



# Making Genetic Selections to Hit CAB Mark



Selecting for any one trait while ignoring others does not lead to a commercially successful livestock production program. The key is balance in selecting for all traits that affect profit, both short- and long-term.

However, balance need not mean “equal.” Strong selection pressure can be put on a few traits that greatly improve *Certified Angus Beef*® (CAB®) brand acceptance rates without compromising other areas.

## EPD recommendations

Here are general recommendations for selecting a herd bull or artificial insemination (AI) sire in the three areas of marbling, ribeye area and fat thickness. For more accurate selection in all traits, let carcass data from your calves establish a baseline. Such data can identify areas of strength and weakness, pointing out needs for genetic selection.

A note on the accuracy (ACC) of expected progeny differences (EPDs) or the reliability that can be placed on the EPD: When this number is close to 1.0, you can be more confident of the results in the next generation. The number of progeny and ancestral records in the database largely determine accuracy. Consider utilizing bulls with high-accuracy carcass EPDs when selecting an AI sire.



### Genetic Recommendations

#### Cow herd genetics: Angus or English base

	EPD	Percentile	EPD Value*
Marbling	Marb	Top 40%	+0.50 or higher
Ribeye	RE	Top 50%	+0.39 or higher
Backfat	Fat	Mid 80%	+0.049 to -0.025
Carcass Index	\$ Grid (\$G)	Top 50%	+28.19 or higher

\*Based on percentiles from the Spring 2015 Angus Sire Summary — Current Sires

#### Cow herd genetics: Continental/highly crossbred, medium frame

	EPD	Percentile	EPD Value
Marbling	Marb	Top 25%	+0.62 or higher
Ribeye	RE	Top 50%	+0.39 or higher
Backfat	Fat	Mid 80%	+0.049 to -0.025
Carcass Index	\$ Grid (\$G)	Top 35%	+32.63 or higher

\*Based on percentiles from the Spring 2015 Angus Sire Summary — Current Sires

#### Cow herd genetics: Continental/highly crossbred, large frame

	EPD	Percentile	EPD Value
Marbling	Marb	Top 25%	+0.62 or higher
Ribeye	RE	Mid 80%	+0.77 to +0.01
Backfat	Fat		No recommendation
Carcass Index	\$ Grid (\$G)	Top 35%	+32.63 or higher

\*Based on percentiles from the Spring 2015 Angus Sire Summary — Current Sires.

## Understanding EPDs for a commercial operation

Expected progeny differences (EPDs) aren't just for seedstock cattle producers. They comprise a useful tool that you should use every time you buy breeding stock for your commercial cow herd, and maybe even when you buy steers to feed.

In concept, EPDs are the expected differences in performance and carcass quality of an animal's sons or daughters, compared to a “zero base” that relates to foundation stock or a standard data year.

Commercial cows generally do not have known EPDs, but that shouldn't prevent producers from using EPDs effectively. After all, sire selection affects half the genetics of your calves, and you can shop for bred replacement females based partly on their sire EPDs. Evaluate what your records tell you is needed to complement the maternal base.

Here are a couple of examples to help illustrate how reading EPDs can impact your herd:

- Consider Bull A with a +40 EPD for weaning weight and Bull B at +20. On average, you can expect calves from Bull A to wean 20 lb. heavier than those from Bull B.
- Consider Bull C with a marbling EPD of -0.20 units, and Bull D at +0.20 units. On the average, calves would differ by a marbling score of

0.40. Is that important? Yes, because many of your calves can end up near the Choice-Select line of 5.0, or the premium Choice line of 6.0.

EPD traits are correlated to high, medium or low degrees, positively or negatively, and with accuracy from a high of 0.99 (time-proven) to less than 0.40 (best guess). When one trait is negatively correlated to another it means that, on the average, the value of that second trait will decrease as the value of the first increases. This is often called antagonism, and has been used as a reason to ignore or choose between certain traits in selection, but that can be a mistake.

Today, EPDs are backed by more data than ever before. Many registered-Angus breeders are using DNA to produce genomically enhanced EPDs, which are especially helpful in cultivating more information on younger animals. The American Angus Association is leading the industry, showing how DNA can be incorporated into a whole suite of selection information.

Always remember the EPD toolbox is all about averages: There are often individual sires that defy antagonisms and allow selection for several traits simultaneously. That allows for real progress and greater consistency in the beef supply.