

# ALFALFA

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### Legend

EX	=	Excellent
VG	=	Very Good
G	=	Good
F	=	Fair

## Average Seeds Per Pound

Alfalfa	199,000
Barley	14,300
Bromegrass	136,000
Clovers	
Sweet	240,000
Alslike	653,000
Red	252,000
White	784,000
Oats	16,200
Orchardgrass	653,000
Ryegrass	227,000
Sorghum	15,000
Sudangrass	4,000
Timothy	1,234,000



## Alfalfa Autotoxicity Reseeding Risk Assessment

	Points	Score
<b>1. Amount of previous alfalfa top growth incorporated or left on soil surface</b>		
Fall cut or grazed	1	
0 to 1 ton top growth	3	
More than 1 ton top growth	5	
<b>2. Disease resistance of the variety to be seeded</b>		
High disease resistance	1	
Moderate disease resistance	2	
Low disease resistance	3	
<b>3. Irrigation or rainfall potential prior to reseeding</b>		
High (greater than 2 inches)	1	
Medium (1 to 2 inches)	2	
Low (less than 1 inch)	3	
<b>4. Soil Type</b>		
Sandy	1	
Loamy	2	
Clayey	3	
<b>5. Tillage prior to reseeding</b>		
Moldboard plow	1	
chisel plow	2	
No-till	3	
<b>6. Sum of points from questions 1-5</b>		
<b>7. Age of previous alfalfa stand</b>		
Less than 1 year	0	
1 to 2 years	0.5	
More than 2 years	1	
<b>8. Reseeding delay after alfalfa kill/plowdown</b>		
12 months or more	0	
6 months	1	
2 to 4 weeks	2	
Less than 2 weeks	3	
<b>Your total score (multiply points from 6, 7 and 8)</b>		

### Alfalfa Reseeding Risk

Your score:	Autotoxicity risk is:	Recommendation
0	Low	Seed
4 to 8	Moderate	Caution, potential yield loss
9 to 12	High	Warning, yield loss likely
> 13	Very High	Avoid reseeding, likely stand & yield loss

Source: Craig Sheaffer, Dan Undersander, and Paul Peterson, Universities of Minnesota and Wisconsin, 2004

# ALFALFA

Brand	Performance Assured	Fall Dormancy	Winter Hardiness	Yield Expectation	Forage Quality	Disease Resistance	Seedling Vigor	Stand Persistence	Regrowth After Harvest	Standability	Wheel Traffic Resistance	Harvest Cuts	ML Expression
Summit	✓	4.5	EX	EX	EX	EX	EX	EX	EX	EX	4-5	EX	
Sustain W brand	✓	5	EX	EX	EX	EX	EX	EX	EX	VG	VG	4-5	VG
Ascend 552	✓	5	EX	EX	VG	EX	EX	EX	EX	G	EX	4-5	VG
Haymaker II Supreme	✓	4	EX	VG	EX	EX	EX	EX	VG	G	EX	3-4	EX
Bronco brand	✓	4	EX	EX	VG	EX	EX	EX	VG	G	EX	4-5	VG
Matrix brand*		3	EX	VG	EX	EX	EX	VG	VG	G	VG	3	EX
K968 I brand	✓	3	VG	G	EX	EX	EX	EX	G	G	EX	2-3	EX

\* Available by special order only

**Performance Assured** alfalfa products listed meet or exceed Kussmaul Seeds' Performance Assured criteria for exceptional performance and value.

Entry	CP	NDF	NDFDI	ADF	Relative Forage Quality (RFQ)	Milk per Ton lbs/ton	07 TAI	Milk per Acre lbs/acre
Summit	21.9	37.4	51.2	33.3	171	2931	5.90	17318
PGI 459	21.2	38.6	50.2	34.0	164	2926	5.86	17159
Legend Extra	22.2	36.3	52.0	32.6	180	3011	5.66	17044
WL 319 HQ	22.8	36.8	51.7	32.7	176	2971	5.67	16834
WL 357 HQ	22.1	38.0	50.3	33.6	167	2908	5.72	16627
SummerGold	22.4	37.4	50.9	33.1	171	2920	5.53	16136
54V46	21.7	39.1	50.1	34.8	161	2873	5.61	16124
SpringGold	21.8	39.3	50.3	34.8	160	2831	5.69	16123
GH717	20.9	38.6	50.7	34.6	165	2910	5.54	16123
Ascend 552	22.1	37.8	50.6	33.5	169	2927	5.42	15852
Ameristand 403T	22.5	38.5	51.6	34.9	166	2877	5.41	15582
Formost II	21.7	38.8	49.4	34.1	160	2858	5.42	15514
HybridForce-400	21.5	38.7	51.1	34.2	165	2913	5.24	15264
53Q60	21.6	39.1	50.3	34.5	159	2834	5.36	15181
54H91	22.0	39.3	50.5	35.5	159	2820	5.30	14951
PGI 437	21.6	39.5	49.7	35.1	157	2812	5.25	14779
54H11	20.9	40.5	48.8	35.7	151	2801	5.22	14627
Grand Mean	21.8	38.2	50.6	33.9	166	2898	5.67	16448
LSD (0.05)	0.9	1.6	1.3	1.5	10	94	0.33	1168
C.V. (%)	2.5	2.5	1.6	2.7	4	2	3.55	4
R2	0.7	0.6	0.6	0.6	1	1	0.75	1

## SUMMIT **NEW**

Summit alfalfa is a licensed proprietary variety marketed as a brand by Kussmaul Seeds.

**Key Features:** A fall dormancy variety with superior yield, forage quality and winter hardiness.

**Genetic Background:** A variety developed from crossing elite FD 5 and FD 4 yield trial and nursery plants screened for high forage yield, quality and persistence.

**Field Appearance at Bud Stage:** A medium tall showy variety with a dense canopy. Medium dark green foliage. Multifoliate leaf expression 64%

**Fall Dormancy Rating:** 4.5

**Winter Hardiness Rating:** 2.0

**Pest Package:** Anthracnose - HR; Aphanomyces Race I - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - HR; Fusarium Wilt - HR; Pea Aphid - R

**Management Keys:** A new variety displaying outstanding yield and quality potential across a wide range of geographies. Ideal for growers looking to maximize tonnage and quality over the entire season. Excellent regrowth allows for aggressive harvest management. Medium-early maturity to one-tenth flower. No known soil or management limitations.

## SUSTAIN W brand

Sustain W brand alfalfa is a licensed proprietary variety marketed as a brand by Kussmaul Seeds.

**Key Features:** A high yielding variety with StandFast Alfalfa technology traits for 30% faster growth after harvest and improved standability through late-bud.

**Genetic Background:** A variety developed from crossing European germplasm screened for U.S. adaptability onto elite U.S. fall dormancy 4 plants selected for superior yield, persistence and forage quality.

**Field Appearance at Bud Stage:** Plants are tall with a full, dense, uniform canopy. Medium green plant color.

Multifoliate Leaf Expression: 66%

**Fall Dormancy:** 5.0

**Winter Hardiness Rating:** 2.1

**Pest Package:** Anthracnose - R; Aphanomyces - R; Bacterial Wilt - HR; *Phytophthora* Root Rot - R; Verticillium Wilt - R; Fusarium Wilt - HR

**Management Keys:** A variety recommended for aggressive, balanced management systems on the most productive fields. Sustain W's faster growth after harvest will help growers maximize total yield of high quality forage each cropping season. Fast growth trait does not express itself until after third crop of seeding year. Improved standability protects crop through bud stage. Best adapted to 4- and 5-cut harvest systems in fall dormancy 3, 4 and 5 production zones. Sustain W will reach the late bud stage 3-5 days ahead of current varieties of the same dormancy. Exceptional tolerance to higher pH soils in the West. Harvest before regrowth starts from crown. No known soil type limitations.

Research has shown that Sustain W performs better west of the geographical line separating Iowa and South Dakota in a drier environment.



## ASCEND 552

Ascend alfalfa is a licensed proprietary variety marketed as Ascend 552 by Kussmaul Seeds.

**Key Features:** A very high yielding fall dormancy 5 variety with persistence equal to Vernal.

**Genetic Background:** A variety comprised of elite yield trial plants from Pennsylvania crossed onto elite dormancy four plants selected for high forage quality.

**Field Appearance at Bud Stage:** Plants are tall with an upright growth habit. Medium dark green foliage. Multifoliate Leaf Expression: 68%

**Fall Dormancy:** 5.0

**Winter Hardiness Rating:** 2.22

**Pest Package:** Anthracnose - HR; Aphanomyces - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - HR; Fusarium Wilt - HR

**Wheel Traffic Performance:** An 11% advantage over Ameristand 403T.

**Management Keys:** A variety for growers who aggressively manage their alfalfa crop and want a more uniform yield distribution across each season's harvest. Best adapted for 4- to 5-cut harvest systems and harvest as haylage and baled. Early maturity to first crop. Recommended for the more productive soils and aggressive management. No known soil or management limitations.

## HAYMAKER II SUPREME

Supreme alfalfa is a licensed proprietary variety marketed as Haymaker II Supreme by Kussmaul Seeds.

**Key Features:** A high quality yielding variety with persistence and wide area adaptation.

**Genetic Background:** A variety comprised of elite plants selected for forage quality and disease resistance crossed onto yield trial plants for persistence.

**Field Appearance at Bud Stage:** A fine-stemmed, leafy variety that is medium-tall and hides its yield in a dense canopy. Medium to medium-dark green foliage. Multifoliate leaf expression 97%

**Fall Dormancy Rating:** 4.0

**Winter Hardiness Rating:** 1.9

**Pest Package:** Anthracnose - HR; Aphanomyces - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - HR; Fusarium Wilt - HR

**Management Keys:** A variety well adapted across fall dormancy 3 and 4 production zones. Well suited for 3- or 4-cut harvest systems and long rotations. Medium maturity to first crop harvest. Rapid recovery after harvest. High stem count per crown provides high yield. Very high forage quality potential. No known soil or management limitations.

## BRONCO brand

Bronco brand alfalfa is a licensed proprietary variety marketed as a brand by Kussmaul Seeds.

**Key Features:** A fall dormancy 4 variety with very high, stable yield potential.

**Genetic Background:** A variety comprised of poly-crossed elite fall dormancy 4 yield trial plants.

**Field Appearance at Bud Stage:** Features tall, showy plants and a dense leafy canopy. Medium-dark green foliage. Multifoliate Leaf Expression 80%

**Fall Dormancy Rating:** 4.0

**Winter Hardiness Rating:** 2.0

**Wheel Traffic Performance:** A 20% yield advantage over Ameristand 403T

**Pest Package:** Anthracnose - HR; Aphanomyces - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - R; Fusarium Wilt - HR

**Management Keys:** A variety for the high yield requirements of growers across production zones where fall dormancy 3, 4 or 5 alfalfa is grown. Best adapted to 4- cut harvest systems and responds well when pushed by aggressive managers. Medium early maturity to late bud. Fast recovery after harvest. Performs well in longer rotations where stand persistence in later years is important. Adapted for late season grazing tolerance. No known soil or management limitations.

## Matrix brand

Matrix brand alfalfa is a licensed proprietary variety marketed as a brand by Kussmaul Seeds. This is available by special order only

**Key Features:** Stable yield performance and resistance to Aphanomyces Race II Root Rot.

**Genetic Background:** A variety comprised of elite fall dormancy 3 plants selected for Aphanomyces Race II Root Rot resistance.

**Field Appearance at Bud Stage:** Medium-tall, uniform plants with a dense leaf canopy. Medium, dark green plant color. Multifoliate leaf expression: 60%

**Fall Dormancy:** 3.0

**Winter Hardiness Rating:** 2.0

**Pest Package:** Anthracnose - HR; Aphanomyces - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - HR; Fusarium Wilt - R

**Management Keys:** Expect best overall performance when grown in areas where Aphanomyces Race II Root Rot is an identified problem. Does well under 3- to 4-cut harvest systems for haylage or hay production. Medium maturity to first harvest. No known soil or management limitations.

## K9681 brand

K9681 brand alfalfa is a licensed proprietary variety marketed as a brand by Kussmaul Seeds.

**Key Features:** A fall dormancy 3 brand for growers who expect top forage quality and exceptional winter survival.

**Genetic Background:** A variety comprised of elite fall dormancy 3 yield trial plants selected for stand persistence, drought tolerance, and screened for crown and root health.

**Field Appearance at Bud Stage:** An eye appealing brand with a uniform, medium-tall, semi-upright growth habit and healthy, dark green foliage.

**Multifoliate leaf expression:** 84%

**Fall Dormancy:** 2.75

**Winter Hardiness Rating:** 1.75

**Pest Package:** Anthracnose - HR; Aphanomyces - HR; Bacterial Wilt - HR; *Phytophthora* Root Rot - HR; Verticillium Wilt - HR; Fusarium Wilt - HR

**Management Keys:** K9681 brand fits 2 or 3 cut harvest systems and medium-long rotations. Expect a fast start in the spring, a medium early maturity to one-tenth flower. For dryland areas or where irrigation water is short. No known soil type or management limitations.

## Top-Dressing Alfalfa

Top-dressing can help you get the most out of your alfalfa stands this year. Each cutting depletes nutrients from the soil that must be returned to insure you reach your yield potential.

The following chart shows the amounts of key nutrients that are taken away with each cutting:

Tons/Acre of Alfalfa	Minerals Removed (lbs/acre)			
	Phosphate	Potash	Sulfur	Zinc
3	33	180	14.3	.3
4	44	240	19.0	.4
5	55	300	23.8	.5
6	66	360	28.5	.6
7	77	420	33.3	.7
8	88	480	38.0	.8
9	99	540	42.8	.9
10	110	600	47.5	1.0

This chart is designed to estimate alfalfa removal of fertilizer nutrients. To properly build soil fertility levels, use the recommendations from a soil test.



Alfalfa Research