

Selection For \$B Makes Cents

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Selection of breeding stock based on a single trait is risky, because progress may come at the expense of other production factors or beef quality. However, successful producers improve several traits simultaneously while maintaining balance among the others. American Angus Association dollar-value (\$Value) indexes offer an easy-to-use tool for multiple-trait selection. An evaluation of Angus sires since 1996 proves selecting for efficient, high-marbling calves does not set back other important traits. Producers can use the breed's top 10% of Beef Value (\$B) sires to produce calves with higher USDA Quality Grade premiums, lower Yield Grade discounts and better feedlot performance without sacrificing cow function.

THE FACTS

- Progeny from high \$B sires more than tripled the percent Prime, percent Select grade carcasses were cut in half and percent Standard carcasses decreased by more than half when compared to low \$B progeny.
- Percent Upper 2/3 Choice increased more than 34% when comparing high to low \$B sire progeny.
- Yield Grade 1s increased more than 20%, while 4s and 5s decreased by 5% comparing high to low \$B progeny.
- High \$B progeny had a 42 pound carcass weight advantage over low \$B progeny.
- Selection indexes for feedlot and grid value improved as \$B increased.
- Cow efficiency can be maintained with a focus on terminal traits among Angus

sires. \$W, influenced by birth weight, maternal milk, mature cow size and weaning direct growth, was virtually the same in both high and low \$B sires at \$20.45 and \$20.58, respectively.

- High \$B progeny returned \$3.08/cwt more in premiums and had a net carcass value advantage of \$82.65 when using typical industry grid values.

ACTION STEPS

- Use the \$Value index as a tool to simplify multiple-trait evaluation.
- Target sires among the top 10% of the Angus breed in \$B values that are equal or better than the breed average in other Expected Progeny Differences (EPDs) important to production goals.
- Value visual appraisal. Examine sires for structural soundness and disposition.

MATERIALS & METHODS

- Data represents a more recent subset of 1,480 high-accuracy sires from the American Angus Association National Cattle Evaluation carcass database with 8,716 steer progeny harvested from 1996-2005.
- Top 10% and bottom 10% sire groups based on \$B each represent 148 sires.

- \$B is the expected average dollar per head difference in progeny postweaning performance and carcass value compared to progeny of other Angus sires, unlike \$G, which only evaluates carcass grid merit.
- A \$Value is based on an index that combines multiple traits into a number based on the expected difference of future progeny performance and typical market conditions. \$Values are expressed in dollars per head.
- \$Values are based on economic assumptions using a three-year industry rolling average for price.
- Sires in the top 10% \$B had a value more than \$40.65, and sires in the bottom 10% \$B had a value of less than \$6.50.
- Progeny grid analysis based on 2005 average grid prices/cwt.: Carcass base (Choice, YG 3) = \$139.14, Choice-Select spread = \$10.52, CAB® premium = \$5, Prime premium = \$20, Standard discount = \$20, YG 1-2 premium = \$2 and YG 4-5 discount = \$15.

Percent Change in \$B Sires			
	Top 10%	Bottom 10%	% Change
# of steer progeny	5498	3218	
Prime, %	8.9	2.7	227.2
Upper 2/3 Choice, %	46.5	34.5	34.6
Low Choice, %	35.5	44.0	-19.3
Select, %	8.6	17.7	-51.1
Standard, %	0.4	1.1	-58.7
Yield Grade 1, %	2.4	2.0	20.8
Yield Grade 2, %	33.9	31.9	6.2
Yield Grade 3, %	52.3	54.1	-3.3
Yield Grade 4 & 5, %	11.4	12.0	-5.0

Measurement Difference in \$B Sires			
	Top 10%	Bottom 10%	Difference
Fat at 12th Rib (in.2)	0.54	0.56	-0.02
Carcass Wt. (lb.)	800	758	42
Marbling Score	6.31	5.81	0.50
Ribeye Area (in.2)	12.8	12.3	0.5
Average Yield Grade	3.24	3.29	-0.05

ACKNOWLEDGEMENTS

Pricing data is from USDA, Cattle-Fax, Umer Barry Publications, and Certified Angus Beef LLC. \$Values are a selection index tool developed by the American Angus Association. More information is available at www.angus.org/sireeval/valueindex.html.

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