

## **2004 South Dakota Alfalfa Variety Trials**

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### **Establishment and Management**

Alfalfa plots are planted at a rate of 18 lbs PLS acre<sup>-1</sup> using a Brillion type seeder. Plots are 4 feet wide and 20 feet long. Stage of maturity for each trial was determined before harvest using the Kalu and Fick (1981, Crop Science 21:267-271) mean-stage-by-count method. Maturity information is included in the yield tables. A sickle-bar harvester was used to harvest all plots. Fresh alfalfa samples were randomly obtained during harvest and dried to determine yield on a dry matter basis. Herbicides and insecticides are used as needed to successfully establish and manage alfalfa pests. Soil fertility is maintained throughout the trial at levels recommended by the SDSU soil testing lab.

### **Worksheet Description**

Each worksheet has a designated name detailing the location of the test and the year it was planted. For example the worksheet titled 'Brookings 2002' is the trial planted near Brookings in 2002.

### **2004 Results**

New trials were planted at Brookings and Watertown. Yields for each location are listed in tons dry matter/acre. Released cultivars are listed first followed by experimental entries (when present). With the exception of the Brookings location where two and one cuttings were taken from the established and newly planted trials, respectively, all trial locations received adequate moisture for three to four harvests in 2004.

### **Contact Information**

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### SOUTH DAKOTA ALFALFA VARIETY TRIAL

Brookings, Brookings Co., SD Crop Improvement Research Farm  
Planted 1 May 2002, Randomized complete block with 6 replicates

Entry	2004			2003 Total	2-year total
	4-Jun	13-Jul	Total		
Tons DM/Acre					
<b>Released cultivars</b>					
Husky	0.86	1.06	1.92	0.82	2.77
Dakota	0.82	1.06	1.88	0.88	2.76
Hybriforce-400	0.81	1.04	1.85	0.85	2.72
6420	0.84	1.04	1.88	0.82	2.72
Survivor	0.83	1.01	1.84	0.77	2.62
54H91	0.77	1.00	1.77	0.85	2.61
Vernal	0.82	1.04	1.86	0.72	2.59
LS 102	0.81	1.05	1.86	0.72	2.58
Frontier 2000	0.79	1.14	1.93	0.65	2.58
Feast +Ev	0.74	1.04	1.78	0.78	2.56
DS 9809	0.70	1.03	1.74	0.80	2.54
WL 319 HQ	0.78	0.99	1.77	0.77	2.54
Multiplier 3	0.73	0.98	1.71	0.80	2.52
DS 211 Hyb	0.71	1.02	1.73	0.78	2.52
Triad LA	0.78	0.95	1.74	0.75	2.50
WL 327	0.65	1.04	1.69	0.77	2.47
GoldRush 747	0.70	0.92	1.62	0.78	2.42
Setter	0.69	0.98	1.67	0.73	2.41
Ameristand 403T	0.71	0.98	1.68	0.72	2.40
54V54	0.66	0.89	1.55	0.73	2.28
MegaTon 3.0	0.64	0.83	1.47	0.78	2.27
GH 766	0.61	0.88	1.49	0.72	2.23
A 30-06	0.64	0.83	1.47	0.73	2.22
Maverick	0.61	0.83	1.44	0.68	2.14
Average	0.74	0.99	1.72	0.77	2.50
Maturity (Kalu & Fick)	4.0	5.0			
LSD (P=0.05)	NS	NS	NS	NS	NS
CV (%)	22.1	20.5	19.3	14.9	14.3
MCV (%)					
LSR (%)					

NS = not significant at 0.05 level of probability

MCV = LSD/mean\*100

LSR=LSD/range\*100

Treflan applied before planting

50 lbs P2O5 applied preplant

### SOUTH DAKOTA ALFALFA VARIETY TRIAL

Brookings, Brookings Co., SD Crop Improvement Research Farm  
lanted 28 April 2004, Randomized complete block with 6 replicates

Entry	3-Aug 2004 Tons DM/Acre
54H91	1.42
6400HT	1.39
54V46	1.38
WL 357HQ	1.37
Vernal	1.37
Jade 111 NC+	1.34
6415	1.33
54Q25	1.33
Hybriforce-420/wet	1.29
Summer Gold	1.28
Average	1.35
Maturity (Kalu & Fick)	5.0
LSD (P=0.05)	NS
CV (%)	6.6
MCV (%)	
LSR (%)	

NS = not significant at 0.05 level of probability

MCV =  $LSD/mean*100$

LSR= $LSD/range*100$

Treflan applied before planting  
75 lbs P2O5 applied preplant

**SOUTH DAKOTA ALFALFA VARIETY TRIAL**  
 Beresford, Clay County, Southeast Research Farm  
 Planted 29 April 2003, Randomized complete block with 6 replicates

Entry	2004					2003 Total	2-year Total
	27-May	29-Jun	3-Aug	20-Sep	Total		
Tons DM/Acre							
<b>Released cultivars</b>							
Alfatar II	2.77	2.00	1.30	1.06	7.12	8.18	15.31
Evermore	2.71	1.96	1.05	0.99	6.72	7.70	14.42
FSG 406	2.60	2.02	1.24	0.90	6.75	7.65	14.40
Somerset	2.33	2.10	1.18	0.92	6.53	7.46	13.99
6420	2.63	1.98	1.08	0.87	6.55	7.42	13.97
Gold Rush 747	2.49	1.95	1.12	0.91	6.47	7.38	13.85
420	2.46	2.03	1.06	0.91	6.46	7.36	13.82
54Q25	2.36	2.01	1.15	0.89	6.41	7.30	13.71
A 30-06	2.52	1.98	1.06	0.83	6.40	7.23	13.63
Abundance	2.43	1.95	0.99	0.96	6.33	7.29	13.62
Vernal	2.38	1.98	1.00	0.97	6.32	7.29	13.60
Extreme	2.41	1.83	1.15	0.94	6.32	7.26	13.59
FSG 351	2.48	1.91	0.99	0.95	6.32	7.26	13.58
Bullseye	2.50	1.93	1.00	0.84	6.27	7.11	13.38
54V46	2.42	1.99	1.00	0.86	6.26	7.11	13.36
FSG 505	2.52	1.92	0.91	0.85	6.20	7.04	13.24
WL 357HQ	2.39	1.97	0.93	0.88	6.16	7.04	13.21
WL 319HQ	2.43	1.93	0.96	0.84	6.15	7.00	13.14
Husky Supreme	2.50	1.90	0.88	0.84	6.11	6.95	13.06
Journey Brand 204 Hyb.	2.39	1.92	1.00	0.80	6.11	6.91	13.02
Notice II	2.38	1.86	0.99	0.85	6.07	6.93	12.99
Rebel	2.46	1.98	0.84	0.80	6.08	6.88	12.97
Rugged	2.56	1.77	0.83	0.87	6.02	6.90	12.92
4500	2.28	1.91	1.00	0.80	5.99	6.78	12.77
Hybriforce-420/Wet	2.45	1.74	0.93	0.79	5.90	6.69	12.59
Average	2.47	1.94	1.02	0.88	6.32	7.20	13.52
Maturity (Kalu & Fick)	4.0	4.0	4.9	4.7			
LSD (P=0.05)	0.24	NS	NS	NS	NS	NS	NS
CV (%)	8.5	12.6	30.9	23.2	11.8	12.8	12.3
MCV (%)	9.7						
LSR (%)	49.0						

NS = not significant at 0.05 level of probability

MCV =  $LSD/mean*100$

Treflan applied before planting

LSR= $LSD/range*100$

50 lbs P2O5/Acre - preplant

**SOUTH DAKOTA ALFALFA VARIETY TRIAL**  
 Highmore, Hyde County, Central Research Farm  
 Planted 28 April 2003, Randomized complete block with 6 replicates

Entry	2004				2003	2-year
	16-Jun	19-Jul	27-Aug	Total	Total	Total
	Tons DM/acre					
<b>Released cultivars</b>						
A 30-06	2.05	1.56	1.14	4.75	1.03	5.78
Vernal	1.89	1.56	0.93	4.39	1.09	5.48
DKA 42-15	1.83	1.44	0.92	4.19	1.07	5.26
Hybriforce 400	1.83	1.35	0.87	4.04	1.17	5.20
Alfaster II	1.74	1.28	0.91	3.93	1.18	5.11
WL 319 HQ	1.93	1.32	0.99	4.24	0.86	5.09
Journey Brand 204 Hyb.	1.82	1.35	0.86	4.03	1.04	5.07
Hybriforce 420 Wet	1.74	1.28	0.82	3.83	1.23	5.06
Notice II	1.75	1.30	0.94	4.00	1.04	5.04
Somerset	1.59	1.32	0.91	3.82	1.22	5.04
Husky Supreme	1.73	1.27	0.89	3.89	1.13	5.02
Maverick	1.71	1.30	0.86	3.87	1.05	4.92
WL 357 HQ	1.69	1.28	0.80	3.77	1.15	4.92
54V54	1.71	1.34	0.87	3.92	0.98	4.90
Gold Rush 747	1.73	1.26	0.72	3.71	1.11	4.82
Setter	1.56	1.24	0.78	3.58	1.21	4.79
Multiplier 3	1.60	1.20	0.63	3.43	1.13	4.56
FK 421	1.69	1.07	0.65	3.40	1.15	4.55
<i>Released cultivar average</i>	<i>1.75</i>	<i>1.32</i>	<i>0.86</i>	<i>3.93</i>	<i>1.10</i>	<i>5.03</i>
<b>Experimental strains</b>						
CW 04030	1.96	1.45	0.97	4.38	1.11	5.49
CW 14026	2.04	1.32	0.95	4.31	1.07	5.38
CW 94023	1.91	1.50	0.86	4.27	0.91	5.18
CW 04027	1.80	1.43	0.87	4.10	1.08	5.17
CW 03019	1.93	1.41	0.92	4.25	0.92	5.17
CW 04022	1.84	1.39	0.85	4.08	0.99	5.07
CW 83010	1.78	1.35	0.91	4.04	0.98	5.01
CW 94025	1.75	1.31	0.98	4.04	0.83	4.86
CW 93013	1.75	1.22	0.72	3.69	1.10	4.78
<i>Experimental strain average</i>	<i>1.86</i>	<i>1.38</i>	<i>0.89</i>	<i>4.13</i>	<i>1.00</i>	<i>5.12</i>
Average	1.79	1.34	0.87	4.00	1.07	5.06
Maturity (Kalu & Fick)	6.0	5.8	5.0			
LSD (P=0.05)	NS	NS	NS	NS	0.23	NS
CV (%)	17.9	23.5	31.9	18.6	19.2	14.0
MCV (%)					21.9	
LSR (%)					58.2	

NS = not significant at 0.05 level of probability

MCV = LSD/mean\*100

Treflan applied before planting

LSR=LSD/range\*100

50 lbs P2O5/Acre - preplant

**SOUTH DAKOTA ALFALFA VARIETY TRIAL**

Watertown, Codington County, Northeast Experiment Station  
Planted 3 May 2001, Randomized complete block with 6 replicates

Entries	2004				2003	2002	3-year
	14-Jun	15-Jul	27-Aug	Total	Total	Total	Total
Tons Dry Matter/Acre							
<b>Released cultivars</b>							
WL 327	1.68	1.52	1.32	4.52	2.51	1.85	8.88
HybriForce-400	1.74	1.46	1.27	4.48	2.53	1.81	8.81
54V54	1.78	1.56	1.36	4.69	2.59	1.51	8.79
Monument II	1.69	1.62	1.23	4.54	2.37	1.63	8.54
Feast + EV	1.74	1.44	1.30	4.47	2.46	1.58	8.51
WL 342	1.64	1.47	1.27	4.37	2.45	1.64	8.47
Reliance	1.62	1.45	1.21	4.27	2.46	1.59	8.32
Macon	1.61	1.42	1.28	4.31	2.37	1.63	8.32
4 Traffic	1.69	1.39	1.26	4.35	2.25	1.66	8.26
Frontier 2000	1.58	1.20	1.27	4.05	2.37	1.58	7.99
Husky Supreme	1.46	1.32	1.27	4.05	2.30	1.59	7.94
GoldRush 747	1.61	1.32	1.21	4.14	2.32	1.37	7.83
Vernal	1.76	1.31	1.09	4.16	2.20	1.46	7.82
Maverick	1.54	1.22	1.21	3.96	2.36	1.47	7.78
Somerset	1.46	1.30	1.12	3.89	2.22	1.31	7.42
Grand mean	1.64	1.40	1.24	4.28	2.38	1.58	8.24
Maturity (Kalu & Fick)	5.0	4.8	5.0				
LSD (P=0.05)	0.21	0.16	NS	0.44	NS	NS	NS
CV (%)	11.0	10.1	11.4	9.0	14.4	21.9	9.9
MCV (%)	12.8	11.4		10.3			
LSR (%)	65.6	28.6		55.0			

NS = not significant at 0.05 level of probability  
MCV = LSD/mean\*100  
LSR=LSD/range\*100

50 lbs P2O5/Acre - preplant  
Treflan applied preplant