



# PGI 427 ALFALFA

Proven Genetic Innovation

## New For Western Growers

- ✓ Improved salt tolerance with sound agronomics
- ✓ More profitable alfalfa acres

## Variety Development

- A variety tracing to high yielding western dormant alfalfas. The selected plants were screened with four cycles of salt water irrigation with the survivors being combined to become the variety.
- During the breeding process, sound agronomics were maintained while improving salt tolerance.
- A non-GMO variety.

## Management Profile

- Fits production zones where fall dormancy 3, 4 and 5 alfalfas are normally recommended
- For fields where salinity limits yield and persistence. Growers should evaluate the variety under their salinity levels and field conditions to determine actual performance on their farm.
- Improved establishment vigor and early seedling growth versus conventional alfalfas under salt stress.
- Medium early maturity to one-tenth flower
- Maximizes yield and milk per acre under 4 cuts per season management
- A wheel traffic tested variety

Brand	PGI 427 Yield Advantage*
America's Alfalfa, Ameristand 403 T	12%
WL Research, WL 319HQ	8%
Dairyland, HybriForce-400	6%

\*Advantage after two seasons with six consecutive cuttings with 2 passes of abusive traffic after each cut

- Average recovery rate after harvest versus conventional alfalfas

## Field Appearance at Harvest Maturity

- Medium tall, bushy plants with large leaves
- Medium green foliage



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# PGI 427 Alfalfa

## Performance for the way you farm

- Outstanding competitive yield when salinity is not a limiting factor

Brand	Variety	PGI 427 Percent Yield Advantage				
Pioneer	54H11	5%				
America's Alfalfas	Ameristand 403T	5%				
Dairyland	HybriForce-400	2%				
Mycogen	4A421	1%				
Pioneer	54V46	1%				
WL Research	WL 319HQ	Equal				
WL Research	WL 357HQ	Equal				

- Consistent forage quality versus competitive alfalfas when salinity is not a limiting factor

Brand	Variety	CP	ADF	NDF	RFQ	Milk/Ton*
Producer's Choice	PGI 427	21.3	31.6	36.7	172	2,976
America's Alfalfa	Ameristand 403 T	22.0	31.4	36.3	176	2,993
Dairyland	HybriForce-400	21.0	33.4	38.5	168	2,960

## Key Agronomic Characteristics

Fall Dormancy	4
Winter Hardiness Rating	2.5
Multifoliolate Leaf Expression	84%
Wisconsin Disease Rating Index	29 of 30

		S	LR	MR	R	HR
Disease Ratings	Anthraxnose	[Yellow bar]				
	Aphanomyces (Race I)	[Yellow bar]				
	Bacterial Wilt	[Yellow bar]				
	Fusarium Wilt	[Yellow bar]				
	Phytophthora Root Rot	[Yellow bar]				
	Verticillium Wilt	[Yellow bar]				
Insect Ratings	Spotted Alfalfa Aphid	[Yellow bar]				
	Stem Nematode	Testing in Progress				
	Northern Nematode	Testing in Progress				

Ratings are based on average performance of the variety over a wide range of climate and soil types. Actual performance may be adversely affected by extreme conditions. Unless stated, ratings are based on standardized testing procedures endorsed by the North American Alfalfa Improvement Conference.

## Salt Tolerance

Increasing soil salinity has a negative effect on alfalfa establishment, yield, forage quality and stand persistence as demonstrated by the chart below.

### Salinity (NaCl) Effect on Alfalfa Production

Yield Production	MilliMolar (mM Concentration)
Tap water	0
Colorado River	15
Alfalfa yield reduction begins	22
Alfalfa emergence reduced	47
50% reduction in seeding alfalfa yield and emergence	88
50% reduction in established alfalfa yield	100
Alfalfa growth stops	175
Decreased alfalfa seed germination	220
Inhibits most alfalfa seed germination	352
Normal seawater salinity	599
Saline seeps	+++

Source: University of Arizona



Four cycles of screening were used to select the parent plants for PGI 427. During the screening process, plant tissue was exposed to a 75 mM concentration of salinity in the irrigation water and seed to a 100 mM concentration. After four screening cycles, the surviving plants were combined into a breeder's cage to become the variety.

The resulting variety has a 22% yield drop off at the 75 mM concentration versus a 50% or greater yield reduction at these salt water concentrations for conventional alfalfas.

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