



WELLNESS IS A PROFITABLE CHOICE

GENETICALLY SELECT HEIFERS TO BUILD A HEALTHIER, MORE PROFITABLE HERD

With CLARIFIDE® Plus, you can improve profitability through selection indexes that balance revenues from operations and costs such as infertility or disease. This single genetic test provides U.S. Holstein and Jersey producers with highly relevant information tailored to their specific breed of dairy cattle.

CLARIFIDE Plus is the first genomic test in the U.S. that delivers information on all eight cow wellness traits — mastitis, lameness, metritis, retained placenta, displaced abomasum, ketosis, milk fever and respiratory disease — three calf wellness traits — calf livability, respiratory disease and scours — and three fertility traits — cystic ovary, abortion and twinning — in one comprehensive offering. These genetic predictions are based on data from millions of health records within U.S. commercial herds.

LIFETIME PROFITABILITY RANKINGS VALIDATED

Lifetime profitability rankings from the Dairy Wellness Profit Index® (DWP\$®) from Holsteins has shown that on average, cows in the best 25% had \$1,428 more Income Over Feed Cost (IOFC) when compared to the worst 25%.¹

WITH CLARIFIDE PLUS, DAIRY PRODUCERS CAN:

- Select for a healthier, more trouble-free herd over time.
- Use cow wellness, calf wellness and fertility trait genomic information through DWP\$ for a more comprehensive heifer selection and breeding strategy decisions.
- Positively impact profitability, by including traits that can help improve all six key drivers of net farm income; net herd replacement cost, 21-day pregnancy risk, heifer survival rate, energy corrected milk (ECM) shipped, somatic cell count and death loss (in cows).²



THREE POWERFUL SELECTION INDEXES

MAXIMIZE PROFIT POTENTIAL

DWP\$® is a comprehensive, yet easy way to rank animals for expected profitability. If you prefer to create your own custom index, the Wellness Trait Index® (WT\$®), Calf Wellness Index® (CW\$®) and the other available Zoetis traits provided are excellent options to incorporate into your new index via ENLIGHT® and SearchPoint®.

- DAIRY WELLNESS PROFIT INDEX® (DWP\$®)**
 This all-encompassing, multi-trait selection index includes production, reproduction, functional type, longevity, calving, plus Zoetis cow and calf wellness traits, Zoetis fertility traits and Polled test results. Use this index to rank animals and apply to your selection strategies.
- WELLNESS TRAIT INDEX® (WT\$®)**
 This selection index focuses exclusively on cow wellness traits (mastitis, lameness, metritis, retained placenta, displaced abomasum, ketosis, respiratory disease, milk fever** and polled) and estimates potential profit contribution of these wellness traits only.
- CALF WELLNESS INDEX® (CW\$®)**
 This selection index exclusively focuses on calf wellness traits including calf livability, respiratory disease and scours. It estimates the differences in expected lifetime profit associated with the risk of calfhoo diseases and early death losses.

INDIVIDUAL ZOETIS TRAITS WITH INDEX PLACEMENT AND AVERAGE RELIABILITY*

Cow Wellness Traits (WT\$, DWP\$)	Calf Wellness Traits (CW\$, DWP\$)	Fertility Traits (included in DWP\$)	Average Reliability Jersey	Average Reliability Holstein
Mastitis			47	52
Lameness			42	52
Metritis			40	51
Retained Placenta			35	51
Displaced Abomasum			27	50
Ketosis			35	51
Respiratory**			27	40
Milk Fever***			36	36
	Calf Livability		38	42
	Calf Respiratory		44	36
	Calf Scours		41	39
		Cystic Ovary****	25	29
		Abortion	30	35
		Twinning	44	42

*Numbers reflect data from reference population of animals under two years of age.
 **Respiratory trait only present in WT\$, not DWP\$ for Jersey.
 ***Only present in Jersey index calculations.
 ****Not present in DWP\$ for Jersey

INSIDE THE INDEXES: WT\$[®], CW\$[®] AND DWP\$[®]

WT\$ is comprised of eight* cow wellness traits while CW\$ is made up of three calf wellness traits. DWP\$ brings these two indexes and the rest of the relevant traits in CLARIFIDE PLUS together to create one easy-to-use ranking index. Each index (Charts 1–6) combines the underlying traits into a single value that reflects the economic impact and incidence on farm to convey the expected profitability of each animal.

Chart 1: Jersey CW\$[®] Relative Value (%)

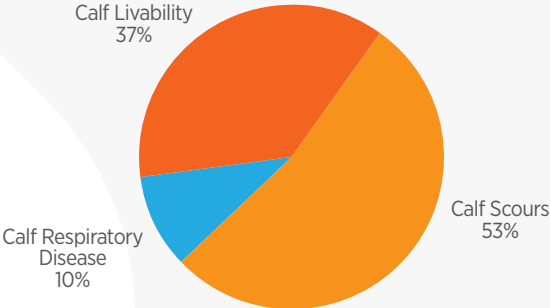


Chart 4: Holstein CW\$[®] Relative Value (%)

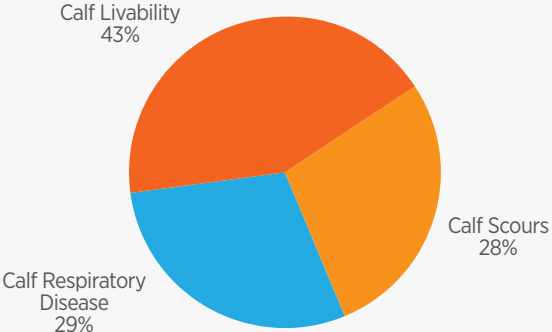


Chart 2: Jersey WT\$[®] Relative Value (%)

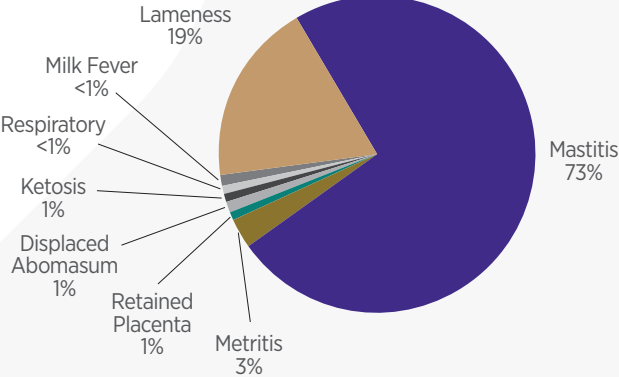


Chart 5: Holstein WT\$[®] Relative Value (%)

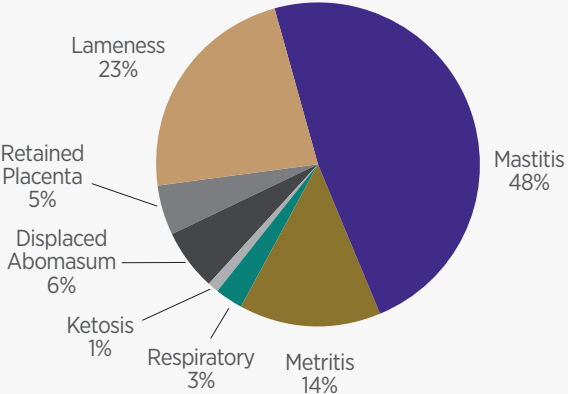


Chart 3: Jersey DWP\$[®] Relative Value (%)

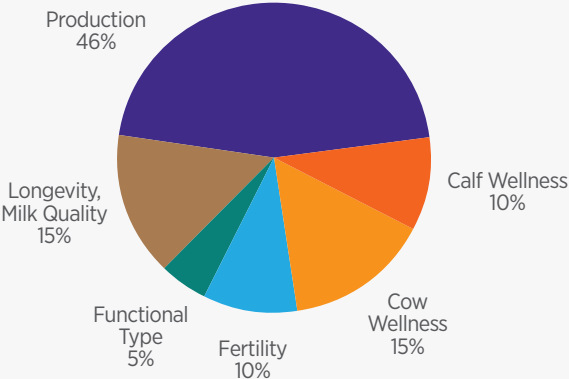
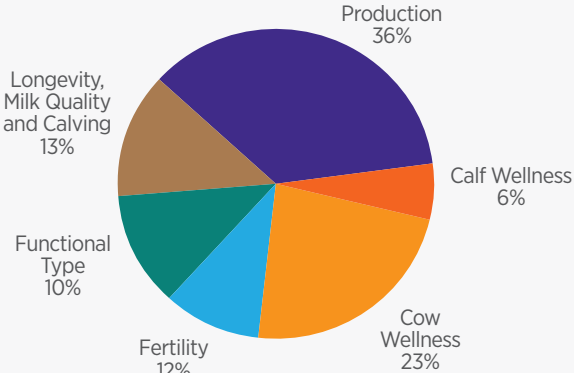


Chart 6: Holstein DWP\$[®] Relative Value (%)



ASSOCIATION BETWEEN DWP\$[®] PREDICTIONS AND LIFETIME PERFORMANCE

As some of the first heifers tested by Zoetis are now finishing their careers, we are now able to examine how well DWP\$ predicted lifetime profit. In order to determine if DWP\$ 2020 improves the capability to predict lifetime profitability better than DWP\$ 2018, a side by side comparison was conducted.

Five large herds (n=2,175 enrolled cows) in the United States were chosen for this study³ because they had: (1) genomic predictions from females born in 2011, (2) recorded production, reproduction and health events to estimate profit per cow (3) at least 200 animals born in 2011. Herd records were used to calculate lifetime energy corrected milk and income over feed cost based on the actual performance from first freshening through when they left the herd; for cows that were still in the herd, current totals were used.

TABLE 3: ASSOCIATION BETWEEN LIFETIME PERFORMANCE AND DWP\$ 2020 GENOMIC RANKING.

CLARIFIDE Plus DWP\$ Ranking	DWP\$ GPTA Value (\$)	Lifetime ECM (lbs.)	Lifetime IOFC per cow (\$)	Lifetime Days in Milk (days)
76-100% (Best)	453	75,558 ^a	4,813 ^a	885 ^a
51-75%	282	69,155 ^b	4,344 ^b	833 ^b
25-50%	165	63,879 ^c	4,033 ^c	780 ^b
0-25% (Worst)	-19	54,098 ^d	3,385 ^d	680 ^c
Difference between Best & Worst	472	21,460	1,428	205

^{a-d} Least Squares Means within column and DWP\$ ranking with different superscripts diff (p<0.05)

Table 3 shows that when ranked by DWP\$ 2020, the best 25% of females produced 21,460 pounds more lifetime ECM per cow than the worst 25%. This additional lifetime ECM represents \$1,428 additional Income Over Feed Cost (IOFC) per cow in the best 25% of females than the worst 25%. The updates and the incorporation of the new fertility and wellness traits to DWP\$ 2020 are increasing DWP\$ ability to predict actual lifetime profitability.

To learn how CLARIFIDE Plus can help you achieve a healthier, more trouble-free herd, contact your Zoetis representative today or visit clarifideplus.com.

1. Data on file, January 2018 Data Package, Zoetis, Inc.
 2. Data on file, Dairy Scorecard Project no. 14CARGOTH01, Zoetis Inc.
 3. Data on file, Zoetis, July 2019.