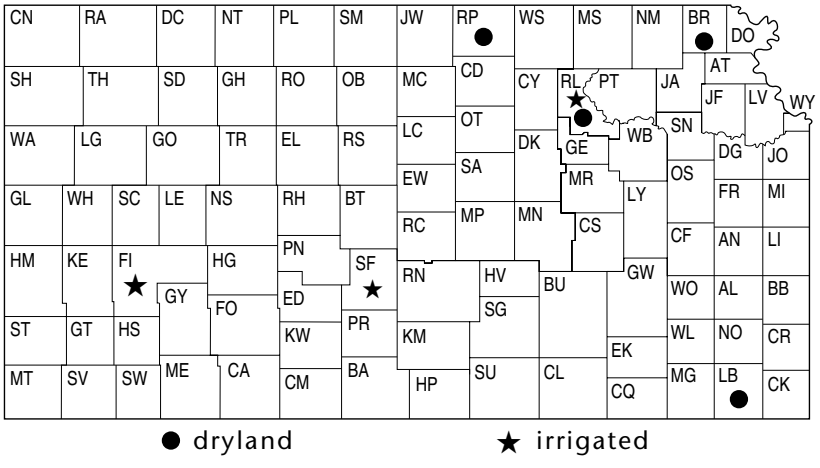
1995

KANSAS PERFORMANCE TESTS WITH

ALFALFA VARIETIES



Report of Progress 753

Agricultural Experiment Station * Kansas State University, Manhattan * Marc A. Johnson, Director

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1995 KANSAS ALFALFA PERFORMANCE TESTS

INTRODUCTION

TEST OBJECTIVES AND PROCEDURES

An official performance testing program was established in 1980 by the Kansas Agricultural Experiment Station to provide Kansas growers with unbiased performance comparisons on many alfalfa varieties. Private companies enter varieties voluntarily at locations of their choice and pay fees to cover part of the costs of conducting the tests. Most tests are planted in mid-August or September; however, the Labette County test in Southeast Kansas usually is planted in the spring. Individual tests are conducted for a minimum of 3 or 4 years, then new tests are established. Announcements and entry forms are mailed to private companies in June for establishment of fall-seeded tests.

Descriptive information is presented with the results for each test (Tables 1-7). 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^2) 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 1-7. The forage yield over the lifetime of a particular test is presented as the total tons of dry matter produced per acre, the total expressed at 15% moisture, and a percentage of the test average.

At the bottom of each column, the Least Significant Difference (LSD) is listed at the 0.05 and 0.20 levels. Differences between varieties that are equal to or greater than the 0.05 LSD have a 1 in 20 chance of not being real. Differences equal to or greater than the 0.20 LSD have a 1 in 5 chance of not being real.

The Coefficient of Variability (C.V.) provides an estimate of the consistency of the results of a particular test. In these tests, C.V.'s below 10% generally indicate reliable, uniform data, whereas C.V.'s of 10-15% are not uncommon and generally indicate that the data are acceptable for rough comparisons. Tests with C.V.'s over 15% may still be useful, but variety comparisons lack precision.

1995 STATEWIDE GROWING CONDITIONS

Timing of the 1995 alfalfa harvest lagged slightly behind the average and much behind that of the 1994 harvest. Cool spring temperatures and prolonged rainfall in April and May delayed the first harvest much beyond the optimum on many acres. Producers normally harvest 90% of the first cutting by mid-May. However, in 1995, only 45% of the first harvest was complete by May 12. During an 8-week period from late April to mid-June, Kansas Agricultural Statistics reported less than 3 days each week as suitable for fieldwork. The season started with adequate soil moisture across the state, but the heavy spring rains caused excess soil moisture in May and early June. Dry conditions beginning as early as July in some areas caused a shortage in soil moisture on over 60% of the acreage in late August and

early September and again from October through mid-December. (From **Crop-Weather** reports, Kansas Agricultural Statistics, Topeka).

Mild winter weather contributed to high populations of some insects early in the season. Pea and blue aphid populations were already high as alfalfa was breaking dormancy. Alfalfa weevil adults suffered low winter mortality and were poised to cause serious damage as the season progressed. Although serious damage was occasionally found, cool, wet spring conditions slowed weevil development enough to allow timely treating of most fields. As a result, the number of fields with the "frosted" appearance caused by heavy weevil damage was lower than usual this year. Potato leaf hoppers became evident as temperatures warmed in late June and caused typical yellowing in many fields through July. Blister beetles were present over a wide area from late June until mid-September. Dry fall weather contributed to a resurgence of spotted alfalfa aphid populations. Webworms reached treatment levels in some fields in south central and southwest Kansas. Late-season caterpillars caused less damage than usual to new seedings. (From **Cooperative Insect Survey Reports**, Kansas State Board of Agriculture).

Spring black stem was noted in late March. It caused minimal defoliation during April, but significant leaf loss in late May and early June. Lepto leaf spot was the other leaf disease noted during the wet spring. Pathologists noted common leaf spot, rust, and summer black stem in several fields in July. (From **Plant Disease Survey Reports**, Kansas State Board of Agriculture).

Over 3.2 million tons of alfalfa hay were harvested from 850,000 acres in Kansas in 1995. Production was up 4% from 1994, when over 3.1 million tons were harvested from 800,000 acres. The average yield decreased from 3.9 tons per acre in 1994 to 3.8 tons per acre in 1995. (From November 9, 1995, **Crops** report; Kansas Agricultural Statistics, Topeka).

Individual test information is presented with the results from each location

VARIETY CHARACTERIZATION

For variety selection, producers should consider the performance of a variety in each of the current tests where 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 7 contain updated yield data from individual tests currently in progress. The appendix contains information for all varieties included in the 1995 Kansas Alfalfa Performance Tests. Fall dormancy, disease resistance, and insect resistance ratings were provided by developers of each variety and were reviewed by the Association of Official Seed Certifying Agencies (AOSCA), National Alfalfa Variety Review Board (NAVRB). The Certified Alfalfa Seed Council uses that information to publish its annual Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties, which was used as the source of the information in the appendix.

Fall dormancy values are based on the fall canopy height measured in Minnesota. Dormancy values often are related to the speed of regrowth, with the rapid regrowth types having higher values. The slower regrowth types have lower fall dormancy values.

ACKNOWLEDGMENTS

Cooperation of Research Center and Experiment Field personnel who provided land and performed many or all of the field operations is sincerely appreciated.

TABLE 1. 1995 NORTHEAST KANSAS ALFALFA PERFORMANCE TEST RESULTS, BROWN CO.

Entrant, Brand, or Marketer	Entry	Plant Height, inches			1995 Forage Yield tons/acre Dry Matter				Total, 15% Moist.	Total, % of Mean
		6/13	7/26	9/6	6/13	7/26	9/6	Total		
ICI	645	19	15	14	1.97	1.57	1.14	4.68	5.51	120
Germain's	WL 323	20	17	13	2.08	1.49	1.09	4.66	5.48	119
America's Alfalfa	Innovator+Z	20	18	17	1.33	1.85	1.26	4.44	5.22	114
Star	Asset	24	15	15	1.39	1.71	1.18	4.28	5.04	110
AgriPro	Depend+EV	19	14	14	1.47	1.57	1.15	4.19	4.93	107
Northrup King	Rushmore	21	16	15	1.36	1.66	1.15	4.16	4.89	107
DeKalb	DK 127	24	15	11	1.12	1.70	1.22	4.03	4.74	103
Pioneer	5454	19	17	13	1.40	1.45	1.07	3.93	4.62	101
America's Alfalfa	Total+Z	20	14	13	1.42	1.50	1.00	3.92	4.61	101
DeKalb	DK 133	20	13	15	1.28	1.50	1.12	3.90	4.59	100
NC+	Sierra	19	16	16	1.22	1.53	1.08	3.83	4.51	98
Hoegemeyer	Green Field	23	18	14	1.28	1.33	1.17	3.77	4.44	97
AgriPro	Demand	20	16	15	1.42	1.26	0.99	3.68	4.33	94
Ohlde (M/W Gen)	Magnum IV	20	14	16	1.13	1.43	1.10	3.66	4.31	94
NE AES & USDA	Perry	24	17	15	1.11	1.57	0.96	3.64	4.28	93
Star	A-100	26	15	12	1.13	1.35	1.13	3.61	4.25	93
KS AES & USDA	Riley	20	17	14	1.12	1.32	1.07	3.40	4.00	87
KS AES & USDA	Kanza	20	15	14	1.15	1.12	1.11	3.38	3.98	87
Cargill	Sterling	22	13	13	1.15	0.94	0.82	2.91	3.42	75
Average		21	16	14	1.34	1.47	1.10	3.90	4.59	100
C.V.(%)		5	2	3	22.00	11.60	10.70	9.20	9.20	9
L.S.D.(0.05)		NS	NS	NS	0.42	0.24	0.17	0.51	0.60	13
L.S.D.(0.20)		2	NS	NS	0.27	0.16	0.09	0.33	0.39	8

NS = No significant difference detected.

LOCATION: Northeast Kansas
Cornbelt Experiment Field
BROWN County
Near Powhattan
Grundy silty clay loam, pH 6.4
ESTABLISHMENT:
Sept. 16, 1994; RCBD, 4 reps
Plots 5'x20'; 4'x20' harvested
15 lb seed/acre
Seed planted as received

1995 FERTILIZATION:
None needed
1995 PEST CONTROL:
Pursuit and Poast Plus applied on July 31 for weed control

1995 CONDITIONS:
The first cutting was delayed by wet weather. All entries were nearly 75% in bloom by the time of the first harvest. Hot, dry conditions in August limited regrowth after the second cutting. The late first harvest combined with poor regrowth after the second harvest prevented a fourth cutting.

TABLE 2. 1995 NORTHEAST KANSAS ALFALFA PERFORMANCE TEST RESULTS, RILEY CO.

Entrant, Brand, or Marketer	Entry	Plant Height inches	1995 Forage Yield tons/acre Dry Matter						
		10/19	6/7	7/7	8/6	9/11	Total	Total, 15% Moist.	Total, % of Mean
Pioneer	90W3PR1 Exp	12	3.84	1.80	1.46	1.02	8.12	9.55	116
ABI	ABI 9142	10	3.53	1.87	1.32	1.02	7.74	9.11	111
Germain's	WL 323	12	3.78	1.53	1.30	1.00	7.61	8.95	109
Cargill	Crown II	11	3.92	1.59	1.21	0.82	7.54	8.87	108
Star	Asset	11	3.88	1.57	1.22	0.85	7.52	8.85	107
ICI	630	11	3.53	1.60	1.40	0.94	7.47	8.79	107
KS AES & USDA	Riley	8	3.87	1.68	1.14	0.73	7.42	8.73	106
Hobart Seed	SuperCuts	10	3.66	1.57	1.25	0.86	7.34	8.64	105
Star	A-100	11	3.78	1.54	1.18	0.78	7.28	8.56	104
NE AES & USDA	Perry	9	3.71	1.64	1.23	0.70	7.28	8.56	104
DeKalb	DK 133	11	3.30	1.62	1.27	1.07	7.26	8.54	104
Cal/West	OK49	12	3.46	1.57	1.29	0.94	7.26	8.54	104
ICI	645	9	3.13	1.63	1.34	1.04	7.14	8.40	102
Drussel	Reward	10	3.14	1.69	1.28	0.99	7.10	8.35	101
Ohlde (M/W Gen)	Magnum IV	10	3.06	1.67	1.32	1.00	7.05	8.29	101
Mycogen	TMF Generation	9	3.17	1.75	1.31	0.81	7.04	8.28	101
Ciba	Ciba 2444	10	3.24	1.58	1.28	0.90	7.00	8.24	100
America's Alfalfa	Archer	12	2.94	1.69	1.41	0.93	6.97	8.20	100
Cal/West	1344 Exp	8	3.42	1.69	1.08	0.77	6.96	8.19	99
KS AES & USDA	Kanza	11	3.27	1.43	1.30	0.94	6.94	8.16	99
America's Alfalfa	Aggressor	10	3.41	1.36	1.27	0.87	6.91	8.13	99
ABI	ABI 9141 Exp	10	3.09	1.67	1.17	0.89	6.82	8.02	97
America's Alfalfa	Apollo Supreme	10	3.04	1.60	1.26	0.91	6.81	8.01	97
MBS	PGI3392 Exp	10	3.38	1.28	1.20	0.92	6.78	7.98	97
MBS	PGI3212 Exp	11	3.01	1.48	1.22	1.06	6.77	7.96	97
Pioneer	91CO2PR1 Exp	11	3.00	1.70	1.26	0.81	6.77	7.96	97
Pioneer	91I12PJ1 Exp	14	2.72	1.63	1.31	1.02	6.68	7.86	95
ABI	ABI 923DD Exp	8	2.86	1.48	1.31	0.86	6.51	7.66	93
Cal/West	1346 Exp	8	2.68	1.59	1.24	0.99	6.50	7.65	93
Northrup King	Fortress	9	3.02	1.43	1.22	0.78	6.45	7.59	92
Pioneer	88C2PI2 Exp	15	2.65	1.44	1.33	1.03	6.45	7.59	92
Cal/West	1469 Exp	10	3.12	1.47	0.94	0.91	6.44	7.58	92
Pioneer	91CO1PR1 Exp	11	2.87	1.43	1.20	0.80	6.30	7.41	90
Germain's	WL 322 HQ	10	2.77	1.34	1.33	0.83	6.27	7.38	90
Average		10	3.26	1.58	1.26	0.90	7.00	8.24	100
C.V.(%)		9	11.89	8.69	8.46	15.51	7.27	7.27	7
L.S.D.(0.05)		1	0.46	0.16	0.13	0.16	0.60	0.71	9
L.S.D.(0.20)		1	0.35	0.13	0.10	0.13	0.46	0.54	7

LOCATION: Northeast Kansas
Agronomy North Farm
RILEY County
Near Manhattan
Smolan silt loam

ESTABLISHMENT:
March 17, 1994; RCBD, 4 reps
Plots 3'x12'; 3'x12' harvested
15 lb seed/acre
Seed planted as received

1995 FERTILIZATION:
March; 0-80-80

1995 PEST CONTROL:
None needed

1995 CONDITIONS:
Wet, cool conditions delayed the first harvest well beyond the optimum. Flowering was nearly 50% at the first harvest but only 5-10% at subsequent cuttings. Dry conditions limited late-season yields, but subsoil moisture apparently enabled reasonable growth under the dry conditions.

TABLE 3. 1995 NORTHEAST KANSAS ALFALFA PERFORMANCE TEST, RILEY CO. - IRRIGATED

Entrant, Brand, or Marketer	Entry	Plant Ht. 7/26	Grass % 8/30	Forage Yield tons/acre Dry Matter 1995 5/15	6/20	7/26	8/30	Total	1994 Total	1993 Total	1992 Total	92-95 Total	Total, 15% Moist.	92-95 Total, % of Mean
America's Alfalfa	Apollo Supreme	26.3	24	1.38	1.82	1.79	1.10	6.09	7.46	6.40	5.49	25.44	29.93	105
ICI	645	25.5	21	1.71	1.82	1.75	0.98	6.26	6.81	6.07	6.04	25.18	29.62	104
Germain's	WL 320	21.8	23	1.47	1.81	1.83	1.15	6.26	7.12	6.20	5.58	25.16	29.60	104
Cargill	Crown II	26.3	34	1.61	1.68	1.49	0.90	5.68	7.54	6.01	5.88	25.11	29.54	104
Germain's	WL 322 HQ	22.8	21	1.45	1.69	1.61	1.16	5.91	6.87	6.26	5.95	24.99	29.40	104
Mycogen	Multi-plier	26.0	30	1.41	1.72	1.67	0.94	5.74	7.06	6.10	6.04	24.94	29.34	103
DeKalb	DK 125	27.0	26	1.47	1.71	1.68	1.02	5.88	7.03	6.12	5.77	24.80	29.18	103
Cargill	Trident II	26.3	28	1.40	1.56	1.67	0.98	5.61	7.17	6.01	5.84	24.63	28.98	102
Pioneer	5432	25.0	26	1.58	1.70	1.63	1.11	6.02	7.20	5.93	5.48	24.63	28.98	102
Golden Harvest	GH-755	25.8	34	1.41	1.53	1.69	1.00	5.63	7.00	6.31	5.46	24.40	28.71	101
Sharp	Alfaleaf	27.0	33	1.37	1.56	1.63	0.95	5.51	6.92	6.22	5.73	24.38	28.68	101
Cal/West	OK49	26.8	24	1.42	1.54	1.59	1.08	5.63	7.41	6.32	5.01	24.37	28.67	101
Pioneer	5364	27.3	24	1.37	1.67	1.75	1.00	5.79	7.16	6.11	5.25	24.31	28.60	101
ICI	630	24.0	30	1.47	1.59	1.62	1.15	5.83	7.35	5.72	5.33	24.23	28.51	100
Northrup King	MB5141 Exp	24.5	40	1.28	1.66	1.68	1.04	5.66	6.91	5.81	5.74	24.12	28.38	100
Germain's	WL 317	23.0	19	1.44	1.57	1.61	1.03	5.65	6.71	6.38	5.31	24.05	28.29	100
Germain's	Ogallala 633	25.3	28	1.34	1.68	1.55	0.94	5.51	7.19	5.99	5.22	23.91	28.13	99
NE AES & USDA	Perry	24.8	46	1.45	1.59	1.52	0.80	5.36	6.77	5.73	5.58	23.44	27.58	97
Star	A-100	26.5	23	1.22	1.52	1.71	1.05	5.50	6.42	5.87	5.39	23.18	27.27	96
Wilbur-Ellis	Jewel	26.3	36	1.20	1.67	1.60	0.95	5.42	6.44	5.86	5.35	23.07	27.14	96
KS AES & USDA	Kanza	25.0	25	1.17	1.59	1.70	1.06	5.52	6.72	5.54	4.93	22.71	26.72	94
KS AES & USDA	Riley	25.0	33	1.16	1.45	1.55	0.96	5.12	6.21	5.64	5.35	22.32	26.26	92
Average		25.4	29	1.39	1.63	1.64	1.00	5.66	6.96	6.04	5.48	24.14	28.40	100
C.V.(%)		8.0	31	10.2	6.71	8.29	9.22	4.96	6.22	9.20	10.40	--	--	--
L.S.D.(0.05)		2.4	11	0.17	0.13	0.16	0.11	0.33	0.51	0.42	0.40	0.93	1.09	4
L.S.D.(0.20)		1.9	8	0.13	0.10	0.12	0.08	0.26	0.40	0.27	0.26	0.60	0.71	2

LOCATION: Northeast Kansas
Ashland Research Farm
RILEY County
Near Manhattan
Haynie very fine sand
ESTABLISHMENT:
August 26, 1991; RCBD, 4 reps
Plots 5'x14'; 2.5'x14' harvested
18 lb seed/acre
Seed planted as received

1995 FERTILIZATION:
March; 0-80-80
1995 PEST CONTROL:
Lorsban to control weevils and aphids on May 24
1995 IRRIGATION:
Roughly 4-5 inches after each cutting
Excess rainfall early in the season eliminated the need for early irrigation.

1995 CONDITIONS:
The first cutting was slightly earlier than optimum because of a developing weevil infestation. Adjustments to fourth harvest yields removed the portion contributed by invading grasses. The grass invasion prevented a fifth harvest.

TABLE 4. 1995 SOUTHEAST KANSAS ALFALFA PERFORMANCE TEST, LABETTE CO.

Entrant, Brand, or Marketer	Entry	Leaf Hopper Rating	1995 Forage Yield tons/acre Dry Matter					
		7/21	6/23	7/21	8/21	Total	Total, 15% Moist.	Total, % of Mean
ABI	ABI 9141 Exp	3	1.60	0.88	0.98	3.46	4.07	112
Northrup King	Rushmore	6	1.69	0.81	0.89	3.39	3.99	110
America's Alfalfa	Innovator+Z	4	1.54	0.78	1.06	3.38	3.98	110
Germain's	WL 323	6	1.61	0.82	0.92	3.35	3.94	109
Germain's	WL 252 HQ	6	1.62	0.78	0.93	3.33	3.92	108
America's Alfalfa	Affinity+Z	3	1.54	0.83	0.90	3.27	3.85	106
Forage Genetics	3T26 Exp	5	1.49	0.82	0.86	3.17	3.73	103
Hobart Seed	SuperCuts	3	1.28	0.82	1.01	3.11	3.66	101
DeKalb	DK 133	5	1.36	0.78	0.91	3.06	3.60	99
Mycogen	TMF Generation	5	1.46	0.75	0.86	3.06	3.60	99
America's Alfalfa	Total+Z	3	1.38	0.85	0.83	3.05	3.59	99
Great Plains	Haygrazer	6	1.41	0.71	0.83	2.95	3.47	96
NE AES & USDA	Perry	4	1.36	0.85	0.74	2.95	3.47	96
AgriPro	Depend+EV	4	1.21	0.86	0.84	2.92	3.44	95
DeKalb	DK 127	6	1.36	0.72	0.80	2.88	3.39	94
KS AES & USDA	Kanza	6	1.44	0.71	0.69	2.83	3.33	92
Ohlde (M/W Gen)	Magnum IV	6	1.11	0.85	0.72	2.68	3.15	87
KS AES & USDA	Riley	5	1.10	0.87	0.60	2.57	3.02	83
Average		5	1.42	0.80	0.85	3.08	3.62	100
C.V.(%)		16	14.69	13.42	11.42	8.83	8.83	9
L.S.D.(0.05)		1	0.25	NS	0.12	0.32	0.38	10
L.S.D.(0.20)		1	0.19	NS	0.09	0.25	0.29	8

NS = No significant difference detected.

LOCATION: Southeast Kansas
Southeast Ag. Research Center
LABETTE County
Near Mound Valley
Parsons silty clay loam
ESTABLISHMENT:
April 6, 1995; RCBD, 4 reps
Plots 5'x30'; 3'x20' harvested
15 lb seed/acre, preplant Eptam
Seed planted as received

1995 FERTILIZATION:
March; 0-60-200
1995 PEST CONTROL:
Poast in July 31 to control grasses

1995 CONDITIONS:
All entries were at half bloom at the first cutting and one tenth bloom at the second and third cuttings. Leafhoppers damaged the second cutting (see ratings above; 1 = no damage, 9 = severe yellowing and stunting). Invading foxtail also caused some problems with the second cutting.

TABLE 5. 1995 NORTH CENTRAL KANSAS ALFALFA PERFORMANCE TEST, REPUBLIC CO.

Entrant, Brand, or Marketer	Entry	Forage Yield tons/acre Dry Matter 1995 6/1	7/3	8/7	9/1	Total	1994 Total	1993 Total	93-95 Total	Total, 15% Moist.	93-95 Total, % of Mean
ICI	645	2.53	1.12	0.92	0.86	5.43	9.28	8.35	23.06	27.13	110
Sharp	Alfaleaf	2.26	0.92	0.83	0.84	4.84	9.04	8.61	22.49	26.46	107
Johnston	Good as Gold	2.46	1.15	0.85	0.89	5.34	9.12	7.84	22.30	26.24	106
Cargill	Crown II	2.36	0.99	0.75	0.78	4.89	8.85	8.20	21.94	25.81	105
Cargill	Trident II	2.32	1.06	0.83	0.79	5.00	8.68	8.25	21.93	25.80	104
DeKalb	DK 125	2.10	0.91	0.76	0.77	4.54	8.87	8.21	21.62	25.44	103
Pioneer	5364	2.18	0.98	0.88	0.82	4.86	8.58	8.08	21.52	25.32	103
Germain's	WL 320	2.26	0.99	0.87	0.80	4.92	8.90	7.66	21.48	25.27	102
Northrup King	Viking 1	2.35	1.07	0.77	0.79	4.98	8.61	7.71	21.30	25.06	101
ICI	630	2.26	1.06	0.76	0.81	4.89	8.32	7.92	21.13	24.86	101
Wilbur-Ellis	Jewel	2.35	0.94	0.86	0.78	4.92	8.35	7.85	21.12	24.85	101
ABI	Venture	2.29	1.00	0.81	0.73	4.84	8.36	7.91	21.11	24.84	101
Pioneer	5432	2.29	1.00	0.83	0.75	4.86	8.65	7.51	21.02	24.73	100
Cal/West	OK49	2.20	0.94	0.81	0.82	4.76	8.67	7.45	20.88	24.56	99
Germain's	Ogallala 633	2.45	0.92	0.65	0.76	4.78	8.25	7.83	20.86	24.54	99
Star	A-100	2.32	0.88	0.75	0.76	4.71	8.41	7.70	20.82	24.49	99
America's Alfalfa	Apollo Supreme	2.18	1.08	0.81	0.80	4.86	8.49	7.12	20.47	24.08	98
NE AES & USDA	Perry	2.50	0.86	0.74	0.75	4.85	8.12	7.40	20.37	23.96	97
Northrup King	MultiKing1	2.03	0.92	0.70	0.74	4.39	7.92	7.93	20.24	23.81	96
Germain's	WL 317	2.12	0.86	0.68	0.73	4.38	7.67	8.07	20.12	23.67	96
Great Plains	Cimarron VR	2.07	0.83	0.76	0.78	4.44	8.05	7.53	20.02	23.55	95
Germain's	WL 322 HQ	2.11	0.89	0.69	0.79	4.48	8.02	7.08	19.58	23.04	93
KS AES & USDA	Riley	1.87	0.72	0.64	0.84	4.07	7.63	7.59	19.29	22.69	92
KS AES & USDA	Kanza	2.07	0.89	0.77	0.77	4.49	7.65	6.96	19.10	22.47	91
Average		2.25	0.96	0.78	0.79	4.77	8.44	7.78	20.99	24.69	100
C.V.(%)		7.58	13.63	12.60	9.18	7.91	7.86	7.20	--	--	--
L.S.D.(0.05)		0.24	0.18	0.14	NS	0.53	0.78	0.79	1.29	1.51	6
L.S.D.(0.20)		0.16	0.12	0.09	NS	0.35	0.61	0.51	0.84	0.99	4

NS = No significant difference detected.

LOCATION: North Central Kansas
North Central Kansas Exp. Field
REPUBLIC County
Near Belleville
Crete silt loam
ESTABLISHMENT:
August 27, 1992; RCBD, 4 reps
Plots 5'x30'; 3'x20' harvested
18 lb seed/acre, Balan herbicide
Seed planted as received

1995 FERTILIZATION:
February; 0-50-0
1995 PEST CONTROL:
None needed

1995 CONDITIONS:
Cool temperatures in April and May slowed early growth and delayed flowering. High rainfall in May made the field inaccessible, delaying the first harvest even more. Relatively dry conditions for the rest of the growing season resulted in low yields for the second, third, and fourth harvests.

TABLE 6. 1995 SOUTH CENTRAL KANSAS ALFALFA PERFORMANCE TEST, STAFFORD CO. - IRR.

Entrant, Brand, or Marketer	Entry	Forage Yield tons/acre Dry Matter 1995 5/19	6/21	7/18	8/18	9/25	Total	1994 Total	1993 Total	1992 Total	92-95 Total	Total, 15% Moist.	92-95 Total, % of Mean
MBS	MBS 2042 Exp	1.61	2.21	1.60	--	1.38	6.81	9.27	7.43	9.75	33.26	39.13	107
Ohlde (M/W Gen)	Magnum III	1.68	2.20	1.60	--	1.39	6.87	9.06	7.86	9.28	33.07	38.91	107
Keltgen	Allegro	1.62	2.14	1.65	--	1.25	6.66	8.56	8.05	9.77	33.04	38.87	107
ICI	630	1.53	2.02	1.57	--	1.35	6.47	8.89	7.96	9.26	32.58	38.33	105
MBS	Crystal	1.41	2.18	1.65	--	1.40	6.63	8.91	7.97	8.83	32.34	38.05	104
ICI	645	1.51	2.05	1.58	--	1.25	6.39	8.73	7.93	9.24	32.29	37.99	104
Germain's	WL 320	1.49	1.83	1.45	--	1.25	6.02	8.96	7.82	9.37	32.17	37.85	104
Pioneer	88W2CR2 Exp	1.47	2.10	1.61	--	1.34	6.52	8.87	7.44	8.98	31.81	37.42	103
Golden Harvest	GH-755	1.49	1.89	1.44	--	1.26	6.08	8.69	7.60	9.34	31.71	37.31	102
Cargill	Crown II	1.57	1.95	1.55	--	1.14	6.21	9.06	7.34	9.06	31.67	37.26	102
Germain's	Ogallala 633	1.55	2.00	1.51	--	1.22	6.28	8.74	7.43	9.22	31.67	37.26	102
Bio-Plant	Voyager	1.57	1.99	1.34	--	1.22	6.12	8.71	7.51	9.08	31.42	36.96	101
America's Alfalfa	Apollo Supreme	1.45	2.02	1.63	--	1.36	6.46	8.49	7.45	8.92	31.32	36.85	101
Pioneer	87CV842 Exp	1.52	2.00	1.41	--	1.32	6.25	8.50	7.59	8.97	31.31	36.84	101
Cargill	Trident II	1.47	1.99	1.59	--	1.42	6.47	8.43	7.43	8.96	31.29	36.81	101
Mycogen	Multi-plier	1.50	1.99	1.41	--	1.13	6.02	8.10	7.81	9.35	31.28	36.80	101
AgriPro	Dawn	1.47	2.03	1.57	--	1.21	6.27	8.57	7.43	8.95	31.22	36.73	101
Star	Asset	1.34	1.80	1.47	--	1.29	5.89	8.34	7.36	9.52	31.11	36.60	100
ABI	Venture	1.42	1.95	1.50	--	1.30	6.17	8.30	7.58	8.94	30.99	36.46	100
Wilbur-Ellis	Jewel	1.49	1.95	1.40	--	1.12	5.96	8.42	7.20	9.28	30.86	36.31	100
Union	UN-74	1.44	1.88	1.43	--	1.48	6.23	8.24	7.37	8.93	30.77	36.20	99
Casterline	Empress	1.40	1.86	1.56	--	1.10	5.92	8.38	7.30	9.16	30.76	36.19	99
Casterline	Super 55	1.43	1.92	1.52	--	1.19	6.06	8.29	7.47	8.88	30.70	36.12	99
Sharp	Alfaleaf	1.34	1.91	1.35	--	1.14	5.72	8.06	7.66	9.26	30.70	36.12	99
DeKalb	DK 125	1.39	1.92	1.53	--	1.07	5.90	8.30	7.13	9.28	30.61	36.01	99
Pioneer	5364	1.46	1.88	1.41	--	1.22	5.97	8.60	7.03	8.77	30.37	35.73	98
Northrup King	MultiKing1	1.33	1.80	1.42	--	1.31	5.86	8.15	7.52	8.82	30.35	35.71	98
Northrup King	Fortress	1.35	1.90	1.44	--	1.04	5.73	8.20	7.30	9.09	30.32	35.67	98
Germain's	WL 322 HQ	1.45	1.84	1.51	--	1.29	6.07	8.14	7.19	8.78	30.18	35.51	97
Pioneer	5432	1.55	1.92	1.44	--	1.21	6.12	8.48	6.98	8.51	30.09	35.40	97
Star	A-100	1.35	1.83	1.45	--	1.06	5.69	8.25	7.45	8.60	29.99	35.28	97
Germain's	WL 317	1.36	1.87	1.59	--	1.21	6.03	8.23	6.85	8.87	29.98	35.27	97
Wilbur-Ellis	Mede	1.24	1.72	1.50	--	1.32	5.77	8.20	7.06	8.94	29.97	35.26	97
NE AES & USDA	Perry	1.41	1.86	1.26	--	0.87	5.40	8.16	7.01	8.79	29.36	34.54	95
KS AES & USDA	Kanza	1.34	1.87	1.40	--	1.32	5.93	7.79	7.28	8.30	29.30	34.47	95
Cal/West	OK49	1.41	1.59	1.34	--	1.02	5.36	8.12	6.89	8.19	28.56	33.60	92
KS AES & USDA	Riley	1.30	1.48	1.22	--	1.01	5.01	7.60	6.75	8.69	28.05	33.00	90
Average		1.45	1.93	1.48	--	1.23	6.09	8.45	7.42	9.04	31.00	36.47	100
C.V.(%)		8.36	9.05	8.17	--	12.34	5.24	6.26	12.10	9.20	--	--	--
L.S.D.(0.05)		0.14	0.20	0.14	--	0.18	0.37	0.62	0.54	0.58	1.18	1.39	4
L.S.D.(0.20)		0.11	0.16	0.11	--	0.14	0.29	0.48	0.35	0.38	0.76	0.89	2

Fourth-harvest yields are not reported because of a severe pigweed infestation.

LOCATION: South Central Kansas
Sandyland Experiment Field
STAFFORD County
Near St. John
Farnum loamy fine sand

ESTABLISHMENT:
Sept. 5, 1991; RCBD, 4 reps
Plots 5'x20'; 3'x20' harvested
15 lb seed/acre, preplant Roundup
Seed planted as received

1995 FERTILIZATION:
March; 36-92-22

1995 PEST CONTROL:
Velpar on Feb. 22, Lorsban on April 4, Poast on July 26 for crabgrass, Pursuit on August 20 for pigweed

1995 IRRIGATION:
14 inches total in 19 irrigations
Beginning in late June and ending in mid-September

1995 CONDITIONS:
Late freezes burned back the forage, significantly decreasing first-harvest yields. Cool, wet conditions in May and early June slowed growth and delayed the second harvest. Extremely hot, dry weather after mid-June decreased late-season yields. All cuttings were taken at approximately

TABLE 7. 1995 SOUTHWEST KANSAS ALFALFA PERFORMANCE TEST, FINNEY CO. - IRR.

Entrant, Brand, or Marketer	Entry	Forage Yield tons/acre Dry Matter 1995 6/13	7/19	8/18	10/4	Total	1994 Total	94-95 Total	Total, 15% Moist.	94-95 Total, % of Mean
MBS	PGI4372 Exp	3.15	2.43	1.82	1.41	8.81	9.93	18.74	22.05	106
Drussel	Reward	3.22	2.30	1.73	1.28	8.53	10.02	18.55	21.82	105
Mycogen	TMF Generation	3.53	2.40	1.52	1.19	8.64	9.78	18.42	21.67	104
ABI	ABI 9045 Exp	3.33	2.46	1.68	1.19	8.66	9.72	18.38	21.62	104
MBS	PGI9047 Exp	3.27	2.30	1.64	1.11	8.32	10.05	18.37	21.61	104
NC+	Jade	2.96	2.39	1.78	1.21	8.34	9.97	18.31	21.54	103
Pioneer	90W3PR1 Exp	3.60	2.41	1.72	1.25	8.98	9.32	18.30	21.53	103
Casterline	ProGro 424	3.12	2.26	1.65	1.19	8.22	10.05	18.27	21.49	103
America's Alfalfa	Aggressor	3.40	2.45	1.56	1.37	8.78	9.33	18.11	21.31	102
Great Plains	Key	3.46	2.30	1.54	1.11	8.41	9.66	18.07	21.26	102
America's Alfalfa	Archer	3.07	2.29	1.64	1.32	8.32	9.72	18.04	21.22	102
Great Plains	Belmont	3.16	2.35	1.72	1.27	8.50	9.49	17.99	21.16	102
MBS	More	3.45	2.29	1.60	1.22	8.56	9.42	17.98	21.15	102
DeKalb	DK 133	3.16	2.21	1.61	1.09	8.07	9.80	17.87	21.02	101
MBS	PGI4212 Exp	3.05	2.35	1.81	1.32	8.53	9.29	17.82	20.96	101
America's Alfalfa	Apollo Supreme	3.32	2.33	1.54	1.20	8.39	9.35	17.74	20.87	100
Great Plains	Cimarron VR	3.28	2.25	1.47	1.16	8.16	9.57	17.73	20.86	100
Cal/West	1309 Exp	3.08	2.11	1.50	1.01	7.70	10.01	17.71	20.84	100
Golden Harvest	GH-755	3.32	2.37	1.53	1.23	8.45	9.26	17.71	20.84	100
Wilbur-Ellis	Jewel	3.32	2.32	1.58	1.16	8.38	9.30	17.68	20.80	100
Cal/West	2514 Exp	3.03	2.17	1.52	1.17	7.89	9.76	17.65	20.76	100
Germain's	WL 323	3.04	2.46	1.67	1.14	8.31	9.27	17.58	20.68	99
Cal/West	OK49	3.04	2.37	1.47	1.19	8.07	9.49	17.56	20.66	99
KS AES & USDA	Riley	3.15	2.27	1.59	1.14	8.15	9.36	17.51	20.60	99
Pioneer	91CO2PR1 Exp	3.19	2.27	1.72	1.26	8.44	8.99	17.43	20.51	98
Germain's	WL 322 HQ	3.43	2.17	1.75	1.15	8.50	8.83	17.33	20.39	98
NE AES & USDA	Perry	3.28	2.26	1.56	1.08	8.18	9.08	17.26	20.31	98
Pioneer	91CO1PR1 Exp	2.92	2.10	1.75	1.22	7.99	9.26	17.25	20.29	97
Sharp	Alfaleaf	3.13	2.33	1.55	1.13	8.14	9.00	17.14	20.16	97
Ohlde (M/W Gen)	Magnum IV	3.10	2.25	1.54	1.21	8.10	8.98	17.08	20.09	96
Northrup King	Fortress	3.02	2.21	1.47	1.17	7.87	9.18	17.05	20.06	96
Pioneer	91I12PJ1 Exp	2.93	2.08	1.76	1.34	8.11	8.84	16.95	19.94	96
KS AES & USDA	Kanza	2.94	2.19	1.62	1.15	7.90	8.43	16.33	19.21	92
Pioneer	88C2PI2 Exp	2.53	2.13	1.64	1.15	7.45	8.17	15.62	18.38	88
Average		3.18	2.29	1.63	1.20	8.30	9.40	17.70	20.82	100
C.V.(%)		6.66	6.07	7.67	9.68	3.65	5.84	--	--	--
L.S.D.(0.05)		0.25	0.16	0.17	NS	0.36	0.64	0.88	1.04	5
L.S.D.(0.20)		0.19	0.13	0.13	0.12	0.28	0.50	0.57	0.67	3

NS = No significant difference detected.

LOCATION: Southwest Kansas
SW KS Research-Extension Center
FINNEY County
Near Garden City
Keith silt loam

ESTABLISHMENT:
Sept. 10, 1993; RCBD, 4 reps
Plots 3'x20'; 3'x20' harvested
32 lb seed/acre
Seed planted as received

1995 FERTILIZATION:
None

1995 PEST CONTROL:
Pursuit Plus on April 3

1995 IRRIGATION:
Flood irrigated on July 11, August 8, August 31, and September 13

1995 CONDITIONS:
The first and second cuttings were very slow growing and approximately 2 weeks later than normal because of record precipitation combined with cool temperatures in April and May. August and September weather was extremely hot and dry.

Appendix: Entrants and entries in 1995 Kansas Alfalfa Performance Tests with unverified fall dormancy and disease resistance ratings

ABI

515-292-2432

ABI Alfalfa
2316 259th St.
Ames , IA 50014

	1	2	3	4	5	6	7	8	9	10	11	12
ABI 9045 Exp	4	H	H	H	H	H	R	H	-	M	-	R
ABI 9141 Exp	4	H	H	H	H	H	-	R	-	M	-	R
ABI 9142	4	H	R	H	H	H	-	R	-	M	-	R
ABI 923DD Exp	3	H	H	H	H	H	M	R	-	R	-	R
Venture	4	H	R	R	H	R	-	H	-	L	-	R

AgriPro

Agripro Seeds, Inc.
P.O. Box 2962
Shawnee Missio , KS 66201-1

	1	2	3	4	5	6	7	8	9	10	11	12
Dawn	3	H	R	H	R	H	-	R	-	M	-	M
Demand	3	H	H	H	H	H	M	R	-	M	-	R
Depend+EV	4	H	H	H	H	H	M	R	-	M	-	R

America's Alfalfa

913-384-4940

America's Alfalfa
P.O. Box 2955
6700 Antioch
Shawnee Missio , KS 66201

	1	2	3	4	5	6	7	8	9	10	11	12
Affinity+Z	4	H	H	H	H	H	-	R	-	R	-	R
Aggressor	4	H	R	H	H	H	M	H	M	M	-	M
Apollo Supreme	4	H	R	H	H	R	-	H	-	-	-	-
Archer	5	M	M	H	R	R	H	H	R	R	R	-
Innovator+Z	3	H	H	H	H	H	M	R	-	R	-	R
Total+Z	3											

Bio-Plant

Bio-Plant Research
P.O. Box 253
Camp Point , IL 62320

	1	2	3	4	5	6	7	8	9	10	11	12
Voyager	4	H	M	R	M	R	M	-	-	-	-	-

Cal/West

608-786-1554

Cal/West
R.R. 1, Box 70
West Salem , WI 54669

	1	2	3	4	5	6	7	8	9	10	11	12
1309 Exp												
1344 Exp												
1346 Exp												
1469 Exp												
2514 Exp												
OK49												

Cargill

612-742-6743

Cargill Hybrid Seeds
P.O. Box 5645
Minneapolis , MN 55440

	1	2	3	4	5	6	7	8	9	10	11	12
Crown II	3	H	R	H	H	H	M	R	-	-	-	-
Sterling	2	H	R	H	H	H	R	R	-	-	-	R
Trident II	3	H	R	R	R	H	L	-	-	L	-	M

Casterline

800-444-4137

Casterline Seeds, Inc.
Box 1377
1st & Maple
Dodge City , KS 67801

	1	2	3	4	5	6	7	8	9	10	11	12
Empress	4	H	R	H	R	H	R	H	-	R	M	-
ProGro 424	4	H	R	H	R	H	R	R	M	-	-	M
Super 55												

Ciba

402-475-0897

Ciba Seeds
201 Benton Court
Lincoln , NE 68521

	1	2	3	4	5	6	7	8	9	10	11	12
Ciba 2444	3	H	R	H	H	H	-	M	-	M	-	R

Appendix: Entrants and entries in 1995 Kansas Alfalfa Performance Tests with unverified fall dormancy and disease resistance ratings

DeKalb 815-758-9323

DeKalb Plant Genetics Corp.
3100 Sycamore Rd.
DeKalb , IL 60115

	1	2	3	4	5	6	7	8	9	10	11	12
DK 125	3	H	R	R	H	R	M	R	-	-	-	-
DK 127												
DK 133	4	H	R	H	H	H	R	R	-	M	-	R

Drussel 316-275-2359

Drussel Seed and Supply
2197 W. Parallel Road
Garden City , KS 67846

	1	2	3	4	5	6	7	8	9	10	11	12
Reward	4	H	R	H	R	H	R	H	M	M	-	M

Forage Genetics 612-742-6743

Forage Genetics
P.O. Box 5645
Minneapolis , MN 55440

	1	2	3	4	5	6	7	8	9	10	11	12
3T26 Exp												

Germain's 913-674-2062

Germain's Seeds
P.O. Box 373
Hill City , KS 67642

	1	2	3	4	5	6	7	8	9	10	11	12
Ogallala 633	4	H	R	R	H	H	H	R	-	M	-	M
WL 252 HQ	2	H	R	H	H	H	M	R	L	R	-	L
WL 317	3	H	R	H	R	H	R	H	-	R	M	-
WL 320	4	R	M	R	M	R	R	M	M	M	-	-
WL 322 HQ	4	H	R	H	M	R	H	H	R	LR	L	-
WL 323	4	H	R	H	H	H	M	R	-	H	-	R

Golden Harvest 402-779-2531

The J.C. Robinson Seed Co.
100 J.C. Robinson Blvd.
Waterloo , NE 68069

	1	2	3	4	5	6	7	8	9	10	11	12
GH-755	4	H	R	H	H	H	R	R	R	R	-	R

Great Plains 919-362-1583

Great Plains Research Co.,Inc.
3624 Kildaire Farm Rd.
Apex , NC 27502

	1	2	3	4	5	6	7	8	9	10	11	12
Belmont	4	H	R	H	H	R	H	H	R	R	M	-
Cimarron VR	4	H	R	H	H	R	H	H	M	R	M	M
Haygrazer	4	H	R	H	R	R	R	R	-	R	R	M
Key	4	H	H	H	H	H	H	H	M	M	M	M

Hobart Seed 800-866-6074

Hobart Seed
530 S. Main
Hobart , OK 73651

	1	2	3	4	5	6	7	8	9	10	11	12
SuperCuts	4	H	H	H	H	H	-	H	-	L	-	R

Hoegemeyer 402-654-3399

Hoegemeyer Hybrids
R.R. 2, Box 126
Hooper , NE 68031

	1	2	3	4	5	6	7	8	9	10	11	12
Green Field	3	H	R	H	H	H	-	H	-	-	-	R

ICI 712-792-5760

ICI Seeds
R.R. 2 Box 92A
Carroll , IA 51401

	1	2	3	4	5	6	7	8	9	10	11	12
630	4	H	M	R	M	R	M	R	M	M	-	-
645												

Johnston 405-233-5800

Johnston Seed Co.
P.O. Box 1392
Enid , OK 73702

	1	2	3	4	5	6	7	8	9	10	11	12
Good as Gold	4	H	R	H	R	H	R	H	M	-	-	L

Appendix: Entrants and entries in 1995 Kansas Alfalfa Performance Tests with unverified fall dormancy and disease resistance ratings

Keltgen 605-983-5171

Keltgen Seed Co.
103 Cherry St.
Arlington , SD 57212

	1	2	3	4	5	6	7	8	9	10	11	12
Allegro	4	H	R	H	H	H	M	H	-	M	-	R

KS AES & USDA 913-532-6115

KSU-Foundation Seed
2200 Kimball Ave.
Manhattan , KS 66502

	1	2	3	4	5	6	7	8	9	10	11	12
Kanza												
Riley	4	H	L	-	M	-	H	H	-	-	-	-

MBS 515-296-2676

Mike Brayton Seeds, Inc.
P.O. Box 308
2055 Ironwood Court
Ames , IA 50010

	1	2	3	4	5	6	7	8	9	10	11	12
Crystal	4	H	R	H	R	H	L	R	M	M	-	L
MBS 2042 Exp												
More												
PGI3212 Exp												
PGI3392 Exp												
PGI4212 Exp												
PGI4372 Exp												
PGI9047 Exp												

Mycogen 806-995-4111

Mycogen Plant Sciences
P.O. Box 68
505 South 87th
Tulia , TX 79088

	1	2	3	4	5	6	7	8	9	10	11	12
Multi-plier	3	H	R	H	H	H	M	R	-	-	-	-
TMF Generatior	4	H	H	H	H	H	-	R	-	-	-	R

NC+ 913-626-3034

NC+ Hybrids
404 S. 5th
Atwood , KS 67730

	1	2	3	4	5	6	7	8	9	10	11	12
Jade	4	H	R	R	R	H	M	-	-	-	-	-
Sierra	3	H	R	H	R	H	R	-	L	M	M	M

NE AES & USDA 402-472-4290

Nebraska Foundation Seed
University of Nebraska-Lincoln
3115 North 70th
Lincoln , NE 68507-2

	1	2	3	4	5	6	7	8	9	10	11	12
Perry	3	R	-	-	L	-	M	R	-	-	-	-

Northrup King 316-543-2707

Northrup King Co.
1060 Wheatland
Buhler , KS 67522

	1	2	3	4	5	6	7	8	9	10	11	12
Fortress	4	R	R	R	-	H	H	R	-	H	-	-
MB5141 Exp												
MultiKing1	3	H	R	H	R	R	M	M	-	M	-	-
Rushmore	4	H	R	H	H	H	H	R	-	-	-	H
Viking 1	2	R	H	H	R	R	-	M	M	-	-	-

Ohlde (M/W Gen) 913-692-4555

Ohlde Seed Farms
Midwest Seed Genetics
Box 63 RR 1
Palmer , KS 66962

	1	2	3	4	5	6	7	8	9	10	11	12
Magnum III	4	R	M	R	M	R	M	R	M	M	-	L
Magnum IV	4	H	R	H	R	H	M	-	M	R	M	M

Pioneer 515-270-3342

Pioneer Hi-Bred Int., Inc.
Box 287
7305 NW 62nd
Johnston , IA 50131

	1	2	3	4	5	6	7	8	9	10	11	12
5364	4	R	M	R	M	M	H	H	-	R	-	-
5432	4	H	R	H	-	M	H	R	-	M	-	-

(continued)

Appendix: Entrants and entries in 1995 Kansas Alfalfa Performance Tests with unverified fall dormancy and disease resistance ratings

5454	4	R	M	H	H	H	R	R	-	M	-	L
87CV842 Exp												
88C2PI2 Exp												
88W2CR2 Exp												
90W3PR1 Exp												
91CO1PR1 Exp												
91CO2PR1 Exp												
91I12PJ1 Exp												

Sharp

316-398-2231

Sharp Bros. Seed Company
Box 140
Healy , KS 67850

	1	2	3	4	5	6	7	8	9	10	11	12
Alfaleaf	4	H	R	R	R	H	R	R	-	-	-	M

Star

800-782-7611

Star Seed, Inc.
P.O. Box 504
Beloit , KS 67420

	1	2	3	4	5	6	7	8	9	10	11	12
A-100												
Asset	4	H	R	R	R	H	R	R	-	-	-	M

Union

Union Seeds
P.O. Box 339
Nampa , ID 83651

	1	2	3	4	5	6	7	8	9	10	11	12
UN-74												

Wilbur-Ellis

719-336-2226

Wilbur-Ellis
P.O. Box 1017
Lamar , CO 81052

	1	2	3	4	5	6	7	8	9	10	11	12
Jewel	4	H	R	R	R	H	R	R	-	-	-	M
Mede	5	M	M	H	R	R	H	R	R	-	R	-

Fall Dormancy and disease resistance ratings are from ***Alfalfa Varieties***, a publication of the Certified Alfalfa Seed Council, or from developers of the varieties. Blank spaces indicate that the variety has not been adequately tested.

Variety characterization codes:
1 = Fall dormancy rating (see below)
2 = Bacterial Wilt
3 = Verticillium Wilt
4 = Fusarium Wilt
5 = Anthracnose Race 1
6 = Phytophthora Root Rot
7 = Spotted Alfalfa Aphid
8 = Pea Aphid
9 = Blue Alfalfa Aphid
10 = Stem Nematode
11 = Root Knot Nematode
12 = Aphanomyces Root Rot race 1

Fall dormancy ratings

Check variety	Dormancy rating
Norseman	1
Vernal	2
Ranger	3
Saranac	4
DuPuits	5
Lahontan	6
Mesilla	7
Moapa 69	8
CUF 101	9

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	

Excerpts from the

UNIVERSITY RESEARCH POLICY AGREEMENT WITH COOPERATING SEED COMPANIES*

Permission is hereby given to Kansas State University to test our varieties and/or hybrids designated on the attached entry forms in the manner indicated on the test announcement. I understand that all results from Kansas crop performance tests belong to the University and to the public and shall be controlled by the University so as to produce the greatest benefit to the public. It is further agreed that the name of the University shall not be used by the company in any commercial advertising either in regard to this agreement or any other related matter.

* This agreement must be signed by an authorized individual before results involving the company's entries can be published by the Experiment Station. Except for the limitation that the name "KANSAS STATE UNIVERSITY" cannot be used in advertising (you may use something like "official state tests" or "state yield trials"), this does not preclude the use of data for advertising, if done in a fair manner.

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

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