

## Parental Traceability Through Genomic Tech

### Abstract

Sustained genetic improvement is vital to develop and maintain a profitable dairy herd. The selection decisions that contribute to genetic progress rely upon available data to describe the genetic merit of individual animals, particularly the replacement females that will serve as the foundation of the herd for years to come. The incorporation of DNA information in the genetic evaluation systems has caused profound changes in dairy cattle breeding. Selection using genomically enhanced predictions allows producers to accurately identify genetically superior animals at a much early age. The increased reliability of the genomic predictions directly impacts the accuracy of genetic selection, one of the key drivers of the rate of genetic progress. The Council of Dairy Cattle and Breeding (CDCB-USDA) genetic evaluation provides predictions for more than 30 production, health, reproduction and conformation traits of importance for the Holstein, Jersey and Brown Swiss breed plus several comprehensive indexes designed to support multi-trait selection objectives. In addition, genomic predictions include markers to authenticate parentage and maternal grandsires discovery as well as to help manage inbreeding. Dairy producers have today the availability of a comprehensive list of economically relevant traits and a robust genetic evaluation system to fuel their genetic improvement strategies. Inaccurate or incomplete data may increase the risk of incorrect selection decisions and ineffective genetic improvement strategies. Genomic predictions provide accurate genetic predictions for economic relevant traits resulting in an expanded suite of genetic selection tools that provide highly relevant information to dairy producers that seek to continue to improve the health, productivity, and profitability of the dairy cattle they care for.

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