		●			
Stem nematode		●			

Hi-Gest® ALFALFA TECHNOLOGY

Hi-Gest® 360

A patent pending variety

Performance

- A high yield potential variety with Hi-Gest® Alfalfa Technology with improved fiber digestibility, intake and extent of digestion versus other conventional alfalfas
- A product of traditional plant breeding with a variety patent pending
- A variety that has been meeting grower and livestock producers expectations since the 2015 growing season

Management

- Adapted to today's best alfalfa management practices
- Adapted to aggressive high quality production systems or more relaxed high yield practices
- Rations using Hi-Gest can be easily balanced by nutritionists with the results of an accurate feed test

Appearance at Harvest Maturity

- Plants are medium-tall, with a higher stem count, axillarial branching, and a dense canopy of leaves up and down each stem
- A high leaf-to-stem ratio and more crude protein than other conventionally bred, high quality, dormant alfalfa varieties at harvest maturity

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 3
Winter hardiness class:	WS 1.5
Multifoliate leaf expression:	73%/Moderate MF
FastGrowth rating:	1.83cm per day/Average
Salinity tolerance:	
Germination:	Tolerant

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2	●				
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid			●		
Spotted alfalfa aphid	●				
Nematode Resistance					
Northern root knot		●			
Stem nematode		●			

AFX 779

Performance

- A high yield potential, semi-dormant Hi-Ton® designated variety for California, Arizona, New Mexico and western Texas

Management

- Stable yield performance into the later production years
- Adapted to five or six cut aggressive management systems
- Features salinity tolerance and a strong aphid resistance package
- Average regrowth, green-up recovery after cutting

Appearance at Harvest Maturity

- Medium-tall plants with moderate ML expression

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 7
Multifoliate leaf expression:	Moderate MF
FastGrowth rating:	Average
Salinity tolerance:	
Germination:	Tolerant
Forage Production	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose		●			
Bacterial wilt		●			
Fusarium wilt		●			
Phytophthora root rot		●			
Verticillium wilt		●			
Insects					
Blue alfalfa aphid	●				
Cow pea aphid	●				
Pea aphid	●				
Spotted alfalfa aphid	●				
Nematode Resistance					
Southern root knot	●				
Stem nematode	●				

Yield Ratings: Based on performance between Alforex Seeds varieties
5 = Best
3 = Average
1 = Poor

AFX 579

Performance

- For growers who aggressively manage and harvest their alfalfa acres to maximize dry matter yield per acre
- FastGrowth ability shaves 3 to 5 days off the time between harvests to maximize seasonal yield
- Carries a strong, multiple-pest package to protect fast-growing plants and aggressively managed acres

Management

- Fast-growing variety for production areas that use fall dormancy 4 and 5 alfalfas, and when four or more cuts are expected each season
- Very early harvest maturity; reaches late bud or early flower 3 to 5 days ahead of most dormant alfalfas
- Very fast green-up after harvest and accelerated growth to harvest maturity

Appearance at Harvest Maturity

- Tall and showy, with large dark green leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 5
Winter hardiness class:	WS 2.5
Multifoliate leaf expression:	49%/Low MF
FastGrowth rating:	2.26cm per day/Very Fast
Salinity tolerance:	
Germination:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot		●			
Stem nematode	●				

AFX 469

Performance

- For growers who aggressively manage their established alfalfa acres
- A 11% yield advantage versus PGI 557
- FastGrowth ability shaves 3 to 5 days off the time between harvests to maximize seasonal yield
- A strong 1.5 winter survival rating

Management

- Fast-growing variety for production areas that use fall dormancy 4 and 5 alfalfas, and when four or more cuts are expected each season
- Average seedling year yield performance when spring direct seeded
- Very early harvest maturity; reaches late bud or early flower 3 to 5 days ahead of most dormant alfalfas
- Very fast green-up after harvest and accelerated growth to harvest maturity

Appearance at Harvest Maturity

- Tall and showy, with large dark green leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 1.5
Multifoliate leaf expression:	47%/Low MF
FastGrowth rating:	2.11cm per day/Fast
Salinity tolerance:	
Germination:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2			●		
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid			●		
Pea aphid			●		
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot		●			
Stem nematode	●				

NEW

YIELD Hi-Ton® PERFORMANCE ALFALFA

AFX 439

Performance

- A widely adapted variety that will maximize yield and quality under aggressive management systems
- Strong disease and pest package including stem nematodes for western growers
- High performing variety with excellent yield performance when longer rotations are desired

Management

- Adapted to U.S. production zones where fall dormancy 3, 4 or 5 varieties are normally recommended
- Provides high quality forage when aggressively managed for dairy feed
- A Hi-Ton® variety with a fast green-up rate after harvest
- Expected to perform very well in mixtures with cool season grasses or other legumes

Appearance at Harvest Maturity

- Plants at bud stage will be medium-tall and feature a uniform canopy of large, medium-green leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 1.5
Multifoliate leaf expression:	68% MF
FastGrowth rating:	2.01cm per day/Fast

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid	●				
Pea aphid		●			
Spotted alfalfa aphid	●				
Nematode Resistance					
Stem nematode		●			

YIELD Hi-Ton® PERFORMANCE ALFALFA

AFX 429

Performance

- A widely adapted variety that maximizes yield and quality under aggressive or relaxed harvest management systems
- Strong multiple pest package including stem nematodes for western growers
- Features stable yield performance into the later harvest years when longer rotations are desired

Management

- Adapted to production zones all across the U.S. where fall dormancy 3, 4 or 5 varieties are normally recommended
- A milk per acre winner when aggressively managed for dairy hay
- A Hi-Ton yield variety with an average green-up rate after harvest
- Expected to perform very well in mixtures with cool season grasses or other legumes

Appearance at Harvest Maturity

- Plants at bud stage will be medium-tall and feature a uniform canopy of large, medium-green leaves

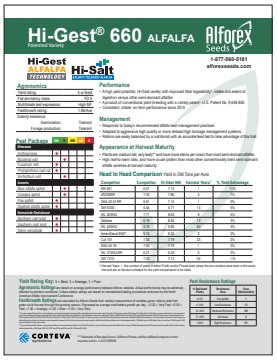
Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 2
Multifoliate leaf expression:	56%/Low MF
FastGrowth rating:	1.98cm per day/Average

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot		●			
Stem nematode		●			

"The Hi-Salt and Hi-Ton® varieties have been great products in producing high quality alfalfa in Wyoming."

Bill Candee
Candee Farms
Burlington, WY



Download a Product Sheet

Visit alforexseeds.com to view and access a printable PDF for each Alforex alfalfa variety.

Hi-Salt SALINITY TOLERANT ALFALFA

PGI 908-S

Performance

- A high-yield potential, stable, non-dormant variety for hay, haylage or pasture across the Southwestern U.S.
- Features germination and forage production salinity tolerance
- Strong multiple pest package

Management

- Handles the tougher or better soils when supported by best-management practices
- Consistent, stable yield from crop-to-crop and season-to-season; and medium or longer stand life
- Average recovery after harvest and days between harvests

Appearance at Harvest Maturity

- Medium-tall plant height and good leaf density for this dormancy

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 9
Multifoliate leaf expression:	10%/Low MF
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Bacterial wilt		●			
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt		●			
Insects					
Blue alfalfa aphid	●				
Cowpea aphid		●			
Pea aphid	●				
Spotted alfalfa aphid	●				
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode		●			

Hi-Salt SALINITY TOLERANT ALFALFA

CISCO II

Performance

- True fall-dormancy 6, semi-dormant variety with high yield and forage quality potential
- Germination and forage production salinity tolerance for tough soils
- Demonstrates spring frost tolerance

Management

- Well adapted to the transitional zone between dormant and non-dormant alfalfas
- Fits the wide range of soil types, production practices and harvest systems found in the transitional zone
- Medium harvest maturity, fast recovery after harvest and persistence for medium and longer rotations

Appearance at Harvest Maturity

- Medium-tall plants with good leaf density

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 6
Winter hardiness class:	WS 2
Multifoliate leaf expression:	Trifoliate
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose		●			
Aphanomyces-Race 1			●		
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid	●				
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot	●				
Southern root knot		●			
Stem nematode		●			

NEW

Hi-Salt SALINITY TOLERANT ALFALFA

AFX 647

Performance

- Semi-dormant variety with excellent performance for high yields and forage quality
- Germination and forage salinity tolerance for tough soils
- Demonstrates a 4% yield advantage over Cisco II in alfalfa yield trials

Management

- Well adapted to the transitional zone between dormant and non-dormant alfalfas
- Fits the wide range of soil types, production practices and harvest systems found in the transitional zone
- Medium harvest maturity, fast recovery after harvest and persistence for medium and longer rotations

Appearance at Harvest Maturity

- Medium-tall plant with large medium green leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 6
Winter hardiness class:	–
Multifoliate leaf expression:	Trifoliate
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot		●			
Verticillium wilt		●			
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid			●		
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot	●				
Southern root knot	●				
Stem nematode		●			

Hi-Salt SALINITY TOLERANT ALFALFA

AFX 457

Performance

- Carries the complete package for high yield potential, persistence and forage quality when establishing and growing alfalfa on high EC fields or when using high EC irrigation water
- Adapted to all areas of the Great Plains and Intermountain West where salinity typically limits the production of dairy quality hay
- Aggressive seedling growth for rapid stand establishment with or without salinity

Management

- No yield drag when planted into non-saline soils
- Fits western production practices and geographies where fall dormancy 3, 4 or 5 alfalfas are grown
- Medium-early maturity to fit late-bud harvest systems to maximize the harvest for the area each season

Appearance at Harvest Maturity

- Medium-tall plants with large, medium-green leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 2
Multifoliate leaf expression:	76%/Moderate MF
FastGrowth rating:	1.84cm per day/Average
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Northern root knot		●			
Stem nematode		●			

NEW

Hi-Salt SALINITY TOLERANT ALFALFA

RUGGED II

Performance

- Especially well adapted to the Northern Great Plains and higher elevations of the Intermountain West
- Fits irrigated or dryland crop management systems
- Improved disease package for challenging soils
- Bred for improved yield performance over Rugged and performs very well under normal or challenging environments including grazing, salinity and traffic/compaction tolerance

Management

- Variety that fits a 2-4 cut system for hay or grazing management
- Exceptional winter hardiness allows for longer rotations
- Medium-late harvest maturity

Appearance at Harvest Maturity

- Medium-short plant height and a very dense, full canopy of medium green leaves

Agronomics

Yield rating:	3
Fall dormancy class:	FD 3
Winter hardiness class:	WS 1.5
Multifoliate leaf expression:	Trifoliate
FastGrowth rating:	1.62cm per day/Very Slow
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid	●				
Cowpea aphid		●			
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Stem nematode		●			

Hi-Salt SALINITY TOLERANT ALFALFA

RUGGED

Performance

- Especially well adapted to the Northern Great Plains and higher elevations of the Intermountain West
- Fits irrigated or dryland crop management systems
- Features bred-in grazing, germination salinity and traffic/compaction tolerance

Management

- Versatile variety that fits 2-4 cut systems for hay or hay-graze management
- Exceptional winter hardiness helps Rugged perform in production systems where other varieties fail
- Medium-late harvest maturity

Appearance at Harvest Maturity

- Medium-short plant height and a very dense, full canopy of medium green leaves

Agronomics

Yield rating:	3
Fall dormancy class:	FD 3
Winter hardiness class:	WS 1
Multifoliate leaf expression:	Trifoliate
FastGrowth rating:	1.54cm per day/Very Slow
Salinity tolerance:	
Germination:	Tolerant
Forage production:	Tolerant

Pest Package	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2			●		
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Blue alfalfa aphid		●			
Cowpea aphid		●			
Pea aphid	●				
Spotted alfalfa aphid	●				
Nematode Resistance					
Stem nematode			●		

Yield Ratings: Based on performance between Alforex Seeds varieties
5 = Best
3 = Average
1 = Poor

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AFX 463RR

Performance

- AFX 463-RR is an alfalfa with the Roundup Ready® technology for use in multiple growing regions including areas prone to stem nematode pressure
- 33 of 35 disease resistance package and is very winterhardy
- Very good standability and high yield potential in multiple growing environments

Management

- Early season weed control with glyphosate herbicides helps improve establishment success and first year yield potential compared to conventional varieties

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 2
Multifoliate leaf expression:	Low MF
FastGrowth rating:	Average
Relative feed quality rating:	3

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1		●			
Aphanomyces-Race 2		●			
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Pea aphid		●			
Nematode Resistance					
Stem nematode	●				

AFX 455HVX

Performance

- AFX 455-HVX is an alfalfa with the HarvXtra® trait and Roundup Ready® technology used to produce high quality alfalfa forage
- Strong disease resistance package and is very winterhardy
- High yield potential in multiple growing environments

Management

- Early season weed control with glyphosate herbicides helps improve establishment success and first year yield potential compared to conventional varieties
- Choice of delaying cutting by 7-10 days or cutting for highest RFQ

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 4
Winter hardiness class:	WS 2
Multifoliate leaf expression:	Moderate MF
FastGrowth rating:	Average
Relative feed quality rating:	5 or Best

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2			●		
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot		●			
Verticillium wilt	●				
Insects					
Pea aphid		●			
Spotted alfalfa aphid		●			
Nematode Resistance					
Stem nematode		●			

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Do not export alfalfa seed or crops containing Roundup Ready® technology including hay or hay products, to China pending import approval. In addition, due to the unique cropping practices, do not plant this product in Imperial County, California. Purchase and use of HarvXtra® alfalfa with Roundup Ready® technology is subject to a Seed and Feed Use Agreement.

Always read and follow pesticide label directions. Alfalfa with Roundup Ready® technology provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions. Glyphosate agricultural herbicides will kill crops that are not tolerant to glyphosate. ACCIDENTAL APPLICATION OF INCOMPATIBLE HERBICIDES TO THIS VARIETY COULD RESULT IN TOTAL CROP LOSS.

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PGI 529

Performance

- For growers who aggressively manage and harvest their alfalfa acres
- The FastGrowth characteristic shaves 3 to 5 days off the time between harvests to maximize seasonal yield
- Carries a strong, multiple-pest package to protect fast-growing plants and aggressively managed acres

Management

- Fast-growing variety for production areas that use fall dormancy 4 and 5 alfalfas
- Very early harvest maturity; reaches late bud or early flower 3 to 5 days ahead of most dormant alfalfas
- Very fast green-up after harvest and accelerated growth to harvest maturity

Appearance at Harvest Maturity

- Tall and showy, with large leaves

Agronomics

Yield rating:	5 or Best
Fall dormancy class:	FD 5
Winter hardiness class:	WS 1
Multifoliate leaf expression:	31%/Low MF
FastGrowth rating:	2.21cm per day/Very Fast

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Aphanomyces-Race 2				●	
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt		●			
Insects					
Blue alfalfa aphid			●		
Black cowpea aphid				●	
Pea aphid		●			
Spotted alfalfa aphid			●		
Nematode Resistance					
Northern rook knot		●			
Stem nematode		●			

Yield Ratings: Based on performance between Alforex Seeds varieties
5 = Best
3 = Average
1 = Poor

405 BRAND

Performance

- Blend of proprietary alfalfa varieties for fields or situations when "the best" isn't necessary but value is

Management

- Adapted to production geographies where fall dormancy 3 to 5 varieties are recommended

Appearance at Harvest Maturity

- Appearance will vary depending upon the proprietary components selected

Agronomics

Yield rating:	2
Fall dormancy class:	FD 4
Winter hardiness class:	WS 2
Multifoliate leaf expression:	Moderate MF

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose		●			
Aphanomyces-Race 1		●			
Bacterial wilt	●				
Fusarium wilt		●			
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Pea aphid		●			

Agronomic Ratings are based on average performance between Alforex varieties. Unless stated, ratings are based on standardized testing procedures endorsed by the North American Alfalfa Improvement Conference.

StandFast FastGrowth ratings are calculated by Alforex Seeds from weekly measurement of varieties grown side-by-side from green-up to harvest through the growing season. Expressed as average centimeters growth per day.

>2.20 = Very Fast
>2.00 = Fast
>1.80 = Average
>1.60 = Slow
<1.60 = Very Slow

** Improved Hi-Gest® alfalfa leafiness, as documented by Alforex Seeds replicated trials at West Salem, WI and Woodland, CA, versus the following commercial alfalfa varieties; America's Alfalfa Brand Ameristand 427TQ, Cropland Brands Legendairy XHD and Artesia Sunrise, Fertizona Brand Fertilac, S&W Brands SW6330, SW7410 and SW10, and WL Brands WL 319HQ and WL 354HQ.

324LH BRAND

Performance

- Features genetic resistance to potato leafhopper injury to improve harvestable yield and forage quality

Management

- Adapted to production acres that annually expect potato leafhopper injury and where chemical control isn't practiced
- Best adapted to three-cut or four-cut harvest or rotational grazing systems
- Performs well in mixtures with cool-season grasses or other legumes

Appearance at Harvest Maturity

- Medium plant height, leafy canopy and medium-green leaves

Agronomics

Yield rating:	2
Fall dormancy class:	FD 3
Winter hardiness class:	WS 2
Multifoliate leaf expression:	Moderate MF

Pest Package

	HR	R	MR	LR	S
Diseases					
Anthracnose	●				
Aphanomyces-Race 1	●				
Bacterial wilt	●				
Fusarium wilt	●				
Phytophthora root rot	●				
Verticillium wilt	●				
Insects					
Potato leafhopper	●				
Blue alfalfa aphid	●				
Pea aphid		●			
Spotted alfalfa aphid	●				

Pest Resistance Ratings

% Resistant Plants	Resistance Class	Class Abbreviation
0-5%	Susceptible	S
6-14%	Low Resistance	LR
15-30%	Moderate Resistance	MR
31-50%	Resistant	R
>50%	High Resistance	HR

Forte BRAND Tall Fescue

Endophyte-Free

Performance/Management

- Quick-establishing, deep-rooted, long-lived perennial bunchgrass that is easily managed for pasture or hay
- Adapted to a wide range of environmental conditions including wet soils and tolerates alkalinity and salinity
- When established Forte tall fescue grows quickly, is endophyte-free and has fine leaves for improved palatability over KY 31 tall fescue

Seeding Rate Recommendations

- See chart below

Agronomics

	5	4	3	2	1
Yield		●			
Maturity		●			
Palatability			●		
Digestibility			●		
Disease tolerance		●			
Stand density		●			
Winter hardiness	●				
Drought tolerance	●				
Grazing adaptability		●			
Fit grass/legume mix			●		
Leaf texture	●				

Optima BRAND Orchardgrass

Late Maturity

Performance/Management

- Late-maturing, long-lived, winter-hardy perennial bunchgrass that can be grown alone or in a mixture for hay or pasture
- Widely adapted orchardgrass with increased tillering to produce a dense stand without the clumping of traditional varieties
- Excellent rust resistance
- An ideal component in mixtures with alfalfa

Seeding Rate Recommendations

- See chart below

Agronomics

	5	4	3	2	1
Yield	●				
Maturity		●			
Palatability		●			
Digestibility		●			
Disease tolerance			●		
Stand density			●		
Winter hardiness		●			
Drought tolerance	●				
Grazing adaptability		●			
Fit grass/legume mix	●				
Leaf texture		●			

Mercury BRAND Annual Ryegrass

Cold Tolerant

Performance/Management

- Early-maturing annual ryegrass with cold tolerance for winter pasture in the southeastern U.S. or as early-harvest green-chop or silage, or as a cover crop in the northern half of the U.S.
- Adapted to over-seeding into fields or pastures of other species to boost yields and quality. Responds to fertility and timely management.
- Rust resistant

Seeding Rate Recommendations

- See chart below

Agronomics

	5	4	3	2	1
Yield	●				
Maturity					●
Palatability	●				
Digestibility	●				
Disease tolerance		●			
Stand density	●				
Winter hardiness				●	
Drought tolerance			●		
Grazing adaptability	●				
Fit grass/legume mix			●		
Leaf texture		●			

Grasses and Mixtures Recommended Seeding Rates

		Seeding Method and Pounds Per Acre				
Product	**Bag Size**	**Drilled Pure Stands**	**Broadcast Pure Stands**	**Interseeding**	**Over/Frost Seeding**	**Grass/Hay Mixture**
Forte Brand Tall Fescue	25	25 to 30	30 to 35	10 to 15	10 to 15	5 to 8
Optima Brand Late Orchardgrass	25	20 to 25	25 to 30	10 to 15	10 to 15	4 to 5
Mercury Brand Annual Ryegrass	25	30 to 35	35 to 40	15 to 20	15 to 20	3 to 5
Jetta Brand Italian Ryegrass	25	30 to 35	35 to 40	15 to 20	15 to 20	3 to 5
Journey Brand Perennial Ryegrass	25	30 to 35	35 to 40	15 to 20	15 to 20	3 to 5
Imperial Brand Timothy	50	5 to 8	8 to 10	3 to 5	3 to 5	5 to 8

Jetta BRAND Italian Ryegrass

Cover Crop/ Emergency Forage

Performance/Management

- Cool-season biennial for use as a late-summer/ early-fall cover crop or as a late-spring planted nurse or forage crop
- Being a biennial, Jetta has a good chance of surviving winter, but will not put on a seed head when planted late spring
- Use lower seeding rate if using as a nurse crop to establish legumes

Seeding Rate Recommendations

- See chart below

Agronomics	5	4	3	2	1
Yield	●				
Maturity			●		
Palatability	●				
Digestibility	●				
Disease tolerance		●			
Stand density	●				
Winter hardiness		●			
Drought tolerance			●		
Grazing adaptability	●				
Fit grass/legume mix	●				
Leaf texture	●				

Journey BRAND Perennial Ryegrass

For Permanent Pastures

Performance/Management

- Cool-season, perennial ryegrass for use as pure stands or in mixtures for permanent pastures intended for 3 to 5+ productive harvest seasons
- Responds to fertility, adequate moisture and best grazing practices
- When planting with legumes or in mixtures with other grasses, reduce the seeding rate of Journey to prevent smothering by Journey's fast growth habit

Seeding Rate Recommendations

- See chart below

Agronomics	5	4	3	2	1
Yield	●				
Maturity		●			
Palatability	●				
Digestibility	●				
Disease tolerance	●				
Stand density	●				
Winter hardiness		●			
Drought tolerance			●		
Grazing adaptability	●				
Fit grass/legume mix	●				
Leaf texture	●				

Imperial BRAND Timothy

Late Maturity

Performance/Management

- Late-maturing, perennial bunchgrass for the traditional timothy production area for hay, silage, or pasture
- Best adapted to soils with good drainage
- Responds to best management practices when grown alone or in mixtures
- Very good seedling vigor and can be established in the spring or fall

Seeding Rate Recommendations

- See chart below

Agronomics	5	4	3	2	1
Yield	●				
Maturity	●				
Palatability	●				
Digestibility	●				
Disease tolerance		●			
Stand density		●			
Winter hardiness	●				
Drought tolerance				●	
Grazing adaptability		●			
Fit grass/legume mix	●				
Leaf texture		●			

Also Available:

Smooth Bromegrass
Climax Timothy
VNS Medium Red Clover

Agronomic and Mixture Ratings:
1 = Early or Poor
3 = Average
5 = Late or Best

All Grass Pasture Mix

Widely Adapted

Performance/Management

- All Grass Pasture Mix can be used for pasture, hay production, wildlife habitat or soil conservation plantings
- Components, as a mixture, adapt to a wide range of growing conditions and soil types
- Versatile, economical mixture for season-long production

Mixture Components*

25% Optima Brand Orchardgrass–Rapid re-growth after harvest

25% Forte Brand Tall Fescue–Endophyte-free and durability

20% Journey Brand Perennial Ryegrass–Forage quality

20% Imperial Brand Timothy–Winter hardiness and forage quality

10% Marquis Brand Festulolium–Summer productivity

Seeding Rate Recommendations

- See chart below

*Components are subject to availability and may change over time

Equine Hay & Pasture Mix

Season Long Grazing

Performance/Management

- Mixture of cool-season grasses formulated for horses on pasture that has the option of harvesting as dry hay
- Includes perennial species that recover quickly after close grazing and other species that contribute to yield and palatability when harvested as hay
- Endophyte-free and does not contain a legume component

Mixture Components*

30% Optima Brand Orchardgrass–Rapid re-growth after harvest

15% Bardenby Bluegrass–Tolerates close grazing and spreads to fill in open spots

15% Imperial Brand Timothy–Early season growth and yield

15% Jetta Brand Italian Ryegrass–Quick establishment

15% Marquis Brand Festulolium–Summer productivity

10% Journey Brand Perennial Ryegrass–Forage quality

Seeding Rate Recommendations

- See chart below

*Components are subject to availability and may change over time

Charger BRAND Teff Grass

Quality Forage Fast

Performance/Management

- Warm-season, summer annual grass that produces multiple crops of high quality and palatable hay for horses, dairy and beef cattle
- Low input crop that is easy to grow
- PVP (Plant Variety Protected) variety

Agronomics

	5	4	3	2	1
Yield	●				
Maturity				●	
Palatability	●				
Digestibility	●				
Disease tolerance	●				
Stand density		●			
Winter hardiness					●
Drought tolerance		●			
Grazing adaptability				●	
Fit grass/legume mix					●
Leaf texture	●				

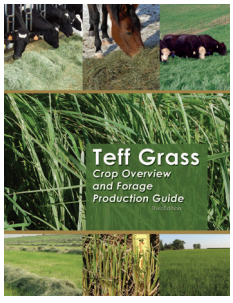
Seeding Rate Recommendations

- See chart below

Grasses and Mixtures Recommended Seeding Rates

		Seeding Method and Pounds Per Acre				
Product	**Bag Size**	**Drilled Pure Stands**	**Broadcast Pure Stands**	**Interseeding**	**Over/Frost Seeding**	**Grass/Hay Mixture**
All Grass Pasture Mix	25	30 to 40	35 to 45	15 to 20	18 to 22	
Equine Brand Hay & Pasture Mix	25	30 to 40	35 to 45	12 to 18	15 to 20	
Charger Brand Teff Grass (34% coated)	50	8 to 10	10 to 12	4 to 5		

Agronomic and Mixture Ratings:
1 = Early or Poor
3 = Average
5 = Late or Best



Download the Guide

To learn more about how to manage teff grass, visit alforexseeds.com/seed-guides-alfalfa-forage/ to view and/or download a printable PDF of the Teff Grass Crop Overview and Forage Production Guide.

Notes

EverGraze BRAND Ladino Clover

Large Leaf Type

Performance/Management

- Widely adapted, large-leaf ladino white clover for over-seeding into permanent pastures or as part of grass/legume mixtures
- Best adapted to the Midwest, Mid-South and Northeastern U.S. Later maturing than small leaf types and most intermediate leaf types for superior vegetative yields
- Less aggressive in pastures than small or intermediate leaf types
- Plants are tolerant or resistant to the common diseases and viruses found in the marketing territory
- In the field or pasture, look for tall, showy plants with an upright growth habit and large leaves with markings

Seeding Rate Recommendations

- See chart below

Ripper BRAND Radish

Deep Tap Root

Performance/Management

- Selection of daikon radish for use as a cover crop to improve soil tilth, water infiltration and organic matter
- Ripper Radish can be planted as pure stands or in mixtures
- Scavenger crop that requires limited fertilizer and low inputs
- Plant in late summer or early fall 30 to 60 days prior to the first killing frost date. Tolerant to frost until temperatures fall below 25°
- Crop decomposes quickly leaving behind improved soil structure and organic matter levels

Seeding Rate Recommendations

- In pure stands, plant 4 to 6 pounds per acre with a precision planter, 8 to 10 pounds per acre when broadcast
- In cover crop mixtures, include 2 to 4 pounds per acre
- See chart below

Clover Recommended Seeding Rates

		Seeding Method and Pounds Per Acre				
Product	**Bag Size**	**Drilled Pure Stands**	**Broadcast Pure Stands**	**Interseeding**	**Over/Frost Seeding**	**Grass/Hay Mixture**
EverGraze Brand Ladino Clover (34% coated)	50	5 to 8	7 to 10	2 to 3	4 to 7	2 to 3

Cover Crop Recommended Seeding Rates

		Seeding Method and Pounds Per Acre				
Product	**Bag Size**	**Drilled Pure Stands**	**Broadcast Pure Stands**	**Interseeding**	**Over/Frost Seeding**	**Grass/Hay Mixture**
Ripper Brand Radish	50	8 to 10	10 to 12			2 to 4

NEW

HayKing Plus Hybrid Sudangrass

BMR

Performance

- Low-lignin content increases digestibility in livestock rations
- Warm-season, summer annual with fast dry down for multiple harvests as pasture, hay or silage.
- Low-input requirements and an efficient user of nitrogen and water, with few weed or pest concerns
- Seasonal dry-matter tonnage equal to corn silage as silage, pasture or hay
- Superior forage quality versus BMR hybrid sorghum x sudangrass with reduced prussic acid
- Improved disease package with very good resistance to Anthracnose and Downy Mildew

Management

- Adapted to all areas of the U.S. where hybrid sorghum x sudangrass or hybrid sudangrass is normally grown
- Plant after danger of frost and soil temperatures exceed 65 degrees
- Fine stems, leafy and aggressive tillering after harvest. Leave a 3 to 4" stubble
- Follow all sorghum feeding precautions

Appearance at Harvest Maturity

- Harvest usually occurs 45 to 55 days after germination.
- A fast-growing hybrid with very fine stems, aggressive tillering and a mass of leaves with the characteristic brown mid-rib coloring. Usually chest-high before head extension

Seeding Rate Recommendations

- Approximately 21,000 to 24,000 seeds per pound
- For the Midwest, Northeast and Southeast, use 25 to 40+ pounds per acre.
- For the Great Plains and Intermountain West dryland seed at 20-30 pounds per acre. For irrigated seed at 30-50 pounds per acre.
- For Southwest irrigated, seed 50 to 100+ pounds per acre.
- Plant approximately 1/2 to 1 inch deep.For Southwest irrigated, seed 50 to 100+ pounds per acre in 6" to 18" rows

ForageKing Sorghum x Sudangrass

BMR

Performance

- Warm-season, summer annual for multiple harvests as pasture, hay or silage
- Carries the brown mid-rib gene for improved forage quality, palatability and animal intake over non-BMR hybrids
- Excellent drought tolerance for low rainfall areas

Management

- Adapted to all areas of the U.S. where hybrid sorghum x sudangrass or hybrid sudangrass is grown
- Plant after the danger of frost and soil temperatures exceed 65 degrees
- Leave a 3 to 4" stubble at harvest and apply 1 to 1.25 pounds of actual nitrogen for each day to the expected next harvest
- Follow all sorghum feeding precautions

Appearance at Harvest Maturity

- Wide, showy leaves with the characteristic brown mid-rib coloring. Usually chest-high before head extension

Seeding Rate Recommendations

- Approximately 16,000 seeds per pound
- In 6" to 18" drilled rows, seed 10 to 25 pounds per acre dryland and 15 to 40 pounds per acre irrigated
- For broadcast, seed 10 to 30 pounds per acre dryland and 20 to 40 pounds per acre irrigated

PhotoKing Sorghum x Sudangrass

BMR

Performance

- Warm-season, summer annual best adapted to rotational grazing, hay or silage where a wide harvest window is desired
- Stays in the vegetative growth stage until day length is 12 hours and 20 minutes or less, which is usually September, depending on latitude
- Features a very good disease resistance package

Management

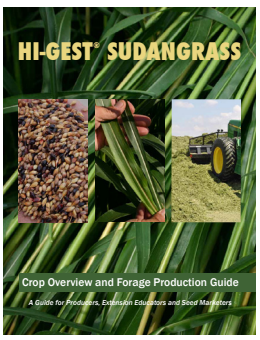
- Adapted to all areas of the U.S. where hybrid sorghum x sudangrass or hybrid sudangrass is grown
- Plant after the danger of frost and soil temperatures exceed 65 degrees
- Leave a 3 to 4" stubble at harvest and apply 1 to 1.25 pounds of actual nitrogen for each day to the expected next harvest
- Follow all sorghum feeding precautions

Appearance at Harvest Maturity

- Wide, showy leaves with the characteristic brown mid-rib coloring

Seeding Rate Recommendations

- Approximately 15,000 seeds per pound
- For 6" to 18" drilled rows dryland, seed 12 to 35 pounds per acre and 30 to 40 pounds per acre irrigated
- For broadcast, seed 10 to 30 pounds per acre dryland and 20 to 40 pounds per acre irrigated



Download the Guide

To learn more about how to manage Hi-Gest® Sudangrass, visit alforexseeds.com/seed-guides-alfalfa-forage/ to view and/or download a printable PDF of the Hi-Gest Sudangrass Crop Overview and Forage Production Guide.

SweetKing Sorghum x Sudangrass

Conventional

Performance

- Warm-season summer annual for multiple cuttings as hay, silage, or rotational growing; a great choice for green manure
- 75-80 days to maturity
- An economical option when the Brown Mid-Rib trait isn't required

Management

- Adapted to all areas of the U.S. where hybrid sorghum X sudangrass or hybrid sudangrass is grown
- Plant after danger of frost and soil temperatures are above 65 degrees
- Leave 4-6 inches of stubble at harvest and apply 1 to 1.25 pounds of actual nitrogen for each day to the expected next harvest
- Follow all sorghum feeding precautions

Appearance at Harvest Maturity

- Wide leaves on plants that may reach 6+ feet tall at harvest

Seeding Rate Recommendations

- Approximately 19,000 seeds per pound
- In 6 to 18 inch drill rows, seed 10-25 pounds per acre dryland and 15 to 40 pounds per acre irrigated
- For broadcast, seed 10-30 pounds per acre dryland and 20-40 pounds per acre irrigated

DwarfKing Forage Sorghum

Brachytic BMR

Performance

- Warm-season, single-cut forage sorghum that produces a grain head
- Plants with a grain head are normally 6 to 7 feet tall with very good standability at harvest maturity
- Highly digestible and palatable silage for beef or dairy cattle

Management

- Plant in spring or early summer to reach soft-dough maturity in 95 days
- Plant after the danger of frost and soil temperatures exceed 65 degrees
- Exhibits good seedling vigor for no-till planting into stubble
- Apply 1 to 1.25 pounds of actual nitrogen for each day from seeding to the expected harvest date

Appearance at Harvest Maturity

- Plants with large grain heads will be 6 to 7 feet tall with thick stalks and very wide leaves

Seeding Rate Recommendations

- Approximately 16,000 to 18,000 seeds per pound
- In corn planter row widths, seed 6 to 8 pounds per acre dryland and 10 to 12 pounds per acre irrigated
- For broadcast, seed 10 to 15 pounds per acre dryland and 15 to 20 pounds per acre irrigated

SilageKing Forage Sorghum

Conventional

Performance

- Forage sorghum hybrid that efficiently produces high forage yields and is easy to manage
- Fits silage production needs of dairies and feedlots across the Southern Great Plains and Southwestern U.S.
- Efficiently uses water and fertility

Management

- Uses a third less water and half the applied nitrogen fertilizer than corn for silage
- Reaches the soft-dough stage in approximately 115 days
- Strong stalks for very good standability
- Produces yields and silage quality comparable to corn for silage and exceeds corn on marginal soils
- Yields 5,000 to 7,000 pounds per acre of red grain, resulting in a very high grain-to-stover ratio. This significantly increases digestible dry matter per acre when fed as silage. The high protein content and total digestible nutrients make SilageKing perfect for the feedlot or dairy

Appearance at Harvest Maturity

- Crop height will be 6 to 8 feet tall with a strong stalk
- Dense, numerous, wide, dark-green leaves

Seeding Rate Recommendations

- Approximately 15,000 seeds per pound
- Irrigated: 10 pounds per acre in rows or drilled at 20 pounds per acre
- Dryland: 4 to 5 pounds per acre in rows or drilled at 15 to 20 pounds per acre

The information and recommendations contained in this brochure are based on average performance of the products over a wide range of growing conditions, climates, soil types, and management systems. Actual performance may be adversely affected by extreme conditions or grower negligence.

Alforex Seeds™

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Alfalfa U.S. Alfalfa Farmer Research Initiative

Alforex Seeds Supports the U.S. Alfalfa Farmer Research Initiative managed by the National Alfalfa and Forage Alliance (NAFA). The goal of the initiative is to raise funds via a checkoff to invest in public research for alfalfa and alfalfa systems. The purchase of Alforex alfalfa contributes $1 from each bag of seed to the U.S. Alfalfa Farmer Research Initiative for public research.

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