

Economics of Adding Value to Cull Cows

Iowa cow-calf producers rely on the sale of cull cows as a significant part of their gross revenue, but in most cases do little to enhance the value of that revenue stream. The adage seems to be get every bit out of the cow that you can and then dispose of her with no thought on how the value of the salvage cow might be improved for added economic gain. A recent look at the Iowa SPA records shows that just over 20% of the Iowa herds gross income come from the sale of cull breeding stock (see table 1).

Table 1. Gross Income from Sale of Cull Cattle. ISU-IRM-SPA 1994-2000

Year	Total Gross Sales/Cow	Gross Sales from Breeding & Cull Cattle	% of Total
1994	\$452	\$91	20.2
1995	354	91	25.7
1996	345	71	20.6
1997	445	93	20.8
1998	402	85	21.3
1999	452	79	17.5
2000	512	77	15.0
Average	\$423	\$84	20.2%

Is there economic opportunity with cull cows?

As one analyzes the options with cull cows from mainstay Iowa cow-calf production, which is predominantly spring calving, it comes in the form of marketing at a more opportunistic time and in improving the carcass value. Typically the bulge in cull marketing is in the fall months and of course the lowest prices coincide with that time period as shown in figure 1. This is then followed by an upswing in the cull market during the mid-winter months. The two edge sword that one is up against in retaining cull cows is while dressing percentages improve with added condition (fat) the lean content of the trimmings becomes less (see table 2). However, the market place does reward for cows that are in better condition and of higher dress (see tables 3 and 4).

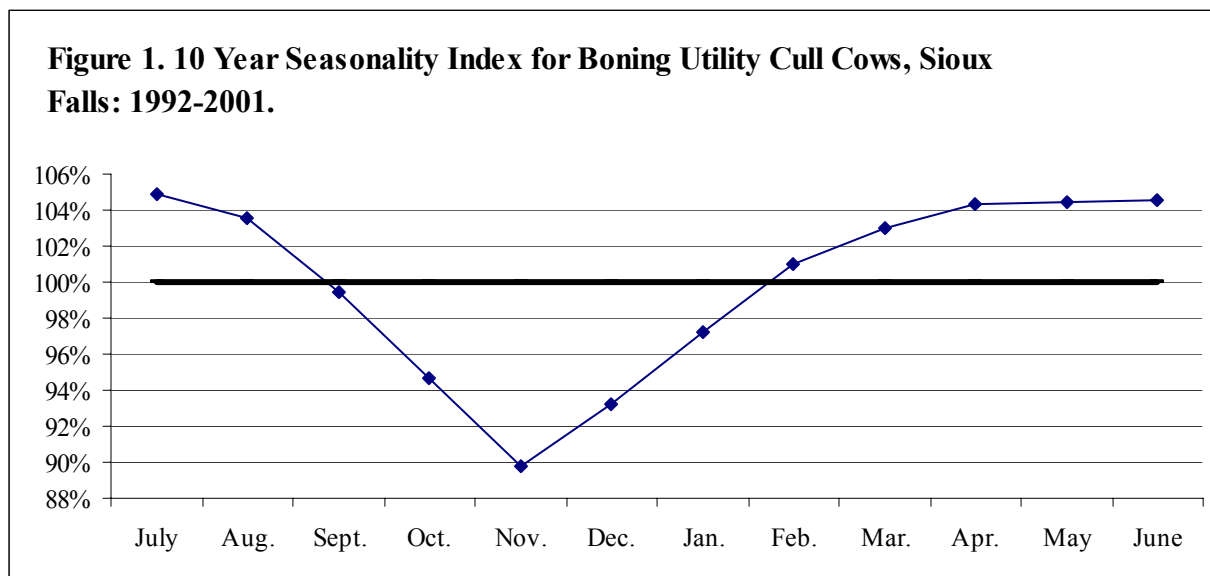
From a budgeting standpoint there have been positive margins observed the last several years from fall culling time into the spring when everyone is busy with calving and field work. Data shown in table 2 indicates that during the last 16 years from fall to winter one would be working with a positive feeding margin. However, this price trend is not an automatic. Of the six scenarios investigated four gave positive price trends from fall to winter, but when started in early fall (September) the price trend was negative. Furthermore, if one studies the four scenarios investigated which cover spring into mid-summer, the price trends are slightly positive to 1.5 percent lower, thus not conducive to profit.

Earlier market analysis done at South Dakota showed that Cutter and Canner were marketed at 5 to 14% less than Boning Utility cows (see table 5). A more recent investigation of Torrington, WY and St. Joseph, MO cow market prices indicate positive price trends when upgrading cows

Prepared by Daryl R. Strohhahn and Joe Sellers, Extension Livestock Specialists, Iowa Beef Center at Iowa State University, Ames, IA for the 2002 Pfizer Cattlemen's College at the Iowa Cattlemen's Convention, December 13, 2002.

from Cutter to Boning Utilities (see table 3). Both locations showed during the last 10 years starting in September and marketing in December did not have very positive price trends, while starting in October and November had excellent positive price trends for upgrading cull cows. Upgrading cows from late winter into late spring or early summer was intermediate in margins. Keep in mind it may be difficult to profit in upgrading if one is battling large seasonality discounts.

Tables 6 through 9 work through gross margin, revenue analysis and return above feed cost using a base price of \$38.00 per cwt for Boning Utility cows and applies best and worst case price trends shown in table 2 and 5. These tables were generated for both fed and grazed cows. For sound, healthy cull cows fed a higher concentrate ration to gain just over 3.5 pounds daily there is an average gain in gross revenue of \$182 per head for November to February, with a worst case situation of \$135. However, when starting in September the gains in gross revenue were substantially lower with an average of \$93 and only \$47 for the worst-case situation. Of course the question is can this system be done efficiently and at a profit. Cows that are allowed to graze and gain weight will neither have the dramatic gain nor the shift in quality grade. However, on excellent stockpiled grass or abundant cornstalks it is possible to achieve a 1 to 1.5 gain in body condition score which approximates 100 to 150 pounds of weight gain. Tables 8 and 9 demonstrate the variation in revenue and returns above feed cost.



But in today's marketplace there has also been the development of specialty or niche marketing for "high quality" white fat cows that have characteristics which make them more valuable. Especially important to this specialty market is white fat, adequate marbling, well-shaped ribeyes and carcasses that exhibit moderate to heavy muscling. These type of fed cows generally qualify for some restaurant trade, but a large number of them make it into the export trade channels

Table 2. Fall to Spring and Spring to Summer Price Change for Boning Utility Cows from 1986 to 2001. Soix Falls

	<u>\$/cwt Change from</u>		<u>Percent Change from</u>	
	<u>Nov to Feb</u>	<u>Nov to Mar</u>	<u>Nov to Feb</u>	<u>Nov to Mar</u>
Average	\$4.35	\$5.36	11.9%	14.5%
Std Dev	\$1.71	\$2.54	5.6%	8.2%
Minimum	\$0.94	\$2.17	2.2%	5.0%
Maximum	\$7.33	\$10.18	22.3%	37.8%

	<u>\$/cwt Change from</u>		<u>Percent Change from</u>	
	<u>Sep-Dec</u>	<u>Sep-Jan</u>	<u>Sep-Dec</u>	<u>Sep-Jan</u>
Average	(\$2.28)	(\$0.97)	-5.4%	-1.8%
Std Dev	\$2.21	\$3.27	5.6%	8.1%
Minimum	(\$5.59)	(\$6.24)	-12.2%	-12.5%
Maximum	\$1.97	\$5.73	6.1%	17.7%

	<u>\$/cwt Change from</u>		<u>Percent Change from</u>	
	<u>Oct-Jan</u>	<u>Oct-Feb</u>	<u>Oct-Jan</u>	<u>Oct-Feb</u>
Average	\$0.79	\$2.57	2.5%	7.1%
Std Dev	\$2.97	\$2.59	8.3%	7.2%
Minimum	(\$4.30)	(\$2.58)	-9.0%	-5.4%
Maximum	\$6.43	\$6.79	20.3%	21.4%

	<u>\$/cwt Change from</u>		<u>Percent Change from</u>	
	<u>Mar-Jun</u>	<u>Mar-Jul</u>	<u>Mar-Jun</u>	<u>Mar-Jul</u>
Average	(\$0.81)	(\$0.45)	-1.5%	-0.6%
Std Dev	\$3.06	\$3.14	6.8%	7.8%
Minimum	(\$7.59)	(\$5.79)	-15.2%	-12.9%
Maximum	\$5.25	\$5.70	12.4%	16.7%

	<u>\$/cwt Change from</u>		<u>Percent Change from</u>	
	<u>Feb-May</u>	<u>Feb-Jun</u>	<u>Feb-May</u>	<u>Feb-Jun</u>
Average	\$0.69	\$0.08	1.7%	0.5%
Std Dev	\$3.18	\$3.24	8.5%	7.7%
Minimum	(\$3.95)	(\$5.60)	-12.0%	-11.7%
Maximum	\$7.06	\$6.44	21.0%	15.6%

Table 3. Market Price Change When Upgrading Cull Cows from Cutter to Boning Utility: 1992-2001

	Wyoming		St. Joseph	
	\$/cwt Change from	% Change from	\$/cwt Change from	% Change from
Sep-Dec	\$0.55	1.7%	\$0.88	3.0%
Sep-Jan	\$2.15	6.4%	\$2.12	6.5%
Oct-Jan	\$4.19	12.8%	\$4.20	13.2%
Oct-Feb	\$6.59	20.2%	\$6.68	21.1%
Nov-Feb	\$7.90	25.3%	\$7.78	25.6%
Nov-Mar	\$8.82	28.5%	\$8.27	27.9%
Feb-May	\$3.56	9.7%	\$6.43	18.7%
Feb-Jun	\$3.52	9.7%	\$7.45	21.5%
Mar-Jun	\$2.65	7.0%	\$6.30	17.8%
Mar-Jul	\$3.77	10.1%	\$6.41	18.0%

Table 4. Cull Cow Grades and Characteristics

Quality Grade	Dressing Percent	Lean Content of Trimmings	Body Condition Score
Canner	40 to 46	90 to 92	1 to 3
Cutter	45 to 49	88 to 90	4 to 5
Utility			
Boning	50 to 52	78 to 83	5 to 9
Breaking	52 to 54	73 to 82	6 to 9
Commercial	55 to 60	70 to 80	5 to 9

Table 5. Percentage Price Increases Between Cull Cow Grades

	Cutter	Utility	Commercial
Canner	9%	14%	15%
Cutter	--	5%	6%
Utility	--	--	1%

Sioux Falls Cull Cow Prices :1985-94

It is extremely important in feeding cows that one realizes feed efficiency is generally not good, especially if one is used to looking at calf and yearling feeding programs that have dry matter conversions of 5.5 to 7.5 lbs. Most cows will convert in the 8 to 10 lbs of dry matter to each pound of gain with some going over 10 depending on several factors which will be discussed later.

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What cull cows are the right ones for retaining and adding value?

It is seriously important that producers be very selective in what type of cows they put into a cow feeding program. Cows that best fit this production system are first and foremost sound, healthy and in thin to moderate body condition. Over conditioned cows simply will not gain weight fast and will be poor feed converters. Keep in mind that some thin cows are thin for reasons other than poor feed availability or too much milk production. Some thin cows are unsound on their feet and legs, have internal health problems (ie, bad lungs, hardware, etc.), lack sound mouths or carry heavy parasite loads. Cows with infectious conditions such as lumpy jaw or cancer eye should be avoided. Additionally cows that have sucked up body types and are flat muscled should be avoided because most fed cow programs cannot distinguish them from Holstein type.

Feeding only healthy cows is imperative from another perspective. Keep in mind these cows will only be on feed for a short period of time, 50 to 90 days, thus you want to avoid having to treat cows with antibiotics and putting them into drug withdrawal time jeopardy.

The eye of the master in selecting cows for feeding out is important. Just because they are thin does not always mean they have serious problems. Research has shown that considerable muscle loss has occurred and that it will be gained back in a short period of time. For instance, work by Pritchard, et.al., South Dakota State University showed that significant muscle gain and improvement in dressing percent takes place in the first 70 to 80 days on feed and a marked improvement in quality grade (see table 8).

Table 6. Gross margin analysis on culls cows fed from November to February gaining 3.56 lbs. daily for 70 days with a beginning weight of 1150 lbs and ending weight of 1400 lbs applying price trends in tables 2 and 4.

Quality Grade	% at November Beginning	% at February Ending		
Canner	45%	5%		
Cutter	40%	15%		
Utility	10%	55%		
Breaker	5%	25%		

Price Scenarios (\$/cwt)	At Nov Begin	At February End		
		Average	Best	Worst
Canner (-14%)	\$32.68	\$36.42	\$38.98	\$33.49
Cutter (-5%)	36.10	40.23	43.06	36.99
Utility(base)	38.00	42.35	45.33	38.94
Breaker(+1%)	38.38	42.77	45.78	39.33
Weighted Average	\$34.87	\$41.84	\$44.78	\$38.47
Gross Margin Gain, \$/cwt		\$6.97	\$9.91	\$3.60
Gross Revenue Gain, \$/head		\$185	\$226	\$138
Moderate feeding cost (8.5 FE @ \$.045)		\$ 96	\$ 96	\$ 96
Return above moderate feeding cost		\$ 89	\$130	\$ 42
Higher feeding cost (9.5 FE @ \$.055)		\$131	\$131	\$141
Return above higher feeding cost		\$ 54	\$ 95	\$ 7

Table 7. Gross margin analysis on culls cows fed from September to December gaining 3.56 lbs. daily for 70 days with a beginning weight of 1150 lbs and ending weight of 1400 lbs applying price trends in tables 2 and 4.

Quality Grade	% at September Beginning	% at December Ending		
Canner	45%		5%	
Cutter	40%		15%	
Utility	10%		55%	
Breaker	5%		25%	

Price Scenarios (\$/cwt)	At Sep Begin	At December End		
		Average	Best	Worst
Canner (-14%)	\$32.68	\$30.72	\$34.37	\$27.87
Cutter (-5%)	36.10	33.93	37.97	30.79
Utility(base)	38.00	35.72	39.97	32.41
Breaker(+1%)	38.38	36.08	40.37	32.73
Weighted Average	\$34.87	\$35.29	\$39.49	\$32.02
Gross Margin Gain, \$/cwt		\$.42	\$4.62	-\$2.85
Gross Revenue Gain, \$/head		\$93	\$152	\$47
Moderate feeding cost (8.5 FE @ \$.045)		\$ 96	\$ 96	\$ 96
Return above moderate feeding cost		(\$ 3)	\$ 56	(\$ 49)
Higher feeding cost (9.5 FE @ \$.055)		\$131	\$131	\$141
Return above higher feeding cost		(\$ 38)	\$ 21	(\$ 84)

Table 8. Gross margin analysis on culls cows grazed from November to February gaining 1.5 lbs. daily for 100 days with a beginning weight of 1150 lbs and ending weight of 1300 lbs applying price trends in tables 2 and 4.

Quality Grade	% at November Beginning	% at February Ending		
Canner	45%		25%	
Cutter	40%		30%	
Utility	10%		35%	
Breaker	5%		10%	

Price Scenarios (\$/cwt)	At Nov Begin	At February End		
		Average	Best	Worst
Canner (-14%)	\$32.68	\$36.42	\$38.98	\$33.49
Cutter (-5%)	36.10	40.23	43.06	36.99
Utility(base)	38.00	42.35	45.33	38.94
Breaker(+1%)	38.38	42.77	45.78	39.33
Weighted Average	\$34.87	\$40.27	\$43.11	\$37.03
Gross Margin Gain, \$/cwt		\$5.40	\$8.24	\$2.16
Gross Revenue Gain, \$/head		\$123	\$159	\$ 80
Moderate feeding cost (8.5 FE @ \$.045)		\$ 96	\$ 96	\$ 96
Return above 100 day cornstalk grazing*		\$ 88	\$124	\$ 45

*2 acres/cow/month=\$35/cow

Table 9. Gross margin analysis on culls cows grazed from September to December gaining 1.5 lbs. daily for 100 days with a beginning weight of 1150 lbs and ending weight of 1300 lbs applying price trends in tables 2 and 4.

Quality Grade	% at September Beginning	% at December Ending		
Canner	45%	25%		
Cutter	40%	30%		
Utility	10%	35%		
Breaker	5%	10%		

Price Scenarios (\$/cwt)	At Sep Begin	At December End		
		Average	Best	Worst
Canner (-14%)	\$32.68	\$30.72	\$34.37	\$27.87
Cutter (-5%)	36.10	33.93	37.97	30.79
Utility(base)	38.00	35.72	39.97	32.41
Breaker(+1%)	38.38	36.08	40.37	32.73
Weighted Average	\$34.87	\$33.97	\$38.01	\$30.82
Gross Margin Gain, \$/cwt		(\$.90)	\$3.14	(\$4.05)
Gross Revenue Gain, \$/head		\$41	\$93	\$0
Moderate feeding cost (8.5 FE @ \$.045)		\$ 96	\$ 96	\$ 96
Return above 100 day cornstalk grazing*		\$ 6	\$58	(\$35)

*2 acres/cow/month=\$35/cow

What about adding value with grazing?

Indeed cull cows can add condition through grazing stockpiled grass and crop residues, especially cornstalks. Getting the calf weaned off by early October and then grazing while the weather is mild is known to enhance cow condition. Cornstalk grazing trials at Iowa State University have indicated gains of 1.5 to 2 lbs daily are possible when allowing 2 acres per cow per month. Past work on body condition scoring has shown that one condition score is equivalent to approximately 80 lbs of live weight. Therefore, if a gain of 1.5 lbs daily can be achieved one will gain about 1 body condition score every 50 to 55 days and most likely at substantially lower feed costs than what is attained in a dry lot situation. The unknown in this production system is whether the cows will achieve the white fat that is likely in a feed yard situation. However, on the positive side one will improve end product weight, dressing percent and quality grade that leads to a cow with greater market value. The only exceptions to this would be unsound cows and those heavy in their condition at the start.

IQBSC offers new marketplace for fed cows.

The Iowa Quality Beef Supply Cooperative in cooperation with the American Foods Group will be offering producers in Iowa the opportunity to market all types of cows including fed cows for the white fat cow market. Indeed this new network will need all types of cows to supply trim that will go into the hamburger grind, but they will also be looking for high quality cows. White fat cows that meet the highest market price will need to first have white fat, have moderate to heavily muscled carcasses with acceptable marbling. Flat muscled cows will not make this grade because they look and cut out much like Holstein type cows and are not acceptable in this market window.

Pricing Structures on Fed and Non-Fed Cull Cows

At this time the exact details of the pricing formula for member-owned cows delivered to the Iowa Quality Beef Supply Coop plant have not been finalized. The basic concept is quite similar to the fed cattle grid planned for IQBSC – a base price will be established for cutter cows using the USDA reported cow-cutout price, plus the USDA drop credit, less the through-put cost. From this base there will be premiums added for “white fat” cows with more value and a discount for lower valued cows with less lean yield.

Strategies for delivering cattle to IQB or any cow packer may vary based on the normal culling strategies of the members and the timing of cull sales. If the producer always sell culls with little added feeding period, it appears the fall marketing window will provide a higher value opportunity with direct delivery compared to other market alternatives. If packer margins are high for cows sold in high-volume months, there may be an opportunity to get more dollars with a dressed-cow formula price. Figure 2 demonstrates how this type of grid price might compare to cash auction price for Cutter cows.

If the producer normally adds pounds and value to cull cows by feeding for 60-100 days, carcass-based pricing may add incentives to feed to a higher percentage of premium white fat cows. As you feed and add body condition, you will improve dressing percentages and hopefully increase the number of white fat cows. It is important to realize that cows with more flesh without white characteristics will actually receive lower in-the-beef prices compared to leaner cows. This decrease in price is normally offset by the improved dressing percentage associated with more days on feed.

Cows fed from November to February usually will benefit from the seasonal price improvement in the cow market as demonstrated in Table 2. Higher prices received in this period will typically reduce packer margins, resulting in less price advantage from the formula carcass-based price, compared to alternative markets such as local auctions. Added value for cows delivered in this period will center on the basic market factors of improved dressing percent and industry price level, as well as price benefits of white fat.

If cows fed extra days do not recoup a price advantage for premium white fat, they will experience decreasing carcass prices for increased trim. This relationship between dressing percentage and carcass price, and the resulting live price, is demonstrated in Table 11. As feedlot gains improve dressing percentage, cows without white characteristics will receive discounts if excessive fat is present. In this example a four percent improvement in dressing percentage can be mostly offset by a \$5.00-6.00 decrease in carcass price.

If cow feeding is taking place during a period of improved prices, with cows with reasonable cost of gain potential, the improved dressing percentage may still make cow feeding beneficial, but any large increases in value from carcass-based delivery of fed cows might need to include premiums for white fat cows that offset any deductions to cows that continue to exhibit yellow fat.

BMPs for the White Fat cow market.

As mentioned earlier, cull cows are not efficient in their gains (see table 9 for study results). One needs to manage them to be as efficient as possible and that means to make them gain as fast as possible within feeding management constraints. The same tools used in feeding finished cattle should be used in this endeavor. Ionophores (Rumensin or Bovatec) should be used along with .5 mg/hd/day of MGA to enhance feed conversion. Also these cows should be implanted with an aggressive program to encourage the fastest and most efficient gains possible (see table 10).

From a nutritional management standpoint, remember that cows starting on feed can easily engorge themselves with high concentrate feed resulting in acute acidosis. Therefore, it is important to realize that cull cows cannot go from a grazing animal to a high concentrate ration in short time period. Rather the feedlot manager in the first week needs to fill cows up on a higher roughage ration during the first week that contains a net energy for gain of 46 to 50 mcals. Offering big round bales of grass hay the first 2 to 4 days as a way to fill up a grazing cow or one that has been in transit is a good idea. Then over the next 2 to 3 weeks work the cows up to a finishing ration just like you would feed a set of heavy yearling steers. The final ration will most likely be a 61 to 63 mcals diet. Protein levels should be in the 11.5 to 13.5 percent range and one can definitely utilize npn sources. Moderate condition cows will respond fast on rations of this type. Cows will likely go up on feed better if they are fed twice daily with an increase of 2 to 3 lbs of feed per cow per day, but be sure to read the bunks and let that be your barometer of appropriate feed consumption. Target dry matter consumptions for 1250 to 1350 lb cows will be 27 to 32 lbs., but don't be surprised with higher consumptions.

Bunk space is critical for cows. Remember they can have some serious problems with peck order establishment, therefore it is necessary to offer from 20 to 24 inches of bunk space per cow.

Recent visits with a feedyard specializing in this production system found them to be vaccinating the cows with a modified-live virus vaccine which covered them for IBR, BVD types 1&2, PI3 and BRSV. Additionally they immunized against the Clostridial types C&D which give protection from the overeating toxoids. A half dose of an ivermectin type product was used for external parasites, but deworming was not a priority due to the high concentrate type ration being fed. In some areas where anaplasmosis has been a problem one might want to consider feeding terramycin for a two week period to protect against an outbreak. All cows had their tails bobbed to assist in muddy conditions.

Typically cows fed for the white fat cow market will need a minimum of 50 or 60 days on feed and should certainly be ready by 90 days, unless one has not been feeding a high concentrate ration. Dressing percentages for programs of this type will generally be around 54 to 58% depending on weighing conditions.

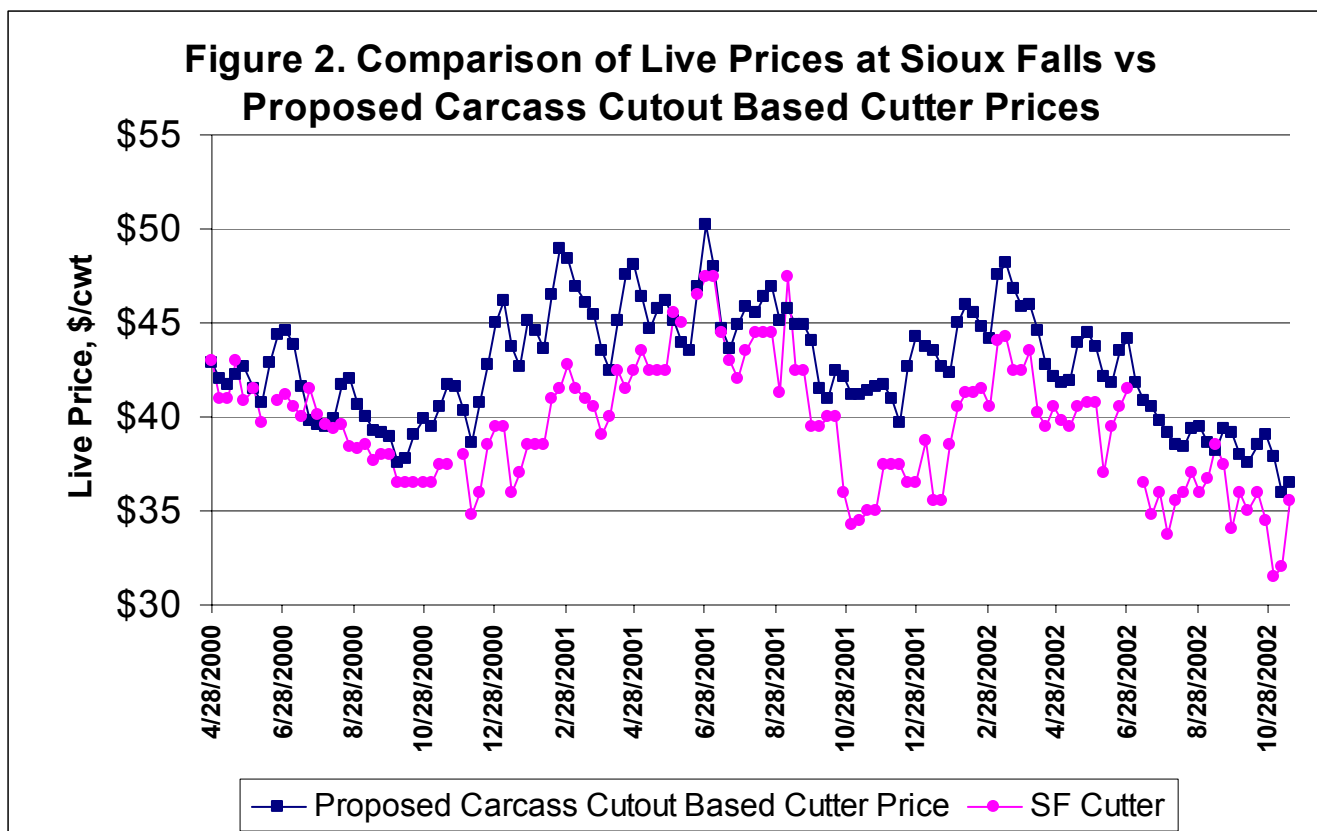
Budget in increased transportation costs.

When running your budgets be sure to factor in higher transportation costs for feeding cull cows. Why? Remember you are likely going to start with cows weighing 1200 to 1300 lbs and taking them up to 1400 to 1450 lbs; big cows take a lot of room on semis. Reports from lots doing this

type of system indicate loads consist of 29 to 31 head on 50,000 lb load limit semis which would make transportation costs about 25 to 35% higher than normal fed cattle.

Summary

Gross income in the cow herd comes from both calf and cull sales with the latter making up 20% of the total. Profitability in adding value to cull cows is dependent upon several factors. Producers need to realize price seasonality can be both beneficial or detrimental depending on which side of the curve your program finds itself. Adding value to cull cows profitably also requires sound, healthy cows that are in moderate to thin body condition. Feed efficiency can be poor on cows in a feedlot situation, thus one needs to incorporate implants, ionophores, MGA, high energy rations and other best management practices to assure that gains and feed efficiency stay within reasonable boundaries. Lower cost gains and improvement in carcass traits can also be achieved by grazing cornstalks or stockpiled forages, but whether grazed cows will make white fat is unknown. Finally, be sure to study the marketplace and be flexible in where your marketings occur.



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Table 8. Change in cull cow carcass traits with days on feed.

Item	Days on Feed				
	0 Days	50 Days	77 Days	105 Days	
SDSU, 93					
Carcass Weight	503	613	693	761	
Dress %	48.1	53.3	57.1	57.6	
Fat Thickness	.07	.18	.36	.49	
Ribeye area	9.3	10.7	11.7	12.3	
Marbling score	131	218	334	367	
Fat color*	7.1	8.1	8.3	8.3	
*Fat color: 1=white, 10=yellow					
CSU, 97	0 Days	14 Days	28 Days	42 Days	56 Days
Carcass weight	564.5	522.6	650.5	657.1	703.4
Dress %	49.5	49.4	53.1	52.6	52.7
Ribeye area	9.86	7.67	9.82	9.90	10.95
Preliminary YG	2.18	2.19	2.65	2.47	2.50
Marbling score	293	272	348	351	313
Fat color*	4.13	3.75	2.50	3.04	2.25
*Fat color: 1=white, 6=yellow					
KSU, 96	0 Days	28 Days	56 Days		
Carcass weight	525.2	578.4	680.7		
Dress %	52.1	50.6	54.0		
Fat cover	.17	.29	.43		
Ribeye area	10.35	11.61	12.40		
Marbling score	323	398	409		
Fat color*	3.9	3.6	2.5		
*Fat color: 1=white, 6=yellow					
U of Ill., 89	0 Days	42 Days	84 Days		
Carcass weight	449.8	597.6	712.2		
Dress %	57.0	52.8	60.4		
Fat cover	.04	.31	.71		
Ribeye area	8.62	11.44	11.75		
Marbling score	243	386	506		
U of Ill., 87	0 Days	28 Days	56 Days	84 Days	
Carcass weight	437.9	497.2	559.4	634.8	
Dress %	52.45	52.42	54.19	56.87	
Fat cover	.05	.09	.22	.56	
Ribeye area	7.35	8.91	9.73	10.10	
Marbling score	237	298	367	360	

Table 9. Gains and efficiencies for cull cows with varying days on feed.

Item	Days on Feed			
SDSU, 93	50 Days	77 Days	105 Days	
Final weight	1150	1223	1321	
ADG	2.81	2.97	3.10	
Feed/Gain	8.99	9.20	9.09	
Dry matter intake	24.9	27.0	28.0	
CSU, 97	14 Days	28 Days	42 Days	56 Days
Final weight	1052	1226	1244	1336
ADG	-.11	2.29	2.87	3.84
KSU, 96	28 Days	56 Days		
Final weight	1140	1261		
ADG	4.67	4.39		
Feed/Gain	5.88	6.67		
Dry matter intake	26.0	29.3		
U of Ill., 89	42 Days	84 Days		
Final weight	1131	1180		
ADG	6.04	3.53		
Feed/Gain	4.66	8.43		
Dry matter intake	27.6	29.1		
U of Ill., 87	28 Days	56 Days	84 Days	
Final weight	835	948	1032	
ADG	2.25	3.40	3.09	
Feed/Gain	8.33	7.31	8.71	
Dry matter intake	18.74	24.85	26.91	
KSU, 77	62 Days	62 Days	35 Days	35 Days
% Concentrate Fed	60	80	60	80
Final weight	1069	1162	961	984
ADG	2.22	3.54	2.18	3.83
Feed/Gain	12.8	8.8	10.4	6.2
Dry matter intake	28.4	31.2	22.7	23.7

Table 10. Effect of implants on cull cow feeding and carcasses traits.

Item				
SDSU, 93	Control	Finaplix-H		
Final weight	1224	1238		
ADG	2.89	3.03		
Feed/Gain	9.44	8.74		
Dry matter intake	27.0	26.4		
Dress %	55.9	56.0		
Fat cover	.36	.33		
Ribeye area	11.34	11.72		
Marbling score	315	297		
U of IL, 96	Control	TBA	TEB	TBA+TEB
Final weight	1163	1209	1208	1221
ADG	3.73	4.65	4.76	4.98
Dry matter intake	27.1	27.8	28.4	27.6
Feed/Gain	7.14	5.88	5.88	5.56
Dress %	52.1	51.3	53.1	52.6
Fat cover	.40	.30	.36	.37
Ribeye area	11.3	11.8	12.8	12.2
Marbling score	385	429	412	388
U of Ill., 89	Control	Testosterone		
Final weight	1175	1136		
ADG	5.14	4.41		
Feed/Gain	6.33	6.77		
Dry matter intake	29.5	27.3		
Dress %	56.8	56.5		
Fat cover	.51	.51		
Ribeye area	11.4	11.7		
Marbling score	448	446		

Table 11. Live price as determined by relationship of carcass price and dressing percentage

Carcass Price, \$/cwt	Dressing percent						
	46%	48%	50%	52%	54%	56%	58%
	Live Price, \$/cwt						
\$80	\$36.80	\$38.40	\$40.00	\$41.60	\$43.20	\$44.80	\$46.40
\$75	\$34.50	\$36.00	\$37.50	\$39.00	\$40.50	\$42.00	\$43.50
\$70	\$32.20	\$33.60	\$35.00	\$36.40	\$37.80	\$39.20	\$40.60
\$65	\$29.90	\$31.20	\$32.50	\$33.80	\$35.10	\$36.40	\$37.70
\$60	\$27.60	\$28.80	\$30.00	\$31.20	\$32.40	\$33.60	\$34.80

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