

Report of Progress 753

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1995 KANSAS ALFALFA PERFORMANCE TESTS

INTRODUCTION

TEST OBJECTIVES AND PROCEDURES

An official performance testing program was established 1980 bv in the Kansas Agricultural Experiment Station to provide Kansas growers with unbiased performance on many alfalfa comparisons 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 bv harvesting four replications of each variety with a plot harvester. The amount of forage produced from a specific area (35-80 ft) 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. 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 <u>Least Significant Difference</u> (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 Kansas Agricultural mid-June. 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. 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 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 fields the "frosted" of with 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. 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). Certified Alfalfa Seed Council uses that information to publish its annual 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.

							1995 For		d	
Cotront							tons/acre	!	Total,	Total
Entrant, Brand, or		Plant	Height, i	nches		Dry N	/latter		15%	Total, % of
Marketer	Entry	6/13	7/26	9/6	6/13	7/26	9/6	Total	Moist.	Mean
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

LOCATION: Northeast Kansas	1995 FERTILIZATION:	1995 CONDITIONS:
Cornbelt Experiment Field	None needed	The first cutting was delayed by wet
BROWN County	1995 PEST CONTROL:	weather. All entries were nearly 75%
Near Powhattan	Pursuit and Poast Plus applied on	in bloom by the time of the first
Grundy silty clay loam, pH 6.4	July 31 for weed control	harvest. Hot, dry conditions in August
ESTABLISHMENT:		limited regrowth after the second
Sept. 16, 1994; RCBD, 4 reps		cutting. The late first harvest
Plots 5'x20'; 4'x20' harvested		combined with poor regrowth after the
15 lb seed/acre		second harvest prevented a fourth
Seed planted as received		cutting.

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

		Plant				995 Fora	ge Yield		
Entrant, Brand, or		Height inches			ton Dry Matt	s/acre er		Total,	Total, % of
Marketer	Entry	10/19	6/7	7/7	8/6	9/11	Total	Moist.	Mean
Pioneer	90W3PR1 Exp	12	3.84	1.80	1.46	1.02	8.12	9.55	116
ABI Germain's	ABI 9142 WL 323	10 12	3.53 3.78	1.87 1.53	1.32 1.30	1.02 1.00	7.74 7.61	9.11 8.95	111 109
Cargill	Crown II	11	3.92	1.59	1.21	0.82	7.54	8.87	108
Star ICI	Asset 630	11 11	3.88 3.53	1.57 1.60	1.22 1.40	0.85 0.94	7.52 7.47	8.85 8.79	107 107
KS AES & USDA	Riley	8	3.87	1.68	1.14	0.73	7.42	8.73	106
Hobart Seed Star	SuperCuts A-100	10 11	3.66 3.78	1.57 1.54	1.25 1.18	0.86 0.78	7.34 7.28	8.64 8.56	105 104
NE AES & USDA	Perry	9	3.71	1.64	1.23	0.70	7.28	8.56	104
DeKalb Cal/West	DK 133 OK49	11 12	3.30 3.46	1.62 1.57	1.27 1.29	1.07 0.94	7.26 7.26	8.54 8.54	104 104
ICI	645	9	3.13	1.63	1.34	1.04	7.14	8.40	102
Drussel Ohlde (M/W Gen)	Reward Magnum IV	10 10	3.14 3.06	1.69 1.67	1.28 1.32	0.99 1.00	7.10 7.05	8.35 8.29	101 101
Mycogen	TMF Generation	9	3.17	1.75	1.31	0.81	7.04	8.28	101
Ciba America's Alfalfa	Ciba 2444 Archer	10 12	3.24 2.94	1.58 1.69	1.28 1.41	0.90 0.93	7.00 6.97	8.24 8.20	100 100
Cal/West	1344 Exp	8	3.42	1.69	1.08	0.77	6.96	8.19	99
KS AES & USDA America's Alfalfa	Kanza Aggressor	11 10	3.27 3.41	1.43 1.36	1.30 1.27	0.94 0.87	6.94 6.91	8.16 8.13	99 99
ABI	ABI 9141 Exp	10	3.09	1.67	1.17	0.89	6.82	8.02	97
America's Alfalfa MBS	Apollo Supreme PGI3392 Exp	10 10	3.04 3.38	1.60 1.28	1.26 1.20	0.91 0.92	6.81 6.78	8.01 7.98	97 97
MBS	PGI3212 Exp	11	3.01	1.48	1.22	1.06	6.77	7.96	97
Pioneer Pioneer	91CO2PR1 Exp 91I12PJ1 Exp	11 14	3.00 2.72	1.70 1.63	1.26 1.31	0.81 1.02	6.77 6.68	7.96 7.86	97 95
ABI	ABI 923DD Exp	8	2.86	1.48	1.31	0.86	6.51	7.66	93
Cal/West Northrup King	1346 Exp Fortress	8 9	2.68 3.02	1.59 1.43	1.24 1.22	0.99 0.78	6.50 6.45	7.65 7.59	93 92
Pioneer	88C2PI2 Exp	15	2.65	1.44	1.33	1.03	6.45	7.59	92
Cal/West Pioneer	1469 Exp 91CO1PR1 Exp	10 11	3.12 2.87	1.47 1.43	0.94 1.20	0.91 0.80	6.44 6.30	7.58 7.41	92 90
Germain's	WL 322 HQ	10	2.77	1.34	1.33	0.83	6.27	7.38	90
Average C.V.(%)		10 9	3.26 11.89	1.58 8.69	1.26 8.46	0.90 15.51	7.00 7.27	8.24 7.27	100 7
L.S.D.(0.05) L.S.D.(0.20)		1 1	0.46 0.35	0.16 0.13	0.13 0.10	0.16 0.13	0.60 0.46	0.71 0.54	9 7

LOCATION: Northeast Kansas	1995 FERTILIZATION:	1995 CONDITIONS:
Agronomy North Farm	March; 0-80-80	Wet, cool conditions delayed the first
RILEY County	1995 PEST CONTROL:	harvest well beyond the optimum.
Near Manhattan	None needed	Flowering was nearly 50% at the first
Smolan silt loam		harvest but only 5-10% at subsequent
ESTABLISHMENT:		cuttings. Dry conditions limited late-
March 17, 1994; RCBD, 4 reps		season yields, but subsoil moisture
Plots 3'x12'; 3'x12' harvested		apparently enabled reasonable
15 lb seed/acre		growth under the dry conditions.
Seed planted as received		

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

Entrant, Brand, or Marketer	Entry	Plan t Ht. 7/26	Grass % 8/30	5/15	6/20	1995 7/26	8/30		orage ns/acre atter 1994 Total	Yield 1993 Total	1992 Total	92-95 Total	Total, 15% Moist.	92-95 Total, % of Mean
America's Alfalfa	Apollo Supreme		24		1.82		1.10	6.09	7.46	6.40	5.49	25.44	29.93	105
ICI	645	25.5	21	1.71		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

OCATION: 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.

		Leaf			1995 Fo	orage Yield		
Entrant,		Hopper Rating			Total,	Total,		
Brand, or Marketer	Entry	7/21	6/23	7/21	Matter 8/21	Total	15% Moist.	% 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

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	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
Seed planted as received		cutting.

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

						Forage tons/acre					93-95
Entrant,					Dry N	/latter				Total,	Total, % of
Brand, or Marketer	Entry			1995			1994	1993	93-95	15% Moist.	Mean
		6/1	7/3	8/7	9/1	Total	Total	Total	Total	IVIOISt.	
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

LOCATION: North Central Kansas	1995 FERTILIZATION:	1995 CONDITIONS:
North Central Kansas Exp. Field	February; 0-50-0	Cool temperatures in April and May
REPUBLIC County	1995 PEST CONTROL:	slowed early growth and delayed
Near Belleville	None needed	flowering. High rainfall in May made
Crete silt loam		the field inaccessible, delaying the first
ESTABLISHMENT:		harvest even more. Relatively dry
August 27, 1992; RCBD, 4 reps		conditions for the rest of the growing
Plots 5'x30'; 3'x20' harvested		season resulted in low yields for the
18 lb seed/acre, Balan herbicide		second, third, and fourth harvests.
Seed planted as received		

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

						t	Forage						92-95
Entrant,						Dry N	/latter					Total,	Total,
Brand, or	Entr.			19	95			1994	1993	1992	92-95	15%	% of
Marketer	Entry	5/19	6/21	7/18	8/18	9/25	Total	Total	Total	Total	Total	Moist.	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 ICI	Crystal 645	1.41 1.51	2.18 2.05	1.65 1.58		1.40 1.25	6.63 6.39	8.91 8.73	7.97 7.93	8.83 9.24	32.34 32.29	38.05 37.99	104 104
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 1.22	6.28	8.74	7.43	9.22	31.67 31.42	37.26	102
Bio-Plant America's Alfalfa	Vovager Apollo Supreme	1.57 1.45	1.99 2.02	1.34 1.63		1.36	6.12 6.46	8.71 8.49	7.51 7.45	9.08 8.92	31.32	36.96 36.85	101 101
Pioneer	87CV842 Exp	1.52	2.02	1.03		1.32	6.25	8.50	7.43	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 Wilbur-Ellis	Venture Jewel	1.42 1.49	1.95 1.95	1.50 1.40		1.30 1.12	6.17 5.96	8.30 8.42	7.58 7.20	8.94 9.28	30.99 30.86	36.46 36.31	100 100
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 Pioneer	DK 125 5364	1.39 1.46	1.92 1.88	1.53 1.41		1.07 1.22	5.90 5.97	8.30 8.60	7.13 7.03	9.28 8.77	30.61 30.37	36.01 35.73	99 98
Northrup King	MultiKing1	1.33	1.80	1.42		1.31	5.86	8.15	7.52	8.82	30.35	35.73	98
				1.44									
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
				_									
	-		_										
				1.40								34.47	
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
•													
Northrup King Germain's Pioneer Star Germain's Wilbur-Ellis NE AES & USDA KS AES & USDA Cal/West KS AES & USDA	Fortress WL 322 HQ 5432 A-100 WL 317 Mede Perry Kanza OK49	1.35 1.45 1.55 1.35 1.36 1.24 1.41 1.34 1.41	1.90 1.84 1.92 1.83 1.87 1.72 1.86 1.87 1.59	1.44 1.51 1.44 1.45 1.59 1.50 1.26 1.40 1.34		1.04 1.29 1.21 1.06 1.21 1.32 0.87 1.32 1.02	5.73 6.07 6.12 5.69 6.03 5.77 5.40 5.93 5.36 5.01	8.20 8.14 8.48 8.25 8.23 8.20 8.16 7.79 8.12 7.60	7.30 7.19 6.98 7.45 6.85 7.06 7.01 7.28 6.89 6.75	9.09 8.78 8.51 8.60 8.87 8.94 8.79 8.30 8.19	30.32 30.18 30.09 29.99 29.98 29.97 29.36 29.30 28.56 28.05	35.67 35.51 35.40 35.28 35.27 35.26 34.54 34.47 33.60 33.00	98 97 97 97 97 97 95 95 92

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

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:

1995 FERTILIZATION:

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.

		Forage Yield								
					tons					94-95
Entrant,					Ory Matte	r			Total,	Total,
Brand, or	Entry			1995			1994	94-95	15%	% of Mean
Marketer	Littiy	6/13	7/19	8/18	10/4	Total	Total	Total	Moist.	IVICALI
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

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

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.

1995 CONDITIONS:

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

ABI ABI Alfalfa 2316 259th St. Ames , IA 50014	515-292-2432	Cal/West Cal/West R.R. 1, Box 70 West Salem , WI 54669	608-786-1554
	4 5 6 7 8 9 10 11 12		4 5 6 7 8 9 10 11 12
ABI 9141 Exp 4 H H ABI 9142 4 H R ABI 923DD Exp 3 H H	H H H R H - M - R H H H - R - M - R H H H - R - M - R H H H M R - R - R R H R - H - L - R	1309 Exp 1344 Exp 1346 Exp 1469 Exp 2514 Exp OK49	
AgriPro			
Agripro Seeds, Inc. P.O. Box 2962 Shawnee Missio, KS 6	6201-1	Cargill Cargill Hybrid Seeds P.O. Box 5645 Minneapolis, MN 55440	612-742-6743
1 2 3	4 5 6 7 8 9 10 11 12	Willineapolis, Wild 30440	,
Demand 3 H H	H R H - R - M - M H H H M R - M - R H H H M R - M - R	Crown II 3 H R Sterling 2 H R	4 5 6 7 8 9 10 11 12 H H H M R H H H R R R R R H L L - M
America's Alfalfa	913-384-4940		
America's Alfalfa P.O. Box 2955 6700 Antioch Shawnee Missio, KS 6 1 2 3	6201 4 5 6 7 8 9 10 11 12	Casterline Casterline Seeds, Inc. Box 1377 1st & Maple Dodge City, KS 67801	800-444-4137
· ······ —	H H H - R - R - R H H H M H M M - M		4 5 6 7 8 9 10 11 12 H R H R H - R M -

Super 55

Ciba

ProGro 424

Ciba Seeds

201 Benton Court

Lincoln, NE 68521

Bio-Plant

Voyager

Archer

Total+Z

Innovator+Z

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

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

5 M M H R R H H R R R -

3 H H H H H M R - R - R

Apollo Supreme 4 H R H H R - H - - - -

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

4 H R H R H R R M - - M

402-475-0897

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

DK 125 3 H R R H R M R - - - - - DK 127 DK 133 4 H R H H R 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

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

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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

Gleen Held 5 H K H H H - H - - -

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	NC+	913-626-3034	
Keltgen Seed Co. 103 Cherry St.		NC+ Hybrids 404 S. 5th		
Arlington , SD 57212		Atwood, KS 6773	30	
Allegro	1 2 3 4 5 6 7 8 9 10 11 12 4 H R H H H M H - M - R	Jade 4	2 3 4 5 6 7 8 9 10 11 12 H R R R H M H R H R H R - L M M M	
KS AES & USDA 913-532-6115				
KSU-Foundation Seed 2200 Kimball Ave. Manhattan , KS 66502		Nebraska Founda University of Neb	NE AES & USDA 402-472-4290 Nebraska Foundation Seed University of Nebraska-Lincoln	
Was a	1 2 3 4 5 6 7 8 9 10 11 12		68507-2 2 3 4 5 6 7 8 9 10 11 12	
Kanza Riley	4 H L - M - H H		R L - M R	
MBS	515-296-2676	Northrup King	316-543-2707	
Mike Brayton Seeds, Inc. P.O. Box 308		Northrup King Co 1060 Wheatland	Northrup King Co. 1060 Wheatland	
2055 Ironwood Court Ames, IA 50010		Buhler , KS 67522	2	
Ames, iA	1 2 3 4 5 6 7 8 9 10 11 12	1	2 3 4 5 6 7 8 9 10 11 12	
Crystal MBS 2042 Exp More PGI3212 Exp PGI3392 Exp PGI4212 Exp	4 H R H R H L R M M - L	MB5141 Exp MultiKing1 3 Rushmore 4	R R R - H H R - H - - - H R H R R M M - M - - - H H R H H R R - M M - - - - R H H R R - M M - - - -	
PGI4372 Exp PGI9047 Exp		Ohlde (M/W Ge	e n) 913-692-4555	
Mycogen Mycogen Plan P.O. Box 68		Ohlde Seed Farn Midwest Seed G Box 63 RR 1 Palmer , KS 669 1	enetics	
505 South 87tl Tulia ,TX	1 79088 1 2 3 4 5 6 7 8 9 10 11 12		R M R M R M R M M - L H R H R H M - M R M M	
Multi-plier TMF Generation	3 H R H H H M R 4 H H H H H - R R	Pioneer	515-270-3342	
····· Scrictation		•		
	(continue	5432 4	R M R M M H H - R 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

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.

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 4 H R R R H R R - - - M

Star

Alfaleaf

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 4 H R R R H R R - - - M

Union

A-100 Asset

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 -

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

Pest resistance ratings

	Resistance	% Resistant
<u>Code</u>	<u>class</u>	<u>plants</u>
S	Susceptible	0-5%
L	Low Resistance	6-14%
M	Moderate Resistance15-30%	
R	Resistance	31-50%
Н	High Resistance	>50%
-	Not adequately tes	sted

This publication from the Kansas State University Agricultural Experiment Station and Cooperative Extension Service has been archived. Current information is available from http://www.ksre.ksu.edu.

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.

This publication from the Kansas State University Agricultural Experiment Station and Cooperative Extension Service has been archived. Current information is available from http://www.ksre.ksu.edu.

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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.