

# Alfalfa Cultivar Choice

Kearney Field Day—Sept 12, 2014

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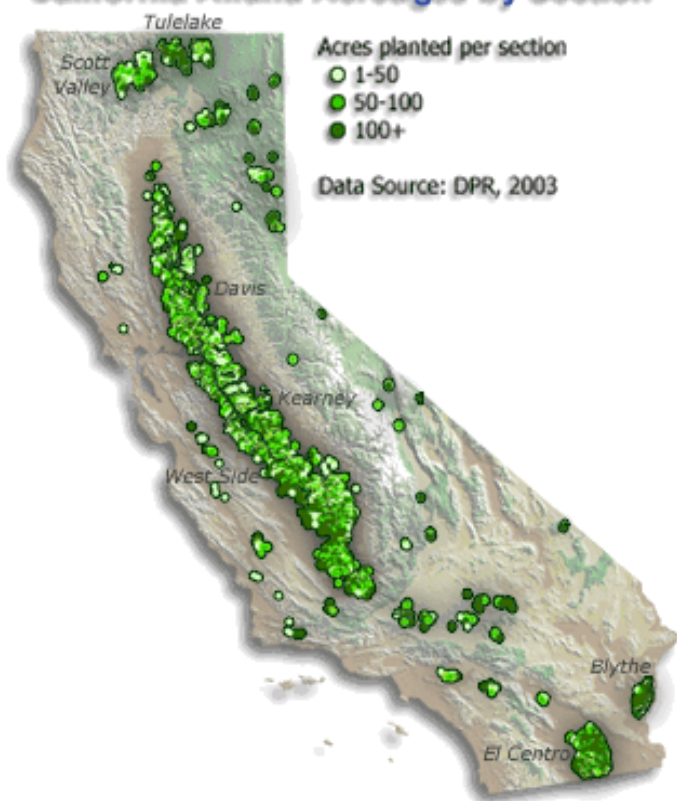
See: <http://alfalfa.ucdavis.edu> for current information

## Choosing Alfalfa Varieties:

You will be 'stuck' with your variety decision for many years. You choose the upper limit of your yield and variety performance on the day you choose the genetic potential of your crop – in the seed!! So why not take a little care in choosing your variety??

Growers often choose cultivars based upon promotion, price or habit. However, the choice of a variety can make a large difference in profitability, yield and quality. Variety selection is often the **only** strategy available to offer resistance to pest and diseases.

## California Alfalfa Acreages by Section



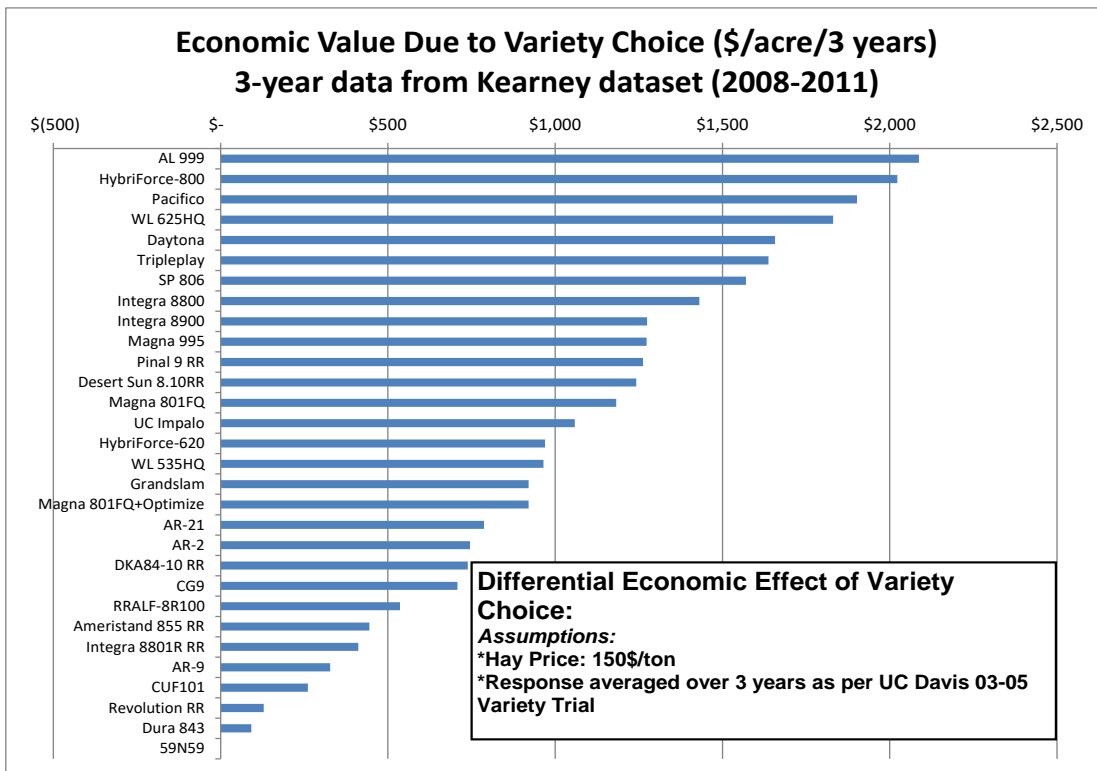
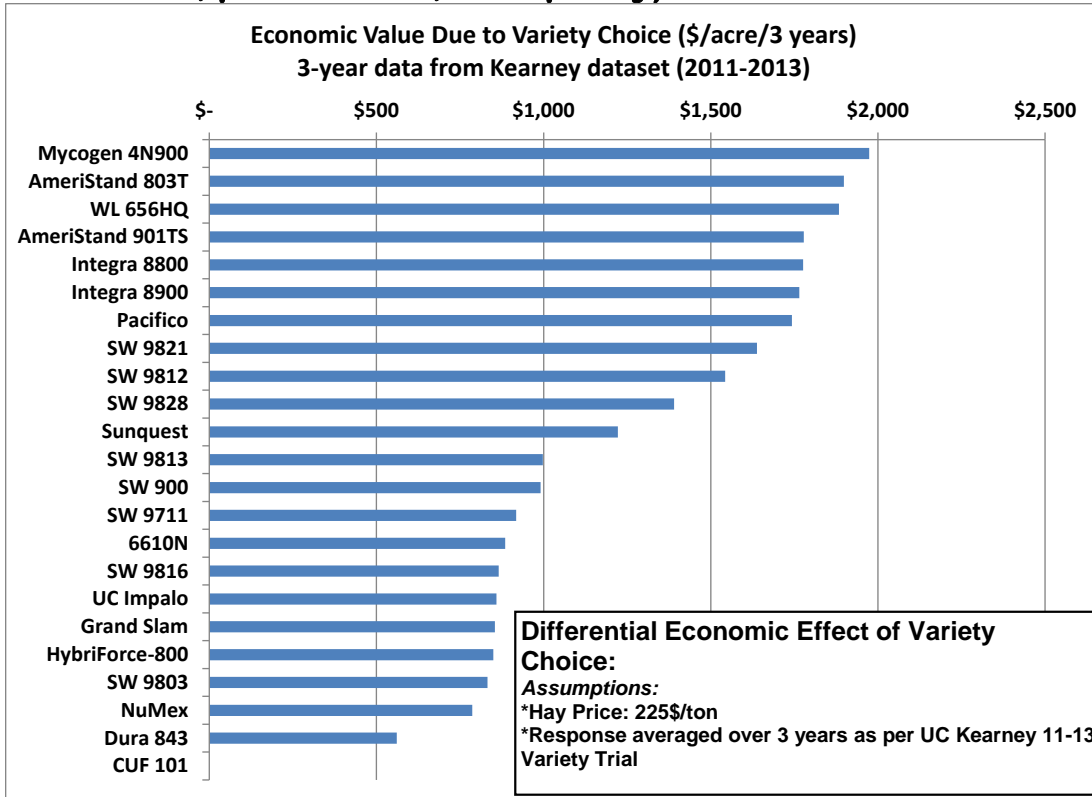
## UC Variety Testing Program

The University of California testing program is the most comprehensive in the western US, and provides unbiased information that can be used to judge performance of alfalfa varieties. We have plots ranging from Tulelake and Scott Valley (Intermountain), to Davis and Kearney (Central Valley), and El Centro (Desert). It takes less than 1 tenth of 1 ton to justify even a \$2 increase in the price of seed; many varieties produce yield differences 10 times this amount.

**Yields are important, but are not the only criteria for variety selection.** Take a look at the fall dormancy, the disease resistance, and the quality characteristics, too. Research is continually underway to improve the performance of alfalfa varieties.

# Cost and Price – is it important?? You bet!

But look at the value of production FIRST, and other benefits (pest resistance, persistence, and quality) and THEN look at the seed price.



## Factors for Choosing Alfalfa Varieties:

- 1) Choose group of high yielding certified varieties from relevant trials. Look at multi-year trial results.
- 2) Determine Fall Dormancy requirements and preference.
- 3) Determine pest resistance requirements for your area (emphasize those you expect).
- 4) Consider Biotech Traits (e.g. Roundup Ready)
- 5) Look for evidence of better persistence
- 6) Consider Forage quality
- 7) Price/availability, and of course, hats

**LET'S TALK ABOUT PEST RESISTANCE - Make sure you have the right high level of Pest Resistance for your region.**



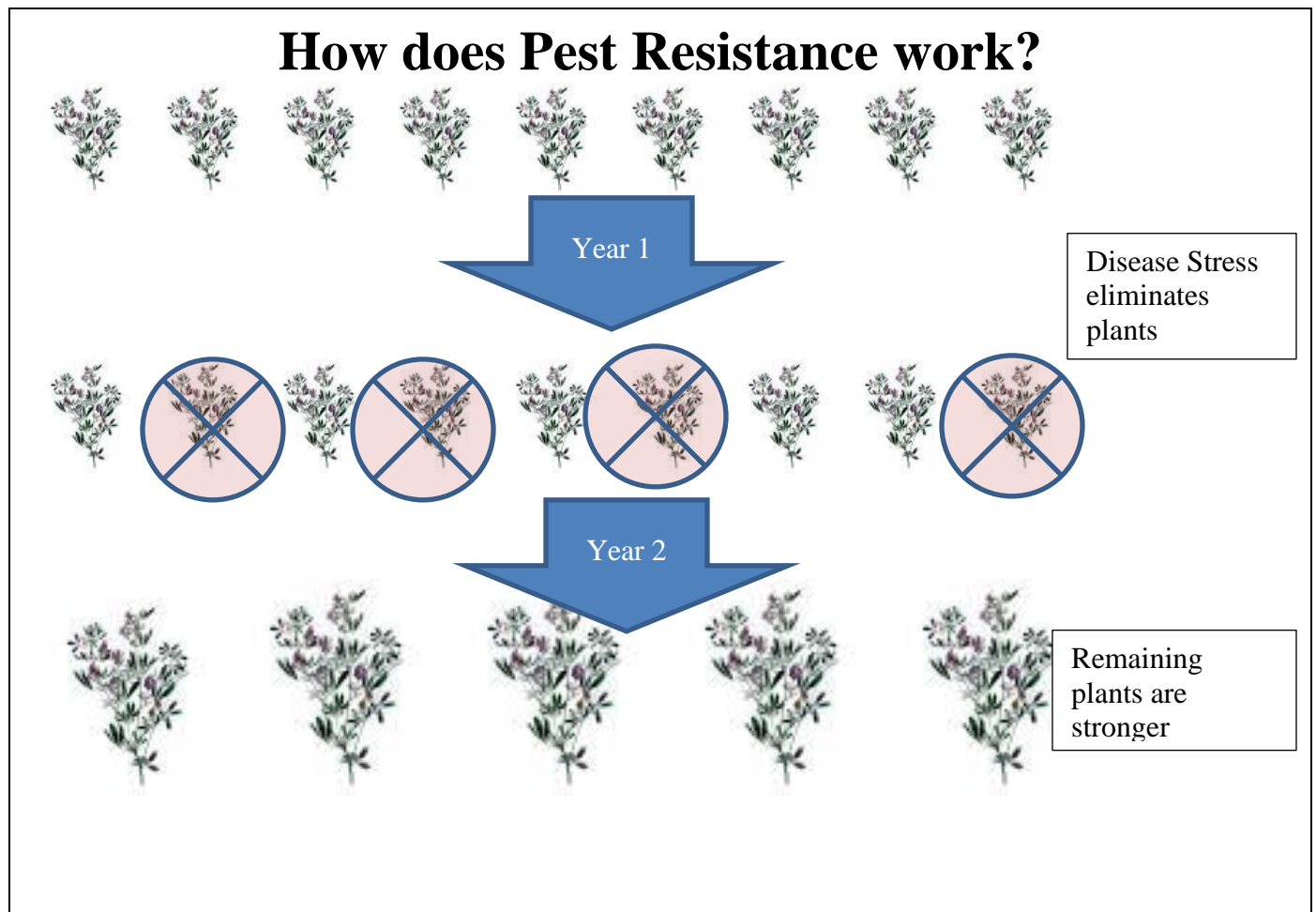
**Varietal Pest Resistance through choice of variety is often the only way to combat specific diseases or insect pests.**

**Recommendations Sacramento/San Joaquin Valley:**

Fall Dormancy:	4-8 Rating
Spotted Alfalfa Aphid (SAA):	R
Pea Aphid (PA)	HR
<b>Blue Alfalfa Aphid (BAA):</b>	<b>HR</b>
Pythophthora Root Rot (PRR).	HR
Bacterial Wilt (BW):	MR
Fusarium Wilt (FW):	HR
Stem Nematode:	HR
Root Not Nematode:	HR
Verticillium Wilt (VW)	R

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# How does Pest Resistance work?



## ***HOWEVER:***

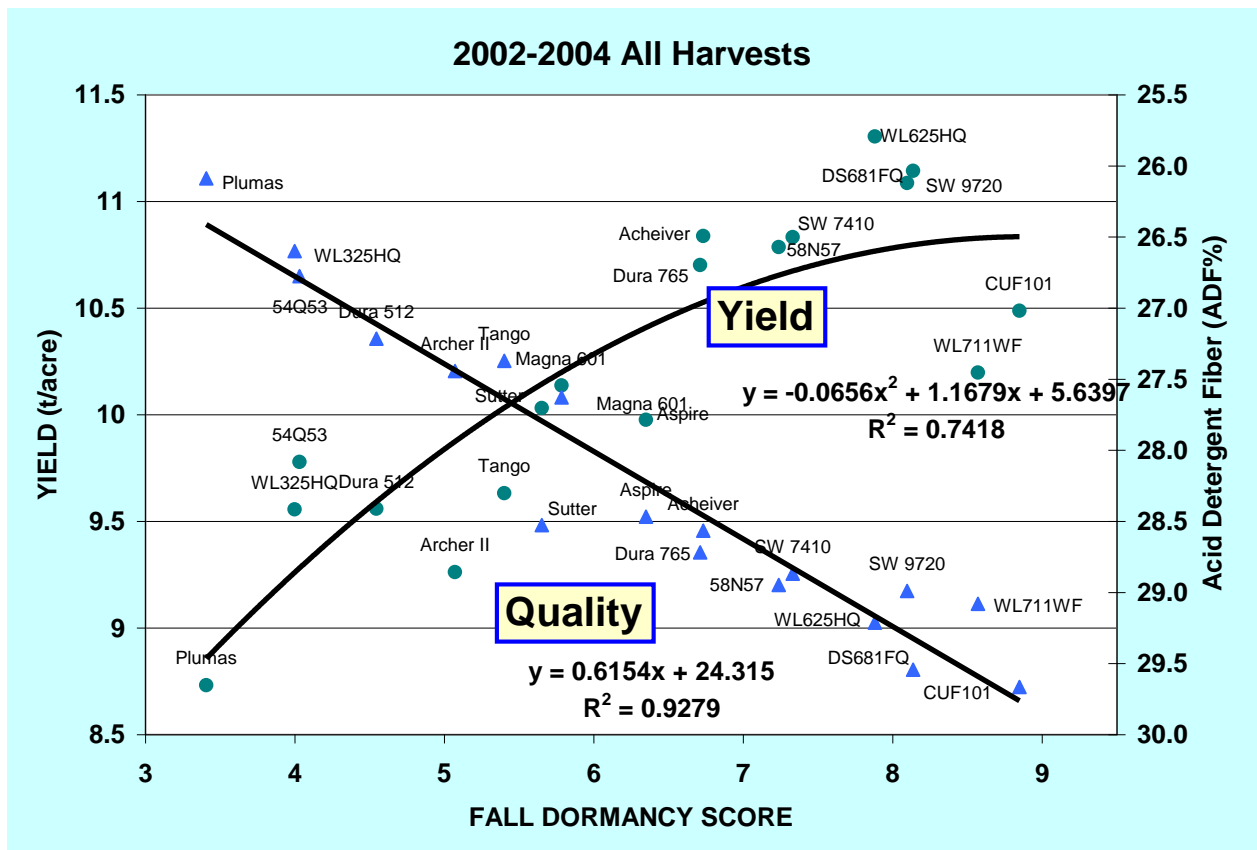
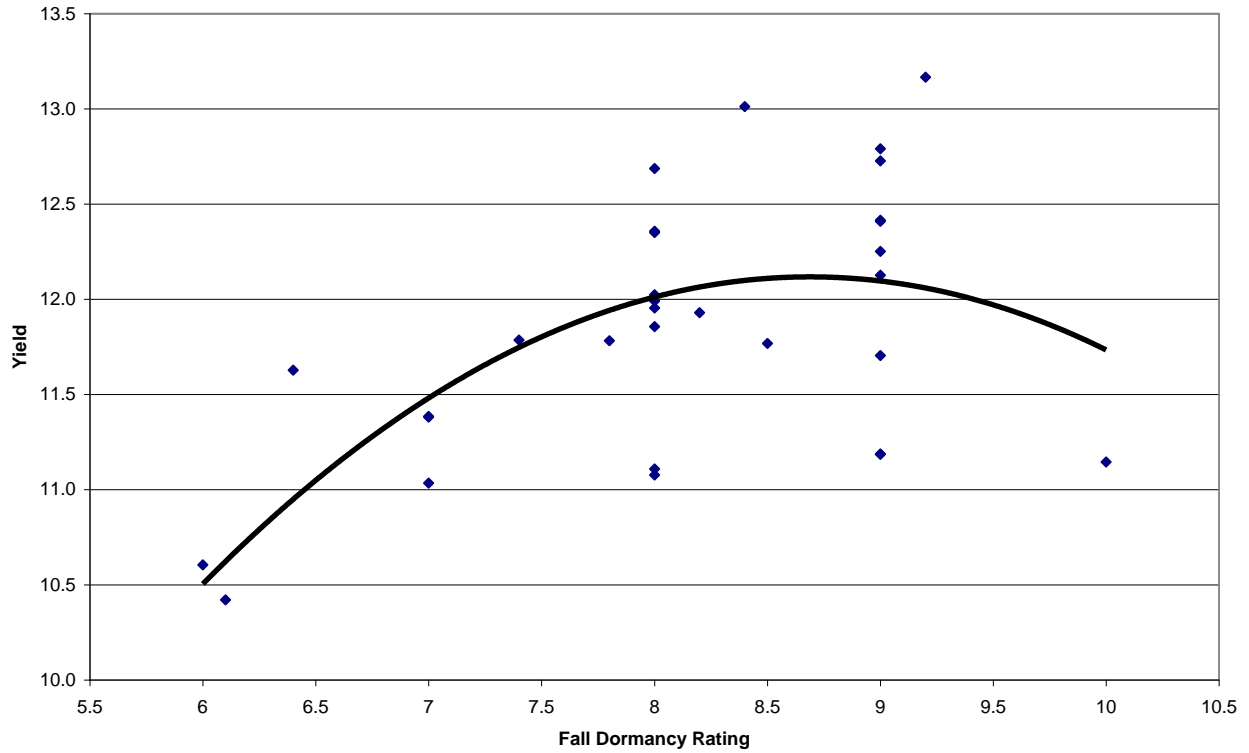
- ***Resistance is not absolute (it is a % of plants in a population)***
- ***Even highly resistant varieties can be overwhelmed by a severe pest infestation.***
- ***Pest Resistance is often the only economic measure against some pest problems.***
- ***Think of Pest Resistance as you do auto insurance—not important every year, but can be very important***

### **Resistance Abbreviations**

### **Percent resistance<sup>1</sup>**

<b>HR</b>	Highly Resistant	>51%
<b>R</b>	Resistant	31-50%
<b>MR</b>	Moderately Resistant	15-30%
<b>LR</b>	Low Resistant	6-14%
<b>S</b>	Susceptible	<5%

Influence of Fall Dormancy on Yield - UC Kearney Trial 2005-2006



**2011-2013 YIELDS. UC KEARNEY ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 9/14/2010**

		2011	2012	2013	Average		% of	
	FD	Yield	Yield	Yield			Cuf 101	
		Dry/t/a						%
<b>Released Varieties</b>								
Mycogen 4N900	9	13.5 ( 1)	12.2 (20)	14.3 ( 3)	13.3 ( 2)	A B	128.09	
AmeriStand 803T	8	12.6 ( 9)	13.0 ( 5)	14.1 ( 6)	13.2 ( 3)	A B C	127.02	
WL 656HQ	9	12.4 (15)	13.2 ( 3)	14.0 ( 8)	13.2 ( 4)	A B C	126.80	
AmeriStand 901TS	9	12.8 ( 7)	12.7 ( 8)	13.7 (11)	13.0 ( 5)	A B C D	125.30	
Integra 8800	8	13.3 ( 2)	12.3 (15)	13.5 (13)	13.0 ( 7)	A B C D	125.28	
Integra 8900	9	12.1 (23)	13.3 ( 2)	13.6 (12)	13.0 ( 8)	A B C D E	125.12	
Pacifico	8	12.3 (19)	12.3 (16)	14.4 ( 2)	13.0 (11)	A B C D E F	124.81	
SW 9821	9	12.2 (20)	12.5 (14)	13.9 (10)	12.8 (13)	A B C D E F G	123.32	
SW 9812	9	12.5 (12)	12.8 ( 7)	12.8 (24)	12.7 (16)	A B C D E F G H I	121.96	
SW 9828	9	12.9 ( 6)	12.0 (26)	12.6 (30)	12.5 (22)	B C D E F G H I J	119.78	
Sunquest	10	11.3 (45)	12.3 (17)	13.1 (18)	12.2 (28)	C D E F G H I J K L	117.39	
SW 9813	9	12.0 (26)	11.9 (27)	11.8 (43)	11.9 (33)	F G H I J K L	114.20	
SW 900	9	10.8 (48)	12.2 (21)	12.6 (29)	11.9 (34)	G H I J K L	114.10	
SW 9711	9	11.5 (42)	11.7 (34)	12.1 (38)	11.8 (35)	G H I J K L	113.06	
6610N	6	11.9 (29)	11.5 (38)	11.8 (41)	11.7 (37)	H I J K L	112.60	
SW 9816	9	11.9 (30)	11.3 (43)	11.9 (40)	11.7 (40)	H I J K L	112.32	
UC Impalo	9	11.6 (40)	11.4 (41)	12.1 (37)	11.7 (41)	H I J K L	112.23	
Grand Slam	4	12.1 (25)	11.6 (37)	11.4 (45)	11.7 (42)	H I J K L	112.16	
HybriForce-800	8	11.8 (33)	11.0 (47)	12.2 (34)	11.7 (43)	H I J K L	112.09	
SW 9803	9	11.8 (34)	11.0 (46)	12.1 (36)	11.6 (44)	I J K L	111.84	
NuMex	7	11.7 (35)	11.4 (39)	11.6 (44)	11.6 (45)	J K L	111.19	
Dura 843	8	11.7 (37)	11.0 (45)	11.1 (47)	11.2 (47)	L M	107.98	
CUF 101	9	11.0 (46)	10.0 (48)	10.3 (48)	10.4 (48)	M	100.00	
<b>Experimental Varieties</b>								
FG 96T706	9	12.4 (17)	13.5 ( 1)	15.4 ( 1)	13.8 ( 1)	A	132.22	
FG R97T704	9	13.3 ( 3)	12.6 (11)	13.3 (15)	13.0 ( 6)	A B C D	125.29	
FG R97T708	9	11.9 (32)	13.1 ( 4)	14.1 ( 7)	13.0 ( 9)	A B C D E	125.09	
DS097040	9	13.1 ( 4)	12.6 (10)	13.3 (14)	13.0 (10)	A B C D E	124.98	
FG R96Bx303	9	12.5 (10)	11.7 (33)	14.3 ( 4)	12.8 (12)	A B C D E F G	123.38	
FG R97T701	9	11.9 (31)	12.2 (18)	14.2 ( 5)	12.8 (14)	A B C D E F G H	122.72	
FG R97T707	9	11.7 (38)	12.5 (13)	13.9 ( 9)	12.7 (15)	A B C D E F G H I	121.97	
DS385	8	12.9 ( 5)	12.0 (25)	13.2 (16)	12.7 (17)	A B C D E F G H I	121.87	
CW 059051	9	12.4 (16)	12.7 ( 9)	13.0 (19)	12.7 (18)	A B C D E F G H I J	121.83	
CW 068068	8	12.1 (24)	12.8 ( 6)	12.7 (27)	12.5 (19)	B C D E F G H I J	120.44	
Ameristand 901STQ(EMD)	9	12.0 (27)	12.5 (12)	13.0 (20)	12.5 (20)	B C D E F G H I J	120.05	
UC 469		12.4 (13)	12.2 (19)	12.8 (23)	12.5 (21)	B C D E F G H I J	120.04	
UC 470		12.2 (21)	12.1 (23)	12.9 (21)	12.4 (23)	B C D E F G H I J K	118.99	
DS097645	10	12.4 (14)	11.8 (32)	12.8 (25)	12.3 (24)	B C D E F G H I J K L	118.22	
FG R97T715	9	12.2 (22)	11.8 (29)	12.9 (22)	12.3 (25)	B C D E F G H I J K L	118.19	
DS097643	9	12.5 (11)	11.7 (35)	12.7 (28)	12.3 (26)	B C D E F G H I J K L	118.13	
FG R96Bx301	9	12.6 ( 8)	11.1 (44)	13.1 (17)	12.3 (27)	B C D E F G H I J K L	117.82	
UC 471		12.0 (28)	12.0 (24)	12.5 (31)	12.2 (29)	C D E F G H I J K L	117.15	
FG R97T710	9	11.7 (36)	11.8 (31)	12.8 (26)	12.1 (30)	D E F G H I J K L	115.98	
FG R96Bx308	9	11.6 (41)	12.1 (22)	12.5 (32)	12.1 (31)	D E F G H I J K L	115.88	
FG R96Bx304	9	11.6 (39)	11.9 (28)	12.3 (33)	11.9 (32)	E F G H I J K L	114.45	
UC 493		11.3 (44)	11.7 (36)	12.2 (35)	11.7 (36)	G H I J K L	112.77	
DS097569	8	11.5 (43)	11.8 (30)	11.8 (42)	11.7 (38)	H I J K L	112.42	
DS097041	9	12.3 (18)	11.4 (40)	11.3 (46)	11.7 (39)	H I J K L	112.32	
FG R97M711	9	10.9 (47)	11.3 (42)	11.9 (39)	11.3 (46)	K L M	108.95	
MEAN		12.10	12.03	12.83	12.32			
CV		7.5	6.6	11.7	7.6			
LSD (0.1)		1.08	0.94	1.78	1.11			

Trial seeded at 25 lb/acre viable seed on Hanford fine sandy loam soil at the Univ. of Calif. Kearney Agricultural Center, Parlier, CA.  
 Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.  
 FD = Fall Dormancy reported by seed companies.