

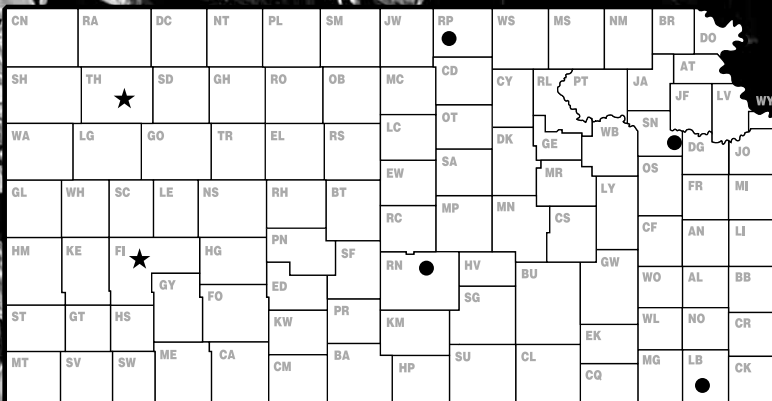
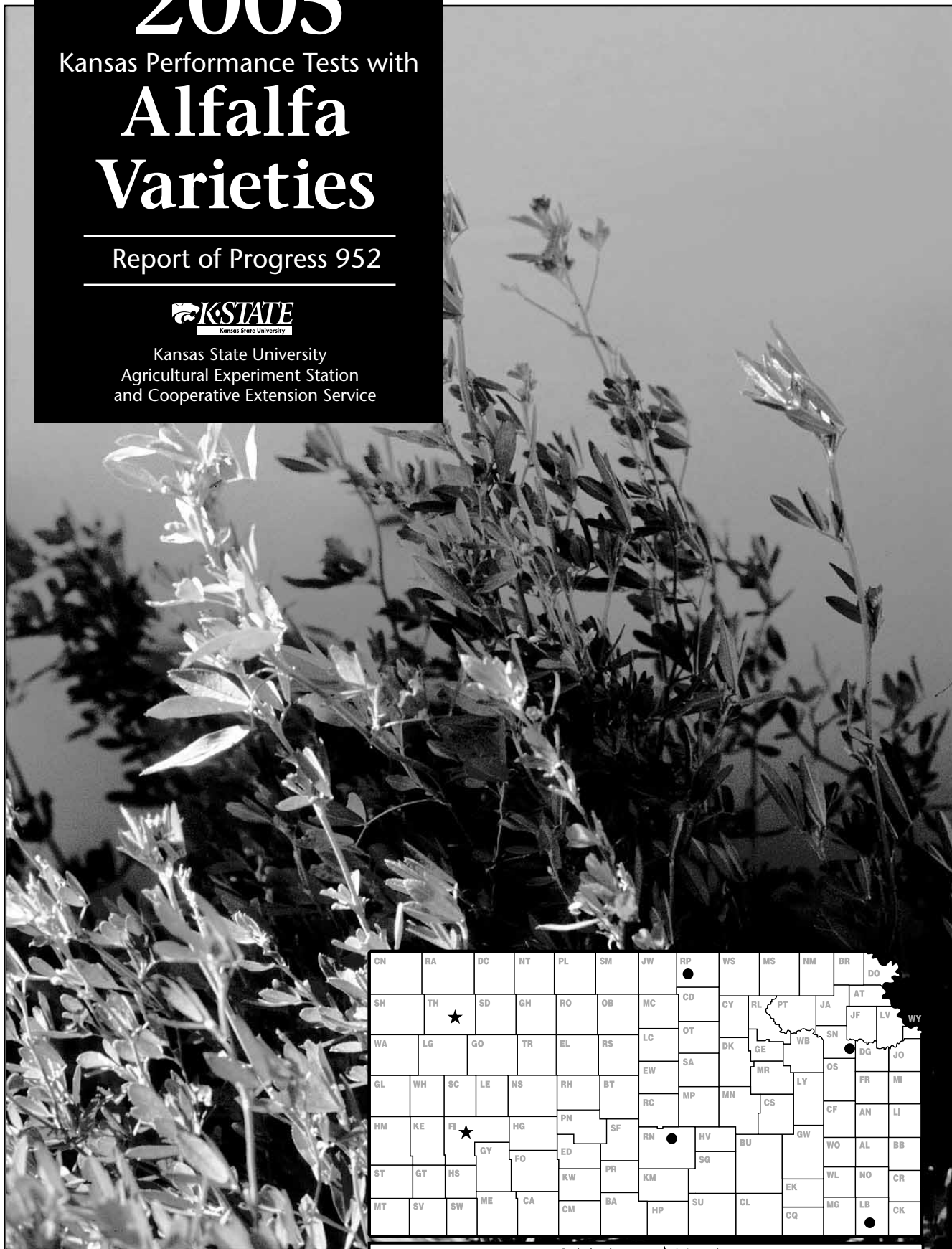
# 2005

## Kansas Performance Tests with Alfalfa Varieties

Report of Progress 952



Kansas State University  
Agricultural Experiment Station  
and Cooperative Extension Service



● dryland ★ irrigated

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## Entrants in 2005 Kansas Alfalfa Performance Tests.

AgVenture Seeds, Inc. (AV) Kentland, IN 888-999-0859 agventure.com	Garst Seed Co. (Garst) Slater, IA 800-831-6630 garstseed.com	Monsanto Seed (Monsanto) St. Louis, MO 800-335-2676 monsanto.com	Sharp Bros. Seed Company (Sharp) Healy, KS 800-462-8483 sharpseed.com
Allied Seed Cooperative (Allied) Tangent, OR 866-445-3107 alliedseed.com	Great Plains Research Co. (Great Plains) Apex, NC 919-362-1583 greatplainsresearch.com	Mycogen Seeds (Mycogen) Indianapolis, IN 1-800-MYCOGEN mycogen.com	Star Seed, Inc. (Star) Beloit, KS 800-782-7611 gostarseed.com
Bio-Plant Research (BioPlant) Camp Point, IL 800-593-7708	Hyttest Seeds (Hyttest) Fort Dodge, IA 717-737-4529	NC+ Hybrids (NC+) Lincoln, NE 800-279-7999 nc-plus.com	Syngenta Seeds, Inc. (NK) Golden Valley, MN 763-593-7324 nk-us.com
Channel Bio Corp. (Channel) Kentland, IN 800-369-8218 channelbio.com	J.C. Robinson Seed Co. (Golden Harvest) Waterloo, NE 800-228-9906 goldenharvestseeds.com	PGI Alfalfa, Inc. (PGI) Oxnard, CA 866-744-5710	Taylor Seed Farms, Inc. (Taylor) White Cloud, KS 800-742-7473 taylorseedfarms.com
CroPlan Genetics (CroPlan Genetics) Shoreview, MN 651-765-5713 croplangenetics.com	J.R. Simplot Company (Simplot) Boise, ID 208-672-2732 simplot.com	Pioneer Hi-Bred, Intl., Inc. (Pioneer) Amarillo, TX 800-258-5604 pioneer.com	W-L Research, Inc. (W-L Research) Madison, WI 608-240-0630
Dairyland Seed Co. (Dairyland) West Bend, WI 800-236-0163 dairylandseed.com	Johnston Seed Co (Johnston) Enid, OK 580-233-5800	Power Seeds, Inc. (Power) Fraserville, Ontario Can 705-944-5600	
	Midwest Seed Genetics (Midwest Seed) Carroll, IA 800-369-8218 midwestseed.com	Producers Hybrids (Producers) Battle Creek, NE 402-675-2975 producershybrids.com	

## 2005 PERFORMANCE TESTS

### Objectives and Procedures

The Kansas Agricultural Experiment Station established an official alfalfa testing program in 1980 to provide Kansas growers with unbiased performance comparisons of alfalfa varieties marketed in the state. Each year, private companies are asked to enter varieties voluntarily at the locations slated for establishment that year. Announcements and entry forms are mailed to private companies in June for entry in fall-seeded tests. Companies enter varieties of their choice and pay entry fees to cover part of the costs of conducting the tests. Most tests are planted in mid-August or September, but the Southeast Kansas test usually is planted in the spring. Individual tests are conducted for a minimum of 3 years. New tests typically are established during the final production year of the previous test, or more frequently if there is enough interest.

Descriptive information is presented with the results for each test. This information, including soil type, establishment methods, fertilization, pest control, irrigation, harvest dates, and growing conditions unique to that location, can help explain test and/or variety performance.

Forage yields were estimated by harvesting four replications of each variety with a plot harvester. The amount of forage produced from a specific area (35-80 ft<sup>2</sup>) was weighed, and a subsample was taken to determine moisture content. This information was used to convert the plot weights to tons of dry matter per acre for each cutting, the season total, and the total for each previous season, as presented in Tables 1 through 8. The forage yield over the lifetime of a particular test is presented as the total tons of dry matter produced per acre, as the total tons of 15% moisture hay, and as a percentage of the test average.

Each table is separated into three sections. The first lists released cultivars that are generally available on the seed market or soon will be. The second section includes experimental cultivars that were entered in the test before being released for sale. These experimental lines often represent an earlier generation of seed than that used for the released cultivars. The third section includes summary statistics unique to that test.

At the bottom of each column, the Least Significant Difference (LSD) is listed at the 0.05 and 0.20 levels. These values indicate how large a difference is needed to be confident that one variety is superior to another. Differences between varieties that are equal to or greater than the 0.05 LSD have only a 1 in 20 chance of being due to chance or error. Differences equal to or greater than the 0.20 LSD have a 1 in 5 chance of being caused by chance or error.

The Coefficient of Variability (CV) provides an estimate of the consistency of the results of a particular test. In these tests, CVs less than 10% generally indicate reliable, uniform data, whereas CVs of 10 to 15% are not uncommon and generally indicate that the data are acceptable for rough comparisons. Tests with CVs greater than 15% may still be useful, but variety comparisons lack precision.

The Mean Coefficient of Variability (MCV) is similar to the CV in that it serves as an indicator of test precision. The MCV is calculated by dividing the 0.05 LSD by the test mean (average) and multiplying by 100. The MCV reveals the percentage difference required to detect differences between varieties with 95% confidence. Many alfalfa breeders and testers agree that tests with MCV values greater than 10% are of little benefit.

### Variety Characterization

For variety selection, producers should consider the performance of a variety in each of the current tests in which it appears, its performance over time and locations relative to familiar or check varieties, and the disease and insect resistance characteristics that are potentially important in their situation.

Tables 1 through 8 contain updated yield data from individual tests currently in progress. First-season yields for a spring-planted test are often more variable than yields in subsequent years. Season totals are important, but yield distribution during the season may differ among varieties. Examine yields from individual cuttings to determine if differences in yield distribution exist. Yield totals over many years provide the best measure of variety performance over time.

Table 9 provides winter survival, disease and insect-resistance, multi-foliolate expression, and continuous grazing tolerance ratings. These ratings were obtained primarily from the annual "Winter Survival, Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties" pamphlet published by the National Alfalfa Alliance. That report summarizes information submitted by developers of alfalfa varieties as part of the variety registration process. The Association of Official Seed Certifying Agencies (AOSCA) National Alfalfa Variety Review Board (NAVRB) reviewed the ratings before they were published. Companies submitting varieties for the tests provided ratings for some unregistered varieties.

**Table 1. Northeast Kansas, Topeka Alfalfa Performance Test, Seeded September 9, 2003.**

Kansas River Valley Experiment Field, Eudora silt loam					Cool, dry conditions in early spring reduced first-harvest yields. Favorable rainfall during the remainder of the season resulted in respectable yields for subsequent harvests.					
18 lb. seed/acre										
Plots 3'x20'; 3'x20' harvested										
36-92-216 lb/a of N-P-K before planting										
NAME	Forage Yield									
	tons/acre									
	Dry Matter									
	2005				2005	2004	Total	Total, 15% Moist.	Total, % of Mean	
5-17	6-23	8-3	9-22							
<b>RELEASED CULTIVARS</b>										
Notice II	1.63	1.87	1.83	1.45	6.77	7.18	13.95	16.42	103	
Power 4.2	1.84	1.76	1.62	1.48	6.69	7.21	13.90	16.35	103	
Perry	1.74	1.94	1.80	1.44	6.91	6.98	13.90	16.35	103	
6400HT	1.60	1.90	1.78	1.42	6.70	7.10	13.80	16.23	102	
4A421	1.72	1.86	1.69	1.40	6.66	6.90	13.56	15.96	100	
Phirst	1.52	1.97	1.75	1.43	6.67	6.86	13.53	15.92	100	
Journey 204 Hybrid Alfalfa	1.64	1.93	1.86	1.41	6.83	6.70	13.53	15.92	100	
Reward II	1.77	1.89	1.59	1.50	6.75	6.75	13.50	15.88	100	
6530	1.67	1.87	1.65	1.45	6.63	6.76	13.40	15.76	99	
HybriForce-420/wet	1.61	1.84	1.85	1.39	6.68	6.70	13.38	15.74	99	
Kanza	1.64	1.78	1.95	1.34	6.70	6.67	13.37	15.73	99	
WL 357 HQ	1.56	1.74	1.63	1.48	6.41	6.71	13.12	15.43	97	
<b>SUMMARY STATISTICS</b>										
Average	1.66	1.86	1.75	1.43	6.70	6.85	13.55	15.94	100	
LSD(0.05)	NS	0.12	NS	NS	0.39	0.38	0.55	0.64	4	
LSD(0.20)	0.15	0.08	0.17	NS	0.25	0.24	0.35	0.41	3	
CV(%)	9.82	4.63	10.62	5.70	4.09	3.86	2.81	2.81	3	
MCV(%)	14.12	6.66	15.28	8.20	5.89	5.55	4.04	4.04	4	

**Table 2. Southeast Kansas, Mound Valley Alfalfa Performance Test, Seeded April 14, 2005.**

Southeast Ag. Research Center, Parsons silty clay loam					Good stands were established with minimal weed competition. Dry conditions in late July caused spatial differences in K availability as evidenced by plant yellowing.					
15 lb. seed/acre										
Plots 5'x30'; 3'x20' harvested										
20-50-200 lb/a of N-P-K before planting; 1.5 pt Treflan preplant incorporated for weed control.										
NAME	Forage Yield								Total, 15% Moist.	Total, % of Mean
	tons/acre									
	Dry Matter									
	2005				2005	Total				
	6-20	7-26	8-31	10-26						
<b>RELEASED CULTIVARS</b>										
FSG505	1.81	0.95	0.74	1.01	4.51	4.51	5.31	107		
Kanza	1.64	1.00	0.83	1.00	4.46	4.46	5.24	106		
Good as Gold II	1.83	0.90	0.75	0.98	4.46	4.46	5.24	106		
WL 357 HQ	1.60	0.96	0.72	1.00	4.28	4.28	5.04	102		
FSG408DP	1.72	0.91	0.73	0.91	4.27	4.27	5.03	102		
Cimarron VL400	1.70	0.85	0.72	0.92	4.19	4.19	4.92	100		
6530	1.71	0.93	0.66	0.84	4.14	4.14	4.87	98		
Perry	1.66	0.95	0.65	0.87	4.13	4.13	4.86	98		
6420	1.60	0.93	0.69	0.87	4.09	4.09	4.81	97		
Integrity	1.68	0.78	0.63	0.80	3.89	3.89	4.58	93		
<b>EXPERIMENTAL STRAINS</b>										
AA112E	1.64	0.88	0.78	0.91	4.21	4.21	4.96	100		
CW 15030	1.58	0.95	0.72	0.90	4.14	4.14	4.87	98		
AA108E	1.64	0.89	0.58	0.77	3.88	3.88	4.57	92		
<b>SUMMARY STATISTICS</b>										
Average	1.68	0.91	0.71	0.91	4.20	4.20	4.95	100		
LSD(0.05)	0.19	NS	NS	NS	0.33	0.33	0.39	8		
LSD(0.20)	0.12	NS	NS	0.10	0.21	0.21	0.25	5		
CV(%)	7.80	11.54	17.13	11.65	5.53	5.53	5.53	6		
MCV(%)	11.19	16.55	24.57	16.70	7.93	7.93	7.93	8		

**Table 3. North Central Kansas, Belleville Alfalfa Performance Test, Seeded September 1, 2004.**

North Central Kansas Exp. Field, Crete silt loam  
 20 lb. seed/acre  
 Plots 5'x15'; 3'x15' harvested  
 11-50-0 lb/a of N-P-K applied in February and after first cutting

Excellent stands were established in the fall of 2004. Favorable growing conditions prevailed in 2005, except for a dry period in late June and early July that reduced third-harvest yields.

NAME	Forage Yield						2005	Total	Total, 15% Moist.	Total, % of Mean
	tons/acre									
	Dry Matter									
	2005									
	5-20	6-21	7-14	8-16	9-15					
<b>RELEASED CULTIVARS</b>										
Good as Gold II	2.39	1.59	0.79	1.16	0.90		6.83	6.83	8.03	104
6415	2.25	1.76	0.85	1.10	0.78		6.75	6.75	7.94	103
DKA42-15	2.38	1.62	0.77	1.12	0.84		6.73	6.73	7.91	103
Pioneer 54V46	2.31	1.66	0.83	1.07	0.81		6.68	6.68	7.86	102
WL 335 HQ	2.34	1.69	0.74	1.08	0.82		6.67	6.67	7.85	102
HybriForce-420/wet	2.38	1.60	0.76	1.12	0.81		6.67	6.67	7.85	102
Reward II	2.30	1.66	0.76	1.10	0.82		6.66	6.66	7.83	102
6400HT	2.41	1.57	0.74	1.11	0.81		6.65	6.65	7.82	102
Genoa	2.10	1.70	0.78	1.07	0.82		6.46	6.46	7.60	99
Kanza	2.03	1.60	0.82	1.02	0.77		6.24	6.24	7.34	95
DKA50-18	1.97	1.68	0.80	1.04	0.74		6.22	6.22	7.32	95
WL 357 HQ	2.19	1.62	0.77	0.88	0.66		6.12	6.12	7.20	94
<b>EXPERIMENTAL STRAINS</b>										
DS416	2.52	1.59	0.72	0.99	0.76		6.58	6.58	7.74	101
DS415	2.55	1.52	0.64	0.98	0.84		6.52	6.52	7.68	100
DS362HY	2.37	1.52	0.73	1.00	0.85		6.47	6.47	7.61	99
DS361HY	2.26	1.53	0.68	1.01	0.86		6.34	6.34	7.46	97
<b>SUMMARY STATISTICS</b>										
Average	2.30	1.62	0.76	1.05	0.81		6.54	6.54	7.69	100
LSD(0.05)	0.20	0.12	0.09	0.12	0.12		0.30	0.30	0.35	5
LSD(0.20)	0.13	0.08	0.06	0.08	0.07		0.19	0.19	0.23	3
CV(%)	6.11	5.22	8.08	8.12	10.11		3.23	3.23	3.23	3
MCV(%)	8.70	7.44	11.51	11.57	14.41		4.60	4.60	4.60	5

**Table 4. South Central Kansas, Hutchinson Alfalfa Performance Test, Seeded September 1, 2002.**

South Central Experiment Field, Ost silt loam  
 10 lb. seed/acre  
 Plots 5'x20', 3'x20' harvested  
 75-40-0 lb/a of N-P-K before planting

A cool, wet spring was followed by hot, dry conditions in late July and early August that limited regrowth. Precipitation was above average in late August.

NAME	Forage Yield									Total, 15% Moist.	Total, % of Mean
	tons/acre										
	Dry Matter										
	2005					2005	2004	2003	Total		
5-16	6-15	7-11	8-3	9-15							
<b>RELEASED CULTIVARS</b>											
350	1.90	1.18	1.18	0.53	0.96	5.75	5.58	4.27	15.60	18.35	106
HybriForce-400	1.97	1.21	1.19	0.52	0.88	5.77	5.78	3.95	15.49	18.23	105
Hytest 410	1.79	1.24	1.12	0.57	0.97	5.68	5.59	3.99	15.26	17.95	104
Pawnee	1.87	1.32	1.25	0.59	0.96	6.00	5.44	3.78	15.22	17.91	103
Dagger+EV	1.94	1.22	1.15	0.52	0.93	5.75	5.63	3.78	15.17	17.85	103
Journey 204 Hybrid Alfalfa	1.87	1.24	1.11	0.52	0.91	5.65	5.31	4.10	15.07	17.73	102
400SCL	1.76	1.28	1.14	0.50	0.86	5.53	5.33	4.19	15.05	17.71	102
WL 342	1.87	1.19	1.16	0.58	0.94	5.74	5.09	4.14	14.98	17.62	102
DKA42-15	1.85	1.24	1.10	0.57	0.93	5.69	5.41	3.80	14.90	17.53	101
Perry	2.02	1.09	1.01	0.45	0.94	5.51	5.39	3.91	14.80	17.42	101
Reward II	1.89	1.09	1.11	0.46	0.90	5.46	5.28	4.00	14.73	17.33	100
Reliance	1.72	1.20	1.12	0.57	0.82	5.43	5.02	4.27	14.73	17.32	100
5-Star	1.74	1.37	1.09	0.60	0.92	5.71	5.34	3.54	14.59	17.17	99
Rebound 4.2	1.82	1.17	1.21	0.57	0.83	5.59	5.10	3.88	14.57	17.14	99
Aspire	1.64	1.20	1.10	0.59	0.92	5.45	5.70	3.38	14.54	17.10	99
645-II	1.79	1.07	1.11	0.50	0.92	5.38	4.94	4.14	14.46	17.01	98
Macon	1.83	1.16	1.00	0.49	0.94	5.41	4.93	3.88	14.22	16.73	97
Kanza	1.84	1.28	1.27	0.65	0.94	5.98	4.89	3.31	14.19	16.69	96
Key	2.02	1.15	1.06	0.41	0.83	5.47	4.94	3.61	14.02	16.50	95
Lightning II	1.84	1.19	1.23	0.55	0.88	5.68	4.53	3.73	13.95	16.41	95
<b>EXPERIMENTAL STRAINS</b>											
CW 83018	1.92	1.32	1.32	0.60	0.84	6.01	5.44	3.73	15.18	17.86	103
CW 93018	1.78	1.25	1.17	0.63	0.92	5.76	5.19	3.78	14.73	17.33	100
CW 94022	1.78	1.21	1.13	0.54	0.94	5.60	4.87	3.54	14.01	16.49	95
CW 94006	1.63	1.24	1.16	0.57	0.92	5.52	4.82	3.65	14.00	16.47	95
<b>SUMMARY STATISTICS</b>											
Average	1.84	1.21	1.15	0.55	0.91	5.65	5.23	3.85	14.73	17.33	100
LSD(0.05)	0.22	NS	NS	0.10	NS	0.38	0.60	0.49	0.87	1.02	6
LSD(0.20)	0.14	0.12	0.13	0.07	NS	0.25	0.39	0.32	0.56	0.66	4
CV(%)	8.47	10.61	12.00	13.57	9.87	4.79	8.18	8.95	4.16	4.16	4
MCV(%)	11.95	14.96	16.92	19.15	13.93	6.75	11.54	12.62	5.87	5.87	6

**Table 5. South Central Kansas, Hutchinson Alfalfa Performance Test, Seeded September 1, 2004.**

South Central Experiment Field, Ost silt loam					A cool, wet spring was followed by hot, dry conditions in late July and early August that limited regrowth and prevented an August harvest. Precipitation was above average in late August.			
10 lb. seed/acre								
Plots 5'x20', 3'x17' harvested								
75-40-0 lb/a of N-P-K before planting								
	Forage Yield							
	tons/acre							
	Dry Matter							
NAME	2005				2005	Total	Total, 15% Moist.	Total, % of Mean
	5-17	6-15	7-21	9-16				
<b>RELEASED CULTIVARS</b>								
Good as Gold II	2.08	0.82	0.86	0.77	4.53	4.53	5.33	112
6400HT	2.11	0.89	0.58	0.68	4.26	4.26	5.01	105
FSG408DP	2.01	0.76	0.69	0.75	4.21	4.21	4.96	104
Jade III	2.12	0.81	0.59	0.65	4.17	4.17	4.90	103
WL 335 HQ	2.03	0.74	0.65	0.74	4.16	4.16	4.90	103
6420	1.87	0.83	0.70	0.68	4.08	4.08	4.80	101
WL 357 HQ	1.91	0.76	0.66	0.73	4.06	4.06	4.78	101
Kanza	1.90	0.79	0.59	0.72	4.00	4.00	4.71	99
Perry	1.88	0.78	0.63	0.71	4.00	4.00	4.70	99
FSG406	1.89	0.84	0.50	0.77	3.99	3.99	4.69	99
DKA50-18	1.80	0.79	0.65	0.72	3.96	3.96	4.66	98
Genoa	1.96	0.83	0.53	0.60	3.92	3.92	4.62	97
HybriForce-420/wet	1.86	0.78	0.55	0.72	3.91	3.91	4.61	97
DKA42-15	1.75	0.84	0.62	0.66	3.87	3.87	4.55	96
FSG505	1.80	0.78	0.48	0.74	3.80	3.80	4.47	94
FSG351	1.77	0.82	0.52	0.62	3.73	3.73	4.39	92
<b>EXPERIMENTAL STRAINS</b>								
405	2.06	0.73	0.81	0.84	4.45	4.45	5.23	110
404	2.00	0.75	0.72	0.70	4.17	4.17	4.91	103
CW 15030	1.85	0.78	0.65	0.71	3.98	3.98	4.68	99
407	1.91	0.74	0.55	0.62	3.82	3.82	4.49	95
406	1.78	0.68	0.58	0.70	3.73	3.73	4.39	92
<b>SUMMARY STATISTICS</b>								
Average	1.92	0.79	0.62	0.71	4.04	4.04	4.75	100
LSD(0.05)	NS	NS	0.17	0.12	0.37	0.37	0.44	9
LSD(0.20)	0.18	NS	0.11	0.08	0.24	0.24	0.28	6
CV(%)	10.06	12.67	19.70	11.67	6.52	6.52	6.52	7
MCV(%)	14.23	17.92	27.87	16.51	9.21	9.21	9.21	9

**Table 6. Northwest Kansas, Colby Alfalfa Performance Test, Seeded August 29, 2001.**

Northwest Research-Extension Center, Keith silt loam  
 18 lb. seed/acre  
 Plots 3'x20'; 3'x17' harvested  
 17-60-0 lb/a of N-P-K before planting

Cool temperatures in early May slowed early growth. Late-May rains delayed the first harvest so that all varieties were past half bloom. Conditions were favorable during the rest of the season.

NAME	Forage Yield									Total, 15% Moist.	Total, % of Mean
	tons/acre										
	Dry Matter										
	2005				2005	2004	2003	2002	Total		
6-6	7-8	8-8	9-9								
<b>RELEASED CULTIVARS</b>											
Pioneer 53V08	3.76	2.60	2.20	1.91	10.46	9.18	7.67	6.51	33.82	39.79	110
A 30-06	3.60	2.35	2.24	1.72	9.91	8.42	7.86	6.77	32.96	38.78	107
Enhancer	3.49	2.45	2.37	1.64	9.95	8.79	7.20	6.65	32.59	38.34	106
631	3.21	2.30	2.22	1.59	9.32	8.63	7.23	6.73	31.91	37.55	103
Lightning II	3.17	2.43	2.38	1.76	9.73	7.91	7.28	6.89	31.81	37.43	103
Magnum V	3.30	2.61	2.27	1.80	9.98	8.12	6.80	6.76	31.66	37.25	103
Target II Plus	3.74	2.49	1.98	1.65	9.85	7.96	7.06	6.61	31.48	37.03	102
Kanza	3.07	2.41	2.36	1.63	9.47	8.76	6.91	6.05	31.19	36.69	101
Reward	3.13	2.36	1.98	1.68	9.15	8.53	6.91	6.17	30.76	36.19	100
Geneva	3.12	2.76	2.09	1.54	9.51	8.28	6.99	5.94	30.72	36.14	100
645-II	3.55	2.48	1.79	1.52	9.33	7.63	6.99	6.64	30.59	35.99	99
Pioneer 54Q53	3.13	2.48	2.30	1.60	9.51	7.51	7.25	6.29	30.56	35.95	99
Feast+EV	2.98	2.41	1.86	1.58	8.83	7.73	7.15	5.75	29.46	34.66	96
4200	3.00	2.04	2.02	1.66	8.71	7.66	6.48	5.95	28.81	33.89	93
Perry	2.69	2.19	1.87	1.46	8.21	7.25	6.91	5.18	27.54	32.40	89
<b>EXPERIMENTAL STRAINS</b>											
CW 94008	3.04	2.71	2.67	1.83	10.25	8.65	7.35	6.37	32.62	38.38	106
ZC9842A	3.36	2.74	2.23	1.71	10.04	8.48	7.51	6.43	32.46	38.19	105
6M71	2.96	2.75	2.65	1.66	10.03	8.51	7.31	6.38	32.23	37.92	104
ZC9851A	3.60	2.53	2.20	1.55	9.88	8.67	7.05	6.28	31.88	37.51	103
5M84	3.40	2.57	2.32	1.78	10.08	7.98	7.22	6.32	31.59	37.17	102
CW 75044	3.04	2.58	2.54	1.83	9.99	8.09	7.06	6.23	31.37	36.91	102
ZC9840A	3.81	2.22	2.23	1.44	9.70	7.78	7.38	6.50	31.36	36.89	102
5M85	2.88	2.57	2.23	1.79	9.47	8.37	7.15	6.24	31.22	36.73	101
ZC9950A	3.65	2.39	2.00	1.56	9.60	8.16	6.93	6.35	31.04	36.52	101
ZC9841A	3.38	2.50	2.09	1.84	9.81	8.03	6.72	6.43	30.99	36.46	100
CW 64004	2.85	2.43	2.04	1.56	8.88	8.48	7.41	6.19	30.96	36.43	100
ZC9854A	3.16	2.28	2.10	1.70	9.24	8.36	6.94	6.22	30.76	36.19	100
ZC9940A	3.12	2.86	1.80	1.57	9.35	7.87	7.35	6.00	30.57	35.97	99
CW 74040	3.08	2.47	2.21	1.72	9.49	7.94	7.14	5.84	30.41	35.78	99
CW 64049	3.26	2.22	2.07	1.51	9.06	7.29	6.72	5.80	28.87	33.96	94
CW 64026	3.11	2.37	2.01	1.55	9.05	7.11	6.30	6.00	28.45	33.48	92
CW 73029	3.08	2.25	2.09	1.49	8.91	7.24	6.67	5.37	28.19	33.16	91
CW 54033	2.97	2.17	1.96	1.55	8.64	6.58	6.49	5.57	27.28	32.09	88
<b>SUMMARY STATISTICS</b>											
Average	3.23	2.45	2.16	1.65	9.50	8.06	7.07	6.22	30.85	36.29	100
LSD(0.05)	0.49	NS	0.45	0.28	0.94	0.90	0.65	0.47	1.54	1.81	5
LSD(0.20)	0.32	NS	0.29	0.18	0.61	0.59	0.43	0.31	1.00	1.17	3
CV(%)	10.86	17.75	14.68	11.93	7.08	7.99	6.60	5.43	3.55	3.55	4
MCV(%)	15.25	24.91	20.60	16.75	9.94	11.21	9.26	7.62	4.98	4.98	5

**Table 7. Northwest Kansas, Colby Alfalfa Performance Test, Seeded August 29, 2003.**

Northwest Research-Extension Center, Keith silt loam	Cool temperatures in early May slowed early growth. Late-May rains delayed the first harvest so that all varieties were past half bloom. Conditions were favorable during the rest of the season.										
18 lb. seed/acre											
Plots 3'x20'; 3'x17' harvested											
16-55-0 lb/a of N-P-K before planting											
	Forage Yield									Total, 15% Moist.	Total, % of Mean
	tons/acre										
	Dry Matter										
NAME	2005				2005	2004	Total				
	6-7	7-11	8-9	9-12							
<b>RELEASED CULTIVARS</b>											
Phirst	3.92	2.38	1.68	1.61	9.60	8.22	17.82	20.96	104		
Pioneer 54V46	3.69	2.23	1.86	1.85	9.64	8.17	17.81	20.95	104		
FSG505	3.53	2.37	1.98	1.81	9.69	7.84	17.53	20.63	102		
Pioneer 54Q25	3.57	2.49	1.60	1.63	9.29	8.17	17.46	20.55	102		
Arapaho	3.54	2.46	1.74	1.67	9.41	8.00	17.41	20.48	102		
631	3.64	2.72	1.92	1.68	9.96	7.43	17.39	20.46	102		
WL 357 HQ	3.27	2.54	1.96	1.65	9.41	7.93	17.33	20.39	101		
Kanza	3.36	2.39	1.96	1.76	9.47	7.77	17.24	20.29	101		
FSG351	3.66	2.30	1.62	1.68	9.25	7.96	17.21	20.25	100		
FSG406	3.30	2.53	1.92	1.67	9.41	7.77	17.18	20.21	100		
6400HT	3.79	2.48	1.63	1.55	9.44	7.69	17.13	20.16	100		
Regal	3.67	2.26	1.71	1.67	9.30	7.82	17.12	20.14	100		
Jade III	3.83	2.26	1.59	1.71	9.38	7.69	17.07	20.09	100		
Journey 204 Hybrid Alfalfa	3.57	2.40	1.58	1.63	9.18	7.83	17.01	20.01	99		
Expedition	3.35	2.35	1.77	1.65	9.11	7.88	16.99	19.99	99		
Abundance	3.63	2.37	1.68	1.60	9.28	7.65	16.93	19.92	99		
Notice II	3.67	2.03	1.51	1.68	8.88	7.96	16.84	19.81	98		
HybriForce-420/wet	3.52	2.36	1.63	1.56	9.08	7.65	16.73	19.68	98		
Evermore	3.67	2.37	1.61	1.59	9.25	7.44	16.69	19.64	97		
Perry	3.72	2.25	1.65	1.54	9.16	7.44	16.61	19.54	97		
Maximizer	3.55	2.33	1.65	1.59	9.12	7.48	16.60	19.53	97		
<b>EXPERIMENTAL STRAINS</b>											
CL2000	3.52	2.32	1.60	1.65	9.10	7.62	16.72	19.67	98		
<b>SUMMARY STATISTICS</b>											
Average	3.59	2.37	1.72	1.66	9.34	7.79	17.13	20.15	100		
LSD(0.05)	NS	0.30	0.23	NS	0.60	0.77	0.98	1.15	6		
LSD(0.20)	0.28	0.19	0.15	0.12	0.39	0.46	0.63	0.74	4		
CV(%)	8.53	8.86	9.29	8.08	4.56	6.99	4.03	4.03	4		
MCV(%)	12.05	12.52	13.13	11.42	6.44	9.87	5.70	5.70	6		

**Table 8. Southwest Kansas, Garden City Alfalfa Performance Test, Seeded September 3, 2002.**

Southwest Research-Extension Center, Keith silt loam	Temperatures were near normal after a cool spring. No insect or disease problems were noted.											
30 lb. seed/acre												
Plots 3'x20'; 3'x20' harvested												
22-104-0 lb/a of N-P-K before planting												
NAME	Forage Yield										Total, 15% Moist.	Total, % of Mean
	tons/acre											
	Dry Matter											
	2005					2005	2004	2003	Total			
5-18	6-21	7-22	8-22	10-7								
<b>RELEASED CULTIVARS</b>												
WL 327	4.19	2.19	1.79	1.98	1.74	11.90	10.11	9.35	31.36	36.90	105	
4A421	4.18	2.37	1.96	2.00	1.84	12.35	9.49	9.00	30.84	36.28	103	
GH 750	4.39	2.21	1.80	1.90	1.70	11.99	9.79	9.03	30.81	36.25	103	
WL 342	4.14	2.29	1.92	1.98	1.79	12.11	9.51	9.14	30.76	36.18	103	
Hyttest 410	4.11	2.29	1.87	1.97	1.81	12.05	9.60	9.04	30.69	36.11	103	
Reward II	4.14	2.26	1.77	1.87	1.71	11.75	9.72	9.17	30.64	36.05	103	
Abundance	4.32	2.24	1.81	1.91	1.69	11.97	9.58	9.00	30.56	35.95	102	
HybriForce-400	4.29	2.27	1.82	1.93	1.69	12.01	9.43	9.11	30.55	35.94	102	
Hyttest 520	4.05	2.35	1.84	2.07	1.75	12.06	9.39	8.68	30.13	35.45	101	
Journey 204 Hybrid Alfalfa	4.21	2.17	1.67	1.92	1.68	11.67	9.67	8.75	30.09	35.40	101	
Dagger+EV	3.91	2.27	1.84	2.00	1.78	11.80	9.52	8.70	30.02	35.31	101	
WL 319 HQ	3.94	2.20	1.76	1.85	1.68	11.43	9.35	9.11	29.89	35.17	100	
5-Star	3.86	2.20	1.85	2.00	1.76	11.67	9.42	8.73	29.82	35.08	100	
Pioneer 54V54	3.95	2.17	1.85	2.04	1.71	11.72	9.36	8.61	29.68	34.92	99	
Key	3.99	2.09	1.70	1.83	1.52	11.13	9.68	8.82	29.63	34.86	99	
Masterpiece	3.96	2.30	1.80	1.88	1.75	11.70	9.24	8.69	29.62	34.85	99	
Magna 601	3.99	2.22	1.93	2.09	1.82	12.04	9.27	8.28	29.59	34.81	99	
Feast+EV	3.91	2.06	1.79	1.86	1.65	11.26	9.24	8.56	29.06	34.19	97	
Kanza	3.83	2.09	1.82	1.84	1.60	11.17	8.33	6.95	26.45	31.12	89	
<b>EXPERIMENTAL STRAINS</b>												
DS218HYB	4.30	2.42	2.00	2.17	1.89	12.78	10.04	8.57	31.39	36.93	105	
DS201HYB	4.30	2.27	1.99	2.20	1.88	12.62	9.98	8.55	31.16	36.66	104	
DS106HYB	4.32	2.35	1.92	2.02	1.89	12.49	9.46	9.05	31.00	36.47	104	
DS108HYB	4.41	2.22	1.84	1.97	1.69	12.11	9.96	8.79	30.86	36.31	103	
DS9809HYB	4.21	2.21	1.93	2.03	1.76	12.13	9.81	8.88	30.82	36.26	103	
CW 04022	4.16	2.36	1.90	2.04	1.80	12.27	9.45	8.80	30.52	35.90	102	
DS107HYB	4.11	2.14	1.83	2.00	1.77	11.86	9.46	9.13	30.45	35.82	102	
ZC9953A	4.03	2.16	1.81	1.91	1.61	11.52	9.73	8.95	30.20	35.53	101	
Pioneer 55V05	4.29	2.28	1.83	2.02	1.74	12.15	9.45	8.36	29.96	35.25	100	
CW 14026	3.94	2.34	1.90	2.01	1.84	12.03	9.32	8.36	29.71	34.95	99	
CW 04027	4.07	2.27	1.89	2.00	1.81	12.04	9.20	8.46	29.70	34.94	99	
CW 05009	4.01	2.35	1.92	2.06	1.86	12.20	9.20	8.12	29.52	34.73	99	
CW 04030	4.03	2.14	1.85	2.02	1.87	11.90	9.08	8.49	29.46	34.66	99	
CW 65086	3.96	2.14	1.86	2.05	1.84	11.85	9.12	8.43	29.40	34.59	98	
GPVL0144	4.24	2.16	1.64	1.89	1.59	11.52	9.52	8.30	29.33	34.51	98	
FG 40M159A	3.63	2.32	1.86	1.92	1.75	11.49	8.93	8.53	28.95	34.06	97	
CW 94025	3.65	2.13	1.73	1.85	1.64	10.99	9.06	8.65	28.70	33.76	96	
CW 94023	3.83	2.12	1.82	1.86	1.71	11.34	8.85	8.23	28.42	33.44	95	
Exp 80I	3.85	2.05	1.68	1.79	1.67	11.03	8.93	8.45	28.41	33.42	95	
CW 65085	3.84	2.21	1.80	1.95	1.72	11.52	8.69	8.12	28.34	33.34	95	
<b>SUMMARY STATISTICS</b>												
Average	4.07	2.23	1.84	1.97	1.74	11.84	9.37	8.66	29.87	35.14	100	
LSD(0.05)	0.39	0.21	0.15	0.12	0.15	0.51	0.62	0.30	0.87	1.02	3	
LSD(0.20)	0.25	0.14	0.10	0.08	0.10	0.33	0.40	0.23	0.57	0.67	2	
CV(%)	6.83	6.82	5.98	4.35	6.10	3.06	4.70	2.92	2.08	2.08	2	
MCV(%)	9.57	9.55	8.38	6.09	8.54	4.28	6.59	3.46	2.91	2.91	3	

**Table 9. Varieties in 2005 Kansas Alfalfa Performance Tests, with disease and insect resistance ratings.\***

A A S N													A A S N																						
P S B P P R R M													P S B P P R R M																						
Brand	W	B	V	F	A	R	A	P	A	S	H	H	K	K	P	L	G	Brand	W	B	V	F	A	R	A	P	A	S	H	H	K	K	P	L	G
Name	S	W	W	W	N	R	A	A	A	N	1	2	N	N	L	E	T	Name	S	W	W	W	N	R	A	A	A	N	1	2	N	N	L	E	T
<b>Allied</b>																	<b>Johnston</b>																		
350	-	H	H	H	H	H	R	R	-	-	H	-	-	-	-	-	Good as Gold II	-	H	R	H	R	H	-	R	-	M	M	-	-	H	-	-		
400SCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>Midwest Seed</b>																		
Evermore	2	H	H	H	H	H	R	-	R	H	-	-	M	-	-	Pawnee	-	H	H	H	H	H	M	H	L	M	H	-	-	L	-	-			
FSG351	2	H	R	H	R	H	R	H	R	R	-	-	H	-	-	<b>Monsanto</b>																			
FSG406	1	H	H	H	H	H	-	R	-	R	H	-	-	R	-	H	Aspire	-	M	R	H	H	H	H	R	H	-	-	-	-	-	-	-		
FSG408DP	2	H	R	H	H	H	-	R	-	R	R	-	-	H	-	-	DKA42-15	1	H	H	H	H	H	R	H	-	R	H	-	-	-	-	H	-	
FSG505	2	H	H	H	H	H	R	R	-	R	H	-	-	R	-	-	DKA50-18	2	H	H	H	H	H	R	R	-	R	H	-	-	-	-	H	-	
Macon	-	H	H	H	H	H	R	R	-	M	H	-	-	-	-	-	<b>Mycogen</b>																		
Reliance	-	H	H	H	H	H	R	-	-	M	R	-	-	-	-	-	4A421	-	H	H	H	H	H	H	-	-	H	-	-	M	-	-	-		
<b>AV</b>																	<b>NC+</b>																		
4200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Jade III	2	H	R	H	H	H	R	R	R	R	R	-	-	H	-	-		
<b>BioPlant</b>																	<b>NK</b>																		
Phirst	2	H	R	H	H	H	R	R	-	R	R	-	-	H	-	-	Expedition	3	R	H	H	H	H	R	-	-	R	H	-	-	R	-	-		
<b>Channel</b>																	Geneva	2	H	H	H	H	H	R	H	L	R	H	-	-	-	-	H	-	
Notice II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Genoa	1	H	H	H	H	H	-	R	-	R	H	-	-	-	-	-	-	
<b>Cimarron USA</b>																	<b>PGI</b>																		
Cimarron VL400	-	R	R	H	H	H	H	H	R	R	R	-	S	-	-	-	A 30-06	2	H	H	H	H	H	-	R	-	-	H	R	-	-	-	-	Y	
<b>CroPlan Genetics</b>																	Integrity	-	H	H	H	H	H	-	-	-	-	H	R	-	-	-	-	Y	
5-Star	3	R	R	H	R	R	R	R	R	R	R	-	-	-	-	-	Reward	-	H	R	H	R	H	R	H	M	M	M	-	-	-	-	-	-	
Rebound 4.2	1	H	H	H	H	H	R	R	-	M	H	-	-	-	-	H	Reward II	2	H	R	H	R	H	R	R	R	R	R	-	-	H	-	-	-	
<b>Dairyland</b>																	<b>Pioneer</b>																		
Arapaho	2	H	R	H	R	H	-	M	-	R	R	-	-	H	-	-	53V08	-	H	H	H	H	H	R	H	M	H	L	-	-	H	-	-		
HybriForce-400	2	H	R	H	R	H	H	R	M	R	M	-	-	H	-	-	54Q25	-	H	H	H	H	H	R	R	-	H	R	-	-	H	-	-		
HybriForce-420/wet	2	H	R	H	R	H	R	R	-	H	R	-	-	H	-	-	54Q53	-	H	H	R	R	H	M	M	-	H	M	-	-	H	-	-		
Magna 601	3	R	M	H	R	H	H	R	-	R	M	-	R	R	-	-	54V46	-	R	H	H	H	H	R	M	L	M	H	R	-	H	-	-		
Magnum V	2	H	R	H	R	H	R	R	M	R	M	-	-	M	-	-	54V54	-	H	H	H	H	H	R	-	-	L	M	-	-	-	-	-		
<b>Garst</b>																	<b>Power</b>																		
631	2	H	R	H	R	H	R	H	M	R	M	-	-	-	-	-	Power 4.2	-	H	R	H	R	H	R	R	-	H	H	-	-	R	-	H	-	
6400HT	2	H	H	H	H	H	-	H	-	-	H	-	-	-	-	Y	<b>Producers</b>																		
6415	1	H	H	H	H	H	R	R	-	H	-	-	-	-	-	H	Target II Plus	-	H	R	H	R	H	M	R	M	R	M	-	-	M	-	-	-	
6420	-	H	R	H	R	H	R	R	-	R	R	-	-	H	-	-	<b>Sharp</b>																		
645-II	-	H	H	H	H	H	-	R	-	-	H	-	-	-	-	-	Abundance	2	H	R	H	R	H	R	R	M	R	R	-	-	H	-	-	-	
6530	-	H	H	H	H	H	-	H	-	R	H	M	-	-	-	-	Enhancer	-	H	R	H	R	H	R	R	M	M	M	-	-	M	-	-	-	
Dagger+EV	-	H	H	H	H	H	M	H	M	R	H	-	-	L	-	-	Journey 204 Hybrid Alfalfa	-	H	R	H	H	H	R	R	-	R	R	-	-	H	-	-	-	
Feast+EV	2	H	H	H	R	H	-	M	-	-	H	-	-	-	-	-	<b>Simplot</b>																		
<b>Golden Harvest</b>																	Masterpiece	2	H	R	H	H	H	R	-	R	H	R	-	-	R	-	M	-	
GH 750	-	H	H	H	H	H	R	R	-	M	H	-	-	-	-	-	<b>Star</b>																		
<b>Great Plains</b>																	Lightning II	1	H	R	H	H	H	H	M	-	M	H	-	-	-	-	H	-	
Key	-	H	H	H	H	H	H	M	M	M	-	M	-	-	-	-	<b>Taylor</b>																		
Regal	-	H	R	H	R	H	R	H	-	H	M	-	M	-	-	-	Maximizer	1	H	H	H	H	H	R	-	-	R	H	-	-	-	-	H	-	
<b>Hyttest</b>																	<b>W-L Research</b>																		
Hyttest 410	-	H	H	H	H	H	H	M	-	R	H	-	-	-	-	-	WL 319 HQ	1	H	H	H	H	H	R	H	-	M	H	-	-	-	-	H	-	
Hyttest 520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	WL 327	-	H	R	H	H	H	R	R	H	R	H	-	-	-	-	-	-	
																	WL 335 HQ	1	H	H	H	H	H	R	H	-	M	H	-	-	-	-	H	-	
																	WL 342	1	H	H	H	H	H	H	H	-	R	H	-	-	-	-	H	-	
																	WL 357 HQ	2	H	H	H	H	H	-	H	-	-	H	-	-	-	-	-	-	

\*WS = Winter survival, 1 = superior  
 BW = Bacterial wilt  
 VW = Verticillium wilt  
 FW = Fusarium wilt  
 AN = Anthracnose race 1  
 PRR = Phytophthora root rot  
 SAA = Spotted alfalfa aphid  
 PA = Pea aphid

BAA = Blue alfalfa aphid  
 SN = Stem nematode  
 APH1 = Aphanomyces root rot race 1  
 APH2 = Aphanomyces root rot race 2  
 SRKN = Southern root knot nematode  
 NRKN = Northern root knot nematode  
 PL = Potato leafhopper  
 MLE = Multi-foliolate expression

GT = Continuous grazing tolerance, Y/N

Pest resistance ratings:

Code	Resistance class	% Resistant plants
S	Susceptible	0-5%
L	Low Resistance	6-14%
M	Moderate Resistance	15-30%
R	Resistance	31-50%
H	High Resistance	>50%
-	Not adequately tested	

Disease and insect resistance ratings are from the National Alfalfa Alliance, NAAIC descriptions, or from developers of the varieties.

For those interested in accessing crop performance testing information electronically, visit our World Wide Web site. All of the information contained in this publication, plus more, is available for viewing or downloading.

The URL is [www.ksu.edu/kscpt](http://www.ksu.edu/kscpt).

Excerpts from the  
University Research Policy Agreement with Cooperating Seed Companies

Permission is hereby given to Kansas State University to test varieties and/or hybrids designated on the attached entry forms in the manner indicated in the test announcements. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 952 '2005 Kansas Performance Tests with Alfalfa Varieties,' or the Kansas Crop Performance Test Web site, [www.ksu.edu/kscpt](http://www.ksu.edu/kscpt), for details. Endorsement or recommendation by Kansas State University is not implied."

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*NOTE: Trade names are used to identify products.  
No endorsement is intended, nor is any criticism implied of similar products not named.*

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