

ALFALFA IN BEEF BACKGROUNDING PROGRAMS

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Alfalfa can be a very important part of most beef backgrounding operations. Today I want to look at two ideas about alfalfa.

First, why we should consider making alfalfa our most important crop on a farm that's backgrounding. Secondly, what are some of the ways to best utilize the alfalfa we do produce?

We can say a lot of positive things about why alfalfa can be important to a beef backgrounder. In preparing for this presentation, I talked with several producers about why they grow and feed alfalfa. Most often I came away with the thought: Alfalfa improves cash flow.

In talking to the producers some of the ideas that came up about how alfalfa can improve cash flow are:

- 1) Alfalfa can return more dollars worth of feed value per acre than other forages.
- 2) Alfalfa has a lot of options in the way it can be used. It can be grazed, green chopped or cut for hay and haylage.
- 3) As hay it can be a good cash income source.
- 4) By feeding alfalfa you can almost forget about purchasing protein supplement.
- 5) Alfalfa can reduce fixed cost per animal and produce more beef with less capital outlay.
- 6) Reduces fertilizer purchased for following crops.

While we can all think of situations where alfalfa may not be practical for a backgrounder, the cash flow potential makes it an option to be considered. I would encourage you to run a cash flow budget on putting alfalfa into your backgrounding operation.

I've tried to give some basic reasons why a backgrounder should also be an alfalfa grower. In the time left I want to confine my remarks to utilizing stored alfalfa.

Most Kentucky backgrounders will utilize alfalfa as hay or haylage alone, or in combination with an energy source.

Feed trials at UK's Eden Shale Farm give some comparison of alfalfa and corn silage. Table 1 shows animal performance and feed cost/lb. of gain. Table 2 shows the feed value used in the feed cost.

TABLE 1. A SUMMARY OF PERFORMANCE OF BACKGROUNDED CATTLE UNDER VARIOUS FEEDING PROGRAMS (1988)

	<u>C.S. + Protein Sup.*</u>	<u>Alf.Hay**</u>	<u>Alf. Hay +S.C.**</u>	<u>C.S. + Alf. Hay***</u>
No.	169	62	40	18
Int. Wt, lb	493	496	520	506
Final Wt, lb	735	652	688	688
Gain, lb	242	156	168	182
Av. Days Fed	112	110	105	98
ADG. lb	2.16	1.42	1.60	1.85

Feed Consumption Per Head

C. Silage, tn	2.28			1.76
Sup, lb	163			
Alf hay, tn		.91	.74	.17,
S. Corn, lb.			413	
DM/lb gain	6.43	10.3	9.7	7.8
Feed Cost/lb Gain	\$.236	\$.525	\$.485	\$.249

*Three year average.

**Two year average.

***One year of data.

TABLE 2. FEED VALUE

Corn Silage	\$17/ton
Shelled Corn	\$2/bu
Protein Supplement	\$225/ton
Alfalfa hay	\$90/ton

As you look at these tables it is quite apparent that alfalfa is very competitive in using it as a protein supplement for corn silage. However, feeding alfalfa straight or with corn doesn't look nearly as good.

This comparison was made with \$90 a ton hay and \$2 corn. Not all the hay produced is \$90 plus quality. I don't think I would feed much \$90 plus hay to

backgrounded calves. Anybody growing hay has quite a bit of real good hay not marketable in the high price range.

In Tables 3 and 4, the performance is unchanged but different feed values are used. The prices reflect some of the answers I got from local farmers.

TABLE 3. FEED VALUE

Corn Silage	26/ton
Shelled Corn	2.75/bu
Protein Supplement	\$225/ton
Alfalfa Hay	60/ton

TABLE 4. A SUMMARY OF PERFORMANCE OF BACKGROUNDED CATTLE UNDER VARIOUS FEEDING PROGRAMS

	C.S. + Protein Sup.*	Alf. Hay**	Alf. Hay +S.C.**	C.S. + Alf. Hay***
No.	169	62	40	18
Int. Wt, lb	493	496	520	506
Final Wt, lb	735	652	688	688
Gain, lb	242	156	168	182
Avg. Days Fed	112	110	105	98
ADG, lb	2.16	1.42	1.60	1.85

Feed Consumption Per Head

C. Silage, tn	2.28			1.76
Sup, lb	163			
Alf hay, tn		.91	.74	.17
S. Corn, lb			413	
DM/lb gain	6.43	10.3	9.7	7.8
Feed Cost/lb Gain	\$.325	\$.35	\$.385	\$.336

*Three year average.

**Two year average.

***One year of data.

The economics of feeding alfalfa looks much better when these values are plugged in to the data. Alfalfa becomes very competitive in this price structure. Feeding alfalfa hay is an excellent way to market home grown products whether with silage as hay alone, or with corn.

In a study using heavier cattle in Illinois similar results were obtained (Table 5). Again, alfalfa was a competitive feed source. One difference in the Illinois study was the level of supplemented grain. Corn was fed as 50% of the ration dry matter.

TABLE 5. PERFORMANCE OF STEERS FED EITHER ALFALFA HARVESTED OR STORED IN THREE FORMS OF CORN SILAGE*

Item	Direct-cut + grain	Haylage + grain	Hay + grain	Corn silage
Initial wt/lbs	596	598	594	596
Final wt/lbs	882	862	860	807
Daily gain/lb	2.90	2.75	2.68	2.18
Daily feed/lbs DM	17.4	17.1	17.5	15.5
Feed/gain	6.0	6.2	6.5	7.0

The high level of grain accounts for the higher rates of gain when compared to the Kentucky study.

One point I do want to make is the difference of performance caused by differences in concentrate levels fed to ruminates.

If you pull out just the hay and grain rations from the two studies you see some interesting facts.

TABLE 6. PERFORMANCE OF STEER HAY AND GRAIN RATIIONS

	Illinois (99 days)	Kentucky (105 days)	Only Alfalfa
Initial wt	594	520	496
Final wt	860	688	652
Daily Gain	2.68	1.60	1.42
Daily Feed/DM	17.5	18.1	16.5
Lbs Grain/Day	8.75	3.9	0
Feed/Gain	6.5	9.7	11.6
Feed Cost/Lb Gain	\$.264	\$.385	\$.035

Comparing the two studies, you can see that adding grain paid off in the Illinois study but not in the Kentucky study. There are basic reasons for this variation.

We are feeding ruminants! The added grain (3.9 lbs.) in the Eden Shale study lowered rumen pH. This lowered the forage digestion efficiency. In the Illinois study rumen pH was also lowered but added energy more than offset the difference.

Other studies show that if added grain is fed at lower levels (2 to 3 lbs.), the rumen pH is not pushed down. In these cases added grain is used very efficiently.

This is one of those cases where a little is good, twice as much is bad, but three to four times as much is even better.

We didn't pick up at the time what was happening, but a good practical example of this occurred in my county a couple of years ago. A group of 100 heifers were on alfalfa hay and performing about like the Eden Shale study. The producer added about 5 lbs. of corn per day, weighed back in 35 days...the cattle had only added about .2 lb/day. At that point with the market up and corn reasonable, he decided to push the heifers the last 40 days. Corn was fed at 10 lb/day and gains for this period went to about 2.7 lb/day.

Today I've tried to make the point that for most backgrounders alfalfa can be a part of their feeding program. It has real potential to improve cash flow by cutting out protein cost and providing a saleable commodity.

We didn't dwell on hay sales but it can be a good source of cash for other inputs into the cattle program.

The other point I hope I've made is that when used properly alfalfa hay/haylage is just as cost efficient as any feedstuff we can grow.