



# Interpreting Holstein Association USA's Genomic Prediction Report

## What will I receive back for results when I test an animal?

When you genomic test an animal through Holstein Association USA, you will get a report back with a variety of traits and their genomic values, as well as the animal's original parent average values. The genomic values are what will appear on the animal's pedigree and other performance products following the next national genetic evaluation run (which take place in April, August and December). You will receive PTAs or STAs for the following traits:

- **Health Traits:** Net Merit Dollars (NM\$), Daughter Pregnancy Rate (DPR), Productive Life (PL) and Somatic Cell Score (SCS)
- **Yield Traits:** Milk, Fat (lbs), Fat %, Protein (lbs) and Protein %
- **Calving Traits:** Daughter Calving Ease and Daughter Stillbirth Rate
- **20 Type Traits and Composite Indexes** (see sample results on last page for the complete list)
- **Total Performance Index (TPI)<sup>®</sup> value:** GTPI (genomic Total Performance Index) can only be calculated officially by Holstein Association USA

You may request to receive your genomic prediction reports via email or postal mail.

## Explanation of Genomic Prediction Report

The following information will help you interpret the report you receive after genomically testing a female through Holstein Association USA. See the example report on the last page to follow along with the numbers.

### 1 Animal Identifying Information

Full name, registration number and birthdate (MM/DD/YYYY) of the animal that was genomically tested.

### 2 Haplotype Carrier Status

You will receive the animal's status for the three haplotypes impacting fertility in the Holstein breed, known as HH1, HH2 and HH3. If an animal is tested free, they will be labeled with a "T" after each, and if they are a carrier, they will be labeled with a "C." Learn more about the haplotypes at [www.holsteinusa.com/pedigree\\_info/genetic\\_codes\\_traits.html](http://www.holsteinusa.com/pedigree_info/genetic_codes_traits.html).

### 3 Genomic Future Inbreeding Coefficient (GFI)

The GFI is comparable to the Expected Future Inbreeding (EFI) numbers that are assigned to non-genomic tested animals. It is an estimate to the inbreeding of future offspring, based on the actual homozygosity and percentage of genes an animal has in common with the Holstein population.

### 4 Genomic Predicted Transmitting Abilities (PTA) and Official Parent Averages (PA) or PTAs

These columns provide a comparison between an animal's new, genomic PTAs and their former parent averages or PTAs. Comparing the two columns allows you to see how much an animal changed based on the actual genes they possessed. Genomic PTAs will not appear on pedigrees or other Holstein Association USA performance products until after they go through a national genetic update, which happens in April, August and December.

**5 Genomic and Traditional Reliabilities**

These columns show the increase in reliability between the traditional evaluation and the genomic evaluation. The increased reliability indicates that more information has been added to the evaluation.

**6 Total Performance Index (TPI)<sup>®</sup>**

The TPI<sup>®</sup> is Holstein Association USA's selection index, combining 11 traits in a formula that will encourage genetic progress in the Holstein breed. It is important to note that only genomic reports produced through Holstein Association USA will have an animal's official TPI<sup>®</sup> calculated.

**7 Other Testing Information**

This line indicates which version of the SNP chip was used for the test (3K/6K or 50K, in most cases), and the month the test was processed.

1

HOLSTEIN DOMAIN ONYX

40003007677838 7/11/2011 FEMALE

John &amp; Mary Schmidt, 1070 Main St, Pine Hills, NY 12456

2

Haplotypes ( C=Carrier, T=Tested-free ): HH1T HH2T HH3T

GFI: 6.8

3

4

5

HEALTH TRAITS				
	Genomic PTA	Official PA/PTA	Genomic REL %	Official REL %
Net Merit(\$)	420	389	69	25
Daughter Pregnancy Rate (%)	1.2	1.1	61	21
Productive Life (months)	4.4	3.1	65	22
Somatic Cell Score	2.95	2.94	70	24
YIELD TRAITS				
	Genomic PTA	Official PA/PTA	Genomic REL %	Official REL %
Milk	1028	1127	75	36
Fat (lbs)	30	30	75	36
Fat (%)	-0.03	-0.05	75	
Pro (lbs)	33	34	75	36
Pro (%)	0.01	0.00	75	
CALVING TRAITS				
	Genomic PTA	Official PA/PTA	Genomic REL %	Official REL %
Daughter Calving Ease	8	8	57	25
Daughter Stillbirth	8.8	7.4	49	23
TYPE TRAITS				
	Genomic PTA	Official PA/PTA	Genomic REL %	Official REL %
Final Score (PTAT)	2.07	1.72	71	34
Feet/Legs Composite	-0.26	0.91	NA	NA
Udder Composite	1.41	1.21	NA	NA
Stature	0.62	1.79		
Strength	0.73	1.05		
Body Depth	1.18	1.24		
Dairy Form	2.04	1.29		
Rump Angle	0.82	0.88		
Thurl Width	0.68	0.90		
Rear Legs Side View	1.59	-0.04		
Rear Legs Rear View	-0.27	0.84		
Foot Angle	-0.28	1.15		
Feet & Leg Score	-0.05	0.95		
Fore Attachment	2.33	1.83		
Rear Udder Height	2.70	1.74		
Udder Cleft	1.86	0.81		
Udder Depth	0.40	1.29	74	36
Front Teat Placement	2.14	1.02		
Rear Teat Placement	2.52	0.73		
Teat Length	-0.07	0.02		
Total Performance Index (TPI)	<b>1900</b>	1878	NA	NA

6

Genomic PTA calculated using 50K test, October 2011

Haplotypes affecting fertility are reported for 50K and HD reports only.

For more on interpreting this report, visit [www.holsteinusa.com](http://www.holsteinusa.com)

7


**HOLSTEIN ASSOCIATION USA, INC.**

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