Beef ADD ON™

PROVEN Beef Genetics for the Dairy Industry

The dairy industry has made significant genetic improvement in the past 10 years due in large part to the introduction of genomic testing. Genotyping technology is also available in other sectors of the agriculture industry, but it has been especially successful for dairy breeders due to the massive amount of reliable records that the dairy industry produces based on the performance of their animals. Genomic data must be collected on individual animals in conjunction with phenotypic or performance data in order to predict performance of an individual or their progeny. When the dairy industry introduced beef semen into their breeding strategies to produce terminal crosses that yield higher sale prices, they had to rely on the data supplied by the beef industry to determine the best bulls to utilize. While beef data is beneficial for identifying elite genetics for purebred beef animals, it has lower accuracy in predicting the beef genetics that will produce the most elite Beef on Dairy crossbred calf. To improve the accuracy of predictions and establish an internal breeding program to identify elite beef genetics for dairy programs, STgenetics® created an extensive progeny testing program. To date, STgenetics® has collected individual-animal data from weaning to processing on over 5,800 Beef on Dairy progenies. Through the collection of accurate phenotypes linked with each animal's DNA profile, this progeny testing program enables STgenetics® to provide reliable genomic estimates for key economic traits such as growth, Feed Conversion Efficiency, and carcass value. **Identifying and creating elite genetics for dairy cross breeding provides the dairy industry with an immense opportunity to not just make a byproduct, but instead to create a truly differentiated high value product for the beef supply chain.**

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Historically, dairy farmers have contributed to the beef supply chain through dairy bull calves and cull cows. Today, dairy farmers have the opportunity to utilize premium beef genetics on their dairy herd to create a more desirable and sustainable product for the beef supply chain that increases their revenue and promotes animal welfare and sustainability.

Many factors have contributed to the increased use of beef semen in dairy herds the past few years. First and foremost, gender-sorted semen and genomic testing advances have allowed the dairy industry to create the right number of dairy heifer replacements from their elite animals, providing the opportunity to utilize the remaining portion of their herd for creation of non-replacement animals. Simultaneously, the value of the dairy bull calf has declined as their large mature size, poor growth and feed conversions and poor yields have resulted in substantial pushback from the beef supply chain. Specifically, some major processing plants will no longer accept dairy cattle. Additionally, dairy cattle's' poor feeding performance has further driven values down to a point that in some systems dairy bulls are slaughtered at an unmature age causing animal welfare issues in the industry. According to the National Association of Animal Breeders (NAAB), Beef on Dairy units of semen sold in the U.S. increased by 1.5 million in 2021. Dairy farmers are in a unique position to create quality beef genetics because of the combination of genomic data that is collected and the record keeping systems they have in place. STgenetics® has leveraged these advantages of the dairy industry to provide evidence based, proven Beef Add On™ genetics that can be utilized to create a higher value in the beef supply chain.

What Traits are STgenetics® Evaluating for PROVEN Beef Add On™ Sires?

Average Daily Gain (ADG) – Average daily gain measured across the entire feeding period expressed in lbs per day. This trait is relevant for growth of calves from 400 lbs to finish.

Ultrasound Fat at 12th Rib (uFAT) – Ultrasound fat thickness expressed in inches. This trait is measured around 11 months of age.

Ultrasound Ribeye Area (uREA) – Ultrasound ribeye area expressed in inches squared. This trait is measured around 11 months of age.

Ultrasound Intramuscular Fat (uIMF) – Ultrasound marbling expressed as a percentage. This trait is measured around 11 months of age.

Hot Carcass Weight (HCW) – Hot carcass weight of the animal expressed in lbs.

Carcass Ribeye Area (REA) – Carcass ribeye area expressed in inches squared.

Carcass Fat Thickness (FAT) – Carcass fat thickness at the 12th rib expressed in inches.

Carcass Marbling (MARB) – Carcass marbling expressed in degrees of marbling.

Weight at 150 days (150dweight) – Weight of the calf at 150 days of age expressed in lbs. This trait is relevant for those retaining ownership of calves to about 400 lbs.

EcoFeed® – Breeding value for Feed Conversion Efficiency during the feeding period expressed in EcoFeed® index ranking with each incremental unit being equivalent to 0.1 lbs of feed less per day an animal is expected to consume.

How Much Value can Be Gained by Identifying Specific Genetics for Beef on Dairy Programs?

Today, the Beef on Dairy industry has a good understanding that not all black calves are created equal. Accordingly, very few Beef on Dairy matings are resulting from bottom-end beef genetics being bred to dairy females. STgenetics® progeny testing program incorporates this same trend as the majority of sires being progeny-tested are in the top tier of their breed. The consensus in the industry may simply be that using any of the high-value traditional beef sires will result in high performing and profitable Beef on Dairy calves, but STgenetics® has found that even within the "best of the best", huge lifetime profitability differences can be observed. In **Figure 1,** we see three sires with similar $B values, a trait that is widely utilized in the traditional beef world to indicate Expected Profitability Differences (EPD), whose Beef on Dairy progeny significantly differed in lifetime net profit. These three sires are all elite beef bulls whose progenies thrive in the traditional beef world. However, by collecting Beef on Dairy progeny data, STgenetics® can differentiate and add value to Beef on Dairy programs by identifying within the "best of the best" beef genetics, which genetics bring the most profitability to the Beef on Dairy industry. With a continually growing progeny database, STgenetics® doesn't stop at identification of elite sires, but instead utilizes its advanced reproductive technologies in combination with results of its progeny testing program to create the next generation of profitable and sustainable beef bulls for use on dairy females.

It is no longer a guessing game when you have accurate and proven genetics.

Englewood
$B index **183**
$AxH **178**
Standardized Net Profit* **-$17.00**

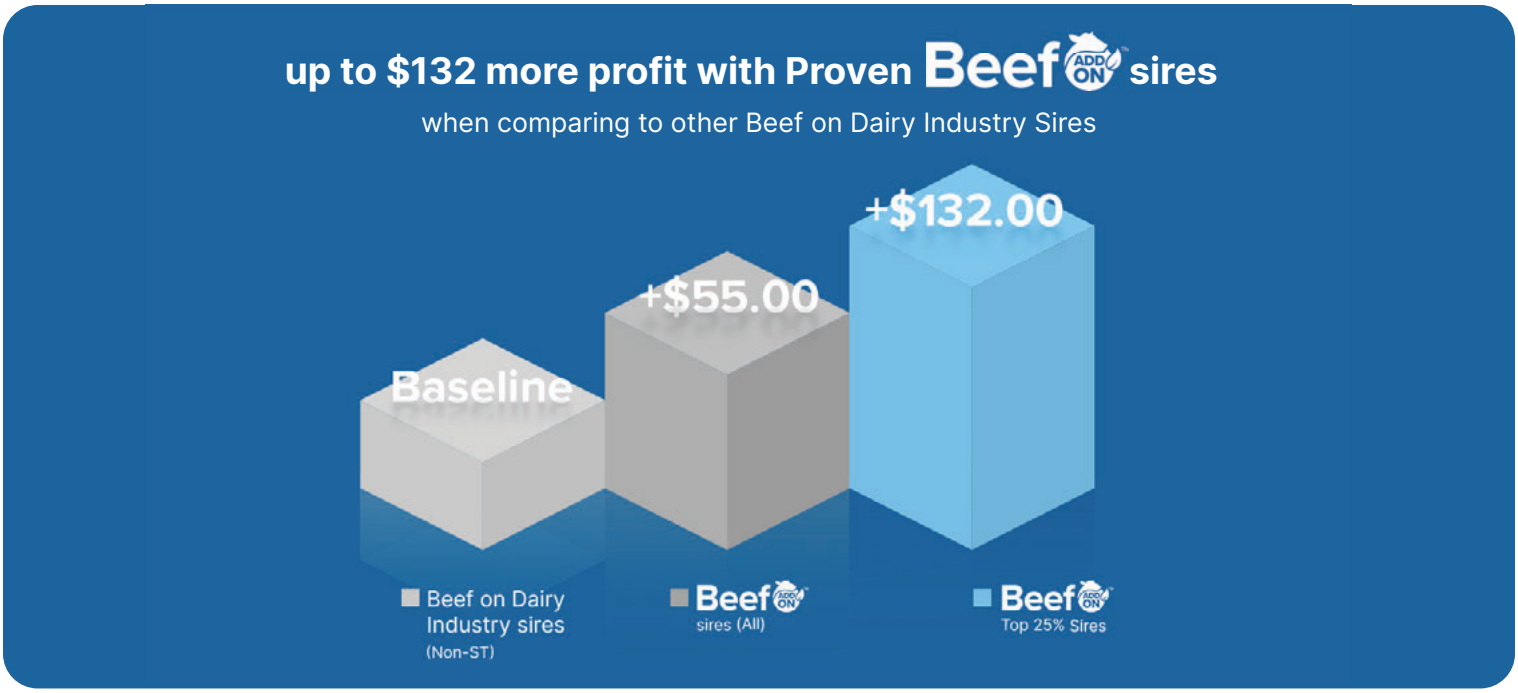
GAR Sunbeam
$B index **191**
$AxH **194**
Standardized Net Profit* **$19.00**

TK Driller
$B index **190**
$AxH **181**
Standardized Net Profit* **$66.00**

Figure 1 *TK Driller produced calves that profited $83 more than calves from Englewood and $47 more than calves from GAR Sunbeam despite having similar $B profit expectations.*

**Standardized Net Profit was calculated from 150 days of age to finish, taking into account the carcass, growth, and feed intake records of all individual progeny data points.*

How do STgenetics® Proven Sires Compare to the Average Beef Sire?



In addition to collecting high quality, individual animal data on STgenetics®-sired Beef on Dairy progeny, STgenetics® has collected data on subsets of non-STgenetics®-sired, commercial Beef on Dairy calves over the past three years. Collection of non-STgenetics®-sired progeny data enables STgenetics® to establish a baseline of how the average commercial Beef on Dairy calf and subsequently its sire through genetic evaluation, is performing in the industry. This is useful in helping STgenetics® compare their internal genetics with the outside industry as well as search for new outlier genetics that can be incorporated into their mating program. Today, STgenetics® has data on more than 40 non-STgenetics® sires through their progeny testing program. Overall, results have found that STgenetics®-sired progeny, on average, profit $55.00 more than non-STgenetics®-sired progeny from 150 days to finish. If we compare the average non-STgenetics®-sired results to the net profit from STgenetics® sires that ranked in the top 25% for Beef on Dairy profitability there is a $132.00 profit advantage of top ranking STgenetics®-sired progeny. Given that STgenetics® is creating the next generation of Beef Add On™ sires from these top-ranking sires discovered through their progeny testing program, the future looks bright for producers who utilize the STgenetics® Beef on Dairy lineup.

The first ever Progeny-Tested EPDs for
BEEF ON DAIRY GENETICS Beef ADD ON™

ACCURACY. RELIABILITY. From **semen** to finishing **beef**