

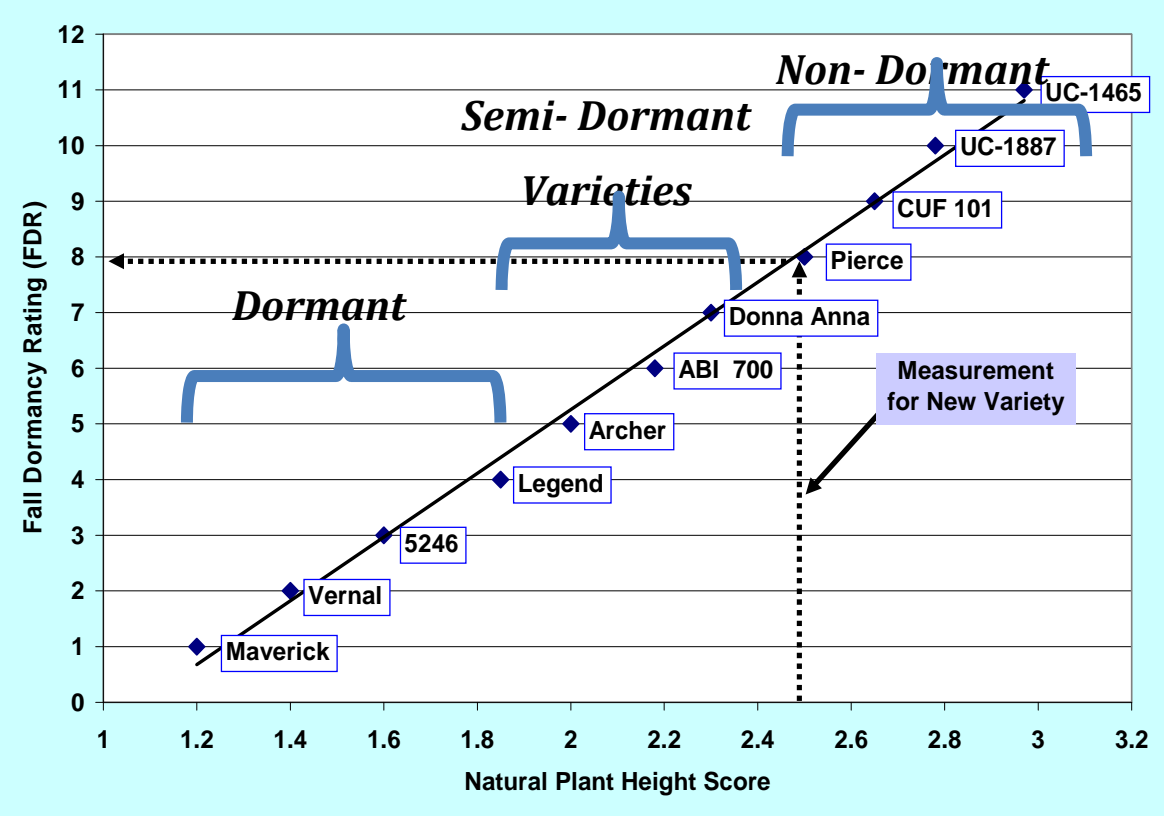
UC Alfalfa Variety Field Evaluation

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

What are the most important Characteristics of an Alfalfa Variety??

I. Fall Dormancy. Fall Dormancy determines the adaptation of a variety, and has a large influence on yield, stand persistence, forage quality, winter survival and other characteristics. Fall dormancy is measured as the amount of growth (plant height) exhibited in late fall. The fall dormancy is the first thing to know about a variety.



II. Yield Potential.

Varieties may vary a lot in yield. However, do you KNOW whether the yields are different in a specific variety in a large fields? Are these differences economic? Often one cannot tell the difference between varieties, even if they are grown side by side, but especially when grown alone in a field by itself. We have commonly observed yield differences of 20-30% at Davis which can be economically important.

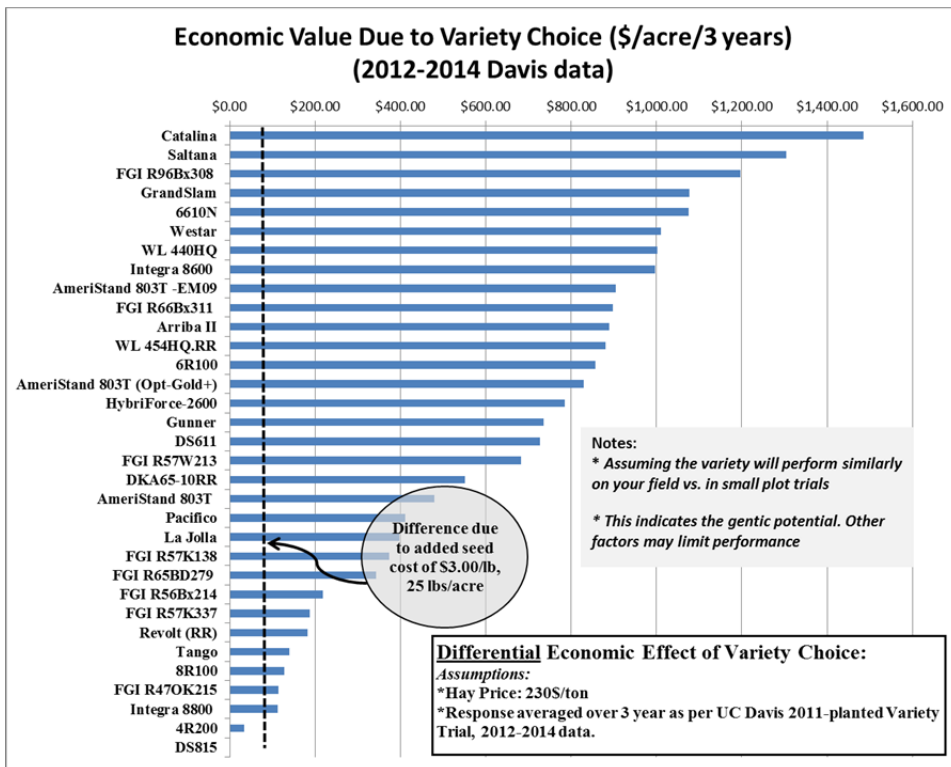
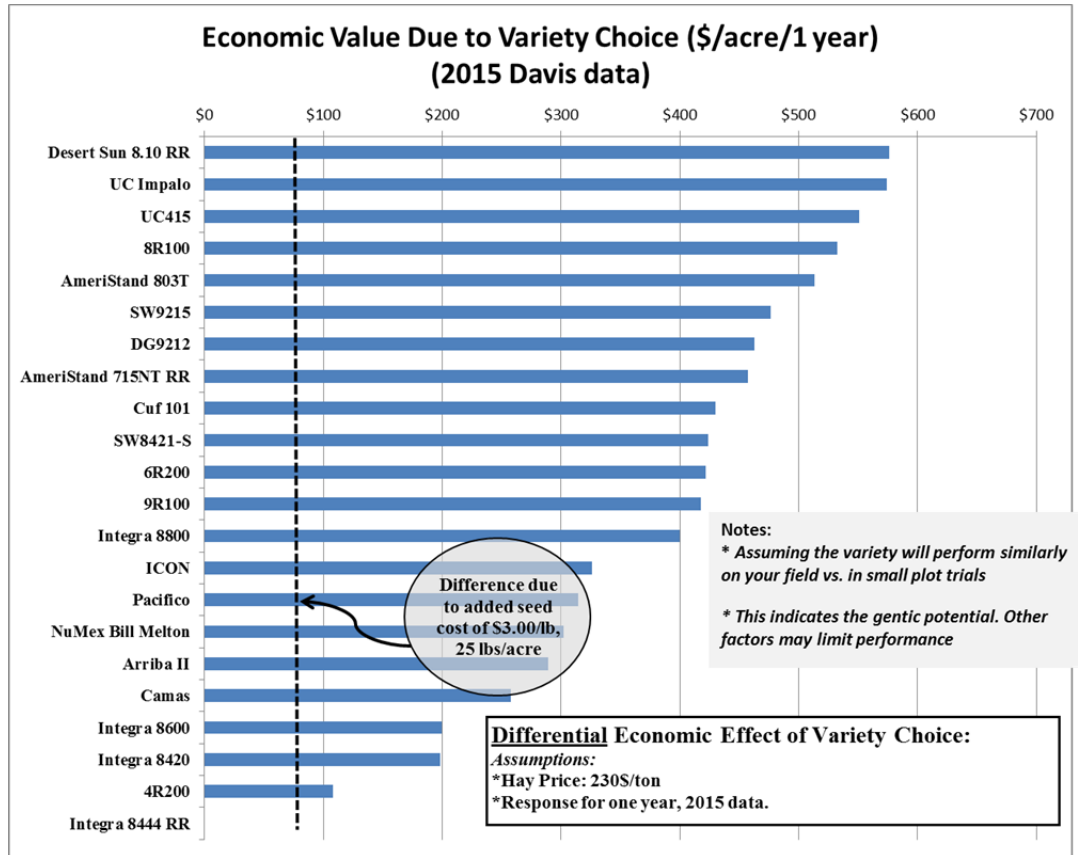


TABLE 3. 2012-2014 YIELDS, UC DAVIS ALFALFA CULTIVAR TRIAL. TRIAL PLANTED NOV. 2, 2011

		2012	2013	2014	Average	
		Yield	Yield	Yield		
	FD	Dry t/a				
Released Varieties						
Catalina	9	7.2 (3)	12.2 (1)	11.8 (1)	10.4 (1)	A
Saltana	9	7.0 (7)	12.1 (4)	11.4 (2)	10.1 (2)	A B
FGI R96Bx308	9	7.1 (6)	12.0 (7)	10.9 (6)	10.0 (4)	A B C D
GrandSlam	8	6.8 (9)	11.7 (13)	10.9 (5)	9.8 (5)	A B C D E
6610N	6	6.7 (11)	12.2 (2)	10.5 (15)	9.8 (6)	A B C D E
Westar	8	7.1 (4)	11.9 (8)	10.1 (23)	9.7 (7)	A B C D E F
WL 440HQ	6	7.2 (2)	12.0 (6)	9.9 (34)	9.7 (8)	A B C D E F G
Integra 8600	6	6.6 (12)	12.1 (3)	10.4 (18)	9.7 (9)	A B C D E F G
AmeriStand 803T -EM09	9	5.7 (42)	11.7 (12)	11.2 (4)	9.6 (12)	A B C D E F G H
FGI R66Bx311	6	6.6 (13)	11.8 (10)	10.3 (20)	9.6 (13)	A B C D E F G H
Arriba II	6	6.3 (25)	11.5 (17)	10.9 (7)	9.5 (14)	A B C D E F G H
WL 454HQ.RR	6	6.4 (20)	11.5 (15)	10.7 (10)	9.5 (15)	A B C D E F G H I
6R100	6	6.9 (8)	11.8 (11)	9.8 (38)	9.5 (16)	A B C D E F G H I
AmeriStand 803T (Opt-Gold+)	9	6.6 (17)	11.2 (24)	10.6 (13)	9.5 (17)	A B C D E F G H I J
HybriForce-2600	6	6.6 (15)	11.5 (14)	10.1 (27)	9.4 (18)	B C D E F G H I J K
Gunner	5	6.0 (34)	11.9 (9)	10.1 (25)	9.3 (20)	B C D E F G H I J K L
DS611	6	6.5 (19)	11.3 (23)	10.2 (22)	9.3 (22)	B C D E F G H I J K L
FGI R57W213	5	6.3 (22)	11.4 (19)	10.0 (31)	9.2 (24)	B C D E F G H I J K L M
DKA65-10RR	6	6.3 (23)	10.9 (27)	9.9 (33)	9.1 (27)	D E F G H I J K L M N
AmeriStand 803T	8	6.4 (21)	10.2 (34)	10.3 (19)	8.9 (29)	E F G H I J K L M N
Pacifico	8	5.5 (46)	9.8 (42)	11.3 (3)	8.8 (32)	F G H I J K L M N
La Jolla	9	5.9 (37)	10.5 (30)	10.0 (29)	8.8 (33)	F G H I J K L M N
FGI R57K138	5	6.1 (29)	9.9 (41)	10.4 (17)	8.8 (34)	F G H I J K L M N
FGI R65BD279	7	6.0 (33)	10.4 (33)	9.9 (35)	8.8 (35)	G H I J K L M N
FGI R56Bx214	4	6.6 (16)	9.6 (44)	9.5 (43)	8.6 (37)	I J K L M N
FGI R57K337	4	5.6 (44)	10.0 (35)	9.9 (32)	8.5 (38)	J K L M N
Revolt (RR)	6	6.0 (31)	10.0 (36)	9.6 (42)	8.5 (39)	J K L M N
Tango	6	5.3 (47)	10.0 (37)	10.0 (28)	8.5 (41)	K L M N
8R100	8.5	6.0 (35)	9.6 (45)	9.8 (39)	8.4 (42)	K L M N
FGI R47OK215	4	5.9 (36)	9.9 (39)	9.4 (44)	8.4 (43)	L M N
Integra 8800	8	5.7 (43)	8.9 (47)	10.6 (11)	8.4 (44)	L M N
4R200	4	6.3 (26)	9.7 (43)	8.9 (47)	8.3 (46)	M N
DS815	8	6.0 (32)	9.4 (46)	9.3 (46)	8.3 (47)	N
Experimental Varieties						
SW 9106	9	7.4 (1)	12.0 (5)	10.6 (12)	10.0 (3)	A B C
SW 920	9	6.7 (10)	11.5 (16)	10.9 (8)	9.7 (10)	A B C D E F G
DS107444	7	6.6 (14)	11.4 (20)	10.8 (9)	9.6 (11)	A B C D E F G
SW 9107	9	7.1 (5)	10.5 (31)	10.6 (14)	9.4 (19)	B C D E F G H I J K
SW 8105	8	6.5 (18)	11.0 (26)	10.4 (16)	9.3 (21)	B C D E F G H I J K L
UC-410	9	6.2 (28)	11.4 (18)	10.2 (21)	9.3 (23)	B C D E F G H I J K L
UC-412	9	6.3 (24)	11.3 (21)	9.8 (37)	9.2 (25)	C D E F G H I J K L M N
SW 910	9	5.9 (38)	11.3 (22)	10.1 (26)	9.1 (26)	C D E F G H I J K L M N
UC-413	9	6.1 (30)	11.2 (25)	9.9 (36)	9.0 (28)	D E F G H I J K L M N
SW 900	9	5.9 (39)	10.7 (29)	10.1 (24)	8.9 (30)	E F G H I J K L M N
UC-409	9	6.2 (27)	10.8 (28)	9.7 (40)	8.9 (31)	E F G H I J K L M N
UC-411	9	5.5 (45)	10.4 (32)	10.0 (30)	8.6 (36)	H I J K L M N
UC-415	9	5.9 (40)	9.9 (40)	9.6 (41)	8.5 (40)	K L M N
UC-414	9	5.8 (41)	10.0 (38)	9.4 (45)	8.4 (45)	L M N
MEAN		6.32	10.94	10.23	9.16	
CV		11.3	14.6	7.8	8.8	
LSD (0.1)		0.85	NS	0.95	0.96	

Trial seeded at 25 lb/acre viable seed on Yolo clay loam soil at the Univ. of California Agronomy Farm, Davis, CA.

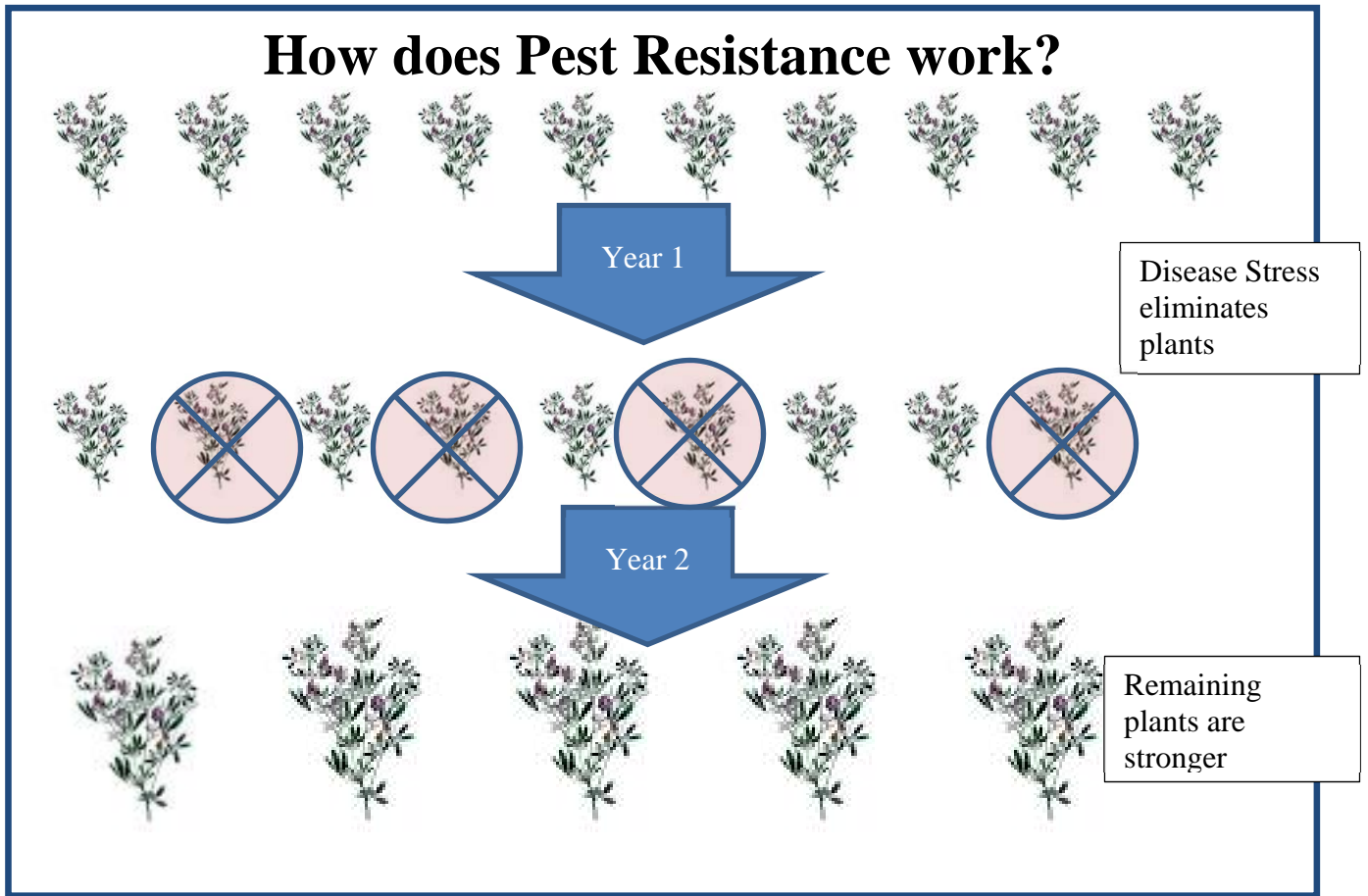
Entries followed by the same letter are not significantly different at the 10% probability level according to Fishers (protected) LSD.

FD = Fall Dormancy reported by seed companies.

Cuf 101 was included in this trial, but data was eliminated due to doubts about the source of the seed.

III. PEST RESISTANCE. An alfalfa variety is a 'population' consisting of a range of plant types in a single variety. The 'mean' value creates superior or inferior varieties in terms of yield, stand, pest resistance, and quality.

Thus, alfalfa varieties typically have more variation within a variety than most other crop plants – both an advantage and a disadvantage. Thus, when a variety has a high level of resistance to a pest, it's not 100%, but >50% of the plants that are resistant.



Resistance Abbreviations		Percent resistance ¹
HR	Highly Resistant	>51%
R	Resistant	31-50%
MR	Moderately Resistant	15-30%
LR	Low Resistant	6-14%
S	Susceptible	<5%

Choosing Pest Resistance in Alfalfa Varieties

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
Blue Alfalfa Aphid (BAA):	HR
Pythophthora Root Rot (PRR).	HR
Bacterial Wilt (BW):	MR
Fusarium Wilt (FW):	HR
Stem Nematode:	HR
Root Not Nematode:	HR
Verticillium Wilt (VW)	R

REMEMBER:

- *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 in those years with severe pest pressure.*

IV. Consider Biotech Traits (RR) – Is Roundup-Ready alfalfa right for you? Be sure to consider:

- Your current weed pressure & control strategy success—
- Cost
- Seeding rates and cost control (can reduce seeding rates)
- Yield levels of available varieties
- Roundup-resistant weeds
- Do your markets accept Roundup Ready?
- Coexistence with neighbors

Low Lignin Alfalfa – has been de-regulated, will be commercialized in West in 2017.

V. Consider Forage Quality. Forage quality is of great importance in a low-price year, such as 2015-16, but tends to be less important to growers in a high price year. **Remember:**

- Yield tends to be economically more important than quality, even in down years. Both are highly related to Fall Dormancy.
- Forage quality can often be manipulated more successfully through cutting schedules, but variety also makes a difference.
- More dormant lines enable growers to pace harvest schedules with more success.
- Stand Persistence tends to be somewhat superior in more dormant lines than in non-dormant lines, especially varieties such as CUF-101 which tends to go out quickly in the Central Valley.

