The Latest Across the Plains

Timely Reminders

General

- Keep cattle bedded in harsh conditions
- Maintain pen surfaces (shape and remove snow)
- Keep an active implant in terminal animals
- Evaluate BCS of cows, target a 5.5 to 6.0
- Switch cowherd to Calving & Breeding Mineral 60 days prior to calving
- Remember protein and energy requirements increase during the last third of gestation
- Bulls and pregnant cows need 6-8 gal. water/day and lactating cows need 11-14 gal. water/day (liquid form works best)

Save Money $$$ Test Your Feeds

Tests are relatively inexpensive, usually costing less than $18, for the information derived. Contact our office to set up an appointment to have us pull feed samples if we have not done so yet.

What's New in the Industry

Synovex Choice is now approved for heifers.

We want to hear from you...

Do you have a question you would like one of the nutritionists to address in depth in our newsletter? Just submit your question through our website www.GPLC-Inc.com and we will get to work on it.

Calendar of Events

- **Jan 10 - 17** Pennsylvania Farm Show, Harrisburg, PA
- **Jan 10 - 25** National Western Stock Show, Denver, CO
- **Jan 13 - 15** Fort Wayne Farm Show, Ft. Wayne, IN
- **Jan 14 - 15** Midwest Farm Show, La Crosse, WI
- **Jan 16 - Feb 7** Fort Worth Stock Show & Rodeo, Fort Worth, TX
- **Jan 20 - 21** Rice Lake Area Farm Show, Rice Lake, WI
- **Jan 20 - 22** Empire State Producers Expo, Syracuse, NY
- **Jan 21 - 24** Ag Pro Expo, Reno, NV
- **Jan 22 - 24** Garden City Farm and Ranch Show, Garden City, KS
- **Jan 27 - 29** Northwest Agricultural Show, Portland, OR
- **Jan 28 -29** Midwest Ag Expo—Illinois, Gifford IL
- **Jan 28 - 30** KMOT Ag Expo, Minot, SD
- **Jan 28 - 30** Sioux Empire Farm Show, Sioux Falls, SD
- **Jan 29 - 31** Power Show Ohio, Columbus, OH
- **Feb 3 - 5** Colusa Farm Show, Colusa, CA
- **Feb 3 - 5** Iowa Power Farming Show, Des Moines, IA
- **Feb 4 - 5** Buffalo Bill Farm & Ranch Expo, North Platte, NE
- **Feb 4 - 6** National Cattlemen's Beef Association Trade Show, San Antonio, TX
- **Feb 8 - 15** Iowa Beef Expo, Des Moines, IA
- **Feb 10 - 12** World Ag Expo, Tulare, CA
- **Feb 11 - 14** National Farm Machinery Show, Louisville, KY
- **Feb 14 - 22** Nebraska Cattlemen's Classic, Kearney, NE
- **Feb 20 - 22** Western Farm Show & Tractor Pull, Kansas City, MO
- **Mar 3 - 4** Eau Claire Farm Show, Eau Claire, WI
- **Mar 3 - 5** Hawkeye Farm Show, Cedar Falls, IA

The Great Plains News Feed

What to do if Your Wet Co-products Run Out—Plan B

By Luke Miller, M.S., Nutritionist

Wet co-products are a common component of many cattle feeding programs. However, the availability of these co-products can be less than consistent during times of inclement weather, plant shut-downs, or simply a temporary imbalance of supply and demand. If you rely heavily on a consistent source of co-products, it is imperative to have a contingency plan in place in the event that they are not available when you need them.

The easiest way to avoid an emergency ingredient shortage is to plan ahead. If only using a few loads per month, be sure to place orders more than a week in advance. This will give the plant enough notice to know what their availability will be in the upcoming days. Having sufficient storage space to hold enough feed to last 2-3 weeks is a good idea. When constructing a storage facility, be sure to make it wide enough so that when a new load is delivered it does not cover up old feed that is still on hand. Being able to utilize fresh feed all the time is the best-case scenario. However, wet co-products will usually maintain their integrity, with little to no loss in feeding value; up to 3-4 weeks in the winter and 1.5-2 weeks in the summer.

During the summer, wet co-products are typically substantially cheaper and often "fire-sales" are available, offering large quantities at significant discounts. Take advantage of these opportunities by purchasing and storing 2-4 weeks' worth of expected winter usage. Hold this supply in reserve and only break into it in the event that an emergency arises. These feeds can successfully be bagged and kept for long periods of time with little to no loss to freshness or quality. Be sure to place bags on level terrain, especially if they contain more than 60% moisture. Wet corn gluten feed and modified distillers grain can be piled relatively high, and to some extent, can even be packed in a bunker silo or drive-over pile. Wet distillers grain can be piled as well, but ideally needs to be mixed with 12-20% (as-fed basis) dry roughage to bulk it up enough so that it can be packed and piled high. If mixing wet distillers with roughage is not a feasible option, an alternative method is to pile as much as possible into a bunker silo, then block the open end off with bales of hay or concrete blocks so it will not all run out. Covering a stored pile with plastic to keep the air, sun, and precipitation off is highly recommended and will greatly reduce shrink.

In the event that you run completely out of wet co-products, it's a good idea to have a contingency plan in place. Keeping some dry distillers grains (DDG) or dry gluten feed on hand is probably the simplest option. Having dry co-products on hand will allow you to maintain the same ration on a dry matter basis. In this scenario it is important to have the ability to add water back to the ration to maintain consistency.

If dry co-products are not available, we can temporarily replace wet co-products with a combination of corn silage, high quality hay, and corn. Be careful about only using corn as a replacement because this can cause a drastic increase in starch load, possibly leading to acidosis. Increasing roughage levels one step is advised if the ration must change substantially to help maintain a healthy rumen. In this scenario, some water may need to be added to the TMR to maintain intake and decrease bunk sorting. If you are using additives through a micro-machine, maintaining moisture levels of a ration is especially important because inclusion rates of these products are calculated based on total pounds of feed delivered.

Perhaps the most crucial thing to remember is to not wait until the day you run out of feed to implement these changes. In some instances, there is at least a 2-4 day advance notice that feed will not be available when you need it. If this occurs, make ration adjustments as soon as possible so that what little feed is left can be stretched out as far as possible. In addition, when the situation arises that an ingredient runs out completely, it will be a much more moderate change for the cattle. Furthermore, PLEASE do not shoot from the hip and attempt to make these ration adjustments on your own. If you find yourself in this unfortunate situation, we ask that you do not hesitate to utilize our services by contacting your nutritionist or our home office, and we will be glad to help you work through the situation.

The Great Plains News Feed

Maximizing Profit in the Feedlot

By Ki Fanning, Ph.D., PAS Nutritionist

Knowing your cost of gain (COG) is essential if you are going to be in the cattle business long-term. Total cost of gain is calculated by taking all the expenses including yardage (feed, vet/med, interest, shrink, death loss, marketing, trucking, etc.) divided by the total gain. A simple estimate of purchase price breakeven can be calculated with this number. This will allow you to make a more informed decision about purchasing cattle. Even more importantly, you need to know the optimum endpoint for the cattle you are feeding. In 2010, U.S. Premium Beef (USPB) conducted a case study and research project to help answer this question. I have changed the prices and cost to current market conditions (January feeder cattle board and June fed cattle board as of December 17, 2014) to help answer that question in today's market conditions.

Table 1. Steer Projection "Base" Values

750 lb. placement weight 155 days on feed (DOF)
1316 lb live pay weight (LW)
3.65 lb average daily gain (ADG)
5.88 lb dry matter feed conversion (DM F/G)
21.46 lb dry matter feed intake/day
$216/cwt feeder purchase price
$150/cwt cash, live selling price
$237/cwt dressed beef price
1% death loss
$15/head veterinary/medicine cost
4% interest for purchase price and feed
$94.55/cwt total cost of gain (TCOG)

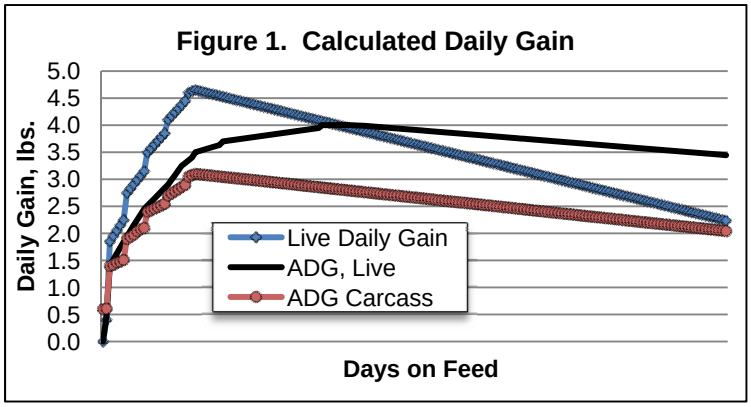
The following USPB case study was a serial slaughter trial to compare profitability at different DOF. Table 1 reports the parameters and costs used in this study. Even though the costs are quickly and constantly changing, the principles and calculations remain constant. Follow this simple calculation to estimate purchase price breakeven in your own operation: a 750 lb animal will need to gain an additional 566 lb to finish at 1316 lb. If your COG is $94.55/cwt then it will take $535.15 to gain the 566 lb (750 lb to 1316 lb). If the 1316 lb animal is worth $150/cwt or $1,974/head, you can subtract your COG from it and divide it by the initial weight to get the purchase price breakeven ($1974 - $535 = $1,439/head)/750 x 100 = $191.87/cwt. Steers at 750 lb bought above that price are likely to lose money and steers bought below that price are likely to make money.

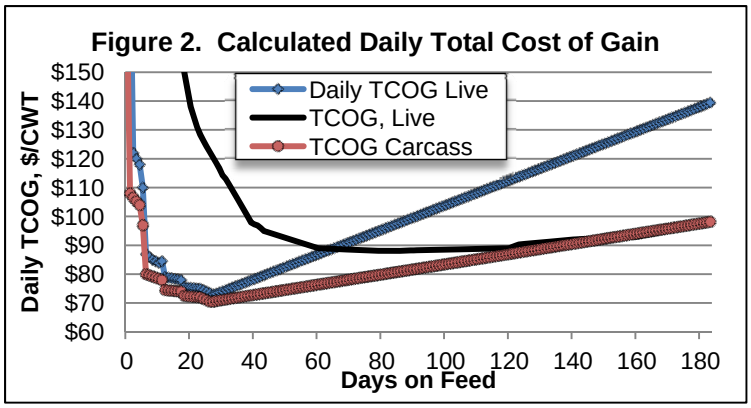
This calculation is very important with backgrounding cattle because it points out the fact the most effective way to lower cost of gain is by increasing the ADG. Lowering feed costs will help, but not to the magnitude of ADG. For example, a 400 lb steer grown at a 2 lb ADG with a total cost per day of $1.70, the COG is $85/cwt. If you lower the total cost $0.10 to $1.60/head/day and maintain a 2 lb ADG then your COG would be $80/cwt. However, if you were to use the $1.70 cost and your gain increased to 2.5 lb then the COG would be $68. If the steers were purchased for $354/cwt or $1,416/head and fed for 120 days, the 2 lb ADG steers would be sold at 640 lb and have a breakeven sale price of $253/cwt or $1,620/head, while the 2.5 lb ADG steers would be sold at 700 lb and have a breakeven sale price of $231/cwt or $1,620/head. Therefore, you can take a $22/cwt discount without suffering a loss. If there is not a $22/cwt discount then you are losing money by growing the cattle at a slower pace.

Keep in mind that COG is not the same for each day of the feeding period because weight gain and total daily cost is not the same for each day of the feeding period. Weight gain is low during the receiving period and even the growing period but peaks out shortly after the cattle are on full feed then slowly declines until slaughter. For example, the average COG for the first 30 days may be over twice what the average COG is for the entire feeding period due to the low gains and high input costs (drugs, vaccines, death loss, shrink, etc.), especially on calves. On the other hand, the COG to take a steer from 1234 to 1385 lb may be only slightly higher than the average for the entire feeding period ($111 vs. $140) because the animal is only gaining slightly less than its maximum daily gain; the majority of the fixed expenses have been incurred (vet/med, shrink, death loss, marketing, trucking); and only the daily expenses are left (daily feed cost, yardage, and the interest and shrink associated with them).

In this example, with a live price of $150/cwt you are ahead to sell a heavier weight animal because a 1385 pound animal (180 DOF) only has a COG of $140/cwt. This means you are still netting $0.10 per pound of live weight gain. Selling on a carcass weight basis or grid basis is not as straight forward because the cost of gain should be related to a carcass weight gain basis. This is beneficial because the decline in the carcass weight gain is less dramatic than the decline in the live weight gain as pointed out in Figure 1. This is the result of an increased yield with increasing DOF (days on feed). The result of this slower reduction in carcass weight gain is a slower increase in COG and the ability for an animal to increase in profitability when feeding to a heavier weight as depicted in Figure 2. In Figure 2, **Daily TCOG, live** is the COG on a live basis while the **TCOG, Carcass** is the carcass TCOG adjusted back to a live equivalent using a constant yield. This allows for comparison of COG between live and carcass.

Figure 3 shows the profit per head that can be realized if sold either on a live weight (cash) or HCW basis at that specific day. With current costs and price in all cases you are the most profitable when selling fat cattle in excess of 1400 live weight (183 DOF) because the COG has not yet increased above the price a packer is willing to pay for live cattle. However, from the figure you can see if selling the cattle live, the minimum loss (maximum profit) is close to being realized because the COG for the week of 183 DOF and the live price the packers are bidding are $140/cwt and $150/cwt, respectively. On the other hand, there is much more profit beyond the 183 DOF if you are selling dressed (HCW) because the price of dressed beef in this example is $237/cwt and the COG at 183 DOF is only $160/cwt (see Table 2.)





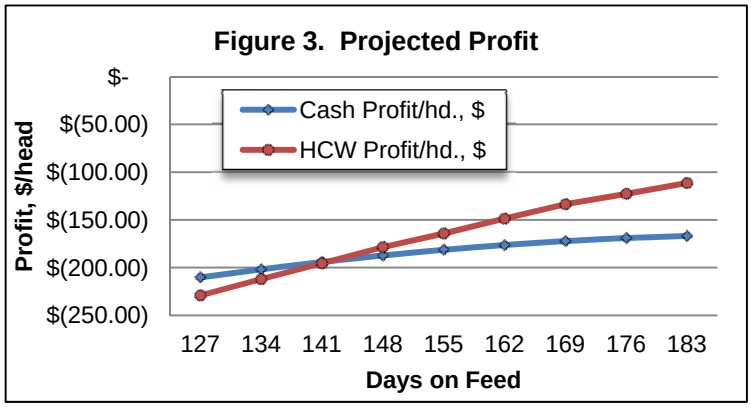


Table 2 reports the serial slaughter information using a 155 DOF base and showing the comparison of performance on a weekly basis for four weeks prior to and after the 155 DOF. This table shows the ADG for the period each week; however, I have added a line "Daily Live Gain, lbs." that reports the ADG for that specific week. The third line in the table shows how feed efficiency becomes poorer with increased size of the animal and reduction in gain. The following two lines "TCOG, $" and "Daily COG, $" show the cumulative COG for the entire feeding period and the COG for that specific week. The seventh, eighth and ninth lines report HCW by week, that specific week's daily carcass weight gain and the carcass COG for that week. Notice that the percent reduction in live weight gain from 134 to 183 DOF is 24% while the reduction in carcass weight gain for the same time period is only 18%; therefore, a higher percent of gain is attributed to carcass tissue with increased days on feed (greater yields). The following line reports the yield and it's improvement as live body weight increases. The next section reports the improvement in quality grade. Thus, if selling on the grid, now is a time when you want to push the DOF to the point of being discounted for heavy weights and yield grades 4 and 5's. The yield grade (YG) section shows that the YG 1 and 2's decrease and 4 and 5's increase as DOF increase. If you are selling on the grid be careful to account for the discounts of 4 and 5's as well as the heavy weights shown in the following section. We do not recommend selling on the grid unless you have some history feeding the genetics that you are planning on selling on the grid.

Table 2. Projected Performance at Different Days on Feed

Weeks	-4	-3	-2	-1	BASE	+1	+2	+3	+4
DOF	127	134	141	148	155	162	169	176	183
ADG, lbs./day	3.81	3.77	3.73	3.69	3.65	3.61	3.56	3.52	3.47
Daily Live Gain, lbs.		3.00	3.00	2.86	2.86	2.57	2.57	2.43	2.29
DM F/G, lbs.	5.64	5.70	5.76	5.82	5.88	5.94	6.00	6.06	6.12
TCOG, $	91.16	91.96	92.80	93.66	94.55	95.46	96.39	97.34	98.33
Daily COG, $	108	111	114	117	121	125	129	134	140
LW, lbs.	1,234	1,255	1,276	1,296	1,316	1,334	1,352	1,369	1,385
HCW, lbs.	773	790	807	824	840	856	872	886	900
Daily HC Gain, lbs.		2.43	2.43	2.43	2.29	2.29	2.29	2.00	2.00
Daily Carcass COG		1.37	1.41	1.38	1.51	1.40	1.45	1.63	1.60
Yield, %	62.64	62.93	63.23	63.52	63.82	64.12	64.41	64.71	65.00
Prime, %	0.00	0.23	0.63	1.03	1.43	1.83	2.23	2.63	3.03
Choice/Prime, %	49.62	54.00	58.46	62.56	67.07	71.13	74.64	78.26	81.38
Ungraded, %	5.04	3.77	2.86	2.01	1.31	0.46	0.00	0.00	0.00
CAB, %	10.29	12.14	13.97	15.99	18.48	20.88	23.18	25.38	27.03
BCPR, %	9.79	10.40	10.96	11.35	11.83	12.47	13.14	13.88	14.78
YG 1, %	25.50	21.66	17.86	14.19	10.64	7.49	4.61	1.99	0.00
YG 2, %	40.79	41.98	42.83	43.36	43.53	43.11	42.23	40.99	39.54
YG 3, %	30.64	32.54	34.90	37.17	39.43	41.54	43.63	45.68	47.00
YG 4, %	3.07	3.82	4.41	5.25	6.05	7.29	8.68	10.05	11.73
YG 5, %	0.00	0.00	0.00	0.03	0.35	0.57	0.85	1.29	1.73
Light Weight, %	0.36	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Weight, %	0.00	0.00	0.35	1.61	3.16	4.76	6.88	9.98	15.21
Cash Profit/hd., $	-210.21	-201.90	-194.13	-187.38	-181.15	-176.49	-172.27	-169.03	-166.90
HCW Profit/hd., $	-229.20	-212.10	-195.54	-178.50	-164.35	-148.77	-133.63	-122.71	-111.40

According to Colorado State University in a survey of 67,570 lots of cattle during 2002 to 2008, carcass based feed efficiency was the single biggest determining factor in carcass COG and net return per animal. Days on feed and carcass ADG were the first and second most important determinants of carcass value and the second and third most important contributors to net return per animal (25 and 34% of the variation in net return). Collectively, medical expense and mortality accounted for 63 to 72% of the variation in net return. Yield grade 4 and 5's were the single biggest discount when selling on the grid and often times offset the premiums collected. They also reported that profits were maximized at carcass weights of 930 lbs. (1425 lbs. live) for steers and 845 lbs. (1290 lbs. live) for heifers. This would agree with the previous case study by USPB.

In summary, knowing the average COG will allow you to know where the purchase price breakeven is. However, knowing the optimum endpoint and marketing strategy (live, carcass weight, or grid) for cattle can mean the difference in being profitable or not. These decisions vary with type and quality of cattle as well as different markets and costs of gain. Be sure you are using some form of tracking program and it can give you the information discussed here to allow you to be confident in the decision you make. If you are not tracking your cattle contact Brent Nelms in our office for recommendations of programs to use or to have him track the cattle for you. Lastly, we at Great Plains Livestock Consulting, Inc. hope you had a Merry Christmas and wish you a profitable new year. If we can help with that please let us know.

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