Adding genomically discovered maternal grandsires and maternal great grandsires to the US evaluation system

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Based upon haplotype matching, missing maternal male ancestors can be discovered with > 90% accuracy. The Council on Dairy Cattle Breeding (**CDCB**) has already added over 370,000 discovered maternal grandsires (**MGS**) to dams with unknown sire where no pedigree was submitted for the dam. CDCB intends to extend this to maternal great grandsires (**MGGS**) where no pedigree was submitted for the maternal granddam (**MGD**). To add MGS or MGGS to the pedigree, where the dam or MGD is unknown, requires CDCB to create an ID for the dam or granddam. These constructed IDs consist of the breed of the discovered MGS or MGGS as the best guess of the unknown dam breed, the 'USA' code, the letters' DAM' or' MGD' followed by the genotyped animal internal sequence number. For about 30,000 cases, a dam can be discovered by finding a cow whose sire is the discovered MGS and has a calving date in the herd of the genotyped animal that matches its birth date. After further testing and a staged implementation, > 1 million discovered ancestors linked to genotyped descendants by constructed IDs will be added to the pedigree used in evaluations. A more complete pedigree is expected to improve evaluation accuracy.