

## **Abstract by Jennie Pryce - Genotyping dairy females can improve the reliability of genomic selection and provide farmers with new management tools**

To date, genomic selection has been successfully applied to male pathways of selection in dairy breeding schemes. Farmers can already achieve higher annual rates of genetic gain through using genomically tested bulls in their herds. As genotyping costs continue to fall, it will likely become increasingly popular to capture extra value from genotyping females. Genotyping females can 1) improve the reliability of genomic selection (of both bulls and heifers) by increasing the number of animals in the reference population, provided some of the females eventually get records through herd recording; 2) assist in the identification of elite females; 3) identify the best heifers to become herd replacements; 4) provide better prediction of the true value of an animal's genetics, that may correlate to sale price; 5) achieve certainty of parentage of individual cows; 6) avoid inbreeding through the use of genomic assisted mating plans, where relationships between animals are quantified at the genomic level and 7) avoid genetic defects that could arise from mating cows to bulls that are known carriers of genetic diseases that are the result of a single lethal mutation.