

ALFALFA VARIETY SELECTION: PRICE VS VALUE

Tim Hays¹

Alfalfa growers now have many more varieties to choose from than in past years. Dozens of new varieties are available that claim improved pest resistance, higher quality, higher yields and better stand persistence. How can a grower make a decision about which seed to plant?

Many factors should be considered:

- What is the end use of the product? Own use or sale?
- What method of harvesting will be employed?
- What are the specific soil conditions in the field?
- What pests are known or likely to be problems?
- What are the likely harvest conditions and how will this variety perform?
- What is the capability of the irrigation system?
- What is the real yield potential of the field?
- Is quality an important factor and what does it mean in terms of this operation?
- Is availability of product early and late in the season a benefit or a liability?
- How important is stand persistence and what are the other uses or options for this field?

All of these questions have an impact on making a good seed selection. Generally, there are several varieties that would probably provide equivalent results. Growers should try new varieties on a regular basis to learn about their characteristics. Some growers produce their own seed. This may save them money and sometimes this local seed is better than the original lot. However, this misses adding new genetic potential to the seed. Resistance to pests is constantly being improved. The only way to get this advantage is to buy seed that has been bred or selected for it. Local-produced seed is often of unknown or mixed heritage. Certified seed is the only way to know the parentage and likely performance of a variety. Some companies offer blends or brands of alfalfa seed. These are as good or bad as what goes into them. Blends are generally not sold with a statement of their ingredients.

Growers should also get as much information as possible about varieties from research plots, field trials, seed companies, local experiences, farm advisors, and end users. Lists of varieties and their characteristics are available from the Certified Seed Council and the Universities. Field trials and test plots are difficult and expensive to conduct on an on-going basis. With economic restrictions being imposed on the public sector, there will be less information in the future.

When all of these other factors are considered, there remains the issue of the cost of the seed. What is the cost of the seed and is price or value more important?

¹Corresponding Author: Tim Hays, PCA/Consultant, Lancaster, CA

Let's consider some recent data from a field trial.

Variety	Average annual yield ^{1/} Tons/acre	Difference Tons/acre
	13.32	+3.38
	12.09	+2.15
	9.94	check

^{1/}Average annual production for a three year trial

What effect would this have on income? For this example, assume a value of \$100.00 per ton for the hay and a cost to harvest additional hay of \$30.00 per ton. The net gain for increased production would be \$70.00 per ton. All other input costs are assumed to be equal.

Addition income would then be:

C86-333	3.38 tons x \$70.00 = \$236.60 / acre
R-G	2.15 tons x \$70.00 = \$150.50 / acre
LAHONTAN	0.00 tons x \$70.00 = \$ 0.00 / acre

What is the value of the seed in this example? Assume a seeding rate of 30 lbs. per acre. If all other input costs are equal, then the relative value of the seed is the difference in production divided by the seeding rate.

Value of the seed per pound:

C86-333	\$236.60 divided by 30 lbs. = \$7.88/lb.
R-G	\$150.50 divided by 30 lbs. = \$5.00/lb
LAHONTAN	\$ 0.00 divided by 30 lbs. = \$0.00/lb.

These results show that if the Lahontan seed were free, you could pay \$7.88 per pound for C86-333 and break even, each year.

Assume that this seed, C86-333, costs \$3.00 per pound and the Lahontan seed is free. What is the economic effect over the three years?

On a per acre basis,

Seed costs:	C86-333	30 lbs. x \$3.00 = \$90.00 / acre
	LAHONTAN	30 lbs. x \$0.00 = \$0.00 / acre

Seed value:	C86-333	\$7.88 x 30 lbs. x 3 years = \$709.20
	LAHONTAN	\$0.00 x 30 lbs. x 3 years = \$0.00

Net gain: C86-333 \$709.20 minus \$90.00 = \$619.20 / acre

These data clearly show that seed price is minor compared to seed value. These data should be considered carefully, it is from test plots. Actual field yields would probably not be of the same magnitude. This trial was conducted with an excellent grower, with excellent soil and water conditions. Under these conditions, the full capabilities of these varieties can be seen. The varieties used in this comparison are experimental and not for sale. The lesson here is not the varieties in this trial but the method of evaluating them. Often we see differences of a ton per acre over the season between different varieties. How much is that worth? If we stay with some assumptions:

$\$100.00 / \text{ton for hay and } \$30.00 / \text{ton harvesting costs} = \70.00

$\$70.00 \text{ per ton increased value divided by seeding rate} =$

$20 \text{ lbs. seed per acre} = \$3.50 \text{ per pound advantage}$

$30 \text{ lbs. seed per acre} = \$2.33 \text{ per pound advantage}$

That advantage is for each year of the stand. Clearly, it is not a good idea to save on seed costs at the expense of yield. Yield is not the only consideration. Quality in terms of high test values or marketability is equally important.

In summary, growers should select varieties that best suit their needs and requirements and then make the best deal they can on those varieties. Buying seed solely on price is most likely to be disappointing. There are growers who harvest seed off of old fields and sell it, but for their own use only plant the best certified seed they can buy.

ALFALFA 27 VARIETY

LOCATION: WILLOW SPRINGS LOS ANGELES CO
 PLANTING DATE: SEPTEMBER 12, 1988
 EXPT NO 7230 WITH 4 REPLICATIONS

ENTRY	YIELD IN TONS PER ACRE, RANK IN PARENTHESIS			AVE OVER YEARS	% OF LAHONTAN
	1989	1990	1991		
VS-748	12.57(2)	14.33(1)	13.05(5)	13.32(1)	A 134.0
SUTTER	12.24(3)	13.48(6)	13.55(2)	13.09(2)	AB 131.7
C86-333	11.32(17)	13.98(2)	13.93(1)	13.08(3)	ABC 131.6
VALLEY	12.22(4)	13.72(3)	13.20(3)	13.05(4)	ABC 131.2
CONDOR	12.61(1)	13.46(7)	12.63(12)	12.90(5)	ABCD 129.7
VS-747	11.63(14)	13.68(4)	12.93(8)	12.75(6)	ABCD 128.2
YOLO	12.02(8)	13.21(8)	12.89(9)	12.70(7)	ABCD 127.8
NAP338	12.18(5)	13.48(5)	12.21(17)	12.62(8)	ABCD 127.0
MISSION 477	11.66(12)	13.12(9)	13.04(6)	12.61(9)	ABCD 126.8
AP8660	12.08(7)	13.12(10)	12.26(16)	12.48(10)	ABCD 125.6
MOAPA 69	11.82(10)	12.84(13)	12.43(14)	12.36(11)	ABCD 124.4
87-210	11.23(18)	13.05(12)	12.79(10)	12.36(12)	ABCD 124.3
LAHTN/NEBEKR	11.12(20)	12.69(15)	13.13(4)	12.31(13)	ABCD 123.9
MISSION 123	11.67(11)	12.74(14)	12.52(13)	12.31(14)	ABCD 123.8
BRUTE BRAND	11.51(15)	12.67(16)	12.36(15)	12.18(15)	ABCD 122.5
ARROYO	11.35(16)	12.52(18)	12.66(11)	12.18(16)	ABCD 122.5
RITTER/GODDE	10.94(21)	12.40(19)	12.95(7)	12.09(17)	BCDEF 121.7
MISSION 305	12.09(6)	13.07(11)	10.87(24)	12.01(18)	BCDEF 120.8
88-128	11.14(19)	12.60(17)	12.01(18)	11.92(19)	BCDEF 119.9
WL320	11.64(13)	12.28(21)	11.67(19)	11.86(20)	BCDEF 119.3
METEOR	11.89(9)	12.09(23)	11.20(22)	11.73(21)	DEF 118.0
GS-88	10.87(22)	12.23(22)	11.42(20)	11.50(22)	DEF 115.7
ISI 567	10.78(23)	12.39(20)	11.32(21)	11.50(23)	DEF 115.7
5683	10.33(24)	11.93(24)	11.07(23)	11.11(24)	FG 111.8
XAR64	10.26(25)	11.26(25)	9.92(26)	10.48(25)	GH 105.4
LAHONTAN	8.79(27)	10.65(26)	10.38(25)	9.94(26)	H 100.0
5432	9.62(26)	10.64(27)	9.55(27)	9.94(27)	H 99.9
GRAND MEAN	11.39	12.73	12.15	12.09	121.6
% CV	9.2	5.2	6.5	10.1	
LSD (.05)	1.473	0.932	1.108	0.995	
LSD (.01)	1.954	1.237	1.472	1.319	