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Media Contacts:

Cheryl Marti

Zoetis

608-206-0635

[cheryl.f.marti@zoetis.com](mailto:cheryl.f.marti@zoetis.com)

Kristina Hopkins

Bader Rutter

262-938-5577

[khopkins@bader-rutter.com](mailto:khopkins@bader-rutter.com)

**Zoetis Expands Genetics Portfolio With Calf Wellness Traits in Clarifide® Plus**

*With three new calf wellness traits now included, this test will help in the selection process which in turn will help improve calf survival, minimize risk for respiratory disease and scours*

PARSIPPANY, N.J., March 1, 2018 — Zoetis announced the addition of three calf wellness traits to Clarifide® Plus for Holsteins. The new calf wellness traits include calf livability, respiratory disease and scours. This dependable genetic information enables dairy producers to genetically improve calf health and survival within their herds, as the calf wellness trait information helps identify and select for calves more likely to survive as well as animals that are less likely to become ill due to respiratory disease and scours. Minimizing disease risk improves calf health, results in fewer treatments and lowers calf mortality — all important animal well-being considerations for producers.

As part of the offering with Clarifide Plus, the Calf Wellness Index™ (CW\$™) is a multitrait selection index that exclusively focuses on calf wellness traits to directly estimate the potential profit contribution of the calf wellness traits for an individual animal.

In addition, CW\$ has been added to the Dairy Wellness Profit Index® (DWP\$®) to supplement the most comprehensive animal ranking selection available commercially in Holsteins. DWP\$ includes all Zoetis wellness traits for cows and calves. Plus, DWP\$ includes other economically important production, performance and longevity-related traits. The inclusion of calf wellness traits creates an opportunity for producers to realize part of the lifetime economic gains earlier in life — as early as near birth — occurring approximately nine months after implementing

breeding selecting strategies. DWP\$ helps improve the outcome of the calf wellness traits with their inclusion, thus improving their progress toward enhancing overall herd health.<sup>1</sup>

### **Importance of Calf Wellness**

Heifer replacement costs are often the second-highest expense on dairy farms, averaging from 8.6% up to 20% of total production cost in Holstein herds.<sup>2,3</sup> This cost is heavily influenced by many factors, including disease incidence and calf mortality.

“Calf health and mortality can mean the difference between profits or shortfalls in tight margin years,” said Kent Weigel,\* PhD, professor and chair of the Department of Dairy Science at University of Wisconsin-Madison. “We completed research that published 10 years ago, showing genetic differences between sire families and their chances of developing health challenges like milk fever\*\* or mastitis. It was encouraging to see Zoetis use this research to develop Clarifide Plus, a tool producers can use for making genetic selection decisions to raise animals with reduced risk for health problems. Now Zoetis has taken a step farther to introduce calf wellness traits that help minimize disease risk for respiratory disease and scours, which will be game-changing for producers.”

### **Reports demonstrate the impact on U.S. dairies from scours and respiratory disease — the leading causes of calf death loss and disease in the first year of life:**

- **23.9%** of pre-weaned dairy heifers are affected by scours.
- **12.4%** of pre-weaned dairy heifers are affected by respiratory disease.
- **56%** of all pre-weaned calf deaths are due to scours.
- **47%** of all weaned calf deaths are due to respiratory disease.<sup>4</sup>

The cost of calf health presents significant and long-lasting challenges. For example, records show that calves with respiratory disease that required treatment produced about 1,087 pounds less milk in the first lactation than calves with no record of being treated.<sup>5</sup>

The impact from disease can present lifelong setbacks, such as with calves impacted by pneumonia during the first 90 days of life, which are more likely to experience increased age at first calving, higher incidence of dystocia, lower milk production and greater mortality before first calving.<sup>6</sup> Other studies have indicated 2 to 2.5 times greater risk of death before calving for animals that had either pneumonia or scours, respectively.<sup>7,8</sup>

Clarifide Plus was the first commercially available genetic evaluation for wellness traits for U.S. Holsteins, launched in March 2016. In addition to the new calf wellness traits — calf livability, respiratory disease and scours — Clarifide Plus provides reliable genomic predictions to help producers manage and reduce risk for mastitis, lameness, metritis, retained placenta, displaced abomasum and ketosis. Clarifide Plus provides accurate genetic predictions using cutting-edge genetic evaluation methodology applied to data collected from U.S. commercial production settings. This results in an average reliability of 50% or more for the six cow wellness traits<sup>9</sup> and 39% reliability for the average of the three calf wellness traits on young genomic-tested calves.<sup>1</sup>

“Genomic predictions for wellness traits were developed because of the commitment Zoetis has to the overall health of dairy cattle,” said Cheryl Marti, associate director, U.S. Marketing, Dairy Genetics and Reproduction, Zoetis. “We strive to improve dairy wellness and understand genetic factors impacting resistance to common diseases. The recently announced development of the first Holstein reference genome at Zoetis allowed us to map regions of the genome influencing disease outcomes in calves. These discoveries will lead to improvements in the reliability of future predictions for Dairy Wellness.”

### **Impact on dairy profitability**

The calf wellness trait information helps dairies obtain the full lifetime value of healthier calves by selecting and breeding for animals that have a better chance of becoming healthy, productive cows, thus better positioned to attain their genetic potential — and increase a dairy operation’s profitability.

The new calf wellness traits help enhance two important financial drivers impacting dairy producers' net farm income — improving heifer survival and lowering net herd replacement cost. Now, with the calf and cow wellness traits provided by Clarifide Plus, producers can make more informed decisions with reliable information about the animals in their herd and now positively affect the important financial drivers of net farm income.<sup>10</sup>

### **The growing portfolio of Clarifide tests**

Clarifide® from Zoetis has become the industry standard for genomic testing, with Clarifide Plus leading the way as the most comprehensive test on the market, providing dairies with profit-based information to maximize herd profitability and enhance herd management. Producers may use results to adjust herd protocols while gaining confidence in and understanding of their investment value and effectiveness in driving desired dairy efficiency. Since 2010, Zoetis has

contributed more than 1.2 million genotypes of the over 2 million genotypes evaluated by the Council on Dairy Cattle Breeding (CDCB) with genomic testing products from the portfolio of Clarifide tests, and the number continues to grow.

Zoetis recognizes that every dairy has different strategies as well as information, management and support needs. For this reason, Zoetis has a broad portfolio of genomic testing solutions including Clarifide Plus, Clarifide, Clarifide® Ultra and Clarifide® Core.

For additional information, please contact your Zoetis representative or visit [ClarifidePlus.com](http://ClarifidePlus.com).

### **About Zoetis**

[Zoetis](http://zoetis.com) (NYSE: ZTS) is the leading animal health company, dedicated to supporting its customers and their businesses. Building on more than 60 years of experience in animal health, Zoetis discovers, develops, manufactures and markets veterinary vaccines and medicines, complemented by diagnostic products, genetic tests, biodevices and a range of services. Zoetis serves veterinarians, livestock producers and people who raise and care for farm and companion animals with sales of its products in more than 100 countries. In 2017, the company generated annual revenue of \$5.3 billion with approximately 9,000 employees. For more information, visit [www.zoetisUS.com](http://www.zoetisUS.com).

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### **Resources:**

[Clarifide® Plus Enhances Key Financial Drivers Impacting Net Farm Income](#)  
[Zoetis Develops First Holstein Reference Genome](#)  
[Clarifide Plus logo](#)

\*Kent Weigel, PhD, professor and chair of the Department of Dairy Science at University of Wisconsin-Madison, is a consultant to Zoetis.

\*\*Milk fever is not a trait offered with Clarifide Plus. Rather, it's mentioned by Dr. Weigel as an example of one of the health challenges included in earlier research conducted to show genetic differences between sire families and their chance of developing health challenges.

<sup>1</sup> Data on file, January 2018. Zoetis, Inc.

<sup>2</sup> Overton M, Dhuyvetter KC. Economic considerations regarding the raising of dairy replacement heifers. In: Beede D, ed. *Large Dairy Herd Management*. Champaign, IL: American Dairy Science Association. 2017;457-474.

<sup>3</sup> Heinrichs J, Gabler M, Tozer P, Schriefer T. Heifer Economics. <https://extension.psu.edu/heifer-economics>. Updated January 3, 2018. Accessed January 25, 2018.

<sup>4</sup> U.S. Department of Agriculture. Dairy 2007: Heifer Calf Health and Management Practices on U.S. Dairy Operations, 2007 [https://www.aphis.usda.gov/animal\\_health/nahms/dairy/downloads/dairy07/Dairy07\\_ir\\_CalfHealth.pdf](https://www.aphis.usda.gov/animal_health/nahms/dairy/downloads/dairy07/Dairy07_ir_CalfHealth.pdf). Accessed January 16, 2018.

<sup>5</sup> Van Eenennaam AL. Bovine Respiratory Disease Prevention: Opportunities for Genetic Selection, in *Proceedings*. 2015 Western Dairy Mgmt Conf. <http://wdmc.org/2015/Eenennaam.pdf>. Accessed January 25, 2018.

- <sup>6</sup> Stanton AL, Kelton DF, LeBlanc SJ, Wormuth J, Leslie KE. The effect of respiratory disease and a preventative antibiotic treatment on growth, survival, age at first calving, and milk production of dairy heifers. *J Dairy Sci.* 2012;95(9):4950-4960.
- <sup>7</sup> Gorden PJ, Plummer P. Control, Management, and Prevention of Bovine Respiratory Disease in Dairy Calves and Cows. *Vet Clin North Am Food Anim Pract.* 2010;26(2):243-259.
- <sup>8</sup> Brockman B. What is scours costing your operation? *Progressive Dairyman*, May 6, 2014. <https://www.progressivedairy.com/topics/calves-heifers/what-is-scours-costing-your-operation>. Accessed January 16, 2018.
- <sup>9</sup> Vukasinovic N, Bacciu N, Przybyla CA, Boddhireddy P, DeNise SK. Development of genetic and genomic evaluation for wellness traits in US Holstein cows. *J Dairy Sci.* 2017;100(1):428-438.
- <sup>10</sup> Data on file, Dairy Scorecard Project No. 14CARGOTH01, Zoetis Inc.

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