

# ALLEGIANT<sup>®</sup>

SEED

2024 Seed Guide  
For Farmers. By Farmers.







## Allegiant® Seed For Farmers. By Farmers.

### **The real deal: Genuine performance based on farmer know-how**

Allegiant® seed is unique, through and through. When we say Allegiant seed is “for farmers, by farmers,” we mean it. Our performance seed offers the genetics and trait stacks that our farmer-owners have told us they need. And it’s a brand you can trust in every way – because you own the company.

We’re committed to keeping pace with your changing needs. That’s why we continue to customize and expand your options based on new performance results and feedback from growers.

Our goal has always been to deliver performance seed at a sensible price. That’s probably why more and more growers continue to incorporate Allegiant varieties into their seed plans.

Are you looking for innovative seed products that give you the opportunity to enhance yield potential in new ways? How can we help you meet your goals, plans and hopes for the season ahead?

When you choose Allegiant seed, you get all the rewards of buying from a company you own. One of those benefits is working with trusted agronomy experts who know your farm well, share your values, and care deeply about your long-term success and legacy. We’re ready to get started when you are.

# ALLEGIANT<sup>®</sup>

SEED

We could tell you all about the proven genetics and advanced technology that go into Allegiant Seed. But that won't be necessary. Because you already know where it comes from: your fellow CHS growers.

**ASK YOUR CHS RETAILER ABOUT IT TODAY.**



**FOR  
FARMERS.  
BY  
FARMERS.**

**MEGAN, 4TH GENERATION FARMER,  
CHS CUSTOMER**

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Season after season, Allegiant® hybrid corn seed empowers growers with consistently strong performance.

You can count on us for leading-edge solutions with proven genetics and the most advanced technologies and transgenic traits from Bayer. We're continually advancing our selection to align with farmers' changing management practices as well as regional challenges and opportunities.

Our robust corn product lineup has terrific depth to fit farmers' needs. You'll find a variety of agronomic characteristics that enable high corn yields and excellent grain quality, from solid early season vigor and excellent root ratings to strong drought tolerance and fast drydown.

Your local CHS agronomy experts will help you select the right Allegiant seed to meet your goals. They'll also help you maximize your investment with the right crop nutrients, innovative crop protection products and targeted precision technologies. We look forward to helping you make the most of every corn acre.





# Corn Agronomic Chart

	PRODUCT	MATURITY INFO				HYBRID AGRONOMICS												
	Allegiant Seed	Traits	Relative Maturity (R.M.)	GDU to flower	GDU to Black Layer	Ear Type	Kernel Rows	Test Weight	Cob Color	Husk Cover	Drydown	Plant Height	Ear Height	Staygreen	Green Snap	Stalk Rating	Root Rating	Early Plant Vigor
	Allegiant 8020	VT2P	80	1050	2025	SD	14-16	3	Red	Adequate	3	MT	M	3	4	3	3	3
<b>NEW</b>	Allegiant 8037	VT2P	80	1087	2098	SF	18-20	2	Red	Adequate	3	MT	MH	4	3	3	3	3
	Allegiant 8187	VT2P	81	995	1910	SD	14-16	3	Red	Adequate	4	M	M	4	5	2	3	3
	Allegiant 8311	VT2P	83	1070	2060	SD	16-18	4	Red	Adequate	3	MT	M	3	4	4	3	3
	Allegiant 8482	VT2P	84	1085	2090	SF	16-18	4	Red	Adequate	4	MT	M	4	2	4	4	2
	Allegiant 8537	VT2P	85	1115	2150	SF	18-20	4	Pink	Adequate	3	MT	MH	3	3	3	3	4
	Allegiant 8704	VT2P	87	1145	2210	SD	18-20	3	Red	Adequate	2	M	ML	4	4	2	2	2
	Allegiant 8734	VT2P	87	1050	2015	SD	18-20	3	Red	Long	2	MT	M	3	4	3	4	2
	Allegiant 8990	VT2P	89	1160	2260	SF	16-18	4	Red	Short	3	MS	M	3	4	2	3	3
	Allegiant 9030	VT2P	92	1145	2225	SD	18-20	4	Red	Adequate	3	M	M	3	4	2	1	1
	Allegiant 9165A	V	91	1215	2305	SF	16-18	4	Red	NR	4	MT	M	4	4	2	5	2
<b>NEW</b>	Allegiant 9109	VT2P	91	1134	2211	SD	16-18	4	Red	Adequate	3	M	M	3	3	3	3	2
	Allegiant 9199	VT2P, RR	91	1220	2285	SF	16-18	4	Red	Adequate	5	T	M	4	5	4	3	4
	Allegiant 9484	DGVT2P	94	1195	2330	F	16-18	1	Red	Short	3	MT	MH	5	3	3	3	2
	Allegiant 9594	VT2P	95	1245	2420	SF	16-18	4	Red	Adequate	3	M	M	3	4	4	2	3
<b>NEW</b>	Allegiant 9747	TRE	97	1212	2363	SF	16-18	3	Red	Adequate	2	M	M	2	2	2	2	2
	Allegiant 9799	VT2P, RR	97	1250	2440	SF	16-18	3	Red	Adequate	2	M	M	3	2	3	1	2
	Allegiant 9884	DGVT2P	98	1230	2395	SF	16-18	3	Pink	Adequate	3	MT	M	3	3	2	3	2
	Allegiant 10007	VT2P	100	1235	2450	SD	16-18	2	Red	Short	3	T	M-MH	4	4	3	3	2
	Allegiant 10050	VT2P	100	1255	2450	SF	14-16	2	Red	Adequate	2	MS	M	4	2	4	2	1
	Allegiant 10123	SSPRO	101	1290	2510	SF	16-18	5	Red	Short	4	MT	MH	5	4	2	5	3
<b>NEW</b>	Allegiant 10188A	AA	101	1290	2450	SF	18-20	5	Red	Adequate	5	M	M	2	3	2	2	3
<b>NEW</b>	Allegiant 10166	SSPRO	101	1249	2460	SF	16-18	4	Red	Adequate	2	M	M	4	3	3	2	2
	Allegiant 10357	VT2P	103	1260	2450	SF	16-18	4	Red	Short	4	M	M	5	4	5	2	5
	Allegiant 10378	VT2P	103	1250	2490	SD	16-18	4	Red	Short	3	MT	M	3	4	3	2	1
	Allegiant 10495	TRE	104	1310	2585	SF	16-18	5	Red	Adequate	4	MT	MH	5	4	4	5	2
	Allegiant 10551	VT2P	105	1305	2465	SF	16-18	4	Red	Adequate	2	M	M	3	4	4	3	2
	Allegiant 10652	VT2P	106	1320	2600	SD	16-18	1	Red	Adequate	4	M	ML	2	3	2	3	3
	Allegiant 10687	SSPRO	106	1255	2460	SD	14-16	5	Red	Adequate	4	M	M	4	2	4	4	2
<b>NEW</b>	Allegiant 10789	SSPRO	107	1333	2626	SF	16-18	3	Red	Adequate	3	M	M	2	3	2	3	3
<b>NEW</b>	Allegiant 11171	VT2P	111	1266	2494	SF	16-18	4	Red	Adequate	3	M	M	3	2	2	2	3
	Allegiant 11557	DGVT2P	115	1325	2630	SD	16-18	3	Red	Adequate	5	MT	M	3	4	2	1	3
	Allegiant 11591	TRE	115	1350	2680	SF	16-18	2	Red	Long	2	MT	M	4	2	2	4	1

SS - SmartStax® RIB Complete® Corn Blend  
 VT2P - VT Double PRO® RIB Complete® Corn Blend  
 RR - Roundup Ready® Corn 2  
 SSPRO - SmartStax® PRO RIB Complete® Corn Blend

TRE - Trecepta® RIB Complete® Corn Blend  
 V - Viptera™  
 DGVT2P - DroughtGard® Hybrids VT  
 Double PRO® RIB Complete® Corn Blend  
 AA - Agrisure Above

**Ear Type**  
 F = Flex  
 SD = Semi-Determinate  
 SF = Semi-Flex

**Ratings**  
 1 = Excellent  
 5 = Average  
 9 = Fair



HYBRID AGRONOMICS			DISEASE RESISTANCE							HERBICIDE SENSITIVITY			PRODUCT
Population Tolerance	Drought Tolerance	Silage Rating	Gray Leaf Spot	Northern Leaf Blight	Goss's Wilt	Common Rust	Southern Rust	Tar Spot	Stalk Anthracnose	Growth Regulators	Pigment Inhibitors/ HPPD Inhibitors (group 27)	Sulfonylureas/ ALS Inhibitors (group 2)	Allegiant Seed
M-MH	3	4	5	3	3	NR	NR	NR	4	A	A	A	Allegiant 8020
M	3	NR	5	4	3	2	5	4	1	A	A	A	Allegiant 8037
MH	4	NR	NR	3	3	NR	NR	NR	4	A	A	A	Allegiant 8187
M	3	NR	5	4	5	NR	NR	NR	6	A	A	A	Allegiant 8311
M	2	NR	5	4	2	2	6	5	4	NR	NR	NR	Allegiant 8482
M-MH	4	NR	5	4	4	NR	NR	NR	5	A	A	A	Allegiant 8537
M-MH	4	NR	5	4	4	2	7	6	5	A	A	A	Allegiant 8704
MH	4	4	6	4	5	3	6	4	4	A	C	A	Allegiant 8734
MH	4	NR	4	4	6	NR	5	NR	4	A	A	A	Allegiant 8990
M-MH	3	NR	5	3	5	5	5	NR	4	A	C	A	Allegiant 9030
M	2	2	NR	2	2	NR	NR	5	4	NR	NR	NR	Allegiant 9165A
M-MH	3	NR	5	3	3	2	5	5	2	A	A	A	Allegiant 9109
M-MH	2	NR	5	4	3	3	NR	NR	4	A	A	A	Allegiant 9199
L-M	2	NR	5	5	5	NR	NR	NR	5	A	A	A	Allegiant 9484
M-MH	5	NR	5	5	4	NR	NR	5	4	A	A	A	Allegiant 9594
L-M	2	3	4	4	3	2	5	5	1	A	A	A	Allegiant 9747
M-MH	3	3	5	4	4	3	NR	5	3	A	A	A	Allegiant 9799
M-MH	2	2	5	3	3	NR	6	4	3	A	A	A	Allegiant 9884
M-MH	4	2	5	5	4	NR	6	5	3	A	A	A	Allegiant 10007
M	2	NR	NR	5	2	NR	NR	4	1	A	A	A	Allegiant 10050
L-M	5	NR	6	4	5	2	6	4	1	C	A	A	Allegiant 10123
L-M	2	2	2	4	4	5	6	5	4	NR	NR	NR	Allegiant 10188A
MH	3	NR	4	3	4	2	5	5	2	A	A	A	Allegiant 10166
M-MH	3	NR	6	4	4	3	4	NR	5	C	A	A	Allegiant 10357
M-MH	4	4	5	4	3	NR	NR	5	5	A	A	C	Allegiant 10378
M	2	NR	5	5	4	2	6	6	2	A	A	A	Allegiant 10495
L-M	3	4	5	4	3	NR	4	4	2	A	A	A	Allegiant 10551
M-MH	3	NR	5	5	1	NR	4	6	3	A	A	A	Allegiant 10652
M	4	NR	6	5	5	2	6	5	1	C	A	A	Allegiant 10687
L-M	2	NR	3	3	3	2	4	5	1	A	A	A	Allegiant 10789
M	3	NR	4	3	2	2	5	5	2	A	A	A	Allegiant 11171
M-MH	1	2	2	1	2	NR	5	NR	3	A	A	A	Allegiant 11557
M-MH	5	NR	5	4	5	2	6	5	2	A	A	A	Allegiant 11591

**Ear Height and Plant Height**

M = Medium  
 MH = Medium-High  
 ML = Medium-Low  
 MT = Medium-Tall  
 T = Tall  
 H = High  
 MS = Medium-Short  
 S = Short  
 NR = Not rated

**Herbicide Sensitivity**

A = Acceptable  
 C = Caution

# Allegiant 8020 • 80 Day



## Key Highlights

- Excellent addition into the Allegiant corn lineup
- Taller plant type with good ear placement and medium maturity
- Robust adaptability as it moves east to west
- Excels in low-yield environments




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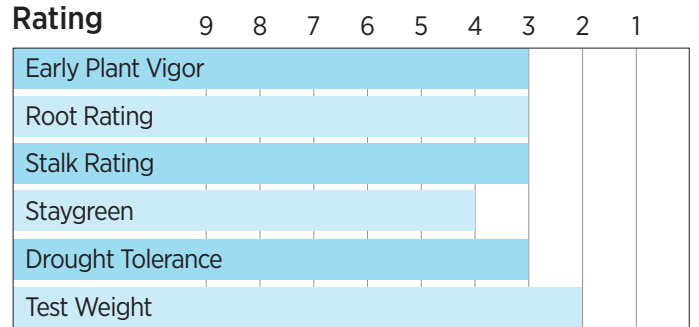


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# Allegiant 8037 • 80 Day NEW



## Key Highlights

- Well-known genetics within the Allegiant lineup with outstanding performance
- Medium-tall plant type and drought tolerance should allow for a broad geography
- Girthy ear that shows very good test weight

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# Allegiant 8187 • 81 Day



## Key Highlights

- Goss's Wilt tolerance is exceptional for the maturity
- Stands well with good roots for extended harvest
- Handles a wide range of planting populations
- Head turning emergence for early planting in cold soils

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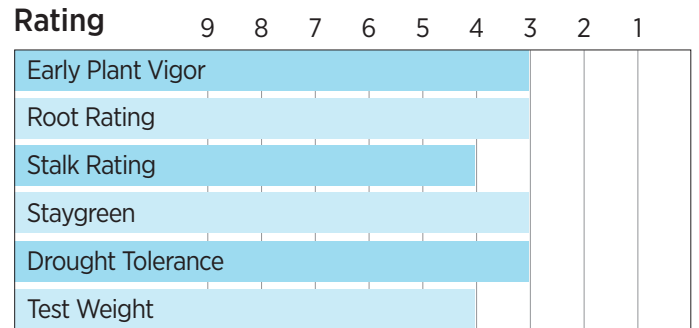


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# Allegiant 8311 • 83 Day



## Key Highlights

- Very good drydown with girthy ear that will show some tips
- Better adaptability as it moves east
- Shines in high-yield environment
- Keep populations up to enable performance

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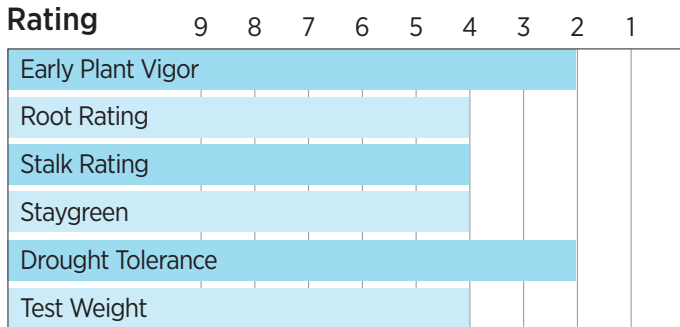
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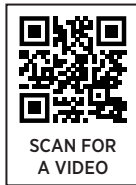


# Allegiant 8482 • 84 Day

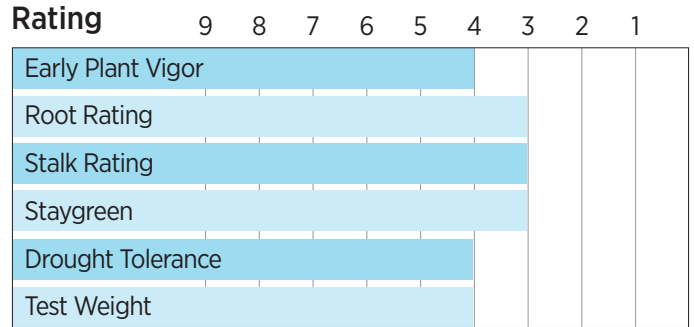


## Key Highlights

- Can't miss hybrid!
- Excellent stalks with very good green snap tolerance
- Semi-flex ear type with very good drought tolerance
- Great partner for more offensive products



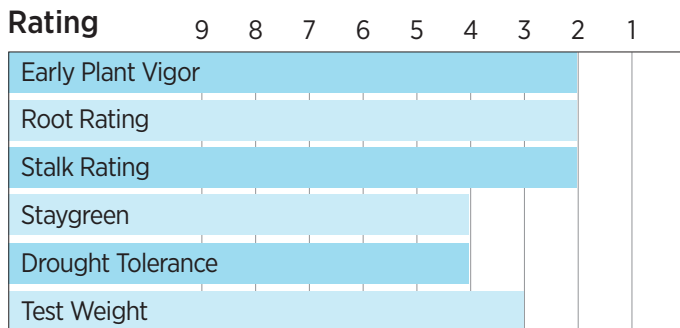
# Allegiant 8537 • 85 Day



## Key Highlights

- Versatility allows movement into north central South Dakota and northern Minnesota
- Outstanding performance across all yield environments
- Very good stalks and roots

# Allegiant 8704 • 87 Day

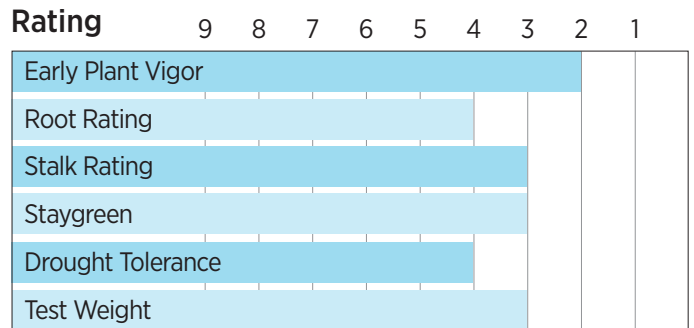


## Key Highlights

- Put on your best acres, manage and cash in
- Performance improvement at this maturity plus improved Goss's Wilt
- Semi-determinate ear type. Keep populations in M-MH for best results
- Very good emergence



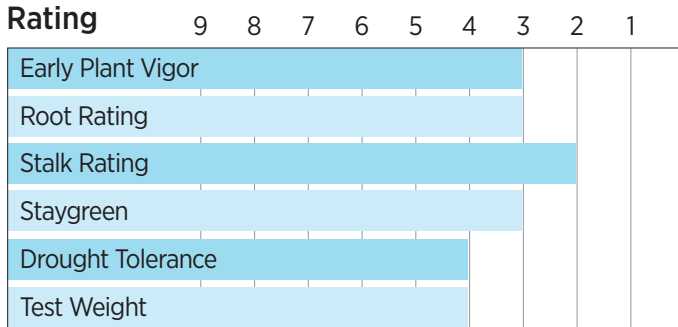
# Allegiant 8734 • 87 Day



## Key Highlights

- Yield performance is best in class!
- Best in high-management yield environments
- Solid early season vigor
- Very showy medium plant with girthy ears

## Allegiant 8990 • 89 Day



### Key Highlights

- Excellent yield package with very good drydown
- Performance across entire Allegiant footprint
- Handles variable soils very well

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## Allegiant 9030 • 92 Day



### Key Highlights

- Widely adaptable across all management systems
- Impressive stalks aids in a late season harvest
- Ability to produce a girthy ear in tougher environments
- Very good early season growth

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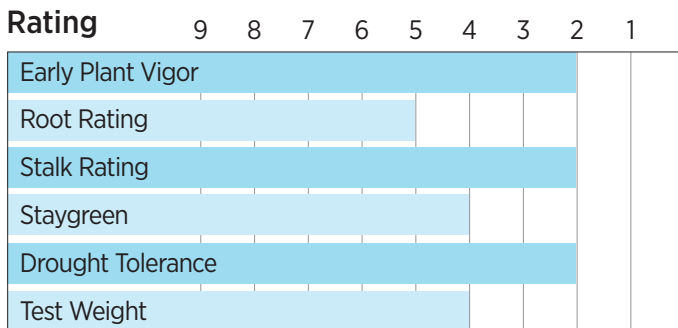
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## Allegiant 9165A • 91 Day



### Key Highlights

- New product for the western environment
- Outstanding emergence and seedling vigor
- Excellent stalk strength
- Great dual-purpose option
- Artesian technology




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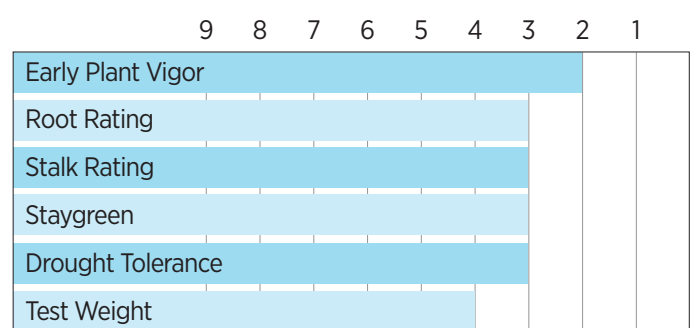
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## Allegiant 9109 • 91 Day



### Key Highlights

- Medium plant height paired with good stalks
- Performance seen across all yield environments with good drought tolerance
- Excellent emergence with solid disease package

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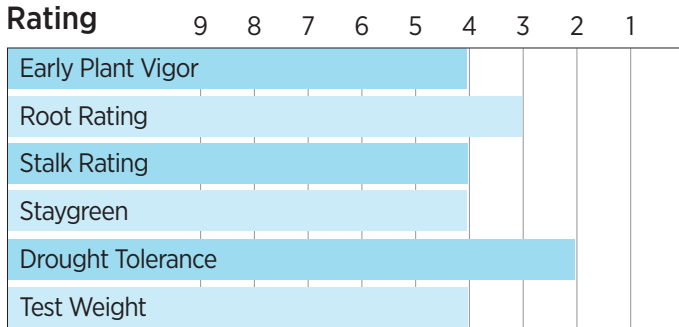
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# Allegiant 9199 • 91 Day



## Key Highlights

- Tall plant with very good drought tolerance
- Great yields from east to west with different soil types
- Stable product, with open husk at harvest
- Very good disease package including Goss's Wilt

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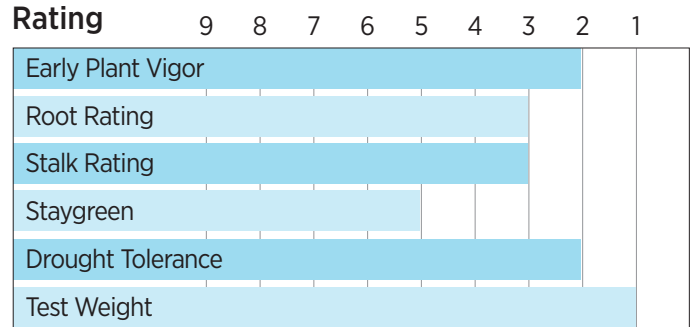


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# Allegiant 9484 • 94 Day



## Key Highlights

- Performance from a high-powered legacy
- Western product, with performance in our eastern geography
- True flex with very good agronomic package
- Early flowering

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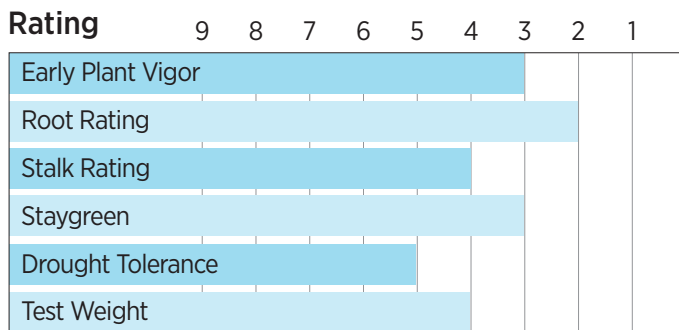


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# Allegiant 9594 • 95 Day



## Key Highlights

- Solid performance east to west
- Will flex in low plant population environments
- Really nice staygreen throughout the season
- Consistent performance in most yield environments

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# Allegiant 9747 • 97 Day NEW



## Key Highlights

- New maturity leader that covers broad Allegiant footprint
- Desired agronomics with semi-flex ear and very good drought tolerance
- Outstanding emergence
- Highly responsive to management

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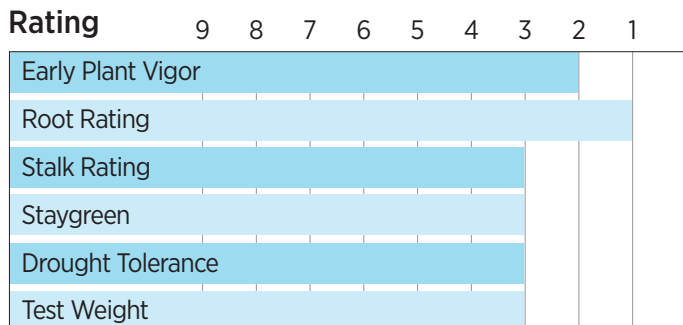


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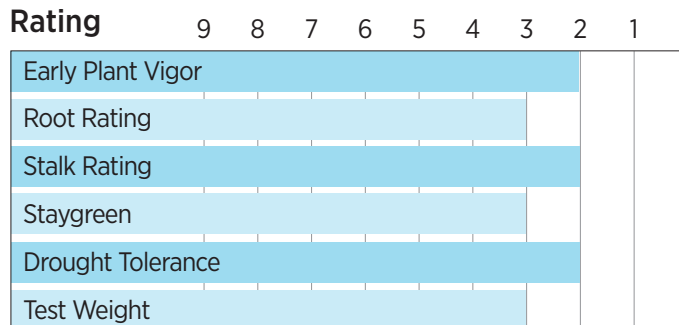
## Allegiant 9799 • 97 Day



### Key Highlights

- Excellent top-end yield potential across most soil types
- Strong early vigor for early planting and reduced tillage acres
- Semi-flex ear type and good drought tolerance on tough acres
- Fantastic stalks and excellent roots aid late season standability

## Allegiant 9884 • 98 Day

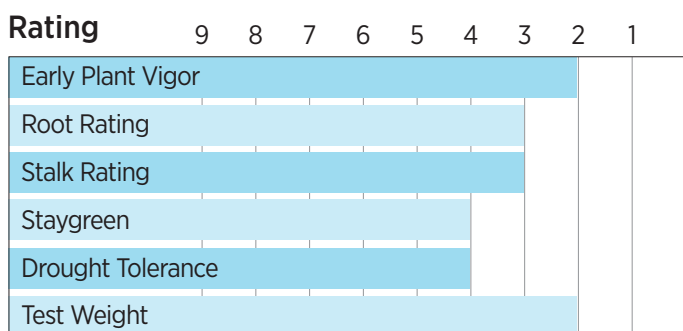


### Key Highlights

- Has shown excellent early vigor and seedling growth
- Massive girthy ear with good drydown
- Excellent late season appearance
- Dual-purpose potential



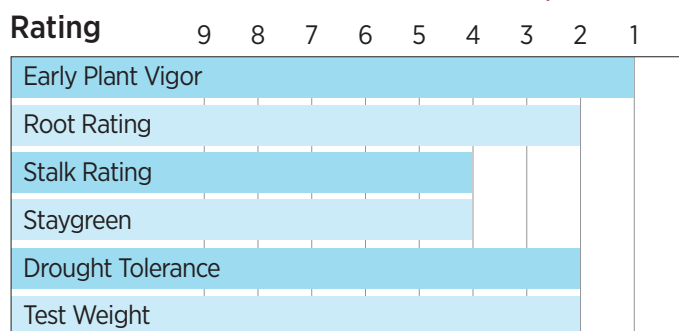
## Allegiant 10007 • 100 Day



### Key Highlights

- Flex ear supports varying plant populations
- Responds well to increased management with higher yields
- Dual-purpose hybrid with excellent silage options
- Best performance seen on mid- to high-yield environments

## Allegiant 10050 • 100 Day

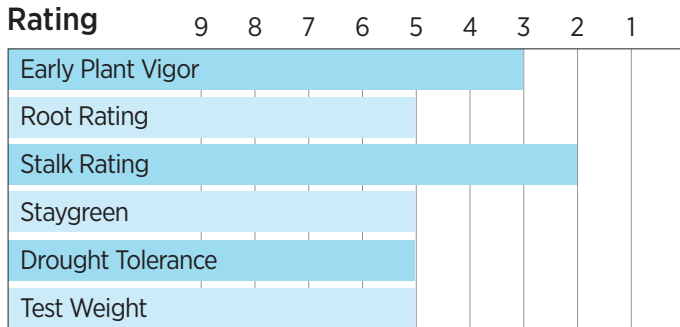


### Key Highlights

- Agronomic stud
- BIG BLUE corn that fits broad CHS geography
- Very good drought tolerance and semi-flex ear
- Excellent emergence



## Allegiant 10123 • 101 Day



### Key Highlights

- Best suited for medium to highly productive acres
- Has mammoth yield upgrade over current SS lineup
- High response to fungicide




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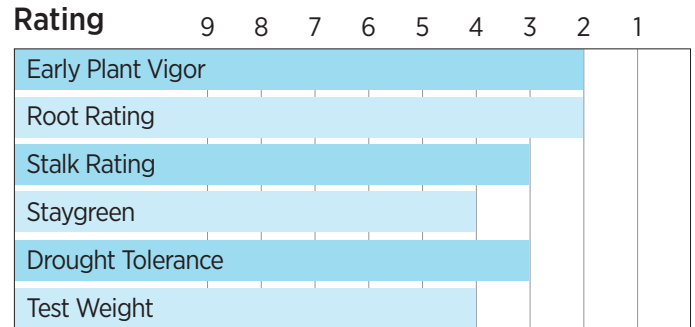
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## Allegiant 10166 • 101 Day **NEW**



### Key Highlights

- SSPRO yield crusher in this RM
- Enhanced agronomics with outstanding early season plant vigor
- Versatile across multiple yield environments

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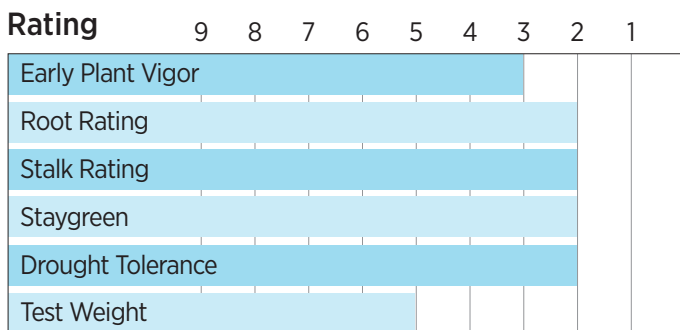
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## Allegiant 10188A • 101 Day **NEW**



### Key Highlights

- Proven Artesian technology that supports drought tolerance
- Workhorse agronomics with top-end yield potential
- Very broad geographic adaptation and strong dual-purpose option

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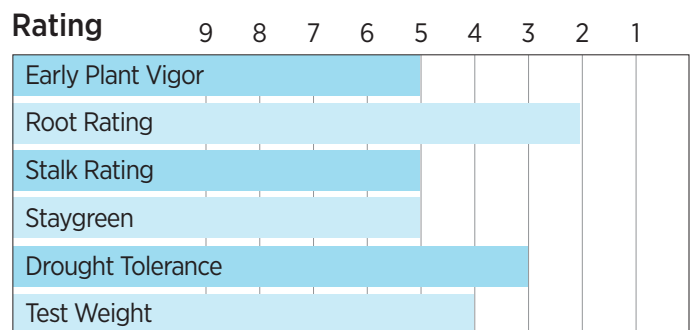
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## Allegiant 10357 • 103 Day



### Key Highlights

- Very good green snap tolerance with a girthy semi-flex ear type
- Better performance in high-yield environments
- Very good disease package and responds to fungicides
- Great yield potential in a fast-drying product

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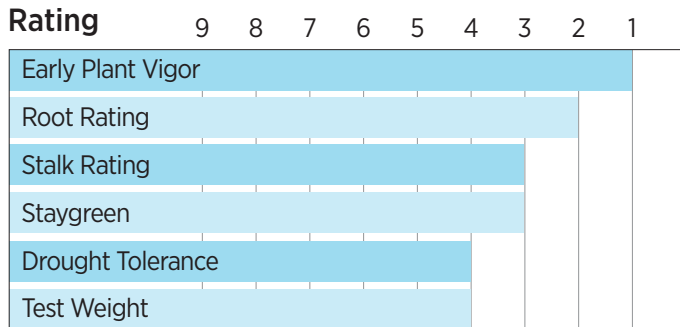
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## Allegiant 10378 • 103 Day



### Key Highlights

- Able to plant early due to excellent vigor
- Widely adapted product with very good Goss's Wilt tolerance
- Low green snap risk
- Prefers variable to more ideal yield environments

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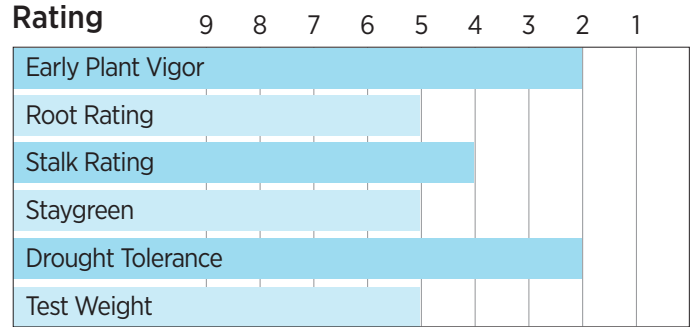


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## Allegiant 10495 • 104 Day



### Key Highlights

- Step change yield west of I-29
- Semi-flex ear best suited for medium plant populations
- Highly responsive to management
- Very good early plant vigor




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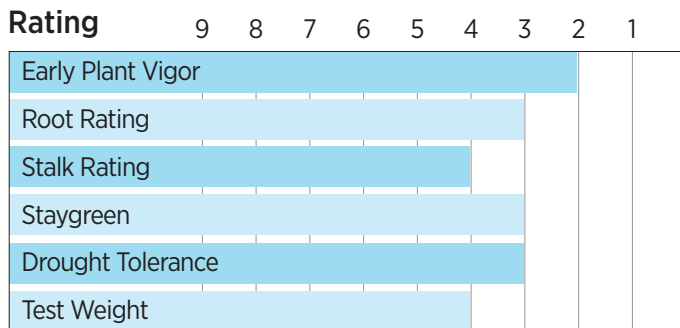


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## Allegiant 10551 • 105 Day



### Key Highlights

- Outstanding early season plant vigor
- Top-notch drydown in the fall
- Shines in most yield environments
- Solid agronomics with good response to fungicides

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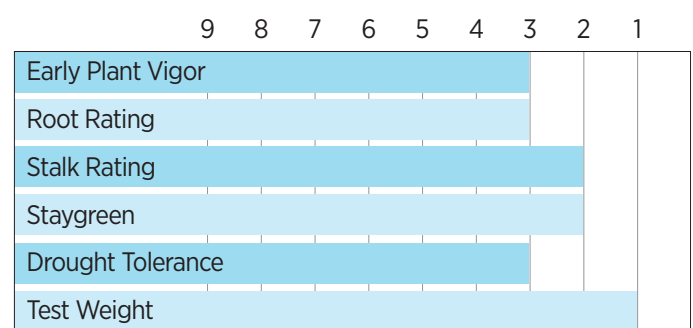


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## Allegiant 10652 • 106 Day



### Key Highlights

- Impressive yield potential in high- and low-yield environments
- Strong performance seen in the west with very good Goss's Wilt and low green snap risk
- Has shown excellent test weight and grain quality
- Very good late season appearance

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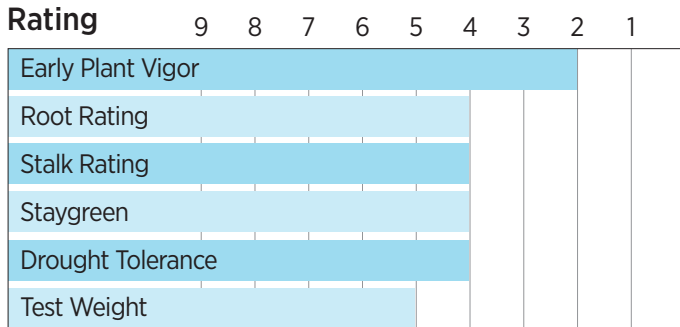


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# Allegiant 10687 • 106 Day



## Key Highlights

- BIG BOY YIELD!
- Excellent emergence. Plant first type product
- Solid stalks with very good drydown
- Medium response to population




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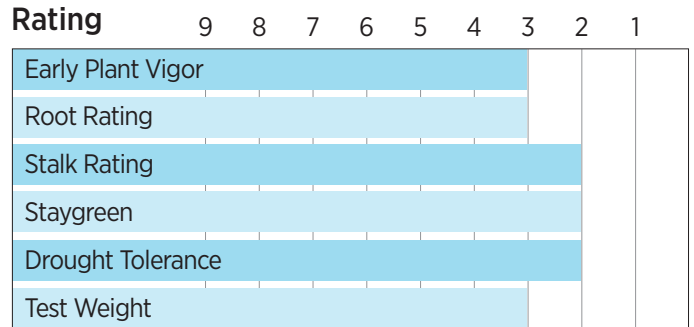


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# Allegiant 10789 • 107 Day NEW



## Key Highlights

- Broad acre option in this RM
- Strong performance in variable to ideal yield environments
- Semi-flex allows population flexibility
- Disease package advancement

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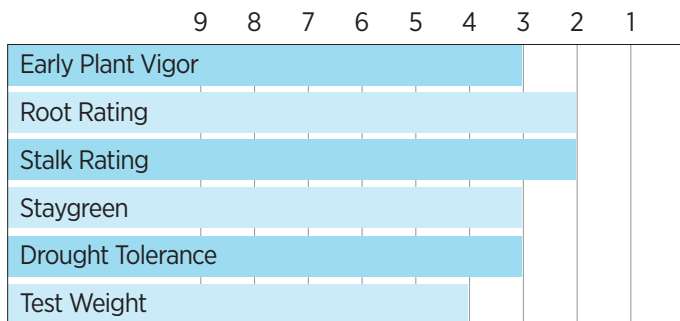


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# Allegiant 11171 • 111 Day NEW



## Key Highlights

- Outstanding top-end yield performance seen from east to west
- Very good stalks and roots to support strong green snap tolerance
- Semi-flex ear type allows population management

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# Allegiant 11557 • 115 Day



Rating	9	8	7	6	5	4	3	2	1
Early Plant Vigor									
Root Rating									
Stalk Rating									
Staygreen									
Drought Tolerance									
Test Weight									

### Key Highlights

- Strong disease ratings with excellent NCLB and Goss's Wilt tolerance
- Very good plant health and staygreen
- Girthy ear with high-yield potential
- Can be utilized as dual-purpose hybrid

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# Allegiant 11591 • 115 Day



Rating	9	8	7	6	5	4	3	2	1
Early Plant Vigor									
Root Rating									
Stalk Rating									
Staygreen									
Drought Tolerance									
Test Weight									

### Key Highlights

- Eye catching yield potential, best suited for high production acres
- Very good stalks, roots, and test weight
- Very good green snap with excellent early vigor
- High response to a fungicide application




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# — END THE TYRANNY OF — PHOSPHORUS TIE-UP



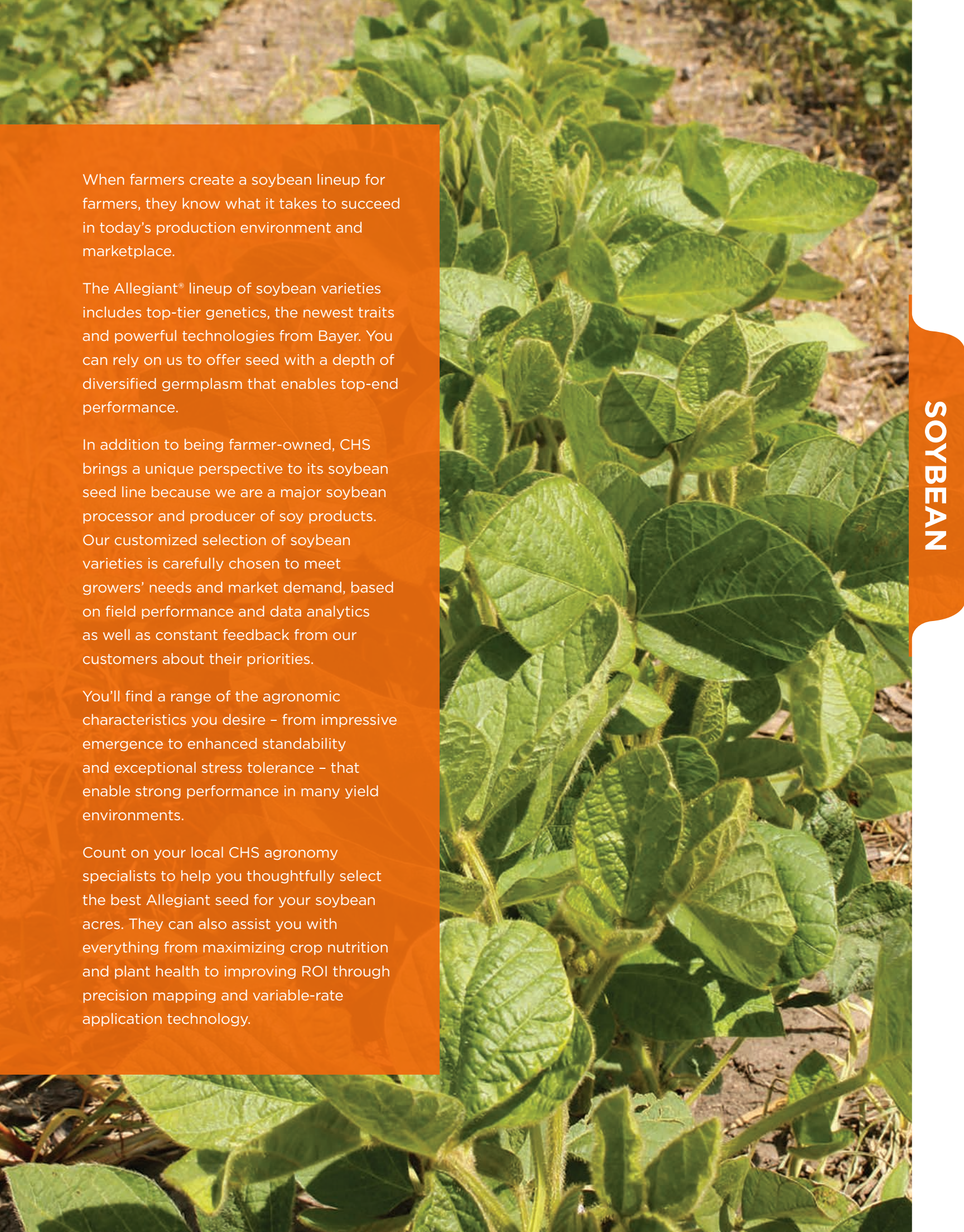
Naturally occurring chemical bonding ties up your phosphorus with other nutrients, making it inaccessible to your plants. Luckily, Trivar® frees your phosphorus, leading to healthy plants and quality yields.

Learn how to join the movement at [TrivarFertilizer.com](https://TrivarFertilizer.com).

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**TRIVAR®** POWERED  
BY LEVESOL®

CHS



When farmers create a soybean lineup for farmers, they know what it takes to succeed in today's production environment and marketplace.

The Allegiant® lineup of soybean varieties includes top-tier genetics, the newest traits and powerful technologies from Bayer. You can rely on us to offer seed with a depth of diversified germplasm that enables top-end performance.

In addition to being farmer-owned, CHS brings a unique perspective to its soybean seed line because we are a major soybean processor and producer of soy products. Our customized selection of soybean varieties is carefully chosen to meet growers' needs and market demand, based on field performance and data analytics as well as constant feedback from our customers about their priorities.

You'll find a range of the agronomic characteristics you desire – from impressive emergence to enhanced standability and exceptional stress tolerance – that enable strong performance in many yield environments.

Count on your local CHS agronomy specialists to help you thoughtfully select the best Allegiant seed for your soybean acres. They can also assist you with everything from maximizing crop nutrition and plant health to improving ROI through precision mapping and variable-rate application technology.

# Soybean Agronomic Chart

PRODUCT			AGRONOMIC/PLANT CHARACTERISTICS											
Allegiant Seed	Trait	Relative Maturity (R.M.)	Emergence	Plant Height	Standability	Stress Tolerance	Plant Type	Narrow Row	Wide Row	Flower	Pubescence	Podwall	Hilum	
	Allegiant 009F93N	XtendFlex	0.09	2	MT	3	3	MB	G	VG	P	L	B	BL
	Allegiant 009F23	XtendFlex	0.09	1	M	2	2	MB	VG	VG	P	T	B	BL
	Allegiant 01E43N	E3	0.1	3	MS	3	NR	MB	G	VG	P	G	TN	Y
<b>NEW</b>	Allegiant 01F24N	XtendFlex	0.1	3	MT	3	3	NR	G	NR	P	L	B	BL
	Allegiant 03F12	XtendFlex	0.3	2	MT	4	2	MB	VG	VG	P	T	B	BL
<b>NEW</b>	Allegiant 05F54N	XtendFlex	0.5	2	MT	3	3	NR	VG	NR	P	G	B	IB
	Allegiant 07F22N	XtendFlex	0.7	2	M	2	2	MB	VG	E	P	T	B	BL
	Allegiant 07E63N	E3	0.7	2	MS	3	2	MB	G	VG	P	T	T	IB
	Allegiant 09E13N	E3	0.9	2	MS	4	3	MB	G	E	P	G	TN	BF
	Allegiant 09F82N	XtendFlex	0.9	2	MT	3	3	MB	VG	VG	P	LT	TN	BR
	Allegiant 11E93N	E3	1.1	2	MT	3	2	I	VG	VG	P	G	TN	IB
<b>NEW</b>	Allegiant 12E34N	E3	1.2	2	M+	4	4	I	G	E	P	G	TN	BF
	Allegiant 14E82N	E3	1.4	2	M	2	3	I	VG	VG	P	G	TN	BF
	Allegiant 14F93N	XtendFlex	1.4	3	MT	3	2	MB	VG	VG	P	LT	BR	BR
	Allegiant 17E33N	E3	1.7	3	M	3	2	MB	VG	VG	P	G	BR	IB
	Allegiant 20E82N	E3	2.0	2	M	3	3	I	VG	VG	P	G	IB	IB
	Allegiant 22F82N	XtendFlex	2.2	3	M+	3	2	I	VG	VG	P	G	TN	IB
	Allegiant 24F83N	XtendFlex	2.4	3	MT	4	3	MB	G	VG	P	G	BR	IB
	Allegiant 25E03NS	E3	2.5	3	MT	4	3	I	G	VG	P	G	BR	BF
	Allegiant 26F32N	XtendFlex	2.6	2	M	3	2	B	G	E	P	G	T	GR
	Allegiant 28F33N	XtendFlex	2.8	2	MT	4	2	MB	VG	VG	P	G	T	GR
<b>NEW</b>	Allegiant 34E14N	E3	3.4	2	M	3	3	B	NR	NR	P	LT	BR	B

XtendFlex – XtendFlex® Soybeans  
E3 – Enlist E3® Soybeans

**Plant Height**  
M = Medium  
MT = Medium-Tall  
M+ = Medium +  
MS = Medium-Short

**Plant Type**  
I = Intermediate  
B = Bush  
MB = Medium Bush



DISEASE/PEST								PRODUCT
PHYTOPHTHORA		SCN Greenhouse	Iron Chlorosis	Brown Stem Rot	White Mold	SDS	Salt	Allegiant Seed
PRR Gene	PRR							
Rps1c	4	R3	4	NR	5	NR	Includer	Allegiant 009F93N
Rps1k	6	S	3	R	4	NR	Includer	Allegiant 009F23
Rps1c	3	MR3, MR14	3	S	5	NR	Includer	Allegiant 01E43N
Rps1c	5	MR	3	MR	4	NR	Includer	Allegiant 01F24N
Rps1c	4	S	3	R	3	NR	Includer	Allegiant 03F12
Rps1c	4	MR	2	R	5	NR	Includer	Allegiant 05F54N
Rps1c	4	R3, MR14	3	R	5	NR	Includer	Allegiant 07F22N
Rps3a	2	MR3, MR14	4	MR	5	NR	Includer	Allegiant 07E63N
Rps1k	3	MR3, MR14	3	MR	5	3	Excluder	Allegiant 09E13N
RpsH3a	2	R3, MR14	4	MR	3	3	Includer	Allegiant 09F82N
NG	3	R3, MR14	3	R	4	4	Includer	Allegiant 11E93N
Rps3a	2	Peking	2	R	4	4	Includer	Allegiant 12E34N
Rps3a	2	R3, MR14	3	R	3	3	Includer	Allegiant 14E82N
Rps1c, Rps3a	3	MR3, MR14	4	MR	2	3	Includer	Allegiant 14F93N
Rps1k	4	R3, MR14	2	S	3	6	Includer	Allegiant 17E33N
Rps1k	3	R3, MR14	3	R	3	5	Includer	Allegiant 20E82N
Rps3a	2	R3, MR14	3	MR	4	3	Includer	Allegiant 22F82N
Rps1c	3	R3	5	R	4	4	Includer	Allegiant 24F83N
Rps1a	3	R3	6	S	4	4	Includer	Allegiant 25E03NS
Rps1c	3	R3	3	R	5	5	Excluder	Allegiant 26F32N
Rps1c	4	R3	5	R	4	7	Excluder	Allegiant 28F33N
Rps1k	3	PI88788	NR	NR	NR	4	Includer	Allegiant 34E14N

**Ratings**

E = Excellent  
 VG = Very Good  
 G = Good  
 S = Susceptible  
 R = Resistant  
 MR = Moderately Resistant  
 NR = Not Rated  
 NG = No Gene

**Ratings**

1 = Excellent  
 5 = Average  
 9 = Fair

**Color**

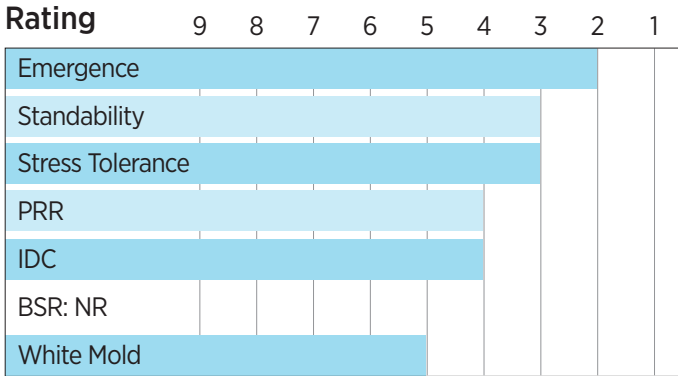
BR = Brown  
 B = Black  
 BF = Buff  
 IB = Imperfect Black

TN = Tan  
 T = Tawny  
 LT = Light Tawny  
 G = Gray

P = Purple  
 W = White  
 Y = Yellow

# Allegiant 009F93N

Relative Maturity: 0.09



## Key Highlights

- This is a wish list product with a strong yield
- A very nice PRR upgrade
- Strong performance in a wide footprint, manage with hot IDC acres
- New XtendFlex® option with SCN resistance

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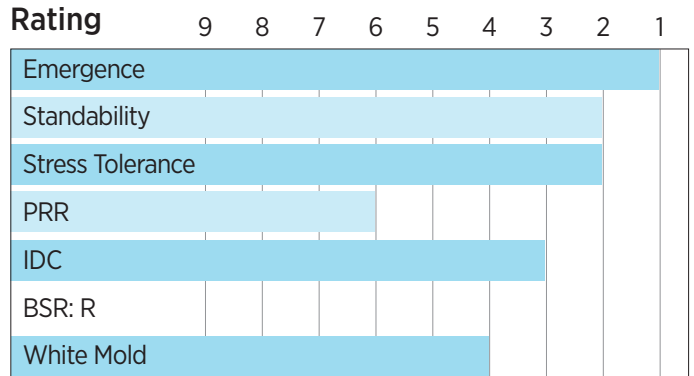
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# Allegiant 009F23

Relative Maturity: 0.09



## Key Highlights

- XtendFlex yield upgrade for IDC acres
- Good lateral branching allows wide or narrow row placement
- Plant stature and height allows for broad placement
- Solid BSR tolerance

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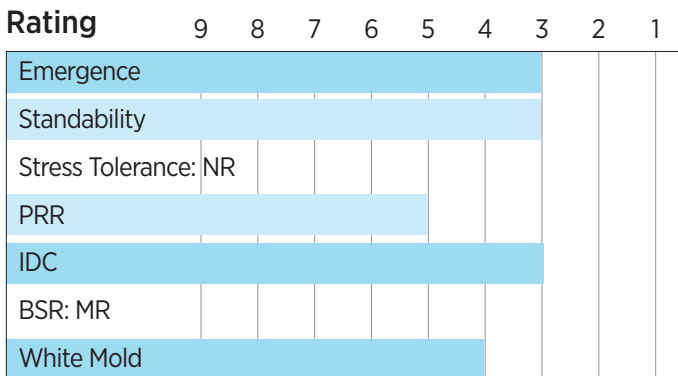
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# Allegiant 01F24N

Relative Maturity: 0.1



## Key Highlights

- Plant type and agronomics allows broad placement
- Go-to IDC bean with solid PRR package
- SCN resistance and above average SWM tolerance

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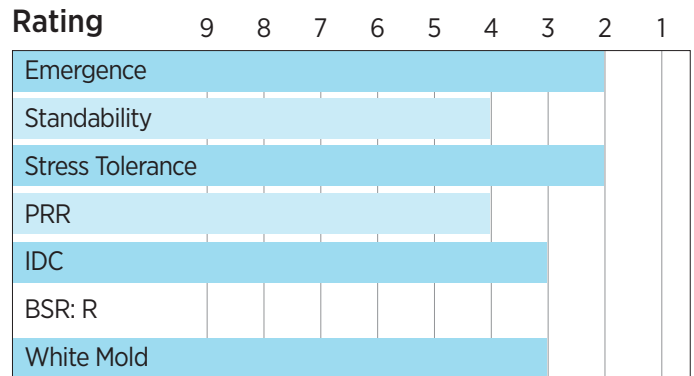
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# Allegiant 03F12

Relative Maturity: 0.3



## Key Highlights

- Tall, robust variety that is a perfect fit for heavy soil types
- Strong IDC with above average white mold
- Early RM workhorse

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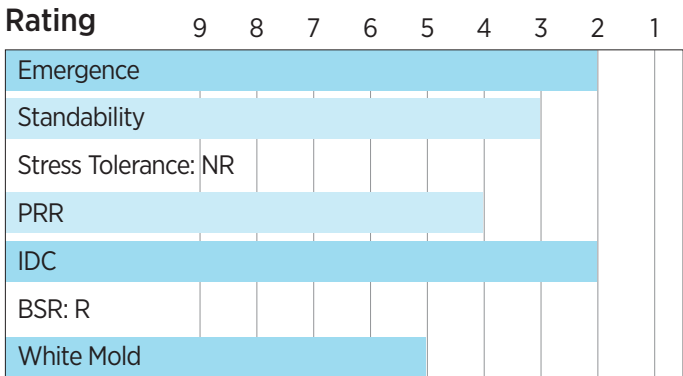
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# Allegiant 05F54N

Relative Maturity: 0.5



## Key Highlights

- This is a GAME CHANGER!
- Lineup leading IDC with head-turning yield
- Versatile plant structure for adaptation to multiple yield environments

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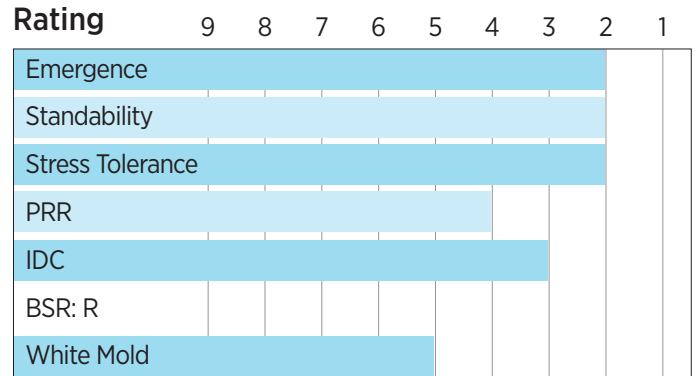
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# Allegiant 07F22N

Relative Maturity: 0.7



## Key Highlights

- Step change yield in this maturity
- Above average IDC rating with BSR resistance and solid PRR package
- Use caution on SWM areas
- Tight, upright structure

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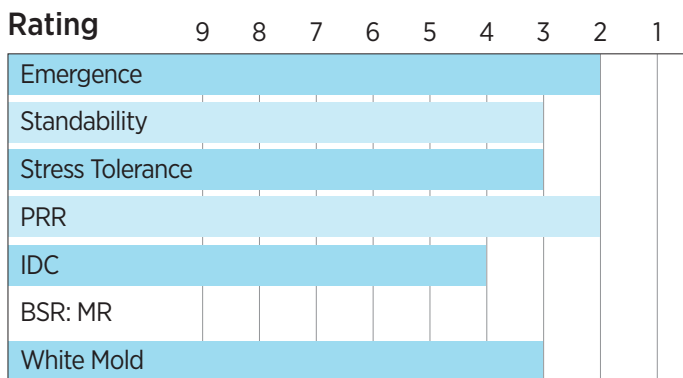
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# Allegiant 09F82N

Relative Maturity: 0.9



## Key Highlights

- Proven high-yield performance
- Medium-tall plant with high pod count on lateral branches
- SCN, RpsH3a and height traverse variable environments
- Strong lateral branching and will shade in-row nicely

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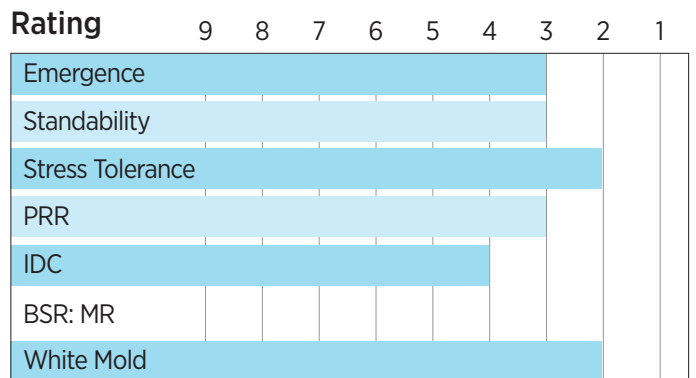
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# Allegiant 14F93N

Relative Maturity: 1.4



## Key Highlights

- Outstanding SWM tolerance, lineup leader
- Performance in all yield environments
- Medium-tall with solid standability
- Stacked Rps 1c, Rps 3a for poorly drained soils

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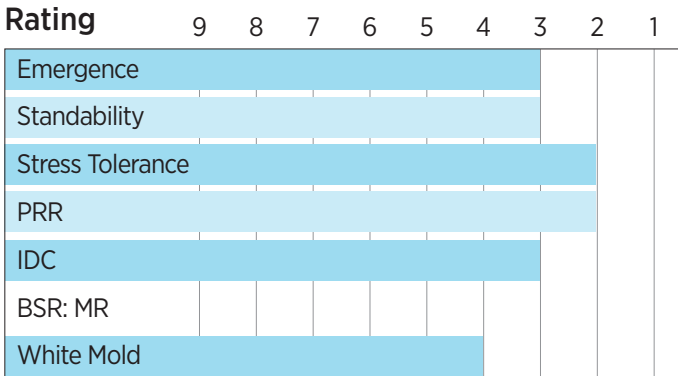
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# Allegiant 22F82N

Relative Maturity: 2.2



## Key Highlights

- Excellent combination of yield with agronomics
- Excellent option for the South Dakota acre
- Brings Rps 3a to early group 2 with good IDC tolerance

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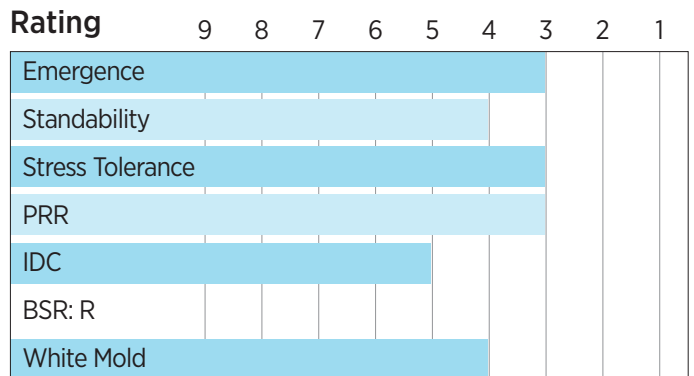
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# Allegiant 24F83N

Relative Maturity: 2.4



## Key Highlights

- Western performing superstar!
- Dominant yield
- Medium-tall plant height with excellent standability
- Exceptional stress tolerance

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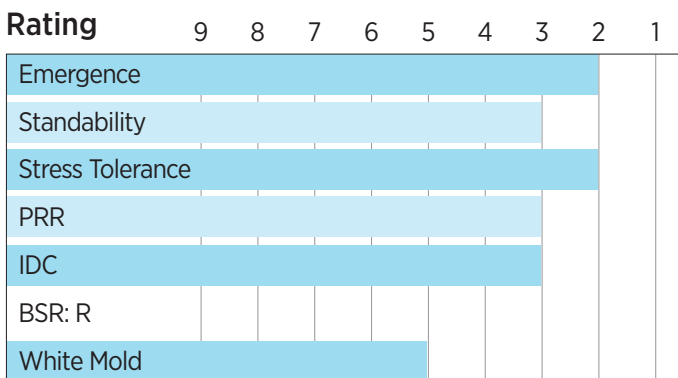
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# Allegiant 26F32N

Relative Maturity: 2.6



## Key Highlights

- This is a true western performing soybean
- Medium to medium-tall plant with excellent standability
- Very good IDC tolerance and moderate SDS tolerance
- Excluder gene allows for yield stability in saline soils
- Yield spread widens versus competition as yield increases

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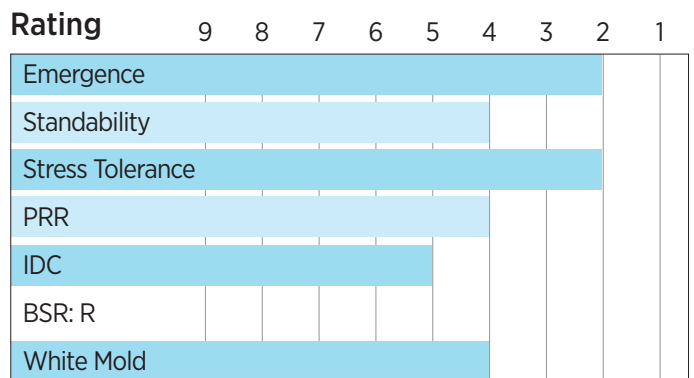
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# Allegiant 28F33N

Relative Maturity: 2.8



## Key Highlights

- Key player on high-end acres to tough environments
- Medium-tall variety with above average standability
- Excellent plant health coming from the Excluder gene
- Excellent choice for the irrigated acre

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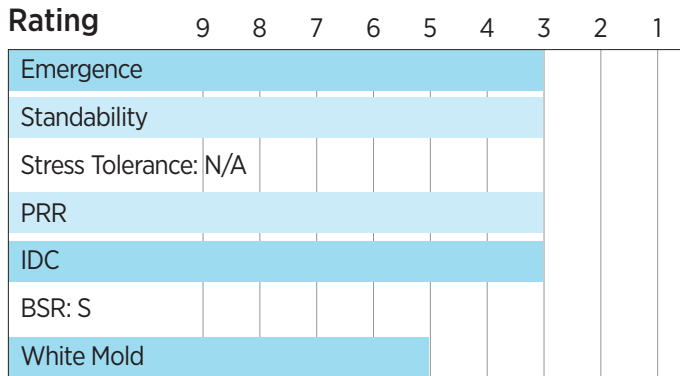


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# Allegiant 01E43N

Relative Maturity: 0.1



## Key Highlights

- Early Swiss Army knife
- New agronomics and yield for trait platform
- Go to IDC bean at this maturity
- Productive branches for all row widths and environments

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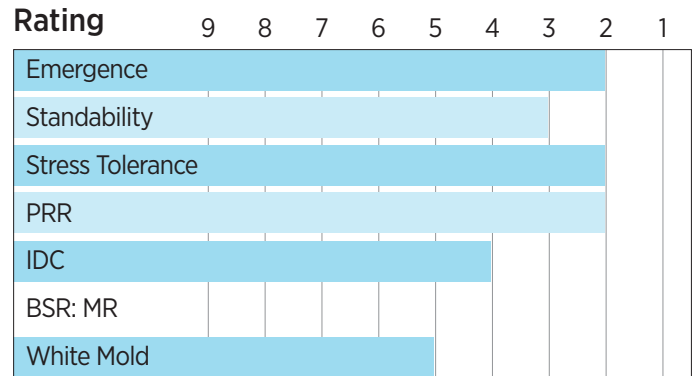
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# Allegiant 07E63N

Relative Maturity: 0.7



## Key Highlights

- Go anywhere bean with great yield from east to west
- PRR warrior! Field tolerance supported by the Rps 3a gene
- Yield stability across all environments
- Plant structure built for all row spaces

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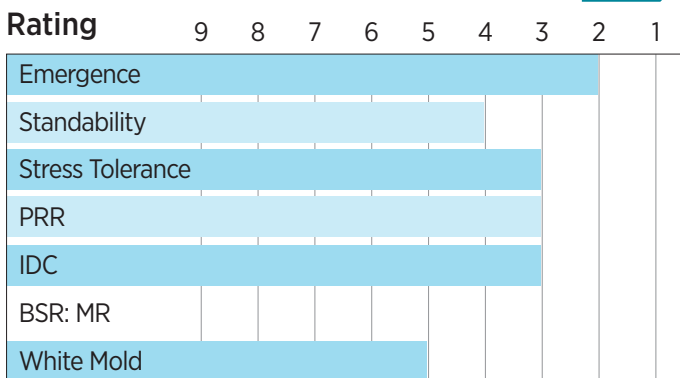
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# Allegiant 09E13N

Relative Maturity: 0.9



## Key Highlights

- Offensive hammer backed by defensive agronomics
- North to south leader
- Solid IDC with the Excluder gene
- Medium-short variety that handles all soil types

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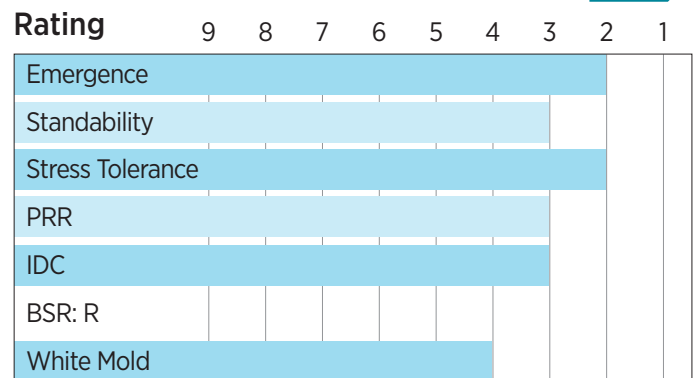
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# Allegiant 11E93N

Relative Maturity: 1.1



## Key Highlights

- Gas pedal yield!
- Broad shoulders with excellent standability
- Exceptional response to high management
- Cool customer in the face of stress

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# Allegiant 12E34N

Relative Maturity: 1.2



Rating	9	8	7	6	5	4	3	2	1
Emergence	[Bar chart showing 9/9]								
Standability	[Bar chart showing 4/9]								
Stress Tolerance	[Bar chart showing 9/9]								
PRR	[Bar chart showing 9/9]								
IDC	[Bar chart showing 9/9]								
BSR: R	[Bar chart showing 9/9]								
White Mold	[Bar chart showing 4/9]								

### Key Highlights

- Workhouse variety with best-in-class IDC
- Peking SCN resistance
- Very good stress tolerance supported by Rps3a gene

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# Allegiant 14E82N

Relative Maturity: 1.4



Rating	9	8	7	6	5	4	3	2	1
Emergence	[Bar chart showing 9/9]								
Standability	[Bar chart showing 9/9]								
Stress Tolerance	[Bar chart showing 3/9]								
PRR	[Bar chart showing 9/9]								
IDC	[Bar chart showing 3/9]								
BSR: R	[Bar chart showing 9/9]								
White Mold	[Bar chart showing 3/9]								

### Key Highlights

- The Beast!
- Bell ringer across multiple yield environments
- Defensive agronomics with consistent yield performance
- Excellent IDC tolerance and SWM
- National performance

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# ENLIST® WEED CONTROL SYSTEM— GET CONTROL OF TOUGH WEEDS



Following burndown, Enlist Duo® and Enlist One® herbicides with Colex-D® technology are the only herbicides containing 2,4-D that are labeled for preemergence and postemergence use with Enlist E3® soybeans.

2,4-D choline | Glyphosate | Glufosinate



- Convenient proprietary blend of 2,4-D choline and glyphosate
- The two modes of action work together to deliver control of yield-robbing weeds and help prevent resistance



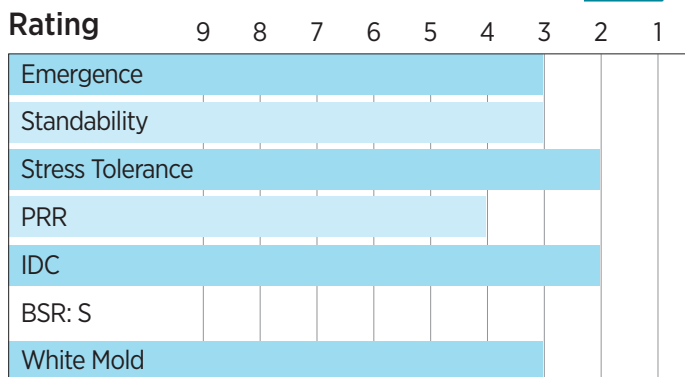
- Straight goods 2,4-D choline with additional tank-mix flexibility
- Provides additional tank-mix flexibility with Durango® DMA® herbicide, Liberty® herbicide and other qualified tank-mix products, allowing for a customized weed control program to fit each farm

### On-Target Application

- 90% less drift than traditional 2,4-D
- 96% less volatile than 2,4-D ester

# Allegiant 17E33N

Relative Maturity: 1.7

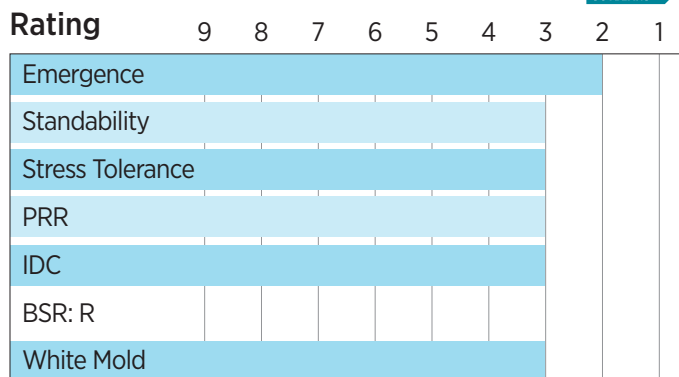


## Key Highlights

- The Triple Crown
- Excellent combination of high-yield potential and strong agronomics!
- Maturity leader on IDC, support with very good SWM and SDS tolerance
- Solid performance seen in both high- and low-yield environments

# Allegiant 20E82N

Relative Maturity: 2.0

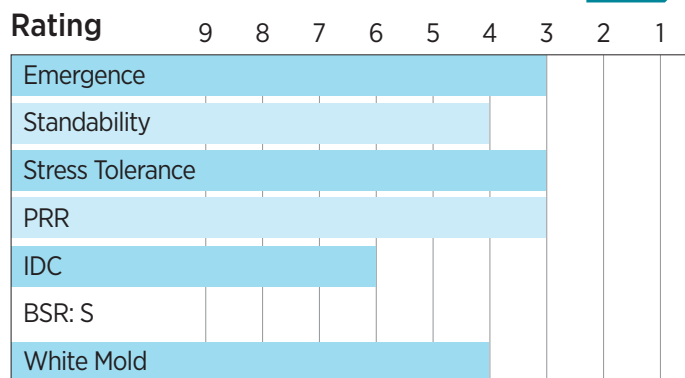


## Key Highlights

- Increased yield from previous varieties at this maturity
- Exceptional agronomic package
- Defensive characteristics with PRR, BSR, SCN
- Improved SWM over other varieties at this maturity
- Eastern soybean

# Allegiant 25E03NS

Relative Maturity: 2.5

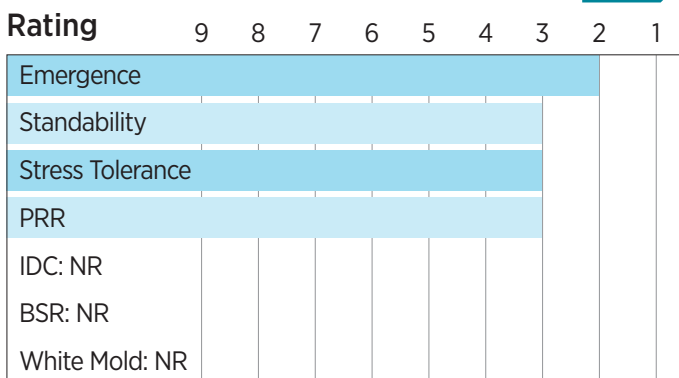


## Key Highlights

- 5-star recruit!
- Everything you have asked for at the 2.5 maturity
- Yield stomp over current lineup
- Rps 1a gene with very good field tolerance

# Allegiant 34E14N

Relative Maturity: 3.4



## Key Highlights

- Big acre product that performs in all yield environments
- Semi-bush plant-type with excellent emergence and nice standability
- Excellent late season plant health and overall agronomics





Notes: \_\_\_\_\_

A series of horizontal lines for writing notes, starting from the line immediately following the 'Notes:' label and extending down to the footer area.





# CHS Seed Treatment Products

CHS features two seed treatments – CHS Armis™ FI and Artect® FI for superior protection. CHS Armis FI Fungicide and Insecticide is a three-fungicide mix and an insecticide that delivers superior protection against well-known seed-borne and soil-borne diseases.

Artect FI Fungicide and Insecticide for cereals includes fungicide and insecticide with unsurpassed protection with the next generation contact and super-systemic fungicide defense system.



## ARMIS™·FI

### Fungicide and Insecticide Seed Treatment for Soybeans

#### Key Performance Benefits

- Protection for the entire plant – Dual mode of action creates a complete zone of defense above and below ground
- Protects against a wider spectrum – Protects against *Pythium* and *Phytophthora* species plus insects and other diseases
- User-friendly treatment – Smooth flowability and low use rate ensures a consistent, even application and easy treatment experience

#### Protection Against

<i>Phytophthora sp.</i>	Seed corn maggot
<i>Pythium sp.</i>	Bean leaf beetle
<i>Rhizoctonia sp.</i>	Wireworm
<i>Fusarium</i>	Aphids
Seed and seedling decay	

## ARTECT®·FI

### Fungicide and Insecticide Seed Treatment for Cereals

#### Key Performance Benefits

- Contact and systemic protection above and below ground.
- Unique *ethaboxam* protection is effective on metalaxyl resistant strains of *Pythium*.
- Clothianidin targets troublesome wireworms.

Artect FI is a ready-to-use fungicide and insecticide seed treatment that offers wheat growers protection against wireworms, *Pythium*, *Fusarium* (scab), and *Rhizoctonia* (root rot). This user-friendly formulation provides even seed coverage, smooth planter flowability, and performs in a wide range of temperatures.

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Artect® FI is a registered trademark of CHS Inc.





**EVERY FARM YIELDS A MOUNTAIN OF DATA.  
WE'LL HELP YOU MAKE THE MOST OF YOURS.**


Your data could be working harder. Agellum® is a comprehensive farm management tool that puts it all into one convenient place, giving you the insights you need to maximize productivity — and profit.

**WHAT CAN AGELLUM DO FOR YOU?**

Contact your CHS agronomy sales representative or regional CHS YieldPoint® specialist to find out.







Farmers are discovering that Allegiant® spring wheat varieties deliver proven performance, attractive fields and strong yield potential – all to help ensure growers succeed with continuous improvement.

You'll find diversified varieties with vital agronomic characteristics, such as solid standability and excellent disease and insect tolerance, to address a range of field conditions and challenges.

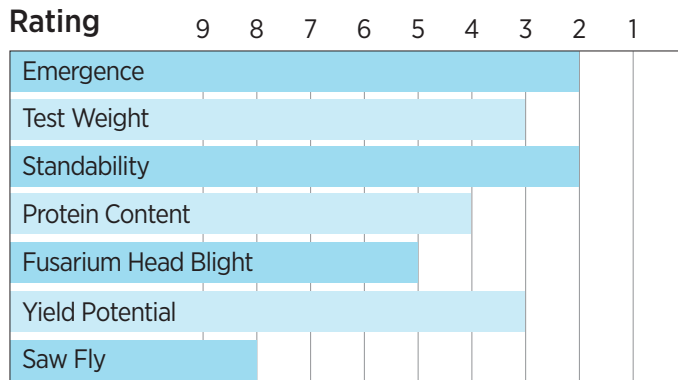
As a major global grain marketer and partner in Ardent Mills (North America's leading flour supplier), CHS also has unique insights that can help ensure your spring wheat varieties satisfy the protein content, milling quality and other demands of today's wheat buyers.

Your local CHS agronomy experts will help you pick the right Allegiant seed for your wheat fields. To help you maximize your seed selection and reach your greatest return on investment, they will also assist with everything from nutrient management and innovative crop protection solutions to the latest precision technologies.

WHEAT



# Allegiant 811



### Key Highlights

- Target area: Montana
- Medium-late maturity
- Medium-short plant height
- Medium-high planting rate
- Excellent stripe rust tolerance
- Very good Hessian fly tolerance

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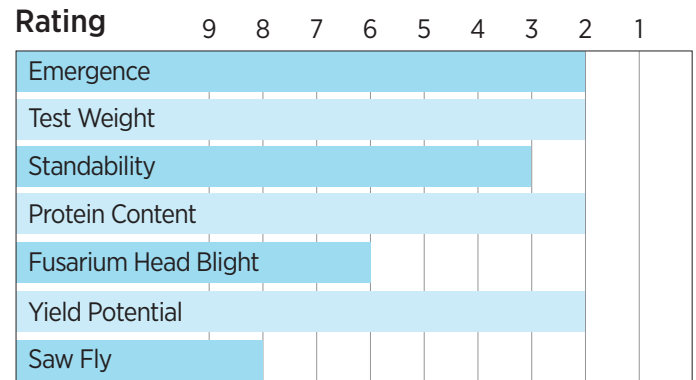


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# Allegiant 822



### Key Highlights

- Target area: Northern Plains
- Medium-late maturity
- Medium-short plant height
- Medium-high planting rate
- Watch for scab on this one
- Excellent Hessian fly tolerance

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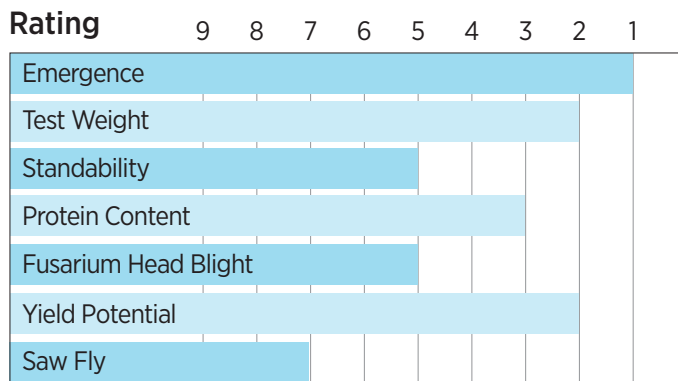


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# Allegiant 8432



### Key Highlights

- Target area: Northern Plains and Pacific Northwest
- Medium maturity
- Medium plant height
- Medium planting rate
- Superior Hessian fly resistance
- Excellent yield with test weight

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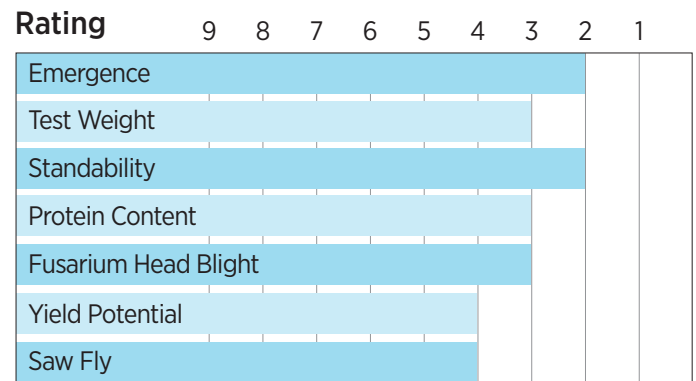


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# Allegiant 8175



### Key Highlights

- Target area: Montana and Northern Plains
- Medium-late maturity
- Medium-tall plant height
- Medium-high planting rate
- Watch for scab on this one
- Excellent Hessian fly tolerance

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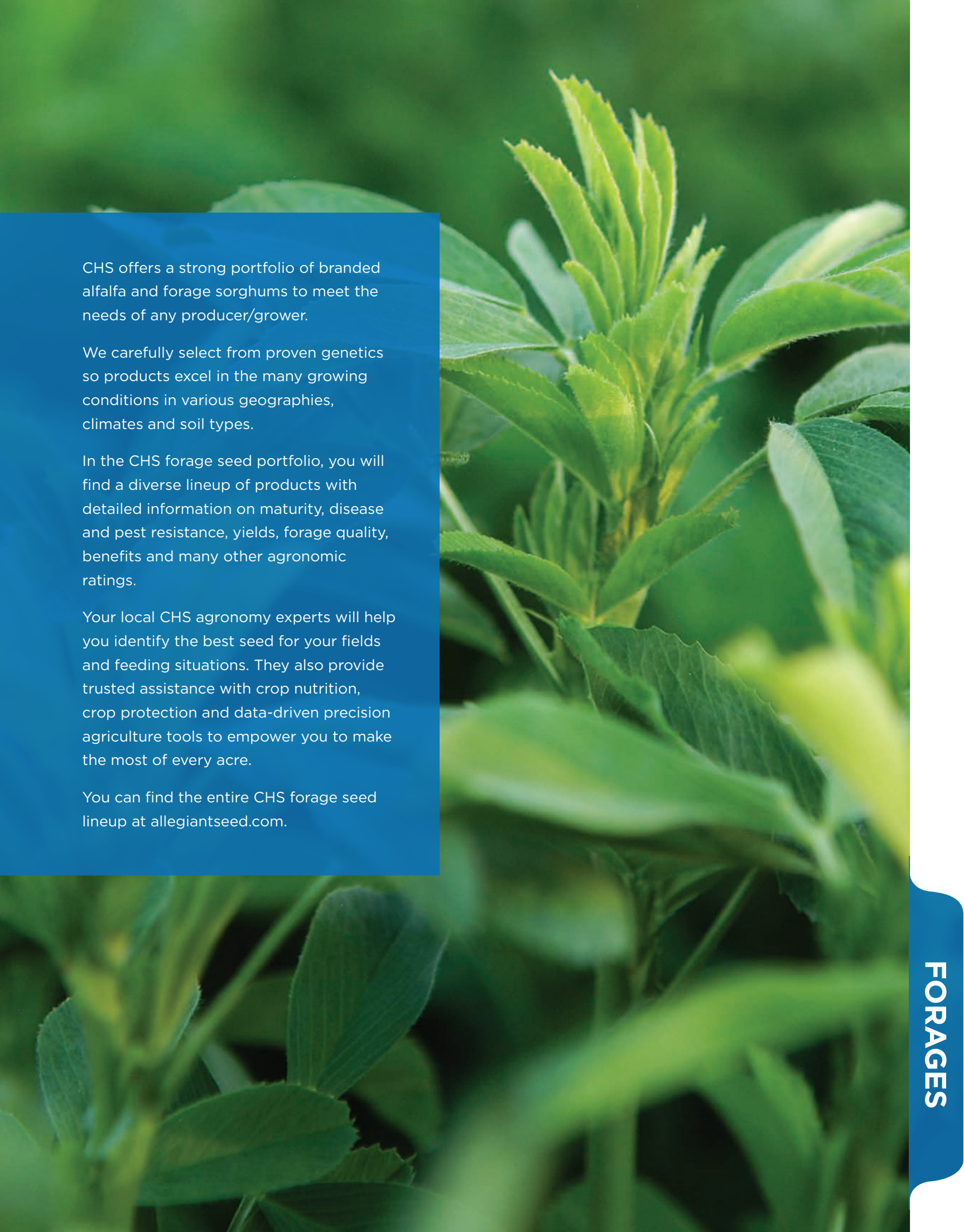
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CHS offers a strong portfolio of branded alfalfa and forage sorghums to meet the needs of any producer/grower.

We carefully select from proven genetics so products excel in the many growing conditions in various geographies, climates and soil types.

In the CHS forage seed portfolio, you will find a diverse lineup of products with detailed information on maturity, disease and pest resistance, yields, forage quality, benefits and many other agronomic ratings.

Your local CHS agronomy experts will help you identify the best seed for your fields and feeding situations. They also provide trusted assistance with crop nutrition, crop protection and data-driven precision agriculture tools to empower you to make the most of every acre.

You can find the entire CHS forage seed lineup at [allegiantseed.com](http://allegiantseed.com).

# Alfalfa Agronomic Chart

Scale of 1-5 with 5 being the best

Product	Traits	Fall Dormancy	Winter Hardiness	DISEASE RESISTANCE						
				Anthracoze	Aphanomyces Race 1	Aphanomyces Race 2	Bacterial Wilt	Fusarium Wilt	Phytophthora	Verticillium Wilt
Allegiant Grazer	Grazing/Traffic Tolerance (conventional)	2	1.6	5	5	3	5	5	5	5
Allegiant Rancher	Conventional	4	2	4	4	NR	5	4	5	5
Allegiant Fighter HT	Salt Tolerant (conventional)	4	2	5	4	NR	5	5	5	5
Allegiant Supreme	Conventional	4	1.2	5	5	4	5	5	5	5
438RR	Roundup Ready® (GMO)	4	2	5	5	5	5	5	5	5
Allegiant Prime 5	Traffic Tolerance (conventional)	5.1	1.9	5	4	NR	5	5	5	5

Scale of 1-5 with 1 being most hardy

NR = Not Rated

## Seed Coatings

CHS alfalfa products come with a standard 34% seed coating, which includes inoculant and fungicide. Raw seed may be available upon request. Studies have shown that field establishment rates can be better with coated seed.

Table 1

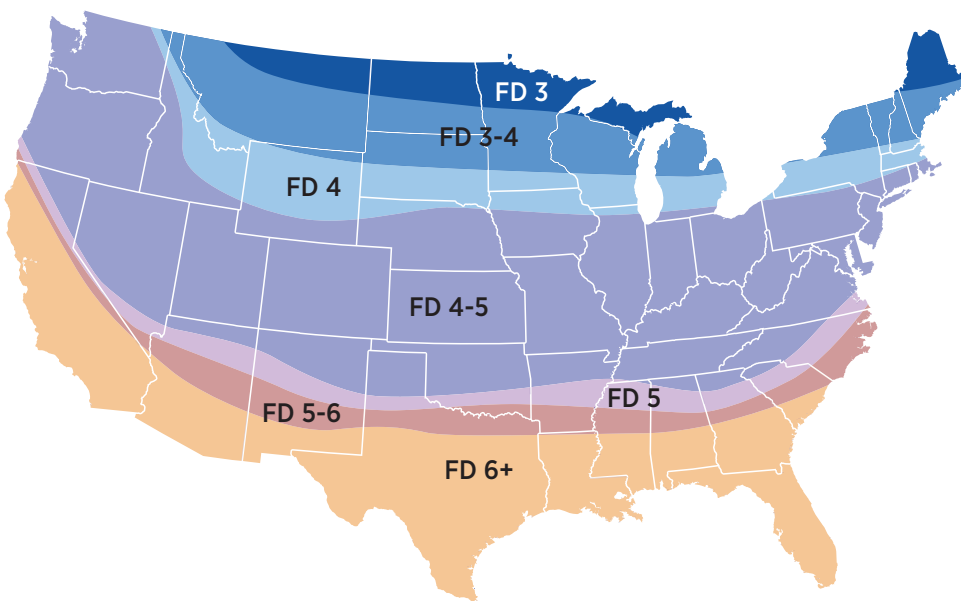
Nutrient Needs	
Potassium (K)	49
Calcium (Ca)	30
Phosphorous (P)	6
Magnesium (MG)	6
Sulfur (S)	6
Iron (Fe)	0.33
Manganese (Mn)	0.12
Boron (B)	0.08
Zinc (Zn)	0.05
Copper (Cu)	0.01
Molybdenum (Mo)	0.002

Pounds of nutrient removed per ton of dry matter produced, according to the University of Wisconsin.

Scale of 1-5 with 5 being the best

Scale of 1-5 with 1 being the best

PEST RESISTANCE						SALT TOLERANCE		PERFORMANCE				MANAGEMENT			Product
Blue Alfalfa Aphid	Northern Root-knot Nematode	Pea Aphid	Southern Root-knot Nematode	Spotted Alfalfa Aphid	Stem Nematode	Germ	Forage	Traffic Tolerance	Yield Potential	Regrowth Rate	Forage Quality	Silage	Hay	Grazing	
3	NR	4	NR	NR	3	3	3	1	2	2	2	4	2	1	Allegiant Grazer
NR	NR	4	NR	NR	NR	3	3	NR	3	3	3	4	2	NR	Allegiant Rancher
NR	5	5	NR	5	4	1	1	NR	4	4	3	2	2	NR	Allegiant Fighter HT
NR	5	4	5	NR	4	3	2	NR	1	2	2	2	1	NR	Allegiant Supreme
NR	NR	5	NR	NR	4	3	3	NR	2	2	2	2	2	NR	438RR
NR	5	4	NR	NR	4	3	2	1	1	1	2	1	1	1	Allegiant Prime 5



**Alfalfa Adaptation Zone**

- FD 3
- FD 5
- FD 4
- FD 6+

Alfalfa fall dormancy adaptation zones can vary from the adjacent map, which should be used as a general reference. Local climates and individual variety characteristics affect variety selection.


In general, newer varieties with increased winter hardiness allow growers to plant varieties with a higher fall dormancy rating than in the past.

# Allegiant Grazer

Fall Dormancy: 2

Disease Resistance Index Score: 33/35

Winter Hardiness: 1.6

Best Use: 

## Key Highlights

- Recessed crown for excellent grazing and traffic tolerance
  - Creeping rhizomes for extended stand longevity
  - Very good quality with 50% multifoliate expression
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# Allegiant Rancher

Fall Dormancy: 4

Disease Resistance Index Score: 27/30

Winter Hardiness: 2.0

Best Use:  

## Key Highlights

- Economical mix for rangeland, grass mixes or operations with minimal management
  - Improved genetics for good yield and persistence
  - Suitable for dryland operations
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# Allegiant Fighter HT

Fall Dormancy: 4

Disease Resistance Index Score: 29/30

Winter Hardiness: 2.0

Best Use:  

## Key Highlights

- Increased salt tolerance in the germination and forage stages
  - Improves productivity of high-saline fields
  - Strong yields, with a quality disease and pest package
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# Allegiant Supreme

Fall Dormancy: 4

Disease Resistance Index Score: 34/35

Winter Hardiness: 1.2

Best Use:  

## Key Highlights

- Industry-leading yields in four- and five-cut systems
  - Versatile variety for silage or hay operations
  - Excellent disease, pest and winter hardiness package
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# 438RR

Fall Dormancy: 4

Disease Resistance Index Score: 35/35

Winter Hardiness: 2

Best Use:  

## Key Highlights

- Roundup Ready® trait for easier weed control
- Industry leading disease package
- Fastest regrowth after harvest and suitable for most of the U.S.

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# Allegiant Prime 5

Fall Dormancy: 5

Disease Resistance Index Score: 29/30

Winter Hardiness: 1.7

Best Use:   

## Key Highlights

- Strong yield in five- and six-cut systems
- Ideal for hay and silage operations and great traffic tolerance
- Excellent winter hardiness for cooler climates

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Best Use Index:  Hay  Silage  Grazing

# The Basics of Alfalfa Production and Products

## Fertility Requirements

Optimal soil pH for alfalfa is 6.5 to 7.5. Alfalfa planted in a soil pH lower than 6.5 and higher than 7.5 will likely produce less than its potential and be more susceptible to diseases and pests (see Chart 1). Studies have shown alfalfa plants in a soil pH of 5.5 had a 10% survival rate to the second year, while survival rates in a field with a soil pH of 6.5 were close to 40%. Nutritional quality decreases as the soil becomes more acidic or alkaline. For example, tests have shown alfalfa from a 5.6 soil pH had up to 4% lower protein content than the same product in the same field with a pH of 6.5. For every ton of dry matter produced, an alfalfa stand consumes a significant amount of nutrients (see Table 1 on page 36). Micronutrient applications can greatly increase plant health and yield. Tissue sampling can be the best way to determine what micronutrients are needed.

## Number of Harvests

Alfalfa experts have concluded that alfalfa, regardless of variety, has about 20 economical cuts in its lifespan. After 20 cuts, the plant is starting the downhill slide of its life. It may continue to grow for years, but its production significantly declines. If harvest yields are carefully measured, growers will often discover that after 20 cuts, yield has dropped to a point where it is economically advantageous to terminate the field and establish a new field. See Chart 2 for more information.

## Predicting Yields

For peak yield, a stand should have about 55 stems per square foot. For every 10 stems less than 55, the stand yields about 1 ton less dry matter per acre each year. Growers should consider rotating out when stem count falls below 40 per square foot. See Chart 3 for more information.

## Doctor Checkup

To measure the health of your stand, dig up roots and cut the crown and taproot in half. If the center of the crown and taproot is bright white/yellow, the plant is healthy and likely has at least two years of good production remaining. If some black crown rot is starting to show in the center of the crown/taproot, the field should be taken out of production after that growing season. If the crown/taproot of plants throughout the field has more than 60% black/brown discoloration, the field is not economical and should be converted to another profitable forage immediately.

Chart 1\*

First-cutting Alfalfa Yield Relative to Soil pH

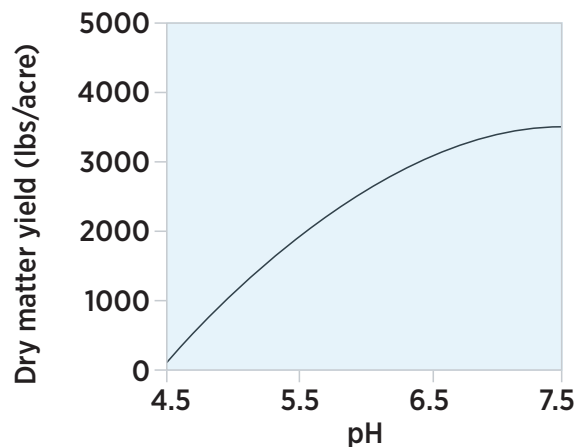


Chart 2

Alfalfa Stand Age and Yield (Fall Dormancy 4)

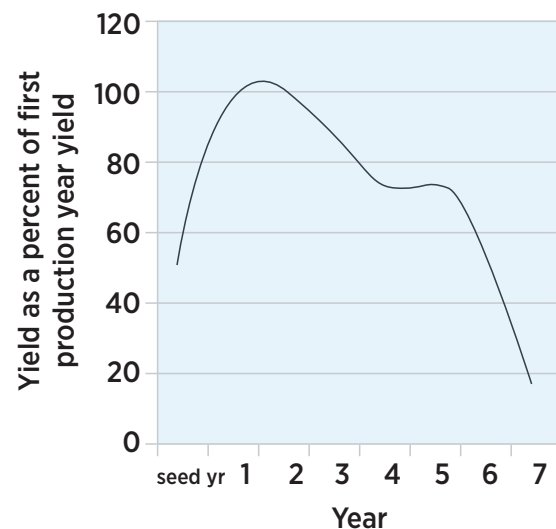
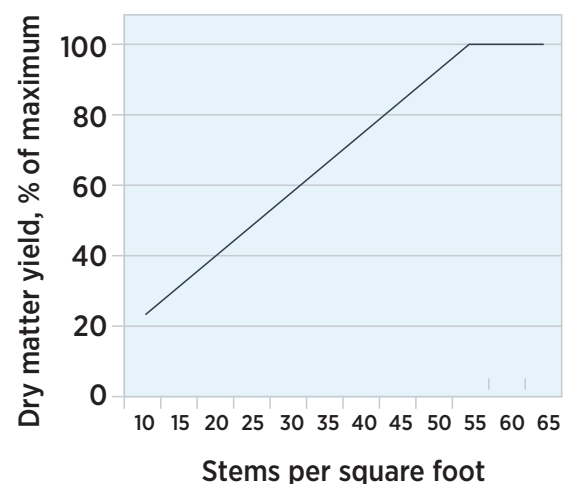


Chart 3

Alfalfa Stem Count and Yield Potential



\*Wollenhaupt and Undersender. University of Wisconsin, 1991



# Forage Sorghum, Sorghum - Sudan and Pearl Millet Agronomics

Product	Maturity: Days to Mid-Bloom	Yield Potential*	Drought Tolerance	Grazing Forage Quality	Silage Forage Quality**
PearlPlus Conventional	65-70	4	2	3	3
PearlPlus BMR	95-100	3	2	1	1
HighYield BMR Dwarf	65-70	2	1	1	
HighYield BMR	90-95	1	1	1	1
HighYield Conventional	90-95	1	1	4	4
HighYield BMR PS	125-180	1	1	1	1
SiloSorghum Flex Red 51	65-75	2	1	5	2
SiloSorghum BMR Dwarf	85-90	1	1	2	1
SiloSorghum Conventional	85-90	1	1	5	3

Scale of 1-5, with 1 being the best

\* Yield compared to other summer annuals

\*\* Forage silage quality compared to corn silage

Seed Treatment Options	
<b>Base Treated</b>	Fungicide – protects seed from moles and <i>Pythium</i> while germinating and emerging. Insecticide – protects seed while still in bag before planting.
<b>SorPro/Concep Treatment</b>	Includes base treatment. Herbicide – protects the seed from Dual or similar type pre-plant herbicides while germinating and emerging, effectiveness lasts approximately 10 days after planting.
<b>Nipsit/Poncho Treatment</b>	Includes base treatment. Insecticide – protects the growing plant from sucking and chewing insects, greenbugs, aphids, and other pests for approximately 90 days.



Regrowth	Disease Package	Used for Hay	Used for Grazing	Used for Silage	Seeds/lb	Product
1	1	1	1	5	N/A	PearlPlus Conventional
1	1	1	1	5	N/A	PearlPlus BMR
1	2	2	1	4	17,000	HighYield BMR Dwarf
2	2	1	1	4	17,000	HighYield BMR
2	2	1	1	4	16,000	HighYield Conventional
2	2	1	1	4	17,000	HighYield BMR PS
5	1	5	5	1	16,500	SiloSorghum Flex Red 51
5	2	5	5	1	17,000	SiloSorghum BMR Dwarf
5	2	5	5	1	15,500	SiloSorghum Conventional

Seeding Rates (lb/acre)				
Product	Dryland		Irrigated/Copious Rainfall	
	Drilled/ Rows	Broadcast	Drilled/Rows	Broadcast
Sorghum - Sudan, Conventional	10-20	15-25	40-50	50
Sorghum - Sudan BMR	10-20	15-20	25-30	30-35
Forage Sorghum	4-8	Not Advised	6-10	Not Advised
Hybrid Pearl Millet	10	10-15	15-20	20-25

Based on 15,000 - 17,000 seeds/lb (except for hybrid pearl millet)

# Forage Sorghum, Sorghum - Sudangrass and Pearl Millet Basics, and Products

Forage sorghum and sorghum x sudangrass hybrids (often referred to as sorghum-sudan) have been around for a long time, but they have been big, stalky and mediocre forage quality. As a result, beef and dairy cattle feeding on these forages have shown average performance. And for farmers that used sorghum-sudan for hay, the stuff was hard on equipment and hard to dry. The one advantage of these sorghum products has always been their exceptional drought tolerance and big yields. In recent years, major advances have been made on these products. Specifically, the BMR (brown midrib) trait has been developed. The BMR trait has also been introduced to hybrid pearl millet.

These highly drought tolerant, high-yielding, and now high-quality summer annuals – especially the BMR varieties – have many advantages. For example, BMR forage sorghum can show comparable silage yields and forage quality to corn silage, with less nitrogen, less water, and lower seed costs. Sorghum-sudan and hybrid pearl millet can provide outstanding forage yields and quality for grazing or hay, even in dry conditions.

## Macronutrient Needs

### Sorghum-sudan and Hybrid Pearl Millet for Grazing and Hay

Estimated Fertilizer Pounds per Acre per Growing Day

Nitrogen (N) - 1

Phosphorous (P2O5) - 1

Potassium (K2O) - 1.3

### Forage Sorghum for Silage Production

Estimated Fertilizer Pounds per Acre per Ton of Production

Nitrogen (N) - 5

Phosphorous (P2O5) - 2.5-3.75

Potassium (K2O) - 5.5-6

NOTE: Fertilizer requirements for each field can vary significantly.





# Hybrid Pearl Millet

## PearlPlus Conventional

**Maturity:** Early (65-70 days to mid-bloom)

**Forage Quality:** Medium

**Forage Yield:** Medium-High

**Best Use:**  

### Key Highlights

- Improved conventional hybrid pearl millet
- Thinner stalks than sorghum-sudangrass for quicker drydown
- Best for shorter growing season with no threat of prussic acid

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## PearlPlus BMR

**Maturity:** Late (95-100 days to mid-bloom)

**Forage Quality:** High

**Forage Yield:** High

**Best Use:**  

### Key Highlights

- Premium forage for cattle and horses
- High-yielding, superior-quality, BMR variety
- Ideal for long growing season with no threat of prussic acid

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# Sorghum - Sudangrass

## HighYield BMR Dwarf

**Maturity:** Early (65-70 days to mid-bloom)

**Forage Quality:** High

**Forage Yield:** High

**Best Use:**  

### Key Highlights

- Excellent yields and higher leaf-to-stem ratio
- Slightly shorter stature makes hybrid ideal for grazing
- Ideal for shorter growing seasons (late planting or cooler climates)

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## HighYield BMR

**Maturity:** Late (90-95 days to mid-bloom)

**Forage Quality:** High

**Forage Yield:** High

**Best Use:**  

### Key Highlights

- Excellent yields and high forage quality
- Like most sorghum x sudan hybrids, very drought tolerant
- Ideal if planted early for maximum growing season length

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**Best Use Index:**  Hay  Grazing





# Forage Sorghum

## SiloSorghum Flex Red 51

**Maturity:** Early (65-75 days to mid-bloom)

**Forage Quality:** Medium

**Forage Yield:** Medium

**Best Use:** 

### Key Highlights

- Leafy and strong grain yielder, flexible for silage or grain production
- High resistance to sugar cane aphids and other diseases
- Grain (red) maturity is 110-115 days, very drought resistant

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## SiloSorghum BMR Dwarf

**Maturity:** Early-Medium (85-90 days to mid-bloom)

**Forage Quality:** High

**Forage Yield:** High

**Best Use:** 

### Key Highlights

- Comparable to corn in yield and silage quality
- Slightly shorter plant and higher leaf-to-stem ratio
- Ideal for medium-length growing seasons in non-premium soil

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## SiloSorghum Conventional

**Maturity:** Medium (85-90 days to mid-bloom)

**Forage Quality:** Medium

**Forage Yield:** High

**Best Use:** 

### Key Highlights

- Great yields and excellent drought tolerance
- Conventional hybrid for longer growing season
- An option for economical, medium-quality silage production

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**Best Use Index:**  Hay  Silage  Grazing





# Think Before You Bin Run

**Verification Required** The last patent on the original Roundup Ready® soybean trait expired a few years ago and U.S. farmers may legally plant saved seed from some varieties of soybean containing the Roundup Ready® soybean trait. However, it is important that you check with your seed supplier to determine if a specific Roundup Ready® soybean variety is covered by other intellectual property rights, and if so, the policy for saving seed of that variety.

**Higher Seeding Rate** A higher seeding rate may be required for bin-run Roundup Ready® soybeans compared to new branded seed.

**Yield Loss** Roundup Ready 2 Yield® soybean, Roundup Ready 2 Xtend® soybean, and XtendFlex® soybean varieties typically have a higher yield opportunity than Roundup Ready® soybean varieties.

**Cleanout Loss** Loss of seed and/or shrink occurs during the seed cleaning and handling processes for bin-run seed.

**Seed Treatment Costs** Treating your seed will add costs—both the cost of the treatment and the application of that treatment.

**Lost Income** Every bushel of saved seed you plant is a bushel you're not selling as commodity grain.

**Increased Seed Management** If you plan to save and bin-run Roundup Ready® soybeans for planting, you will have to manage your harvest operations and grain storage so that the seed isn't co-mingled with other seed that's covered by intellectual property rights.

## High Value of New Branded Seed

### Latest Technology

- // High-yielding soybean technologies
- // Better variety options
- // Leading seed treatment options

### Customer Service

- // Dealer agronomic support before and after the sale
- // Replant policy support
- // Convenient packaging and delivery

### Reliable Germination and Quality

- // Rigorously tested and meets U.S. Federal Seed Act requirements
- // Free of seed-borne diseases
- // Properly stored and conditioned

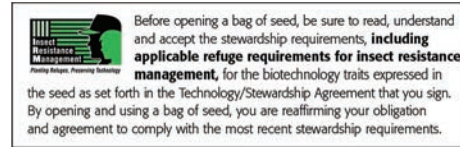
For a list of Bayer's trait patents go to [cs.bayerpatents.bayer.com](https://cs.bayerpatents.bayer.com)

For questions regarding seed intellectual property, or to anonymously report a saved seed tip, you can contact Bayer in the following ways:

1. Call 1-866-99-BAYER
2. Send a letter: Trait Stewardship, 622 Emerson Rd., Suite 150, Creve Coeur, MO 63141
3. Submit a contact request at [crops.cscience.bayer.us/contact](https://crops.cscience.bayer.us/contact) or scan the QR code



**Bayer is a member of Excellence Through Stewardship® (ETS).** Bayer products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Bayer's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercialized products have been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.



**ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans. NOT ALL formulations of dicamba, glyphosate or glufosinate are approved for in-crop use with products with XtendFlex® Technology. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USES AND APPROVED FOR SUCH USE IN THE STATE OF APPLICATION. Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicide products for in-crop use with Roundup Ready 2 Xtend® soybeans or products with XtendFlex® Technology.

**B.t. products** may not yet be registered in all states. Check with your seed brand representative for the registration status in your state.

**IMPORTANT IRM INFORMATION: RIB Complete®** corn blend products do not require the planting of a structured refuge **except** in the Cotton-Growing Area where corn earworm is a significant pest. **See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.**

**Roundup Ready® 2 Technology** contains genes that confer tolerance to glyphosate. **Roundup Ready 2 Xtend® soybeans contain genes that confer tolerance to glyphosate and dicamba. Products with XtendFlex® Technology contains genes that confer tolerance to glyphosate, glufosinate and dicamba. Glyphosate** will kill crops that are not tolerant to glyphosate. **Dicamba** will kill crops that are not tolerant to dicamba. **Glufosinate** will kill crops that are not tolerant to glufosinate. Contact your seed brand dealer or refer to the Bayer Technology Use Guide for recommended weed control programs.

Contact your Bayer retailer, refer to the Bayer Technology Use Guide, or call the technical support line at 1-844-RRXTEND for recommended Roundup Ready® Xtend Crop System weed control programs.

Insect control technology provided by **Vip3A** is utilized under license from Syngenta Crop Protection AG. Herculex® is a registered trademark of Dow AgroSciences LLC. Agrisure Viptera® is a registered trademark of a Syngenta group company. LibertyLink® and the Water Droplet Design® is a trademark of BASF Corporation. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. DroughtGard®, RIB Complete®, Roundup Ready 2 Technology and Design™, Roundup Ready 2 Xtend®, Roundup Ready 2 Yield®, Roundup Ready®, SmartStax®, Trecepta®, VT Double PRO® and XtendFlex® are trademarks of Bayer Group.



Seed containing a patented trait can only be used to plant a single commercial crop. It is unlawful to save and replant Roundup Ready 2 Yield® soybeans, Roundup Ready 2 Xtend® soybeans, and XtendFlex® soybeans. Additional information and limitations on the use of these products are provided in the Technology Stewardship Agreement and the Bayer Technology Use Guide: [tug.bayer.com](http://tug.bayer.com). U.S. patents for Bayer technologies can be found at the following webpage: [cs.bayerpatents.bayer.com](http://cs.bayerpatents.bayer.com)

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Seeds containing the Enlist, Herculex and PowerCore traits are protected under numerous US patents. Seeds containing patented traits can only be used to plant a single commercial crop and cannot be saved or replanted. You acknowledge and agree to be bound by the terms and conditions of the following documents in effect at the time of planting of this seed: (i) the Technology Use Agreement and (ii) the Product Use Guides for all technologies in this seed, including the Herbicide Resistance Management (HRM), and Use requirements detailed therein ([www.corteva.us/Resources/trait-stewardship.html](http://www.corteva.us/Resources/trait-stewardship.html)). To plant Enlist, Herculex and PowerCore seed, you must have a limited license from Corteva Agriscience (or other appropriate affiliates). In consideration of the foregoing, Corteva Agriscience grants to the Grower the limited license to use its technology to produce only a single commercial crop in the United States under the terms and conditions set forth in the Technology Use Agreement in effect at the time of planting of this seed. Always read and follow herbicide label directions prior to use: Enlist® products contain the Enlist trait that provides crop safety for use of labeled over-the-top applications of glyphosate, glufosinate and 2,4-D herbicides featuring Colex-D® technology when applied according to label directions. Following burndown, the only 2,4-D containing herbicide products that may be used with Enlist® crops are products that feature Colex-D technology and are expressly labeled for use on Enlist crops. 2,4-D products that do not contain Colex-D technology are not authorized for use in conjunction with Enlist products.

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Enlist E3® soybean seeds containing the Enlist® trait can only be used to plant a single commercial crop. It is unlawful to save and replant Enlist E3® soybeans. Additional information and limitations on the use of these products are provided in the Corteva Agriscience Technology Use Agreement and Enlist® Soybean Product Use Guide. U.S. patents for Dow AgroSciences technologies can be found at the following webpage: [www.corteva.us/Resources/trait-stewardship.html](http://www.corteva.us/Resources/trait-stewardship.html)

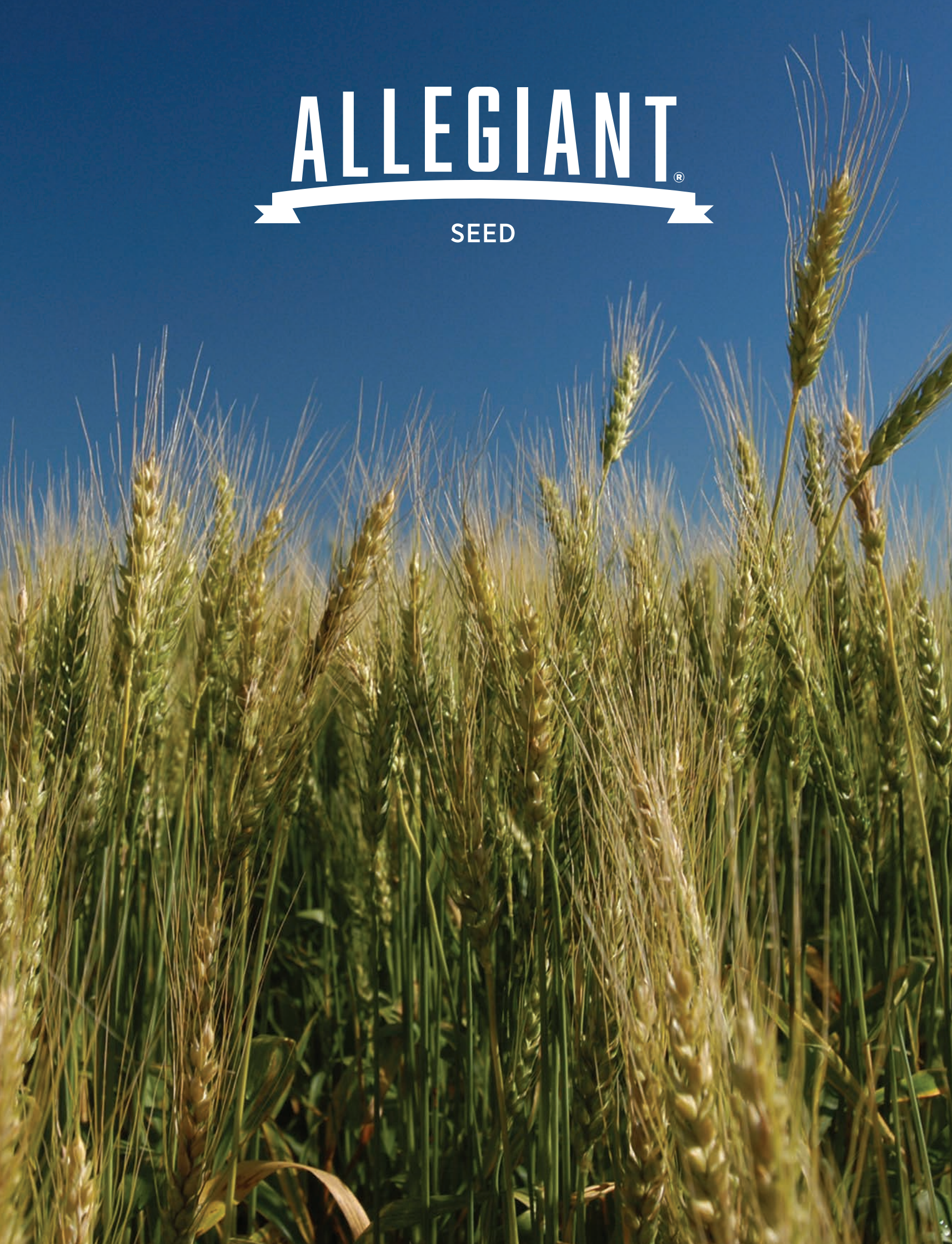
Due to the unique cropping practices do not plant Roundup Ready® Alfalfa in Imperial County, California, pending import approvals and until Forage Genetics International, LLC (FGI) grants express permission for such planting.

Forage Genetics International, LLC ("FGI") is a member of Excellence Through Stewardship® (ETS). FGI products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with FGI's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Roundup Ready® Alfalfa has pending import approvals. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Growers should refer to <http://www.biotradestatus.com/> for any updated information on import country approvals. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

**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. Roundup Ready® is registered trademarks of Bayer Group used under license by Forage Genetics International, LLC.

# ALLEGIANT<sup>®</sup>

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# ALLEGiant®

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