Open Industry Session Recap: October 2022

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 hoof health, sustainability, breed percentage, and the future publication of cow evaluations. See below for a summary of each OIS topic.

Increased Data and Accuracy of Hoof Health Evaluations

Single-step hoof health evaluations for Holsteins were first introduced in December 2018 using data provided by hoof trimmers. However, the current number of hoof trimmers providing data is still limited. To increase the volume of data in these genetic evaluations, comparable hoof health information from DairyComp can be utilized.

The combined data results in a **61% increase in the number of records** and 104% increase in the number of genotyped cows which is useful for single-step evaluations. The increased volume of data from DairyComp also results in a substantial increase in Hoof Health reliability for official sires and genotyped cows. Check back in April 2023 for the implementation!

Sustainability

Sustainability will be the focus of Lactanet's efforts for the coming years. From a genetic perspective, this includes the current Feed Efficiency evaluations as well as Methane Efficiency planned for April 2023.

Inclusion of Feed Efficiency in LPI and Pro$
Lactanet's Feed Efficiency evaluations were first introduced in April 2021 for the Holstein breed. As announced earlier this year, this evaluation will include the addition of second lactation data and be added to LPI and Pro$ values starting December 2022. The combined first and second lactation Feed Efficiency will result in a 30% increase in cows with feed intake data and genotypes, providing a **better prediction of lifetime efficiency**. For proven sires in the genetic base, Feed Efficiency changes will vary with the addition of second lactation data, mostly moving up or down maximally 5 RBV points. Adding Feed Efficiency to the national selection indexes, LPI and Pro$, will also lead to some re-ranking of top animals. Keep an eye out in November for additional details.

Genetic Selection to Reduce Methane Emissions
With climate change becoming a growing global concern, each sector must do its part to reduce its carbon footprint. Dairy Farmers of Canada (DFC) has committed to reaching net-zero greenhouse gas emissions from farm-level production by 2050 and Lactanet's contribution to these efforts will include genomic evaluation for Methane Efficiency. Selection for reduced methane emissions, without negatively affecting milk production levels, will provide a permanent and cumulative solution to reduce greenhouse gas emissions. Lactanet is using milk mid-infrared

(MIR) spectroscopy data to predict methane emissions. The single-step genomic evaluation of predicted methane and energy corrected milk will result in Relative Breeding Value (RBV) for Methane Efficiency, allowing producers to **select for reduced methane emissions without sacrificing production traits**.

Development and Application of "Breed Percentage" Values

Under Canada's *Animal Pedigree Act* breed associations designate a Purity Code for each registered animal in accordance with the respective by-laws. Given the evolving by-laws and increased amount of matings across dairy breeds, Lactanet has received requests from industry partners to apply a minimum level of purity for animals
1. to be eligible for top lists based on genetic evaluations and
2. have a publishable lactation and to be included in herd averages for production.

The Genetic Evaluation Board and Industry Standards Committee recommended that Lactanet develop and implement the calculation of a "**Breed Percentage**" value to address such requests. Lactanet will continue work to finalize results and rules for each breed prior to consulting with breed associations. Official implementation will happen on a breed-by-breed basis over the coming months and into 2023.

Proposed Future Publication of Cow Evaluations

The proposed future publication of cow evaluations was initially presented in June 2022 and has been supported by the Lactanet's Genetic Evaluation Board. Currently, Lactanet has two sets of cow evaluations for production traits official indexes and management indexes, that each serve different purposes.

Lactanet sees two opportunities to change cow evaluations. Firstly, to revise the current criteria for designating cow production evaluations as official. This would include all cows with publishable lactations also having official production indexes and each cow having **one production evaluation that is updated monthly.**

The second opportunity is the introduction of **genomic evaluation services for non-herdbook females in Canada** by offering a Canadian genomic evaluation as an alternative to buying one from the United States. These changes are expected to follow the changes to publishable lactations that will take effect in January 2023.

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!

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