

Backgrounding/Stocker Cattle Cost of Gain

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Cost of Gain

- Summarizes quite a bit of important information related to the production and market performance of an operation
 - Health
 - Nutrition
 - Forage/grazing management
 - Input price risk management

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COG Planning

- Enterprise budget can provide a good place to start in making cost of gain projections
 - Budget provides a template covering key cost items that should be considered in evaluating cost of gain



Stocker Grazing Budget

| | | Stocking Rate = | 600 lbs/ac | adg = | 2.10 lb/day | Total |
|--|-------|-----------------|------------|-------|-------------|---------------|
| Item | Unit | \$/unit | No. Units | | | \$/head |
| INCOME | | | | | | |
| Feeder Calf Sale (w/shrink) | Cwt | 105.40 | 7.15 | | | 753.61 |
| Less marketing cost of 2% | | | | | | 738.54 |
| DIRECT EXPENSES | | | | | | |
| Feeder Calf Purchase | Cwt | 128.00 | 4.00 | | | 512.00 |
| Pasture (direct expenses) | Acre | 107.66 | 0.67 | | | 71.77 |
| Preconditioning feed | Cwt | 9.90 | 2.15 | | | 21.29 |
| Supplemental Feed | | | | | | |
| Grower Ration | Cwt | 7.70 | 2.80 | | | 21.56 |
| Hay | Ton | 66.00 | 0.20 | | | 13.20 |
| Salt and minerals | Cwt | 25.00 | 0.15 | | | 3.75 |
| Implants | Head | 0.92 | 1.00 | | | 0.92 |
| Vet & Med | Head | 18.00 | 1.00 | | | 18.00 |
| Fences, feeders, bldg repair | Year | 6.50 | 0.58 | | | 3.79 |
| Feeding fuel & repair | Hours | 6.75 | 0.00 | | | 0.03 |
| Land Rent | Acre | 25.00 | 0.69 | | | 17.29 |
| Labor (pasture & cattle) | Hours | 10.00 | 1.73 | | | 17.25 |
| Death loss | Dol. | 512.00 | 1.5% | | | 7.68 |
| Interest on calf | Dol. | 753.61 | 3.0% | | | 9.42 |
| Interest on Operating Capital | Dol. | 154.31 | 3.0% | | | 2.70 |
| TOTAL DIRECT EXPENSES | | | | | | 720.65 |
| Excluding Calf Cost | | | | | | 208.65 |
| Direct Cost of Gain \$/cwt | | | | | | 66.24 |
| RETURN OVER DIRECT EXPENSES (\$/head) | | | | | | 17.88 |

COG Planning

- Enterprise budget can be used to evaluate the impact of key production and price variables on cost of gain
 - Average daily gain
 - Death loss
 - Feed prices

COG and Animal Performance

| ADG | Death Loss | | | | | | |
|------|------------|-------|-------|-------|-------|-------|-------|
| | 0.00 | 0.05 | 1.00 | 1.50 | 2.00 | 2.50 | 3.00 |
| 1.85 | 73.06 | 73.15 | 74.90 | 75.83 | 76.75 | 77.67 | 78.59 |
| 2.00 | 67.65 | 67.74 | 69.36 | 70.21 | 71.07 | 71.92 | 72.77 |
| 2.15 | 63.00 | 63.08 | 64.59 | 65.38 | 66.17 | 66.97 | 67.76 |
| 2.30 | 58.95 | 59.03 | 60.44 | 61.18 | 61.92 | 62.66 | 63.40 |
| 2.45 | 55.40 | 55.47 | 56.79 | 57.49 | 58.19 | 58.88 | 59.58 |
| 2.60 | 52.25 | 52.32 | 53.57 | 54.22 | 54.88 | 55.54 | 56.19 |

COG and Feed Prices

- In the example budget used here, a 10% change in feed price results in about a 3% (roughly \$1.70/cwt) change in cost of gain

Break-Even COG

- Given purchase price/weight and expected sale price/weight, break-even cost of gain can be calculated:

$$COG_{BE} = \frac{(SW \times SP) - (IW \times IP)}{(SW - IW)}$$

Break-Even COG Table

| Purch. Price | Sale Price | | | | | | | | |
|--------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | \$ 92.00 | \$ 94.00 | \$ 96.00 | \$ 98.00 | \$ 100.00 | \$ 102.00 | \$ 104.00 | \$ 106.00 | \$ 108.00 |
| \$ 100.00 | 81.33 | 86.00 | 90.67 | 95.33 | 100.00 | 104.67 | 109.33 | 114.00 | 118.67 |
| \$ 102.00 | 78.67 | 83.33 | 88.00 | 92.67 | 97.33 | 102.00 | 106.67 | 111.33 | 116.00 |
| \$ 104.00 | 76.00 | 80.67 | 85.33 | 90.00 | 94.67 | 99.33 | 104.00 | 108.67 | 113.33 |
| \$ 106.00 | 73.33 | 78.00 | 82.67 | 87.33 | 92.00 | 96.67 | 101.33 | 106.00 | 110.67 |
| \$ 108.00 | 70.67 | 75.33 | 80.00 | 84.67 | 89.33 | 94.00 | 98.67 | 103.33 | 108.00 |
| \$ 110.00 | 68.00 | 72.67 | 77.33 | 82.00 | 86.67 | 91.33 | 96.00 | 100.67 | 105.33 |
| \$ 112.00 | 65.33 | 70.00 | 74.67 | 79.33 | 84.00 | 88.67 | 93.33 | 98.00 | 102.67 |
| \$ 114.00 | 62.67 | 67.33 | 72.00 | 76.67 | 81.33 | 86.00 | 90.67 | 95.33 | 100.00 |
| \$ 116.00 | 60.00 | 64.67 | 69.33 | 74.00 | 78.67 | 83.33 | 88.00 | 92.67 | 97.33 |
| \$ 118.00 | 57.33 | 62.00 | 66.67 | 71.33 | 76.00 | 80.67 | 85.33 | 90.00 | 94.67 |
| \$ 120.00 | 54.67 | 59.33 | 64.00 | 68.67 | 73.33 | 78.00 | 82.67 | 87.33 | 92.00 |

Note: Purchase weight = 400#, sale weight = 700#.

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Break-Even Sale Price

- Alternatively, break-even sale price can be calculated with any particular purchase price/weight and projected cost of gain.

$$SP_{BE} = \frac{(IW \times IP) + COG(SW - IW)}{SW}$$

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Break-Even Sale Price Table

| Purch. Price | COG | | | | | | | | |
|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | \$ 48.00 | \$ 51.00 | \$ 54.00 | \$ 57.00 | \$ 60.00 | \$ 63.00 | \$ 66.00 | \$ 69.00 | \$ 72.00 |
| \$ 100.00 | 77.71 | 79.00 | 80.29 | 81.57 | 82.86 | 84.14 | 85.43 | 86.71 | 88.00 |
| \$ 102.00 | 78.86 | 80.14 | 81.43 | 82.71 | 84.00 | 85.29 | 86.57 | 87.86 | 89.14 |
| \$ 104.00 | 80.00 | 81.29 | 82.57 | 83.86 | 85.14 | 86.43 | 87.71 | 89.00 | 90.29 |
| \$ 106.00 | 81.14 | 82.43 | 83.71 | 85.00 | 86.29 | 87.57 | 88.86 | 90.14 | 91.43 |
| \$ 108.00 | 82.29 | 83.57 | 84.86 | 86.14 | 87.43 | 88.71 | 90.00 | 91.29 | 92.57 |
| \$ 110.00 | 83.43 | 84.71 | 86.00 | 87.29 | 88.57 | 89.86 | 91.14 | 92.43 | 93.71 |
| \$ 112.00 | 84.57 | 85.86 | 87.14 | 88.43 | 89.71 | 91.00 | 92.29 | 93.57 | 94.86 |
| \$ 114.00 | 85.71 | 87.00 | 88.29 | 89.57 | 90.86 | 92.14 | 93.43 | 94.71 | 96.00 |
| \$ 116.00 | 86.86 | 88.14 | 89.43 | 90.71 | 92.00 | 93.29 | 94.57 | 95.86 | 97.14 |
| \$ 118.00 | 88.00 | 89.29 | 90.57 | 91.86 | 93.14 | 94.43 | 95.71 | 97.00 | 98.29 |
| \$ 120.00 | 89.14 | 90.43 | 91.71 | 93.00 | 94.29 | 95.57 | 96.86 | 98.14 | 99.43 |

Note: Purchase weight = 400#, sale weight = 700#.

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COG and Feed Prices

- Obviously, cost of gain depends greatly on feed prices
- For the last year, feed prices have been high and volatile
- In this environment, effectively managing COG involves evaluating a number of potential alternative feedstuffs

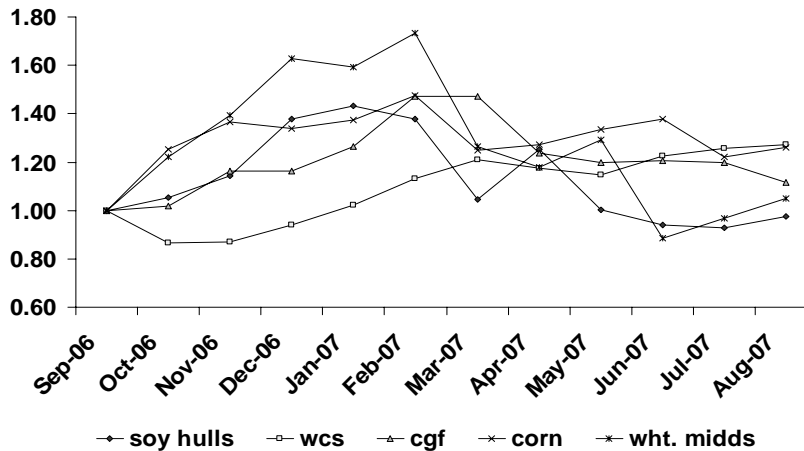
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Corn Market Issues

- While there are a fairly large number of substitutes for corn in backgrounding/stockering rations, prices for all corn alternatives tend to follow corn prices
- When corn is expensive, all feeds are expensive

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Feed Price Indices: 9/06-8/07



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Corn Market Situation

- After peaking February, corn prices moved lower through early September
- Following September reports corn prices have rallied
- Corn remains supported by strong underlying demand despite record production

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Key Corn Demand Factors

- Wheat production problems
 - Tightest wheat stocks in 30 years
 - Affects corn price through competition for acreage and increase in export demand (to replace feed wheat in some countries)
- Ethanol production
 - Still growing, though rate of expansion seems to be slowing
- Export demand
 - Despite high corn prices, weaker dollar and absence of Chinese exports have kept US exports strong

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Risk Management Keys

- Take care of the things that you can manage
 - E.g., receiving/health program should ensure that cattle have potential to gain as efficiently as possible
- Consider all available alternative feed sources
 - What feedstuffs can you realistically source?
 - What can you practically store/handle?
 - Get help in figuring out how to feed the things that you may be unfamiliar with.
- Consider forward pricing opportunities
 - Forward purchase of commodity feeds is sometimes an option