

Do You Need Genetic Evaluations for Health Traits for Your Herd?

By H. Duane Norman & Kristen Parker-Gaddis¹

When dairy producers have valuable genetic and management information but fail to take advantage of it, it might be termed unfortunate. However, think of all the potential information that could be provided but isn't (yet); these absences are preventing real progress and can be called "missed opportunities." Obviously, similar situations are pervasive everywhere in life, but fortunately U.S. dairy producers can avoid a few of these missed opportunities, which we'll detail in this article.

Although we seem to be drowning in information already, more and more is generated and stored each year. As a result, abundant health data is sitting in on-farm computers while producers fail to benefit fully from it. More of this data can be moved into a central database where accurate genetic and management results would be produced. This would provide advantages to the entire industry, but the lofty benefits would go to the herds supplying data as they would receive accurate genetic indexes on their heifers and cows. The more traits that have value that are incorporated into the composite index, the more economic improvement that will be delivered. **No surprise, real benefits to additional breeds will not arrive until data is collected through the DRPC system and transferred to the Council on Dairy Cattle Breeding (CDCB).**

Jersey, Brown Swiss, Ayrshire and Guernsey producers are not receiving genetic evaluations for all of the traits available to Holstein owners. In April 2018, Holstein animals received genetic evaluations for six health traits; *milk fever*, *displaced abomasum*, *ketosis*, *mastitis*, *metritis*, and *retained placenta* from CDCB. Sire evaluations for *calving ease* have been provided for U.S. Holsteins for 40 years, and evaluations for *stillbirth* delivered for 12 years. Generally other breeds have not pushed their producers hard to collect these data. The only exception is that Brown Swiss receive evaluations for calving ease. Yet striving to reduce stillbirth should be a worthy goal for everyone. We need to acknowledge that selection for calving ease would benefit breeds differently as the frequency of calving difficulty in first lactation is near 6, 8, and 1% in Brown Swiss, Holsteins and Jerseys, respectively. Records for stillbirth and calving ease were available on 1,140,000 and 1,340,000 cows (respectively) in the latest year, which is only 50 to 60% of those having lactation records in the Cooperator's national database. Health records were supplied on even less (513,000), and primarily for Holsteins. The number of health incidents transferred to the CDCB in Jerseys has doubled recently. Even the reasons that cow exit the milking herds (*termination codes*) are not provided for 30% of the DHIA cows even though they have been part of the program for over a half century. After receiving more health data, a research effort will be initiated and that could move more quickly than usual as extensive editing has been completed already on the same traits in the Holstein breed. Increasing the number of health records will improve genetic evaluations for several traits currently provided.

Geneticists are greedy and would love to have recordings on 100% of the health events that occur, but that isn't a realistic goal. Still, available data is being helpful in increasing *cow livability* and reducing *somatic cell score*. The opportunity to benefit improved substantially with the start of genomic testing and continues to improve as genotyping gains in popularity. One example, cow livability in Holsteins has a genetic component (heritability) of only 1% but the accuracy of prediction (reliability) at birth is 50% for those genotyped. The accuracy of most traits having phenotypic data recorded could benefit in the same way as a single genomic test improves the predictions for all. Additional evaluations for health traits will be coming in the future, e.g., *heifer livability*, *lameness* or *locomotion*, and probably also for some management traits such as *milking speed* or *temperament*. The producers who will benefit the most are those willing to record the traits and see that they are passed on to a central database. To help with this, CDCB has hired Dr. Javier Burchard whose primary focus will be the acquisition of data on new traits and how best to facilitate receiving these data from industry. This kind of initiative is long overdue.

There are other issues that need to be resolved in order to deliver data from on-farm computers to the national database. In some cases computer software may need to be developed. Perhaps an even larger issue is that agreements need to be negotiated to permit the data to flow between organizations. These concerns need to be addressed, otherwise benefits are likely to be absent for a long time. Resolving these issues can increase the

available data substantially in the Holstein breed as well. Resolution is not likely to come unless there is a considerable interest (pressure) from producers who will benefit the most. Dairy producers are the core of all these organizations, so cooperation means helping yourself.

H. Duane Norman & Kristen Parker-Gaddis¹ are Technical Advisor / Industry Liaison and Research Geneticist with CDCB, respectively.

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