

# Bull Value Cow-Q-Lator

## What it is and how to use it

Shannon Sand, Randy Saner, and Matt Stockton

Extension Educator Ag Economics, Extension Educator Livestock  
Systems and Extension Ag Economist

# Why Use it, and What Can it do?

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- Provides a consistent method of comparison making them more useful and balanced
- Provides answers to confirm or reject your bull preferences
- Can save you from making mistakes in calculation, assumes values you enter are correct
- It captures what you think a bull is worth by using values you assign bulls individually
- Helps prevent price drift
- It is easy to use (if you have excel)
- Helps you focus selection criteria on operational goals versus social pressure, or impulse buying.



## Bull Value Cow-Q-Lator

KIV's		CC Bull *	Bull 1
1	What is the cost of the bull?	4000	4500
2	How much does it cost to feed this bull for one year?	900	900
3	Expected interest rates on investments?	6%	6%
4	How many years do you expect to keep this bull?	4	4
5	What is the expected cull value of bull when it comes time to cull them	1500	2200
6	How many cows will he be used to breed annually?	25	25
7	What is the percent increase in value of bulls in general from time of purchase to time of cull?	10%	10%
8	This is the calculated value of the bull's replacement costs based on percent increase in line 7	4400	5500
9	What are the chances he will die (each year)?	2%	2%
10	What are the chances of an injury during his lifetime?	5%	5%
11	What does it cost to care and maintain this bull annually (not feed)?	300	300
12	What are the annual miscellaneous costs?	120	120
13	How much value will he added per calf to your herd (relative to your current bull's average)?	0	5
14	What is the expected calving rate?	87%	87%
Calculated Values from line 1 thru 14		CC Bull *	Bull 1
	Annual Replacement costs with no death or injury	\$ 725.00	\$ 825.00
	Annual expected death costs	\$ 88.00	\$ 110.00
	Annual expected/average injury loss	\$ 55.00	\$ 68.75
	Annual interest on replacement costs	\$ 52.08	\$ 60.23
	Annual maintenance costs including interest	\$ 1,320.00	\$ 1,320.00
	Annual interest on feed and maintenance	\$ 39.60	\$ 39.60
	Total Annual costs	\$ 2,279.68	\$ 2,423.58
	Costs Per Cow Bred	\$ 91.19	\$ 96.94
KOV's		CC Bull *	Bull 1
	<b>Cost Per Weaned Calve</b>	<b>\$ 104.81</b>	<b>\$ 111.43</b>
	<b>Cost Per Weaned Calve (minus) Difference In Calf Value</b>	<b>\$ 104.81</b>	<b>\$ 106.43</b>
	<b>Added Calf Value Needed to have bulls an equal buy</b>	<b>\$ -</b>	<b>\$ 6.62</b>

# Key things needed to make this calculator work

## KIV's

- 1 What is the cost of the bull?
- 2 How much does it cost to feed this bull for one year?
- 3 Expected interest rates on investments?
- 4 How many years do you expect to keep this bull?
- 5 What is the expected cull value of bull when it comes time to cull them
- 6 How many cows will he be used to breed annually?
- 7 What is the percent increase in value of bulls in general from time of purchase to time of cull?
- 8 **This is the calculated value of the bulls replacement costs based on percent increase in line 7**
- 9 What are the chances he will die (each year)?
- 10 What are the chances of an injury during his lifetime?
- 11 What does it cost to care and maintain this bull annually (not feed)?  
What are the annual miscellaneous
- 12 costs?
- 13 How much value will he added per calf to your herd (relative to your current bull's average)?
- 14 What is the expected calving rate? (calves weaned per pregnant cow)

CC Bull *	Bull 1
4000	5000
900	900
6%	6%
4	4
1500	2200
25	25
10%	10%
4400	5500
2%	2%
5%	5%
300	300
120	120
0	27.5
87%	87%

# Calculated values from lines 1 thru 14

*Intermediate calculations: (middle section)*

Annual Replacement costs with no death or injury

Annual expected death costs

Annual expected/average injury loss

Annual interest on replacement costs

Annual maintenance costs including interest

Annual interest on feed and maintenance

Total Annual costs

Costs Per Cow Bred

CC Bull *	Bull 1
\$ 725.00	\$ 825.00
\$ 88.00	\$ 110.00
\$ 55.00	\$ 68.75
\$ 52.08	\$ 60.23
\$ 1,320.00	\$ 1,320.00
\$ 39.60	\$ 39.60
\$ 2,279.68	\$ 2,423.58
\$ 91.19	\$ 96.94

# Three Important Outputs:



## BVCQL Results

<b>Cost Per Weaned Calve</b>	<b>\$ 104.81</b>	<b>\$ 111.43</b>
<b>Cost Per Weaned Calve (minus) Difference In Calf Value</b>	<b>\$ 104.81</b>	<b>\$ 83.83</b>
<b>Added Calf Value Needed to have bulls an equal buy</b>	<b>\$ -</b>	<b>\$ 6.62</b>

# Example 1: Using an index

- Angus \$M (maternal index in dollars)
  - Bull 1 has a \$M of +\$55
  - Bull 2 has a \$M of +\$75
  - Table 1 the current bull cost was \$4,000.
- \$M is defined as an index that;
  - predicts profitability differences in progeny due to genetics from conception to weaning.
  - is based on a self-replacing herd with 1<sup>st</sup> generation replacement of 25% with 20% in subsequent generations
  - all other progeny are sold as feeder calves.
- \$M emphasizes the cost side of commercial cow-calf production;
  - aims to decrease overall mature cow size
  - maintains or increases weaning weights
  - less emphasis is placed on maternal milk than in the past
  - increased emphasis on heifer pregnancy and docility
  - foot and leg correctness accounted for
  - no post-weaning calf attributes related to fed cattle included in the index



# Examples of \$M Index as listed by the American Angus Association

	Current bull (A)	Bull 1	Bull 2	Bull 3	Bull 4	Bull 4	Bull 5	Bull 6	Bull 7	Bull 8	Bull 9
<b>Bull costs</b>	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000
<b>Value Add</b>	60	65-60 = 5	79-60 =19	66-60 =6	69-60 = 9	103-60 = 43	67-60 = 7	90-60 = 30	72-60 =12	72-60 =12	73-60 =13
<b>\$/weaned calf</b>	<b>104.81</b>	<b>111.43</b>	<b>119.00</b>	<b>126.57</b>	<b>134.15</b>	<b>141.72</b>	<b>149.29</b>	<b>156.86</b>	<b>164.43</b>	<b>172.01</b>	<b>179.58</b>
<b>Difference in value</b>	104.81	106.43	100.00	120.57	125.15	94.72	142.29	126.86	152.43	160.01	166.58
<b>Added Value Needed</b>	\$ -	6.62	14.19	21.76	29.33	36.91	44.48	52.05	59.62	67.19	74.77

The current bull is rated at \$60M, when a new bull is evaluated in \$M terms the current bulls rating is subtracted from that of the new bull, the difference being the \$M added value of the new bull versus the old bull.



# Example using \$ Beef Index from American Angus Association

	Current bull	Bull 1	Bull 2	Bull 3	Bull 4	Bull 5	Bull 6	Bull 7	Bull 8	Bull 9	Bull 10
<b>Bull costs</b>	4000	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500
<b>Value added (New B\$ - Current B\$)</b>	100 *	192-100 = 92	149-100 = 49	131-100 = 31	145-100 = 45	114-100 = 14	164-100 = 64	186-100 = 86	146-100 = 46	192-100 = 92	150-100 = 50
<b>Cost per weaned calf</b>	97.71	97.44	104.33	111.90	119.47	127.04	134.61	142.19	149.76	157.33	164.90
<b>Difference in value</b>	97.71	69.84	55.33	80.90	74.47	113.04	70.61	56.19	103.76	65.33	114.69
<b>Added value to have bulls an equal buy</b>	-	(0.27)	6.62	14.19	21.76	29.33	36.91	44.48	52.05	59.62	67.19

The current bulls average **\$100B**, angus beef Index added value, the new bulls in the table all have higher \$B, the difference between them is in green and is the added value they contribute over what is currently being used. *\*(This is a terminal index and says nothing about maternal or weaned calf value.)*

Use any Index or EPD. Just remember that the value entered in line 13 is your best estimate of the added dollars per calf gained over your current battery of bulls.

- Simmental
  - API (All Purpose Index)
  - STAY (Stayability Index)
  - WW (Weaning Weight)
- Angus
  - \$M (Dollar Maternal Index)
  - \$B (Dollar Beef Index)
  - \$C
  - WW (Weaning Weight)
- Hereford
  - BMI\$ (Baldie Maternal Index)
  - WW (Weaning Weight)
  - CHB\$ (Certified Herford Beef Index)
- Charolais
  - TSI (Terminal Sire Index)
  - WWT (Weaning Weight)
  - YWT (Yearling Weight)

# Bull Value Cow-Q-Lator (BVCQL)

- The Bull Value Cow-Q-Lator is an excel spreadsheet available to download at <https://cap.unl.edu/livestock/tools>