



Adding Profitability

The amount of information and data available on prospective A.I. bulls and herd sires is powerful – and growing. The Spring 2008 ABS Beef Sire Directory provides producers with twenty-three EPDs and indexes on each Angus bull. New this year, a list of ABS bulls ranking in the top 25% on the research run of the new American Angus Association Heifer Pregnancy EPDs. Also listed in the directory is the ABS exclusive genetic evaluation for traits like feed efficiency and tenderness. But, what is the best way for producers to balance the economic value of different traits to fit their management, environment and marketing plans?

Since many traits are genetically antagonistic, it is difficult to balance all the important traits to find a bull that will make a producer's cow herd more profitable. According to USDA-ARS geneticist Michael MacNeil at Fort Keogh Livestock and Range Research Laboratory in Miles City, Montana, "There is no single trait that ensures a bull's offspring will be highly profitable." Instead, his work shows that wide differences exist in the profit potential of cattle, and bulls having a balance of desirable traits may be much more profitable than bulls that excel in one or two traits. So, how do producers find the right balance?

Indexes – a Breeder's Tool.

By using the right tool, the job is easier and the results more satisfying. The Angus Sire Alliance Profitability Index, available through an exclusive relationship between ABS and Circle A Angus Ranch, can be the right tool for selecting Angus sires. The Sire Alliance Profitability Index is a forerunner of indexes like the American Angus Association's Beef Value Index (\$B).

The Angus Sire Alliance and Circle A Angus Ranch were industry pioneers in the development and use of indexes as a selection tool. In the early 1990's, Dave Gust purchased a Missouri ranch and began Circle A Angus Ranch to profitably produce good, quality beef. According to Mark Akin, Circle A general manager, "From the beginning, Dave had a strong desire to have a large Angus commercial herd, and it had to be as profitable as possible."

Retained ownership was a key part of the Circle A business

plan, and early experiences with carcass results showed them the need for comprehensive tools that would provide multi-trait genetic selection based on actual profitability. Dissatisfied with the array of carcass-proven bulls available through the A.I. industry, Akin set out to find like-minded breeders who were serious about identifying the most profitable genetics in the Angus breed.

In 1994, with assistance from geneticist William Herring and other leading university researchers, Circle A developed the Angus Sire Alliance to measure both the costs and returns of a sire's progeny under commercial management. Herring continues to oversee the Profitability Index. In 1998, Circle A, working with ABS, realized the importance of feed efficiency as a component in the profitability index, and constructed a research facility equipped with Calan gates to collect individual feed intake data. A new GrowSafe system added in 2007 is now being used to measure individual feed intake on 200 head simultaneously. Tenderness shear-force testing and the development of tenderness EPDs were added in 2005, creating perhaps the most accurate profitability index in the industry. The Profitability Index can be a powerful addition as a selection tool. George Gates, a commercial producer from Bethany, Missouri, uses the Profitability Index in conjunction with the American Angus Association \$G index and calving ease EPD to select ABS sires for his fixed-time A.I. program, and Circle A bulls for cleanup. The indexes helped George select Analyst (29AN1608) as an A.I. sire for his program this year. Gates says, "I can't make any progress unless my seedstock supplier makes progress. I buy these genetics because the Angus Sire Alliance is trying to do what I am trying to do."

ABS and the Angus Sire Alliance

In the early years, the Angus Sire Alliance was membership-based involving over 50 innovative Angus breeders who invested in the Alliance and nominated bulls to be progeny tested. For five years, beginning with bulls nominated in 1996, ABS was the exclusive marketing agent for the winning profitability bulls. Current ABS sires New Design 9150 (29AN1593), and



Through Genetics by Bill Zimmerman



New Level (29AN1616) are examples of bulls added to the ABS lineup during those early years of the alliance as a result of their top profitability progeny.

Since 2003, ABS and Circle A Ranch have expanded their relationship by using the Angus Sire Alliance exclusively to progeny test young ABS Angus sires. The fourth group of bulls being tested under the new relationship is graduating in 2008. The new feedyard and expanded testing capacity at Circle A allows a four-fold increase in the number of progeny tested for individual feed intake, unmatched by any other A.I. organization.

Progeny testing – the evaluation of a bull’s genotype by studying his offspring – has been an ABS hallmark since their Holstein progeny testing program was launched in the early 1960s. Dr. Bob Walton, longtime ABS leader, wrote in 1972 that the search for “genetic gold” is a continuous process, as he described the early progeny testing programs in beef and dairy at ABS. He observed that unlike the dilemma facing dairy breeders trying select bulls for milk production, effective selection for some economically important traits with moderately high heritability, like growth, can be made directly in growing bulls.

Carcass traits are more elusive. While ultrasound measures of yearling bulls provide useful estimates of carcass value, and emerging DNA marker technology may have promise in the future, progeny test data is a step beyond DNA markers and measurements of a bull’s own feed efficiency. As with other traits, multiple observations of a bull’s progeny can add significantly more accuracy to a bull’s EPD than a single observation of his own performance for that trait. Due to the limited number of genes currently identified, early research indicates that modest progeny test data will also quickly exceed the value of DNA data alone as a genetic predictor.

According to Doug Frank, ABS Beef Product Manager, progeny testing is still the key to genetic improvement. “Progeny testing remains the gold standard. Our goal is to find the profitable outlier bulls for our customers through progeny testing,” Frank says. “An unbiased evaluation of how a bull’s progeny perform in real world commercial environments still provides the most comprehensive prediction of how a bull’s future progeny will perform.”

What About Feed Efficiency?

Bill Rishel, of North Platte, Nebraska, was an early participant in the alliance, and breeder of New Design 9150, winner of the Angus Sire Alliance in 2000. Rishel recalls that he became involved because, “I respected the useful work they were doing, particularly in the case of feed efficiency and total carcass merit. To us it was the total look, and was a better predictor of total profitability than anything else being done at the time.”

Now, eight years later and spurred by skyrocketing feed costs

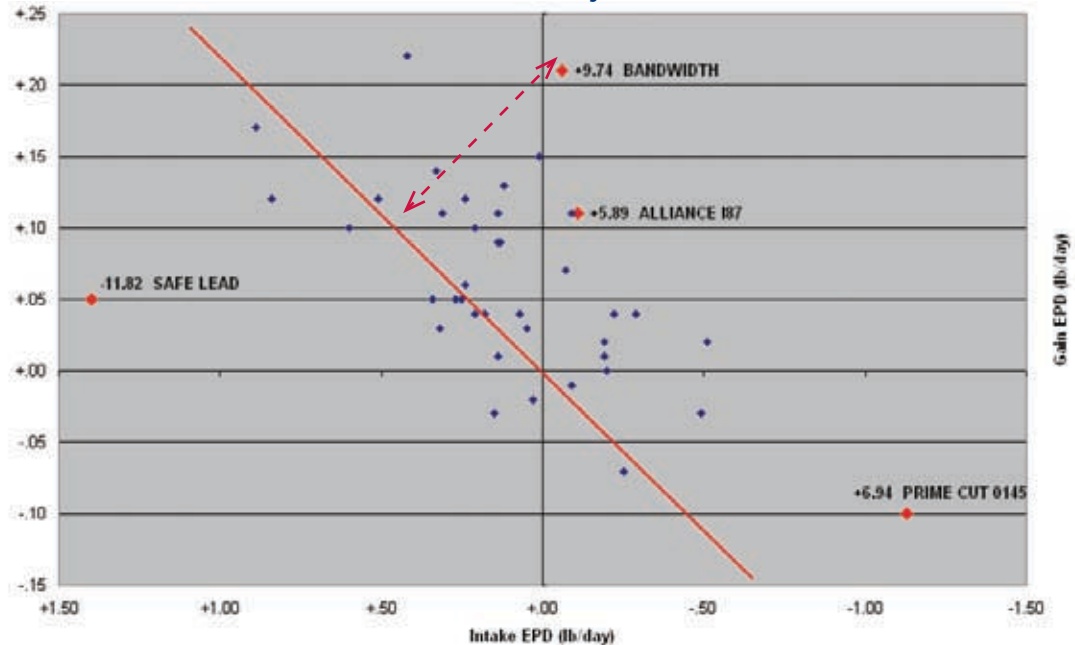
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Top 15 Active ABS Sires for Feed Efficiency

Name	Feed Efficiency Index	Feed Efficiency Rank	ADG EPD (lb/day)	Intake EPD (lb/day)
29AN1569 BANDWIDTH	\$9.75	Top 1%	+21	-06
29AN1618 PRIME CUT 0145	\$6.94	Top 1%	-10	-1.13
29AN1610 MAJOR DESIGN	\$6.43	Top 1%	+15	+01
29AN1524 TRAVELER 234D	\$5.97	Top 2%	+02	-51
29AN1623 ALLIANCE I87	\$5.89	Top 2%	+11	-11
29AN1646 POUNDMAKER	\$5.69	Top 2%	+11	-09
29AN1530 POWER DESIGN	\$5.38	Top 3%	+22	+42
29AN1634 INNOVATOR	\$4.51	Top 5%	+03	-32
29AN1616 NEW LEVEL	\$4.46	Top 10%	+13	+12
29AN1620 4 POINT 8	\$3.94	Top 15%	+04	-22
29AN1606 EXCEED	\$3.75	Top 15%	+07	-07
29AN1608 ANALYST	\$2.83	Top 20%	+12	+24
29AN1619 MORGANS DIRECTION	\$2.80	Top 20%	+14	+33
29AN1589 FORESIGHT	\$2.77	Top 20%	+02	-19
29AN1633 SHEAR FORCE	\$2.62	Top 20%	+09	+13

ABS sires currently range from a high of +\$9.74 to a low of -\$11.82

Feed Efficiency Data



The graph above shows the intake and gain data for the ABS bulls that have been evaluated through the Angus Sire Alliance for feed efficiency. This chart includes only the data on ABS bulls and represents just a portion of the entire database. Each dot characterizes one bull’s combined genetic value for gain and intake. The Red line represents an index value of +\$0.00 with bulls above and to the right of the line having positive feed efficiency indexes with a more profitable combination of enhanced gain and lower intake genetics. Increased distance from the line indicates larger profit differentials.

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the industry are looking for answers. In a recent paper presented at the 2008 Florida Ruminant Nutrition Symposium, Gordon Carstens, Texas A&M researcher, and his coworkers, made the observation that “there is little evidence that the genetic merit for feed efficiency in beef cattle has improved in the past 50 years.” Similarly, William Herring, speaking to the Beef Improvement Federation in 2002, said, “Compared to growth and more recently, carcass traits, the underlying genetic variation that controls feed and forage utilization has remained unexploited in beef cattle selection programs.”

Consider what even a small improvement in feed efficiency is worth. In 2007, 27.9 million fed steers and heifers were harvested in the U.S. With a dry-matter feed conversion of 6.5:1, \$165/ton of feedlot ration, and 500 lbs average feedlot gain, reducing feed use by 1% would save the feeding industry over \$75 million per year. That does not include potential related savings in feed use in the nation’s cow herd.

Whatever the cost, the beef industry has to address feed efficiency, according to Dave Nichols, Bridgewater, Iowa, breeder of Extra K205 (29AN1644) and Extra H6 (29AN1577). “The industry is at a point with feed efficiency similar to when it was searching for good “spread” bulls that would sire low birth weight calves without sacrificing growth. I can’t believe for a minute we won’t find those outlier bulls, and we have got to get it done,” Nichols said during a feed efficiency symposium in 2006.

ABS – Ahead of the Rest

While the rest of the industry is concerned and beginning to get serious about genetic improvement for feed efficiency, ABS through the Angus Sire Alliance is already working with 10 years worth of data representing 300 plus Angus sires. EPDs for both Intake and Average Daily Gain are calculated for each bull and included as a key component of the overall Profitability Index.

To allow breeders to focus on the specific components of efficiency, ABS is presenting both the Intake and ADG EPDs on individual sires along with that portion of the overall index that can be attributed to those traits specifically as feed efficiency profitability. The range in sire efficiency has been over \$20 per progeny based on historic feed costs and is likely well over \$30 per progeny based on the new era of feed costs. This actual rather than estimated progeny efficiency measurement is one area that continues to set the Sire Alliance

Profitability Index apart from newer indexes like \$F and \$B.

The beef industry press is filled with discussions and advertising claims about efficient genetics. But, ABS is clearly the A.I. industry leader in feed efficiency. While the industry rushes to identify feed efficient bulls, Doug Frank observes that with 10 years of Sire Alliance data for feed efficiency ABS already has bulls that will add profitability to your program this spring through lower feed inputs and increased gain. ■

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Inside ABS

STERLING SOLUTIONS AND ABS GLOBAL EXPAND AGE AND SOURCE VERIFICATION SERVICES

Cattle producers in the Northwest now have more options for Age and Source Verification (ASV) of their calves following the signing of an agreement between Sterling Solutions and ABS Global, Inc. Sterling Solutions is the primary provider of Age and Source Verification programs in Northwest feedyards. ABS Global is the market leader in beef cattle genetics and breeding services, and is also approved through USDA to offer Age and Source Verification. Under the agreement, calves

that are verified at the ranch level by ABS Global can enter any feedyard that utilizes the Sterling Solutions programs and the Age and Source Verification status will remain intact, thus giving feedyards and their retained ownership customers additional marketing opportunities. ■

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