UC Alfalfa Variety Trials

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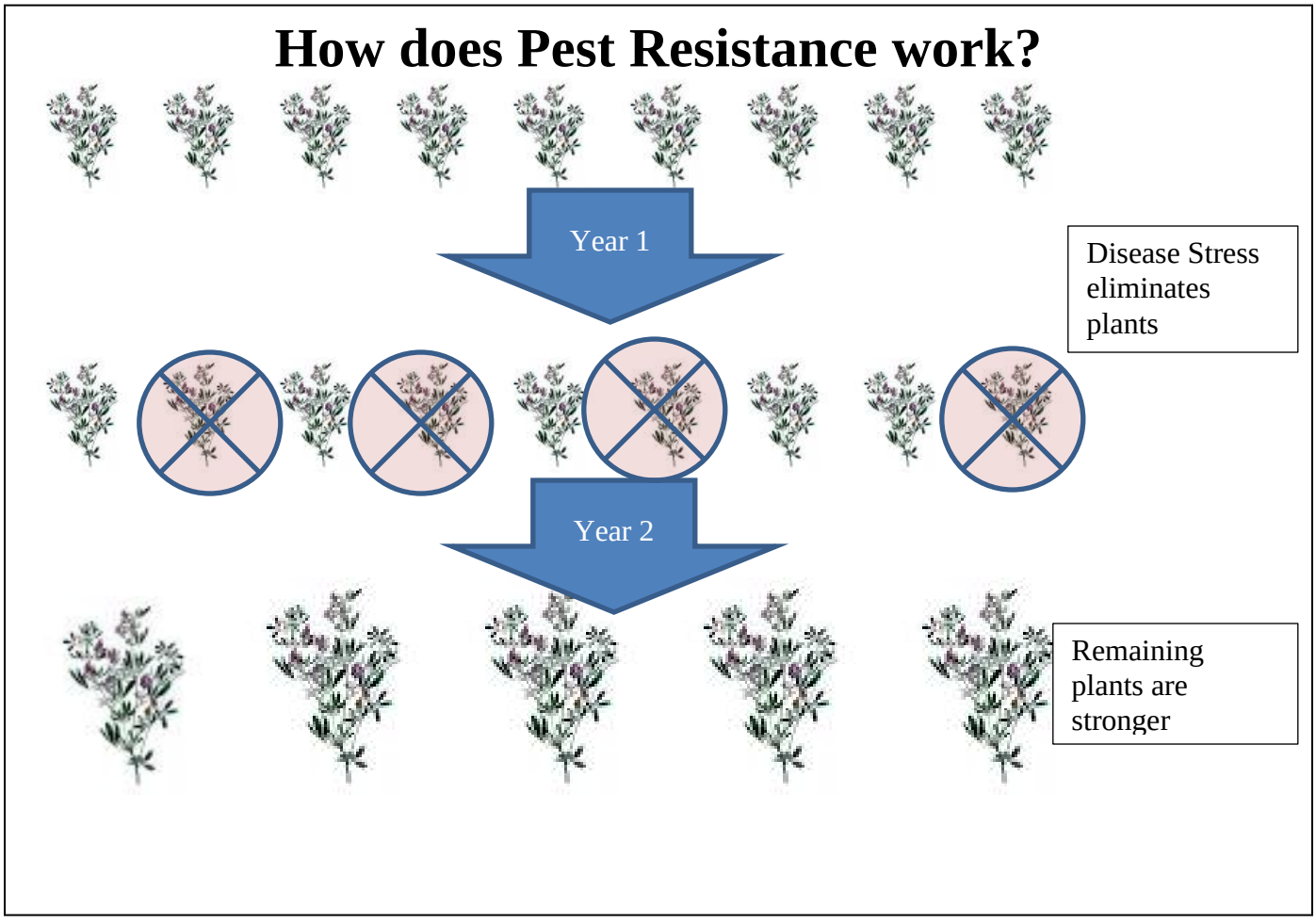
See: http://alfalfa.ucdavis.edu for current variety information

What is an Alfalfa Variety?? -

An alfalfa variety is a 'population' consisting of a range of phenotypes (typically a synthetic). 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.



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
Pythopthora Root Rot (PRR).	HR
Bacterial Wilt (BW):	MR
Fusarium Wilt (FW):	HR
Stem Nematode:	HR
Root Not Nematode:	HR
Verticillium Wilt (VW)	R

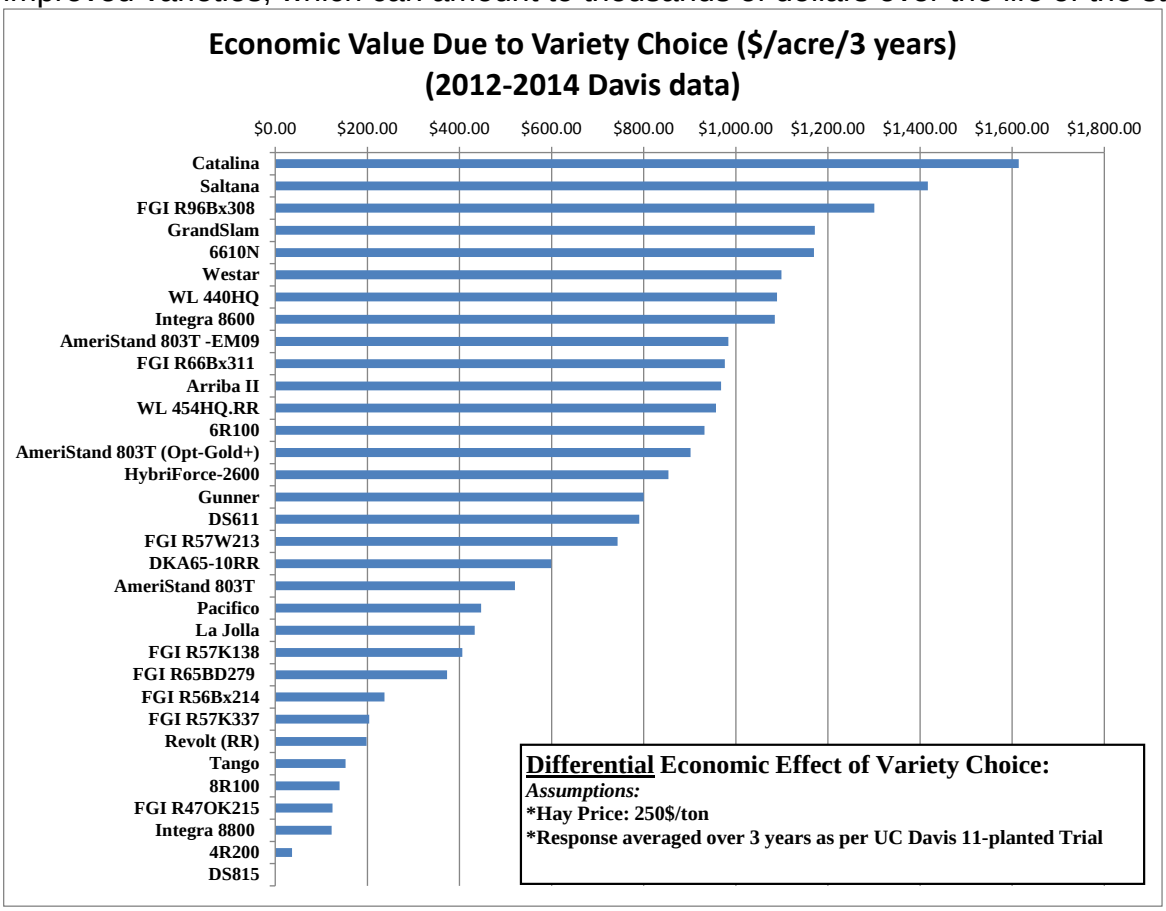
HOWEVER:

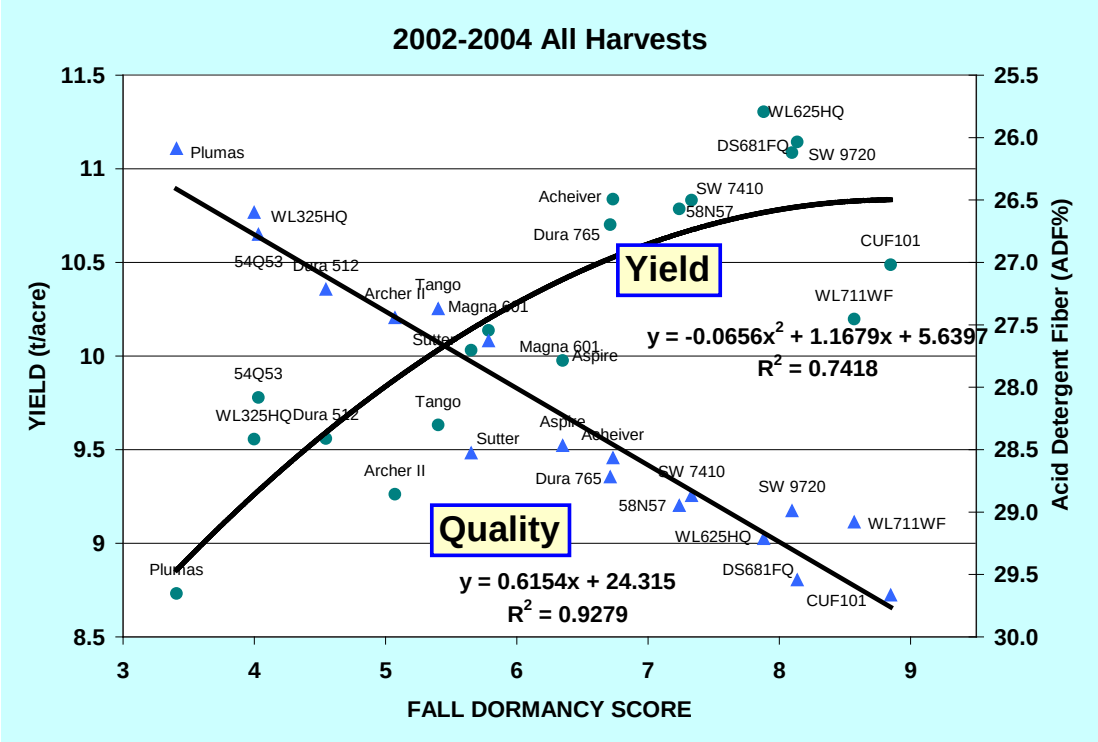
- ***Resistance is not absolute (it is a % of plants in a population)***
- ***Even highly resistant varieties can be overwhelmed by a severe pest infestation.***
- ***Pest Resistance is often the only economic measure against some pest problems.***
- ***Think of Pest Resistance as you do auto insurance—not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

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

What about Economics?

Do the economics work? Growers often gravitate to the lowest priced seed. However, the cost of the seed is essentially irrelevant to the overall value of the yield of improved varieties, which can amount to thousands of dollars over the life of the stand.





How to Select an Alfalfa Variety?

Step 1) YIELD - Choose group of high yielding certified varieties in the proper Fall Dormancy Rating

Step 2) FALL DORMANCY—Choose a Fall Dormancy appropriate for your region (typically 6-7 in the Davis area)

Step 3) PEST RESISTANCE - Make sure you a high level of Pest Resistance

Step 3) CONSIDER BIOTECH TRAITS – 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 varieties**
- **Roundup-resistant weeds**
- **Do your markets accept Roundup Ready?**
- **Coexistence with neighbors**

Step 4) CONSIDER FORAGE QUALITY, STAND PERSISTENCE, HATS

- **Yield tends to be economically more important than quality. Both are highly related to Fall Dormancy.**
- **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.**

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

		2012 Yield	2013 Yield	2014 Yield	Average	
	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.