

**DATA FUELS**

**GENETIC IMPROVEMENT**



# The Art of Maintaining Genetic Excellence Across Decades

## Welcome Stock Farm thinks beyond the individual to achieve whole-herd genetic excellence

“Our goal here at Welcome Stock Farm is to breed a better cow every day. We put great emphasis on genetics and genetic advancement. The reason for that is one, we think it makes us a better, more efficient dairy. Secondly, we market dairy genetics either through bulls, semen sales, or embryos around the world.”

### A strong family legacy of improving the Holstein breed

Welcome Stock Farm may be the only dairy that can claim number-one TPI ranking sires in two different breeds. Brothers Bill and Neil Peck are the sixth generation running the dairy, which was established in 1836. William Peck, Bill and Neil’s father, was a pioneer of embryo transfer and marketing embryos worldwide. Welcome Stock genetics have contributed to tremendous gains in Holstein performance through embryo sales and AI stud bulls over many decades, and the family was one of the first recipients of the Holstein Association USA Progressive Genetics Herd (PGH) award in 1991. This award recognizes herds with high average TPI (Total Performance Index) values, which emphasizes overall genetic excellence of the herd. Bacon Hill Montross, number one TPI bull in 2016, Welcome Garter, number one TPI bull in 2001, and Welcome Choice Admiral (Guernsey), number one breed index bull in 1982-1983, were all born at Welcome Stock Farm.

Bill believes in balancing the predictive data of genomic test results with real-time data from DHI testing and linear evaluations from Holstein USA. “The phenotypic data is so important. It helps drive the information that is essential for me to make sound decisions each day,” he said. Bill emphasizes the importance of accurate data on the male and female sides to drive breed improvement.



“Our herd is entirely registered here at Welcome Stock Farm. We find that very important to add value to our herd. We are a commercial dairy operation, selling milk to our cooperative, but the value of the Registered Holstein continues to add value to our dairy operation. We track genetics and the importance of genetic gain in the dairy cattle, so being registered is a good way for us to do that,” said Bill.

### Bill Peck, New York

- ▶ Co-owns Welcome Stock Farm with brother Neil in Schuylerville, New York
- ▶ 1,000 registered Holstein cows

### Participation in the integrated system

- ▶ Milk testing monthly through Dairy Herd Information (DHI)
- ▶ Processes milk and health records through Dairy Records Processing Center (DPRC)
- ▶ Genomic testing with ear tagging at birth
- ▶ Classifies 4 times per year through Holstein Association USA

### Leadership:

- ▶ Past Chair CDCB Producer Advisory Committee
- ▶ Past member Holstein Association USA Genetic Advancement Committee

**Hear More from Bill ▶**



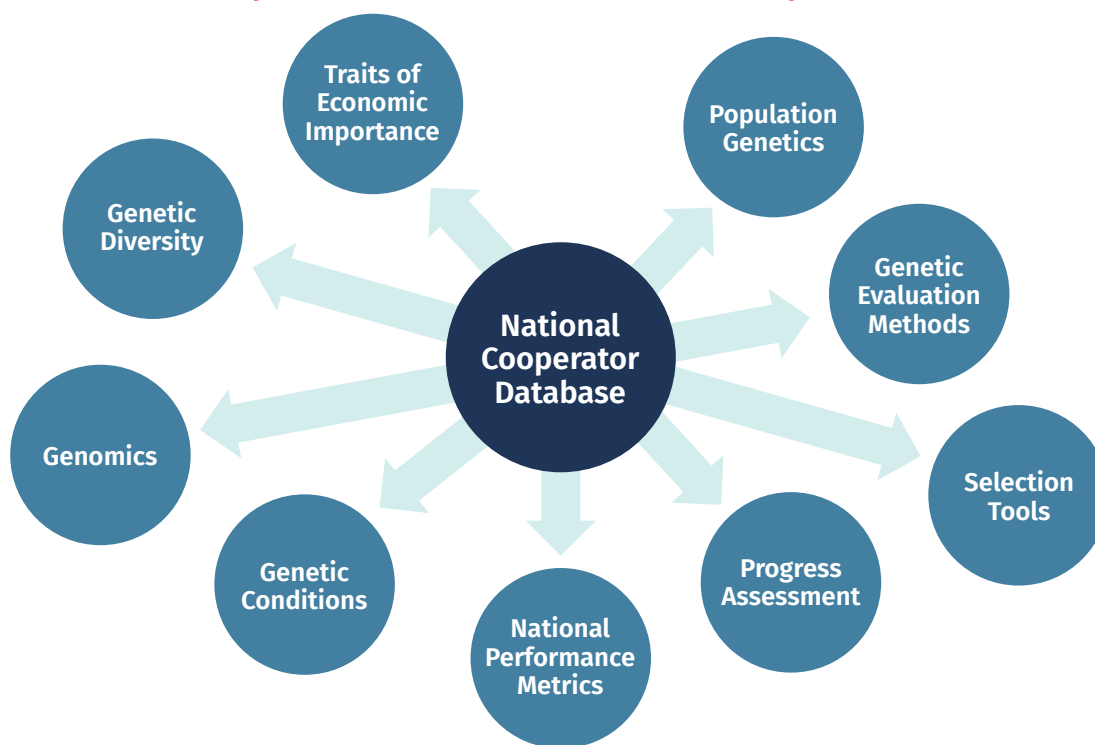
The amount of information collected daily on any dairy farm in the U.S. is impressive. Concerns over data access and ownership create hesitancy for some when it comes to sharing data, but Bill explains that the National Cooperator Database provides an unbiased source of information that benefits all producers. In this pre-competitive space, the goal is to import, connect, clean, verify, and export data. Bill strongly believes in the value of the National Cooperator Database and served as one of the first members of the CDCB Producer Advisory Committee to provide input and direction on data usage.

Bill encourages all producers to contribute their data, because more data translates to greater accuracy in the database and faster genetic progress for all. He notes that every straw of semen holds the potential for improving the next generation, which, in return, increases the economic viability of individual dairies. Everyone should share information that increases the reliability of each straw of semen. As the National Cooperator Database continues to add economically important dairy traits, more data records will be needed. Traits in their infancy or on the horizon include feed efficiency, calf health, mobility and hoof health, and enteric methane production. Selection of animals with these topical traits will enable producers to market lower environmental impact herds.



Bill Peck and Dan Menendez (U.S. Holstein Association) walk the herd during linear evaluations.

## The National Cooperator Database Provides Extensive Resources for Dairy Producers and the Industry as a Whole



“After we have a genomic evaluation on a heifer, we have to track her through her adult life so we can see the reliability in the genomics. As heifers grow into milk cows, are they consistently proving where we thought they were from a DNA and genomic standpoint? Without that information going into the database, we really wouldn’t know.”

Welcome Stock Farm uses genetic evaluations and genomic testing to their full extent for decisions they make on the farm. Bill schedules linear type classification with Holstein Association USA four times a year and DHI testing monthly. He notes the necessity of having genomic test results verified with performance data (phenotypes).

When looking at performance data, Bill focuses on milk production, pounds of fat, pounds of protein, and the ability to breed back in a short, efficient manner. He crosschecks those metrics with linear evaluation results to get an overall view of each cow's contribution to the herd.

## Collecting Official On-Farm Data Is Critical for Continued Genetic Progress

Phenotypes, or observable characteristics, are the basis for all genetic improvement programs. While genomic selection has accelerated genetic progress, phenotypes are still essential for:



**Validation:** Confirming the accuracy and maintaining the reliability of genomic predictions.



**Discovery:** Identifying new traits, genetic conditions, and understanding those genetic bases.

**“We evaluate through Net Merit Dollars and Total Performance Index to pick our top tier animals and then we try to multiply that genetic base.”**

Lifetime Net Merit \$ is the primary genetic selection index in the United States. Net Merit \$ (NM\$) ranks dairy animals on their combined genetic merit (in U.S. dollars) for nearly 40 economically important traits, consolidated into a single value. This calculation promotes a balance of attributes to maximize dairy cow profitability. Looking at NM\$ by animal allows Bill to see who is expected to pass along the most valuable traits to her offspring and sort his herd from highest to lowest lifetime predicted profitability. When using a combination of genomic test results – powered by CDCB – and performance data, he gets a comprehensive overview of every animal in his herd.

Given Welcome Stock's contributions to the Holstein breed, it is easy to think this farm is all about pretty cows. Bill is quick to correct that assumption and prefers to be known for producing animals that represent the whole package: appealing to the eye, strong front ended, and wide from muzzle to rump. He wants cows who have longevity and can thrive in a commercial freestall environment. At the end of the day, he's in the business of food production. Making milk and making genetics is how they have diversified their operation. William Peck built a great genetic herd and Bill is keeping that legacy going, while being a commercial milk producer first and foremost.



*“Every dairy farm in the U.S. should be contributing to the National Cooperator Database. The Council on Dairy Cattle Breeding is a third-party, objective source for genetic evaluations. As a dairyman, having genetic evaluations from an independent third-party is critical. We know that all the data is being handled in an objective manner, and that benefits all dairies.”*



*Embryos from the highest-ranking animals are transplanted into recipients to multiply the genetic impact of Welcome Stock's top-tier animals.*

## A Winning Formula

William taught Bill to be an early adopter of good technology. Continuous learning, willingness to serve, and a cooperative outlook on life adds up to success on Welcome Stock Farm. Genetic giants Welcome Choice Admiral (Guernsey), Welcome Garter-ET, and Bacon Hill Monstross-ET were all born at Welcome Stock Farm.



*Welcome Choice Admiral was the #1 TPI Guernsey bull in 1982 and 1983. William Peck is one of the few dairymen who can claim #1 TPI bulls in more than one breed.*



*Bacon Hill Montross was the #1 TPI Holstein bull in 2016. He maintained a top-10 rank for more than four sire summaries.*

## The Collaboration that Drives Data into the National Database

Genetic improvement is driven by the partnership of U.S. dairy producers and 60-plus organizations that collect and transmit certified animal data into the National Cooperator Database.

This database – with millions of cow records – is the engine that powers genetic improvement. Stewarded by the Council on Dairy Cattle Breeding (CDCB), the national database delivers male and female genetic evaluations, independent research to support new traits, national benchmarking, and accurate animal data to milk and breed better cows.

Owners and managers at 10,000 herds of all types and sizes across the U.S. contribute performance (phenotypic) and genotypic data on individual animals into this database. Millions of individual animal records – from milk components and fertility to conformation scores and health events – are transmitted and aggregated in the national database each year.

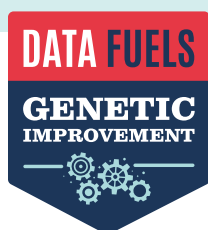
### Like an engine, all parts of the system are essential:

- ▶ U.S. dairy producers
- ▶ Dairy records processing centers
- ▶ National Association of Animal Breeders
- ▶ Dairy records providers
- ▶ Breed associations
- ▶ Genomic nominators and genotyping labs

**When farms submit their data to the national database, they fuel genetic improvement for generations to come.**



*“What heifers do you want to raise? Who will be most efficient and valuable to you down the road? Without tons of data, there are too many unknowns,” said Bill.*



## It all starts at the farm.

**LEARN MORE** about how herd data fuels genetic evaluations.