



Open Industry Session Recap: October 2023

October 27, 2023

Lactanet's Open Industry Session (OIS), traditionally held before each Genetic Evaluation Board meeting, is your opportunity to gather the latest information on genetic and genomic evaluations straight from the Genetics team and have your feedback heard. The most recent Open Industry Session covered topics related to type traits with an intermediate optimum value, modernizing the LPI formula, Sexed Semen Fertility ratings, Early Onset Muscle Weakness Syndrome and Lactanet resolutions. See below for a summary of each topic.

Website Display of Evaluations for Type Traits with an Intermediate Optimum Value

Genetic evaluations for linear type traits are calculated using Holstein Canada's classification program data and are standardized and expressed relative to the genetic base for each breed. Some linear traits are

considered to have an intermediate optimum score between 1 and 9 and are published with a letter code instead of a positive or negative sign (e.g., Stature 6T (T = Tall)). When viewing an animal's Genetic Evaluation Summary page via the Animal Query tool, all linear type traits are displayed together and use blue bars to show the magnitude and direction of the genetic evaluations away from zero as the breed average. The perception of this display is that all bars to the right is always better, but this is not true for traits that have an intermediate optimum value. Lactanet geneticists have developed ideas and considerations around how best to display these traits and improve the understanding of their mid-scoring nature. Two different display options were presented at the OIS, both of which involved grouping the traits with intermediate optimums into a separate table below the "Descriptive" traits section. The Genetic Evaluation Board (GEB) will review these options and their recommendations will be presented to the Lactanet Board of Directors in December for consideration.

Modernizing the LPI Formula

Originally introduced in 1991, the Lifetime Performance Index (LPI) has evolved over the years and the GEB recently asked Lactanet to propose an update or modernization to it. This includes expanding the three current components, namely Production, Durability, and Health & Fertility, and adding a component with sustainability traits, eliminating the mathematical nature of communications, and creating individual sub-indexes that can be used on their own as well as in the LPI. Lactanet is in the very early stages of development including finalizing each sub-index and the scale of expression. Check back for more information on this important initiative!

Sexed Semen Fertility Ratings

Sexed Semen Fertility ratings have been calculated for several years and provided exclusively to AI bull owners for internal purposes, however, Lactanet will soon be publishing them. Sexed Semen Fertility and Semen Fertility ratings are based on insemination records from AI organizations and milk recording and are separated so they do not influence the other rating. If bulls have enough records for conventional or sexed ratings, they can have an official rating for Semen Fertility only, Sexed Semen Fertility only, or both ratings. In the Holstein breed, 802, 258, and 124 bulls are official for Semen Fertility, Sexed Semen Fertility and both ratings, respectively. Keep an eye out for additional articles and an implementation date in early 2024!

Update on Early Onset Muscle Weakness Syndrome in Holsteins

Genomics has paved the way for the identification of multiple genetically undesirable characteristics, including the newly discovered Early Onset Muscle Weakness Syndrome (alternatively known as Calf Recumbency) in Holsteins. This condition presents with varying degrees of severity and impacts the calf's ability to stand within the first six weeks of life. Based on DNA from affected calves, a gene test was developed, which is now being used by AI companies to identify bulls that are carriers or free of the undesired gene. A large collaborative effort amongst dairy industry stakeholders is still ongoing as the Council on Dairy Cattle Breeding (CDCB) and the Animal Genomics and Improvement Laboratory (AGIL) in the United States are developing a haplotype test that is expected by the end of the year. Once developed, haplotypes will be shared with Lactanet where we expect to display carrier probabilities for Muscle Weakness in early 2024.

Approved Resolutions

Introduced in 2020, the Lactanet Resolutions process allows dairy farmers across Canada to provide direct input in the areas of herd management and genetics. Over the past three years, several resolutions related to genetics services were submitted for consideration by the Lactanet Board of Directors. Several of them have now been implemented including the genomic results of bulls beyond the age of one, publication of parent averages via a new genomics impact tool, and interpretation tables for type traits. Resolutions under development include genetic diversity tools and a haplotype publication pop-up box. For more details, please visit [Resolutions website](#).

For additional information including the presentation handouts, please see our [Virtual Open Industry Session](#) page and be sure to join us at the next session in February 2024.

Previous OIS Recap : February 2023

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