

NEWS RELEASE

Genus Breeding



GENOMICS NOT A REPLACEMENT FOR PROGENY TESTING

Global cattle breeding business, Genus ABS, advises caution regarding the uptake of genomics information believing it should not be considered a replacement for established sire proving schemes.

Although committed to the development of the technique, the company is advising a more cautious approach, at least initially. Talking at this year's National Holstein Show, Mark Smith, Genus ABS Dairy Product Development and Production Manager, comments, "Genomics certainly has a role to play in modern day dairy cattle breeding but it is essential to keep it in context. For example it will not affect the proof of proven sires in the UK and its biggest impact will always be on young bulls with the impact on second crop bulls much lower."

Mr Smith explains that Genus ABS has been extensively involved in the development of genomics selection tools, and to date have tested over 900 bulls in their global programme. The company has over ten years experience in the use of gene marker technology through the Genus plc owned business PIC.

"Genomic evaluations offer a considerable amount of information but the key question has to be how accurate is the information? Accuracy and reliability are the bedrock of prudent breeding decisions and it is important farmers appreciate where genomics fit in this process."

Traditionally young sires are selected on the basis of a parental average, an assessment of the genetic ability of the sire and dam. The parental average for any given trait is typically believed to be 30-35% reliable. It is estimated that genomic selection combined with parental average could increase young bull reliability closer to 50%, equivalent to having information from around 10-15 daughters.

"Genomic selection is still considerably less reliable than progeny testing which regularly achieves reliability results of 90%+. Furthermore, a progeny test allows us to assess additional management characteristics such as milking speed and locomotion which are unavailable in a solely genetic evaluation.

"Some breeding companies are using genomics to reduce the number of bulls they test per year. Our approach will be to retain the size of our Cornerstone programme but use the genomics data available to increase the quality of bulls graduating from the programme.

"We are actively using genomics as a way to try and improve the quality of sires selected for our progeny test but still firmly believe that progeny testing is the most reliable measure for selecting sires to use on farm with the more daughters included the better.

"Advocates of genomics argue that the benefits of the technique, such as reducing generation intervals and increasing the potential rate of progress that can be made, outweigh the reduced reliability.

"While these arguments have a degree of truth, the question is if we are moving quicker, can we be certain we are moving in the right direction? With a reliability around half that of progeny testing, the risk of moving in the wrong direction is increased if genomic information alone is used for breeding decisions," Mr Smith concludes.