



### Using breakeven analysis for farm based decision making

Whether you are in the cattle business or manufacturing sophisticated electronic equipment it is always important to know the point where you cover your cost of doing business (the breakeven point) when making business decisions. If you can accurately understand your costs and sale price then finding the breakeven point is rather simple math. The breakeven point is an important measure as it is the lower limit of operational profit and where you begin to determine profit margin.

Understanding how this can help a farm and ranch operation begins with understanding how to define and calculate costs.

#### Costs:

There are several types of costs to calculate when using breakeven analysis.

**Fixed costs:** business expenses that are constant for a company no matter what the production level is, e.g. land payments, insurance, depreciation, interest

**Variable costs (operating and marketing costs):** a cost that varies with a change in the volume of output while remaining uniform on a per-unit basis, e.g. fertilizer, lime, hay, veterinary service, maintenance, etc.

**Pricing:** The next critical function of using breakeven analysis is forecasting your sale price. You must know your sale price in order to be able to calculate revenues per unit (calf, tree, fruit). Unit price refers to the amount you plan to charge customers to buy a single unit of your product. This can be hard to predict in a volatile commodities market but is however essential when figuring breakeven point. As with costs there are several methods of calculating price that you should be aware of when doing breakeven analysis.

**Cost-plus pricing** - Set the price at your production cost, including both cost of goods and fixed costs at your current volume, plus a certain profit margin.

**Target return pricing** - Set your price to achieve a target return-on-investment (ROI).

**Value-based pricing** - Price your product based on the value it creates for the customer.

**Psychological pricing** - Ultimately, you must take into consideration the consumer's perception of your price, figuring things like: Positioning, popular price points, fair pricing.

For the cow-calf producer setting a price point for accomplishing a break even analysis can be a very volatile decision. As markets go from bull to bear and sale prices vary \$200/cwt from calving to time of sale producers may elect to use various price mitigation measures such as futures, options, and LRP insurances. Futures allow the producer to establish a price prior to delivery by using the Chicago Mercantile Exchange feeder cattle futures. Producers sell calves early in the season under contract and then by out that contract at the time of actual sale. If the price of cattle declines between that time period the producer makes a positive return and vice versa. Producers can also buy a put option of feeder cattle futures in order to establish a minimum price and have the ability to take advantage of

higher prices but not fall below a set point. This however does come at a premium that is paid to hold a price. Also producers have been using the USDA-LRP insurance which works similarly to buying a put of feeder cattle futures with setting an insured price point subject to payout if the market falls below that level. These are some of the options cattle producers have to establish pricing when attempting to calculate breakeven point.

**Calculating the Breakeven Point:** Now that we have established the basis for calculating the breakeven point, to conduct your breakeven analysis, take your fixed costs, divided by your price, minus your variable costs. As an equation, this is defined as:

**Breakeven Point = Fixed Costs / (Unit Selling Price - Variable Costs)** This calculation will let you know how many units of a product you'll need to sell to break even. At this point any additional units you sell become profit. Once you reach the breakeven point you can calculate the additional profit contribution of additional units by using the following equation:

**Unit Contribution Margin = Sales Price - Variable Costs** It is imperative when doing breakeven analysis that what the analysis is telling you is understood. For instance if the calculation shows that 50 is your breakeven point, then when you sell your 50<sup>th</sup> unit (calf, vegetable, etc) then your costs are covered. When you come to this analysis you must ask yourself a series of questions:

- Is it feasible to produce that number of units?
- Can you exceed that number in order to make a profit?
- At what level (number of units) would profit be satisfactory for your business endeavors?
- Can you lower your breakeven point by adjusting your cost structure? This requires flexibility in your variable costs of production either through deferment of expenses or seeking better prices of for goods and services.
- Can your sale price can be adjusted upward to again lower your breakeven point? In commodities markets this can be done through a number of means either: hedging, futures, direct contracts or taking advantage of inherent market fluctuations.

This is where the rubber meets the road for making production decisions. At the price the market will bear and at my costs can I afford to make this decision (do I fertilize this year, do I early wean, how far I push the limits) and make a reasonable profit for my efforts. We all make these production decisions on a daily basis in our operations. With sound business planning and good operating practices, the use of breakeven analysis should help us make better more informed decisions.

*Ken Johnson*

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DeSoto County Extension

### Calendar of Events

#### January 2013

2	Slaughter Cow and Bull Sale	Arcadia
5	FCW Sporting Clay Fun Shoot	Okeechobee
8	56th Annual Ocala Bull Sale	Ocala
13	13th Annual Lake City Invitational Black Bull Sale Columbia Livestock Market	Lake City
17	Florida Cattlemen's Institute & Allied Trade Show	Kissimmee

### Beef Management Checklist

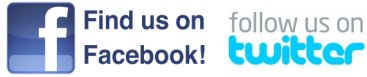
#### January

- Apply lime for summer crops.
- Check for lice and treat if necessary.
- Control weeds in cool season pastures.
- Begin grazing winter clover pastures when approximately 6 inches high. Rye should be 12-18 inches high.
- Check mineral feeders.
- Put bulls out for October calving season.
- Make up breeding herd lists if using single sire herds.
- Watch for calf scours.
- Give bulls extra feed and care so they will be in condition for breeding season.
- Make sure cow herd has access to adequate fresh water.
- Buy only performance tested bulls with superior records.
- Get taxes filed.
- Discuss herd health with you veterinarian and outline a program for the year.
- Review herd health program with your veterinarian regularly.
- Carry a pocket notebook to record heat, breeding abnormalities, discharges, abortions, retained placentas, difficult calvings and other data.
- Observe cow herd for calving difficulties.
- Watch for grass tetany on winter pastures.
- Increase magnesium levels in mineral mixes if grass tetany has been previous problem (if you are not already using a high magnesium mineral).
- Examine bulls for breeding soundness and semen quality prior to the breeding season.
- Vaccinate cows and heifers against vibriosis and leptospirosis prior to the breeding season.

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## Cattle Board

Board Prices	Fri Nov 30	Mon Dec 03	Tue Dec 04	Wed Dec 05	Fri Dec 06	Change
Live Cattle	126.73	127.00	126.13	126.15	126.08	-0.07
Feeder Cattle	145.63	145.60	145.58	146.40	148.25	1.85
Corn	7.48	7.49	7.47	7.53	7.53	0.00

Boxed Beef	Tue Nov 06	Wed Nov 07	Thu Nov 08	Fri Nov 09	Mon Nov 12	Change
Boxed Beef - Choice	195.03	195.32	195.05	194.89	194.13	-0.76
Boxed Beef - Select	174.20	174.59	176.52	174.83	173.70	-1.13
Boxed Beef - C/S Spread	20.83	20.73	18.53	20.06	20.44	0.38

Other	Tue Nov 06	Wed Nov 07	Thu Nov 08	Fri Nov 09	Mon Nov 12	Change
Est. Cattle Slaughter	123,000	129,000	119,000	128,000	119,000	-9,000
Daily Drop	12.82	12.84	12.85	12.93	13.02	0.09
Cutter Cow Cutout	161.11	161.11	162.17	160.64	161.11	0.47
Beef Carcass - Ch	187.48	186.52	186.29	186.05	185.47	-0.58

## 2009-2012 Monthly Precipitation

	2012	2011	2010	2009
Jan	0.48	2.39	1.59	0.32
Feb	0.75	0.17	2.53	0.37
Mar	1.80	4.47	7.03	1.83
Apr	0.83	1.71	1.85	0.62
May	3.45	3.22	3.58	6.23
Jun	12.92	3.67	8.66	3.95
Jul	4.96	8.22	4.26	13.88
Aug	8.82	11.92	10.57	8.44
Sep	5.63	5.66	6.04	7.91
Oct	3.62	4.79	0.04	0.17
Nov	0.11	0.24	2.74	1.16
Dec		0.07	1.33	4.86
<b>Total</b>	<b>43.37</b>	<b>46.53</b>	<b>50.22</b>	<b>49.74</b>

## 2009-2012 Rainfall

