

Igenity[®] Brangus[®]

Now available exclusively through the International Brangus Breeders Association:

Welcome to Igenity Brangus
and the Power of Confident Selection



Confidently select heifers before you invest in their development
Make **faster gains** in herd improvement
Showcase your herd **quality with a competitive edge**

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Confident Selection

A Guide to DNA Sampling

How to test with Igenity Brangus

Step 1 – DNA Sampling

A small sample can open a whole world of possibility – through trait predictions that help you manage your selection, management and marketing practices. Using DNA testing today is surprisingly simple.

Collect DNA when you are handling, branding, processing or vaccinating cattle. Utilize fast, clean, easy DNA sampling, such as Allflex Tissue Sampling Units (TSUs). Typically, the industry has used hair cards or blood cards for DNA test sampling.



Step 2 – Ordering Igenity Brangus

After you have collected DNA from animals to be profiled, send your DNA samples and order form to IBBA. For your convenience, a printed order form is included in this brochure or you may order online at gobrangus.com/igenity-brangus-profiler/.

Important note on parentage – To obtain parentage verification, DNA from your sire is required for comparison with the calves you are profiling with Igenity Brangus. This bull DNA can come from two sources:

- **For IBBA-registered bulls**, their DNA may already be on file. Enter Brangus registration numbers on your order or call our office for clarification.
- **For sires not registered with IBBA**, take DNA samples on the bulls and profile them with Igenity Brangus. This one-time order will put their DNA into the system. You can use the results for multi-sire parentage verification and insight for breeding decisions. (BSE exams are a good time to collect bull DNA.)



Step 3 – Shipping samples

Make a copy of your order form for your records. Send your DNA samples, order form, and payment to *Igenity Brangus Profiling, c/o International Brangus Breeders Association, 8870 US Highway 87 E, San Antonio, TX 78263.*



IBBA will enter the order and forward the DNA to the IBBA genomics partner lab, Neogen GeneSeek Operations in Lincoln, Nebraska. After arrival at GeneSeek, samples will take approximately 28 days for processing. Results will be returned to IBBA and then forwarded to the owner.

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A Guide to Reading Your Igenity Brangus Profiler Results

The International Brangus Breeders Association (IBBA) and Neogen have collaborated to offer the Igenity Brangus Profiler, a DNA evaluation tool for commercial Brangus cattle. Using the profiler, breeders are able to predict maternal, growth and carcass traits and use Brangus-specific indices for confident selection decisions. This document is a guide for using Igenity Brangus reports to sort your cattle.

Igenity helps you understand and manage the potential for animals to perform and transmit traits of economic importance.

How to interpret your Igenity results: Igenity profiles help you evaluate replacement heifers genetic potential for traits important to your production goals.

Igenity Brangus reports on five maternal traits and four performance and carcass traits. Additionally, with this information, tenderness is reported in an effort to assist producers in making confident decisions in replacement heifers. Using Igenity profiles can help you know more about the genetic potential of young breeding stock before you invest in their development.

Below are some examples using Igenity scores and the corresponding effects from the Igenity genetic effects table to calculate MBVs or expected effects.

Calving Ease Maternal	Igenity Score	Effect	Description
Animal A	8	1.7%	Animal A will produce daughters with a 3.1% higher probability of calving unassisted as first-calf heifers compared to progeny of Animal B.
Animal B	3	-1.4%	
		3.1%	

IMF	Igenity Score	Effect	Description
Animal A	8	0.27%	Animal A will produce progeny with the genetic potential for a higher marbling score and thus a greater chance of grading choice compared to progeny of Animal B.
Animal B	3	-0.21%	
		0.48%	



Sold only by the International Brangus Breeders Association

Submit orders for Igenity Brangus via the IBBA office. We can fill your DNA sampling kit needs, too.

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A Guide to Reading Your Igenity Brangus Profiler Results - SELECTION TRAITS -

SELECTION TRAITS

Selection indices for multiple characteristics are calculated using the International Brangus Breeders Association data in combination with the Igenity profile for Brangus. The information provides a more thorough characterization of economically relevant traits with improved accuracy on young animals.

Calving Ease Direct (CED) characterizes an animal's genetic potential for unassisted births in first-calf heifers, with a higher value being more favorable to influence calving ease.

Maternal Calving Ease (CEM) characterizes an animal's genetic potential for unassisted births in first-calf daughters. A higher value would indicate more favorable genetics for the ease with which daughters calve as first-calf heifers.

Fat Thickness (FAT) is a predictor of the differences in external fat thickness as measured between the 12th and 13th carcass ribs. Lower scores indicate less external fat.

Marbling (IMF) is an expression of the potential to improve the USDA marbling score, which is used to predict Quality Grade in beef cattle. A higher value indicates a higher marbling score.

Milk (MWW) is an indicator of milk and mothering ability as expressed in daughters. A higher value characterizes more milk expressed in pounds of weaning weight in a daughter's calves.

Ribeye Area (REA) is a predictor of ribeye area in a carcass of an animal's progeny compared to progeny of other animals. A higher value indicates a larger ribeye area.

Scrotal Circumference (SC) characterizes an animal's genetic potential for scrotal circumference, with a higher value indicating more yearling scrotal size.

Weaning Weight (WW) is an expression of genetic potential for calf weight at weaning, with a higher value indicating more pounds of weaning growth.

Yearling Weight (YW) describes an animal's potential for postweaning gain measured near one year of age, with a higher value reflecting more total pounds.

***Tenderness** represents the genetic potential for tenderness as measured by the Warner Bratzler shear force test. A higher value indicates being more tender than lower scores.

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A Guide to Reading Your Igenity Brangus Profiler Results - SCORING KEY -

HOW TO READ YOUR SCORES

Understanding one to 10 Igenity scoring: Igenity scoring results are molecular breeding values (MBVs) or expected effects which are a prediction of how future progeny of an animal are expected to perform compared to the progeny of other profiled animals. **Higher scores are not necessarily better** – they just mean the animal has more genetic potential for that trait. Igenity scores add convenience in mating decisions and simplify complex data to measure sires and dams on the same standards.

Igenity Genetic Effects Table for Brangus

Igenity Brangus Scores	Calving Ease Direct	Calving Ease Maternal	Fat	IMF	Maternal Weaning Weight (Milk)	Ribeye Area	Scrotal Circumference	Weaning Weight	Yearling Weight
	(%)	(%)	(in.)	(%)	(lb)	(in. ²)	(cm)	(lb)	(lb)
10	> 4.4	> 2.4	> 0.015	> 0.37	> 5.4	> 0.72	> 1.40	> 35.4	> 70.7
9	4.4	2.4	0.015	0.37	5.4	0.72	1.40	35.4	70.7
8	2.8	1.7	0.006	0.27	2.8	0.57	1.10	29.3	58.2
7	1.1	1.1	-0.003	0.18	0.3	0.43	0.81	23.2	45.7
6	-0.5	0.5	-0.013	0.08	-2.2	0.28	0.51	17.1	33.2
5	-2.2	0.0	-0.022	-0.01	-4.8	0.14	0.22	10.9	20.7
4	-3.8	-0.8	-0.031	-0.01	-7.3	-0.01	-0.08	4.8	8.2
3	-5.5	-1.4	-0.040	-0.21	-9.8	-0.15	-0.37	-1.3	-4.2
2	-7.1	-2.0	-0.049	-0.30	-12.3	-0.30	-0.67	-7.4	-16.7
1	≤ -8.8	≤ -2.6	≤ -0.058	≤ -0.40	≤ -14.9	≤ -0.45	≤ -0.96	≤ -13.5	≤ -29.2

- Each Igenity Brangus score from two to nine includes the range of genetic effects from the row below up to the genetic effect in the same row.
- For example, CED with a score of two is a MBV range from -8.8 to -7.1.
- The values for Igenity Brangus score break points were developed from a population of registered Brangus animals.

When accounting for the genetic relationships between these traits, the economical direction to move a trait can sometimes not be the direction you expect. Implementing your results: Igenity Brangus Profile reports can help in a multitude of ways, including but not limited to: sort and/or manage cattle for breeding and production, pinpoint strengths and weaknesses in your cow herd, identify traits to improve and identify potential replacements that excel in a specific trait. For the most informed decisions, use Igenity profiles in conjunction with other selection and management tools. Select the scores which are best for your production system goals. Some producers may focus on the improvement of one or two traits while others may want to improve multiple traits.



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A Guide to Reading Your Igenity Brangus Profiler Results - SELECTION INDICES -

Igenity Brangus Built Index: A well-balanced index that helps put selection pressure on multiple traits without having to review each individual trait score. The Igenity Brangus Built Index puts equal emphasis on the maternal and terminal traits in which a 10 is desirable for emphasizing both maternal and terminal traits simultaneously.

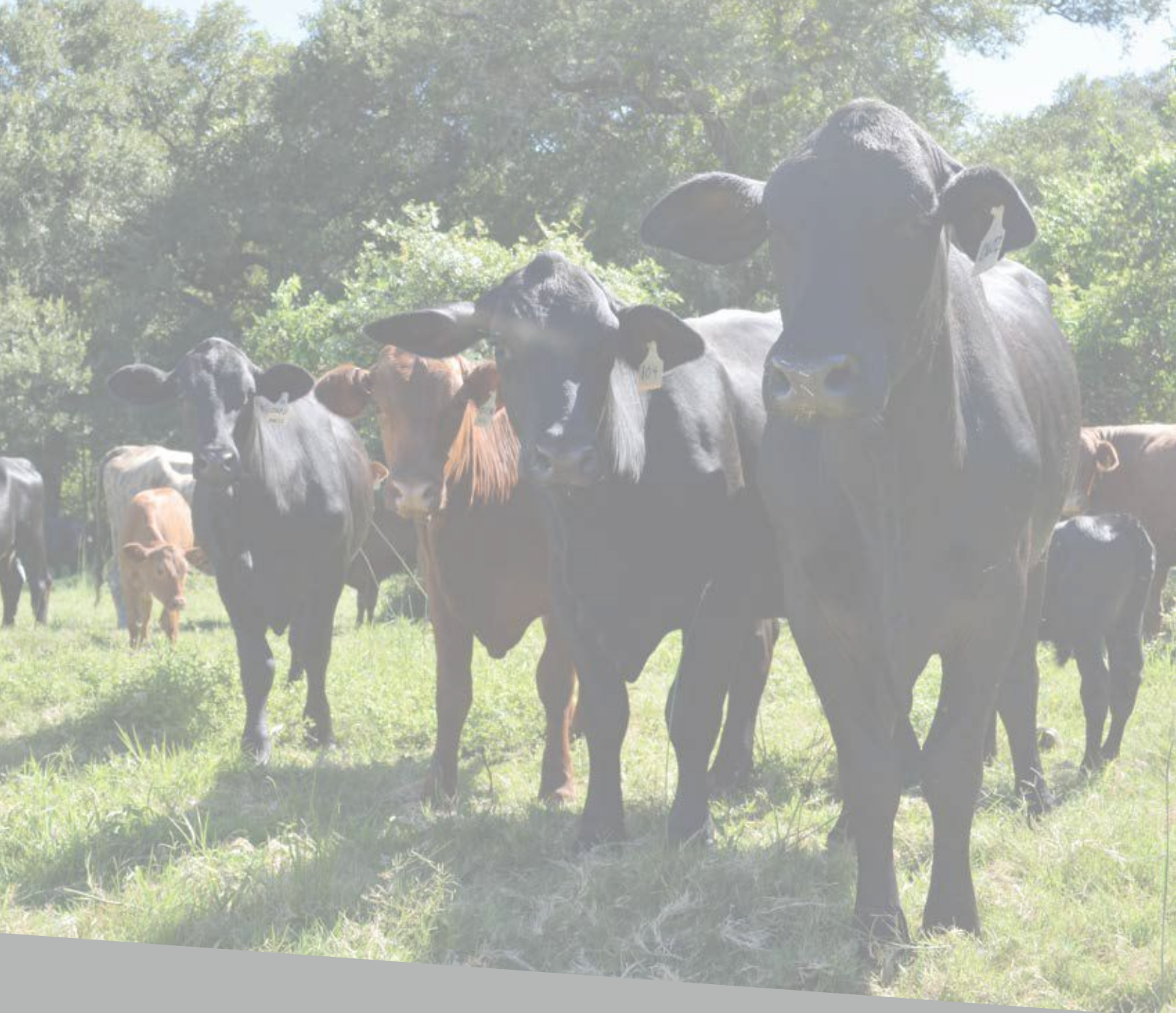
The **Maternal Economic Index** is an economic index that assists in the prediction of maternal strengths for a management system that retains their own heifers and markets steers and feeder heifers at weaning. This value represents differences in \$ to make determination of replacements and those to sell easier for the producer.

As the largest cost of producing weaned calves is the maintenance of the cow herd, this index reduced maintenance cost through reduced cow mature weight with yearling weight as the strongest indicator for that objective. This index recognizes profitability increases due to increased weaning weight, milk, calving ease direct, calving ease maternal, and heifer pregnancy while profitability increases with reduced mature cow weight. The maternal economic index will create these changes to these population over time: decrease calving ease direct, increase calving ease maternal, increase weaning weight, increase milk, decrease mature cow weight, and increase heifer pregnancy.

The **Terminal Economic Index** is an economic index that is a valuable predictor of performance and carcass composition traits for a post-weaning production system where calves are marketed on a value-based grid.

Under these production assumptions, since calving difficulty only happens in a portion of heifers and has the highest risk when a cow has her first calf, it is more profitable to move the population to have less calving ease direct. This is because over the cow's lifetime, she is expected to raise several calves that are heavier at weaning. Therefore, this advantage is realized on all her calves and the profitability of the operation is expected to be higher.





INTERNATIONAL
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gobrangus.com

For questions about Igenity Brangus, contact the IBBA: (210) 696-8231, info@gobrangus.com
International Brangus Breeders Association, 8870 US Highway 87 E, San Antonio, TX 78263

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