

Introducing the BIO\$ Economic Index

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What is an economic index?

Most beef producers find EPD's on a number of traits for a bull to be confusing. An economic index provides a way of weighting a number of genetic evaluations to arrive with a single number. This gives an indication of genetic merit, based on predicted profit from a production system with, in this case, a defined market for progeny.

What was reported on bulls?

The Prime Plus (PP) and Beef Builder (BB) indexes were introduced to the bull evaluation program in 1998. Beef Builder was targeted to the main-stream beef market and Prime Plus to a market for lighter carcasses demanded by the restaurant trade based on a survey of retailers. The Prime Plus index also targeted a maternal line of cattle. Prime Plus assumed higher prices for smaller carcasses and premiums for higher marbling. Beef Builder, by comparison, had much smaller price discounts for heavy carcasses, no marbling premiums, and the within-herd female replacement rate was only enough to replace the herd and not sell replacements. The replacement rate in Beef Builder was about half that assumed for Prime Plus.

Why was the index changed?

At the time the indexes were introduced, the percentage of Ontario finished cattle graded as AAA marbling was 24% and packers were signalling a need for more cattle meeting AAA. At the same time, average carcass weight was 768 pounds and retailers were signalling a desire for lighter carcasses. The indexes were created with the intent of "leading the industry" by placing economic emphasis on traits in such a way that animals would begin to reach the preferred end point. The Prime Plus index in particular rewarded sires that would produce progeny with lighter carcasses and more marbling. Things certainly have changed since 1998! The percentage of Ontario cattle in 2008 that graded AAA was 55% and the average carcass weight was 813 pounds. Most cattle processed in Ontario today attract no price differential for AA or AAA marbling and are subject to no overweight carcass discount if under 950 pounds. Clearly, the indexes were not reflective of the markets into which producers are selling progeny of evaluated bulls.

How was the BIO\$ Index developed?

In May of 2009, a committee consisting of a BIO Director, bull consignors, station managers and BIO staff was given the task of reviewing the indexes to ensure that they accurately reflected the current marketplace. Based on past client input as well as direct input from consignors (via survey) and station managers, the indexes were thoroughly evaluated. Based on this analysis, significant improvements were made resulting in a single economic index called BIO\$.

What is the BIO\$ Index?

The BIO\$ index considers several traits in determining better bulls when mated to average cows and is aimed at efficient lean meat production for a market focused on AA carcasses between 775 and 900 pounds. It uses each bull's genetic evaluations and the most current market information. This ensures a direct relationship between the index value and the economic return that a producer will see when using a particular bull. Marbling and carcass weight price differentials are as follows:

Marbling	A	AA	AAA	Prime
Price (\$/lb)	1.50	1.60	1.65	1.65

Carcass Weight (lbs)	550 – 675	675 – 775	775 – 900	900 – 1000	>1000
Price (\$/lb)	1.55	1.58	1.60	1.50	1.35

How do bulls and breeds compare using the new BIO\$ index versus the old indexes?

There is very little re-ranking of bulls using the BIO\$ index, with values being generally between the old PP and BB values. Breed averages can be seen in the table below and reflect the lessened emphasis on marbling and carcass size.

	Beef Builder	Prime Plus	BIO\$
Angus	3005	4333	3334
Charolais	2888	2568	3046
Hereford	1464	888	1258
Limousin	2543	1623	2412
Simmental	2910	2630	3068

Where can I see the BIO\$ index values for bulls?

BIO\$ will be generated and reported for all bulls completing evaluation (where the consignor has provided the appropriate information). You can see these results on the reports and resources section of our website at www.biobeef.com. The index value will also be provided as an important piece of information on our new Bull Genetic Scorecard.

How should I use the BIO\$ index?

Use the BIO\$ index to identify top prospects as sires. It is easiest to use the across breed percentile ranking; think of the number as a mark on a scorecard... the closer to 100 the better. A bull with a BIO\$ ranking of 95 is in the top 5% of bulls tested in the past five years. The index takes a number of traits into consideration but they may not be specifically what you need for your herd. The example below shows two equally high indexing sires that are quite different with respect to ABC's for individual traits.

	CE	BW	WG	Milk	PWG	YG	FAT	REA	IMF	SC	BIO\$ Rank
Bull A ABCs	4	-3.9	56	31	91	147	.97	.15	.46	.37	99
Bull B ABCs	-2	2.8	75	16	88	163	.69	.79	-.07	1.9	99

Both are excellent bulls. If you will be keeping daughters or have small framed cows, you would prefer bull A. If you have larger framed cows and are focused on lean meat production, you would choose bull B. You need to be clear on your own breeding goals and ensure that the final sire selection meets those goals. The BIO\$ index helps you do a first sort, and then look specifically at the traits of interest to your situation.

How will the index be kept current?

The BIO\$ index will be reviewed on an annual basis and adjusted as necessary to ensure that it stays current with market conditions.

If I have a different market and the BIO\$ index is not reflective of that market, can BIO help me?

BIO can provide customized indexes for value chains and marketing groups that have different market specifications and payment grids. We are able to provide customized indexes in such cases. Call us to discuss possibilities.

Will carcass information be added to the BIO\$ index?

Our clients have given us a clear message that they want carcass data on progeny and they want it included in genetic evaluations of bulls. We are working closely with the Canadian Cattlemen's Association to access carcass information and will add it to the BIO\$ index as it becomes available.

We welcome your comments and input to ensure that the BIO\$ index meets the needs of progressive beef breeders. Feel free to email your questions and comments to info@biobeef.com.