



Igenity[®] Angus Gold Results Key

DNA profiles for 75% Angus and higher



Select with Confidence

How to interpret your Igenity Beef results: Igenity profiles of replacement heifers help you evaluate their genetic potential and focus on those making the biggest impact.

Igenity Angus Gold reports on 15 traits to help select, manage, and market your cattle. Know more about the genetic potential of young breeding stock before you have made significant investments in their development.

Maternal traits drive production

Igenity Angus Gold

Birth Weight, Calving Ease Direct, Calving Ease Maternal, Heifer Pregnancy Rate, Docility, Milk, Mature Weight

Calving difficulties, cows that don't breed back, heifers with poor conception, cattle with poor dispositions, and cows that either milk too much, or not enough, all hurt your bottom line. Evaluating maternal traits in your breeding stock helps you develop a cow-herd that will be more productive for years to come.

Performance traits drive efficiency

Igenity Angus Gold

Average Daily Gain, Residual Average Daily Gain, Weaning Weight

By selecting females with higher ADG and RADG (feed efficiency), you will improve the efficiency of maintenance and gain in your herd. Selection pressure on these traits can help improve feed efficiency in future calf crops too. For example, pens of feeder calves can be grouped with other animals of similar potential, and be fed or marketed based on that potential. This leads to more uniform and efficient in the finishing phase.

Carcass traits drive value

Igenity Angus Gold

Tenderness, Marbling, Ribeye Area, Fat Thickness, Carcass Weight

Predicting carcass merit is important whether you are raising feeder calves for sale at weaning, retaining calves to finish, or selling on quality grids. Igenity profiling allows you to select breeding stock that produce higher-quality carcasses among their progeny. Plus, sorting high-quality cattle from lower-potential cattle helps you manage and market each group more appropriately.



How to Use Your Scores

Igenity Genetic Effects Table															
Igenity Angus Scores	Maternal Traits						Performance Traits				Carcass Traits				
	Birth Weight	Calving Ease Direct	Calving Ease Maternal	Docility	Heifer Pregnancy Rate	Milk	Mature Weight	Average Daily Gain	Residual Ave. Daily Gain	Weaning Weight	Tenderness	USDA Marbling Score	Ribeye Area	Fat Thickness	Carcass Weight
	(lbs.)	(%)	(%)	(%)	(lbs.)	(lbs.)	(lbs.)	(lbs.)	(lbs.)	(lbs. WBSF)	(USDA marb. units)	(sq. ins.)	(ins.)	(ins.)	(lbs.)
10	4.4	14.3	11.9	18.7	4.2	30	83	0.29	0.23	51.4	-1.15	0.77	0.61	0.11	45.1
9	4.0	13.1	11.2	17.4	3.9	28	79	0.27	0.21	48.8	-1.00	0.71	0.56	0.10	43.2
8	3.7	11.9	10.5	16.1	3.7	26	74	0.25	0.19	46.2	-0.95	0.65	0.51	0.09	41.2
7	3.3	10.7	9.8	14.8	3.4	25	70	0.23	0.17	43.6	-0.75	0.59	0.46	0.08	39.3
6	2.9	9.5	9.2	13.5	3.2	23	66	0.21	0.15	41.0	-0.60	0.53	0.41	0.07	37.4
5	2.5	8.3	8.5	12.2	3.0	21	62	0.19	0.13	38.4	-0.55	0.47	0.36	0.06	35.5
4	2.1	7.1	7.8	10.9	2.7	19	58	0.17	0.11	35.8	-0.40	0.41	0.31	0.05	33.6
3	1.8	5.9	7.1	9.6	2.5	17	53	0.15	0.09	33.2	-0.20	0.35	0.26	0.04	31.6
2	1.4	4.7	6.4	8.3	2.2	15	49	0.13	0.07	30.6	-0.10	0.29	0.21	0.03	29.7
1	1.0	3.5	5.7	7.0	2.0	14	45	0.11	0.05	28.0	00	0.23	0.16	0.02	27.8

Understanding 1 to 10 Igenity scoring

This chart allows you to cross reference the 1–10 Igenity scores for traits with their corresponding Molecular Breeding Values (MBV) or expected effects. This MBV is the 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.

Comparing scores between profiled animals

The examples below show you how to equate Igenity scores to variation in MBVs, or expected effects, from the genetic effects table.

Heifer Pregnancy Rate (HPR)	Igenity Score	Genetic Effect	Description
Animal A	8	3.7%	Animal A will produce daughters with a 1.2% higher probability of conceiving during a normal breeding season compared to daughters of Animal B.
Animal B	3	2.5%	
		1.2%	

Calving Ease Maternal	Igenity Score	Genetic Effect	Description
Animal A	8	10.5%	Animal A is expected to produce daughters with a 3.4% higher probability of calving unassisted as first-calf heifers compared to progeny of Animal B.
Animal B	3	7.1%	
		3.4%	

Average Daily Gain (ADG)	Igenity Score	Genetic Effect	Description
Animal A	8	0.25 lbs.	Animal A is expected to produce progeny that will gain 0.10 pounds more per day than progeny of Animal B, and therefore weigh 15.0 pounds more after 150 days on feed.
Animal B	3	0.15 lbs.	
		0.10 lbs. per day	

Calving Ease Maternal	Igenity Score	Genetic Effect	Description
Animal A	8	0.65	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	0.35	
		0.30 marbling score units	

Definitions of Traits Reported

Maternal Traits

Birth Weight

Variation in birth weight a heifer or bull will pass along to its offspring. A higher score indicates greater genetic potential for heavier birth weight.

Calving Ease Direct

Percentage of unassisted births, indicating greater probability a calf will be born unassisted out of a first-calf heifer. Genetic factors such as birth weight and shape of the calf are included in Calving Ease Direct. A higher value is greater calving ease.

Calving Ease Maternal

The probability a first-calf heifer will calve unassisted. Calving Ease Maternal includes all genetic factors that impact a heifer's ability to calve unassisted, such as pelvic area and her genetic contribution to birth weight. A higher value is greater calving ease.

Heifer Pregnancy Rate

A heifer's potential to conceive during breeding season, relative to other heifers. A higher value is desired.

Docility

The animal's genetic potential to be calm or have calm offspring. Higher scores indicate a higher probability of progeny with acceptable disposition.

Milk

Is expressed as pounds of calf weaning weight affected by the milk production of a calf's dam. This is not a prediction of actual pounds of milk produced.

Mature Weight

A predictor of weight as a mature cow and is associated with the amount of feed energy required for maintenance. A higher score indicates a heavier mature weight.

Performance Traits

Average Daily Gain

Based on pounds of gain per day. The Igenity score for Average Daily Gain identifies an animal's genetic potential for post-weaning growth.

Residual Average Daily Gain

This measure of feed efficiency, expressed in pounds per day, predicts post-weaning gain given a constant amount of feed consumed. Higher Residual Average Daily Gain indicates greater feed efficiency.

Weaning Weight

A predictor of pre-weaning growth in pounds.

Carcass Traits

Tenderness

Animals' genetic potential for carcass tenderness as measured by the Warner Bratzler Shear Force test. A higher score indicates greater tenderness.

USDA Marbling

Marbling score indicates the degree of marbling in the ribeye muscle at the 12th rib expressed in USDA marbling units.

Ribeye Area

Ribeye Area estimates muscling in a beef carcass and is measured in square inches of the ribeye muscle at the 12th rib.

Fat Thickness

Fat thickness is scored as depth of fat in inches over the ribeye muscle at the 12th rib. Higher Fat Thickness scores equate to lower lean yield.

Carcass Weight

A predictor of genetic variation in hot carcass weight.

Diagnostic Reports

Bovine Viral Diarrhea, Persistently Infected (BVD PI)

Many producers test their herds for BVD PI as routine bio-surveillance. Negative animals are free of the BVD virus. Positive animals have the virus present in their cells and are likely persistently infected and infect others in the herd. If there is a positive test result, first contact your veterinarian. A positive result in a blood test must be confirmed. The NEOGEN veterinary diagnostic team will contact you.

Other Reports

Sample Rejected (SR)

The quality of DNA testing starts with the quality of the sample. Common reasons for sample rejection are: lack of animal ID on the sample, improper or blank information on an order form, mold, dirt, foreign or fecal matter, evidence of tampering, or sending in decomposing animal tissue.

No Result (NR)

Some samples appear normal, but don't produce acceptable results due to contaminants that are undetectable to the eye. To test the animal, a new sample will need to be submitted.

Results are not complete (X)

At times, NEOGEN will send out partial results, such as providing BVD PI results before Igenity profiling is completed. Traits scored as an X indicate the analysis for that test has not yet been completed.

Defect Bundle

Igenity Angus Gold also offers a defect bundle sold as an add-on to the original testing price, which includes: Development Duplocation (DD), Neuropathic Hydrocephalus (NH), Oculocutaneous Hypopigmentation (OH), and Osteopetrosis (OS).

Validation: Development of Igenity profiles begins with the assembly of large populations of animals with phenotypic data and/or Expected Progeny Differences (EPDs). We use multiple resource populations involving thousands of animals that represent various production environments, and biological types, often working with partners from the seedstock, cow/calf, feedlot and/or packing segments of the beef industry. Once the phenotypic data and EPDs are captured, our geneticists and research partners carefully analyze marker associations, using appropriate analytical methods, to ensure validity. Markers are analyzed to determine the most powerful combination for any given trait. Final validation takes place in independent populations that include thousands of animals, resulting in confidence that any significant associations discovered will have a high probability of truly occurring in various biological types and environments.



Putting Your Results to Work

How to use the results

Using the reports can help in many ways. For example, you can use the scores to sort cattle and manage them for breeding or production. Or, the data can help you pinpoint strengths and weaknesses in your cow herd, and identify traits you want to improve. A common way to make improvement is to buy bulls that excel in specific traits. For example, if your cows on average score low for marbling, you can improve your herd by buying bulls that are in the top 30% of their breed for marbling. You can also select your best females for marbling traits. This would move you faster towards your goals. Long term, you can use your Igenity reports to track improvements across multiple traits, increase uniformity in your cattle, and measure your progress. To learn more about how to apply your results, talk to your NEOGEN representative today.

Igenity Angus Production Index

An index helps you put selection pressure on several traits simultaneously without having to review each individual trait score. The Igenity Angus Production Index is a combination of maternal, production, and carcass traits. Profiled animals are ranked from top to bottom based on their index scores. The index score makes it easier to determine which heifers to retain as replacements and which to sell. The Igenity Angus Production Index is weighted as follows:

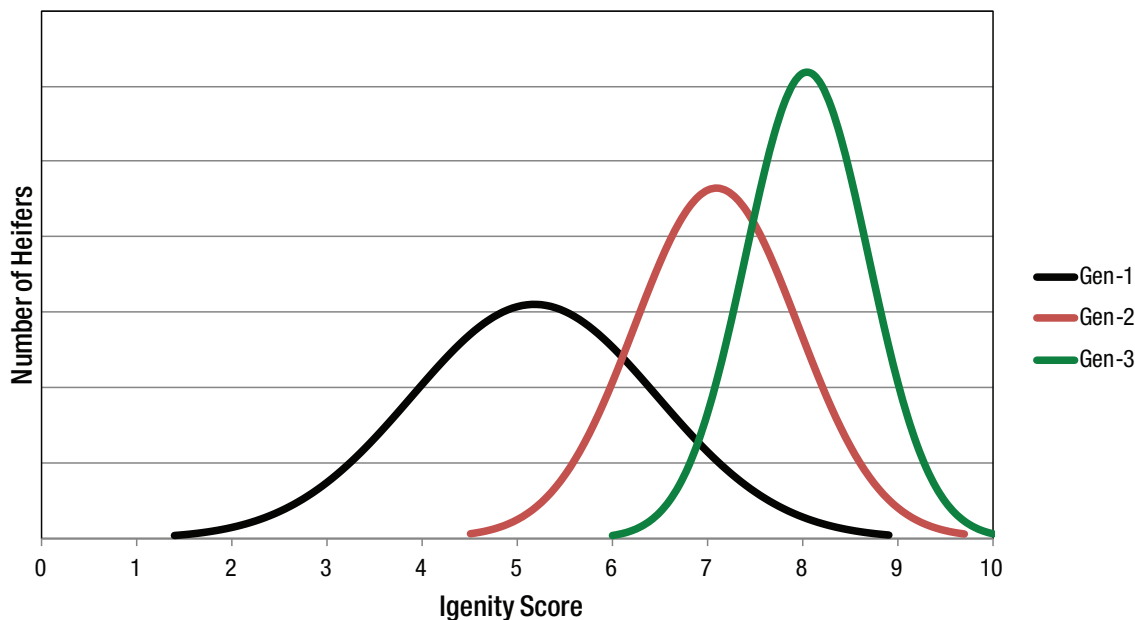
Maternal: Heifer Pregnancy Rate, 25%; Calving Ease Maternal, 15%; Docility, 20%

Performance: Average Daily Gain, 20%

Carcass: Marbling, 20%

Custom index options: If the Igenity Angus Production Index does not reflect your goals, you can create your own index at igenitybeefdashboard.com.

Genetic Progress by Mating Top HPR Heifers to Superior Sires



The chart shows how using Igenity to identify the top heifers for heifer pregnancy rate and mating them to bulls in the top 5% of their respective breed, can improve heifer pregnancy rate in just two generations. The black line indicates the distribution of Igenity heifer pregnancy rate scores in the first generation of cows in the herd. The red and green lines show the Igenity heifer pregnancy rate for the second and third generations of females that result from mating bulls in the top 5% of their respective breed to heifers in the top third for heifer pregnancy rate. Shifting the scores to the right indicates heifers retained for breeding have a higher probability of becoming pregnant during breeding season. You can make similar advancement in other traits you wish to improve by profiling young heifers, and using the information to make better selection and breeding decisions.



Angus Gold

Maternal traits -
your No. 1 profit driver

Performance and carcass traits
enhance management and marketing

Animal ID	Sample Barcode#	M/F	Breed	Igenity Angus Production Index	Maternal Traits							Performance Traits			Carcass Traits				
					Birth Weight	Calving Ease Direct	Calving Ease Maternal	Heifer Pregnancy Rate	Docility	Milk	Mature Weight	Ave. Daily Gain	Residual Ave. Daily Gain	Weaning Weight	Tenderness	Marbling	Ribeye Area	Fat Thickness	Carcass Weight
40	2215003396	F	AN	6.35	5	7	7	6	6	6	5	7	6	7	8	6	6	5	6
60	2215003398	F	AN	5.6	5	6	6	6	6	5	5	6	6	5	5	4	6	7	6
50	2215003397	F	AN	5.55	5	6	7	6	5	6	6	5	6	7	3	5	6	6	6
100	2215003392	F	AN	5.5	6	5	5	7	6	6	5	4	6	5	3	5	5	5	5
30	2215003395	F	AN	5.35	5	6	6	5	5	5	5	6	6	5	6	5	5	6	5
10	2215003393	F	AN	5.25	5	5	5	6	6	5	5	5	6	5	6	4	4	7	5
20	2215003394	F	AN	5	6	6	5	5	5	5	5	6	6	5	6	4	6	3	5
80	2215003400	F	AN	5	5	5	5	5	5	5	4	5	4	5	4	5	5	7	5
90	2215003391	F	AN	4.75	4	7	5	4	5	5	4	5	5	5	6	5	6	7	5
70	2215003399	F	AN	4.65	5	4	5	6	4	5	5	4	6	5	4	4	5	7	5

↑
The Igenity Production Index ranks
each animal from top to bottom

The “Igenity Angus Production Index” is based on the following traits and their weightings:

- Calving Ease Maternal 15%
- Heifer Pregnancy Rate 25%
- Docility 20%
- Average Daily Gain 20%
- Marbling 20%

We invite you to learn more about applying your test results, and viewing your personal online results database, by visiting igenitybeefdashboard.com.

This report describes results of our analysis of the sample or samples of biological materials provided by you and described herein. NEOGEN warrants only that it has applied its best commercial efforts to the determination of the presence and identification of specific alleles of bovine genes in DNA from the sample(s) provided herein to NEOGEN from you. NEOGEN provides no other warranty of any kind, whether express or implied, (including, but not limited to, all warranties of merchantability, fitness for a particular purpose, title, noninfringement, or that any other allele is or is not present in any sample or any animal). Results of analysis are predicated on the assumption that each sample was obtained from a single cattle beast. Results of analysis are reported herein in association with the sample designations provided by you. NEOGEN assumes no responsibility for correctly identifying a particular animal as the source of any sample.

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Genomics for bulls and heifers

You can make faster genetic progress when you take full advantage of beef genomics tools available today for bulls and heifers.

We recommend using profiled bulls along with profiling of replacement heifers. If you are purchasing seedstock, look for cattle tested with our GGP™ or the AngusGS™. These cattle come with high-accuracy genomically enhanced expected progeny differences (GE-EPDs) that are provided by breed associations.

If you are using non-registered or composite bulls, or simply prefer a more convenient way to get bull DNA into our parentage database, consider using Igenity profiling, or SeekSire™ parentage testing on your bull battery. By placing their DNA into our parentage database, you can compare sires’ DNA to the DNA your calf crop, and identify top bulls. You can also have breed association DNA data released to NEOGEN for parentage testing.

