Do genomically tested bulls take the risk and guess work out of using young bulls?

More power to the producer?

What do breeders and commercial producers really think about genomic technology? In this, the second of two articles on the subject, two leading UK breeders share their views. And we look at a new 'talent spotting' tool that could be used on your dairy herd

text **Rachael Porter**

"It's exciting, but I don't think it's quite there yet." That's leading Lancashire-based producer and breeder David Fisher's view on genomically tested bulls. He runs a 100-cow high indexing herd, with an average PLI of 84 and an average PIN of 28, and says that genomics have huge potential, particularly for producers like him who are passionate about breeding – and breeding some of the highest indexing cows in the world. But he hasn't used the technology yet.

"I'll always be interested in high indexing cows and run a high index herd and genomics will certainly be able to help me does that. The technology has the potential to provide me, and other breeders, with a clearer picture of the animals that we're selecting and breeding from."

So why is David shying away from genomically-tested sires? "They don't come with a UK base and that's put a stop to it for me for the moment.

"Without a solid UK base, the reliability of such sires isn't much higher than that of young sires with just a few daughters on the ground. Such bulls are promoted as being more reliable, but I'm not sure that they are."

He says that the use of genomically tested sires in the US is high, helped mainly by the fact that the price of this semen is so low. "Reliability isn't so good over there either, even though there is a US base. There was a correction to this base in April, with regard to genomically tested sires. The formula can't cope very easily with inflated maternal PTAs."

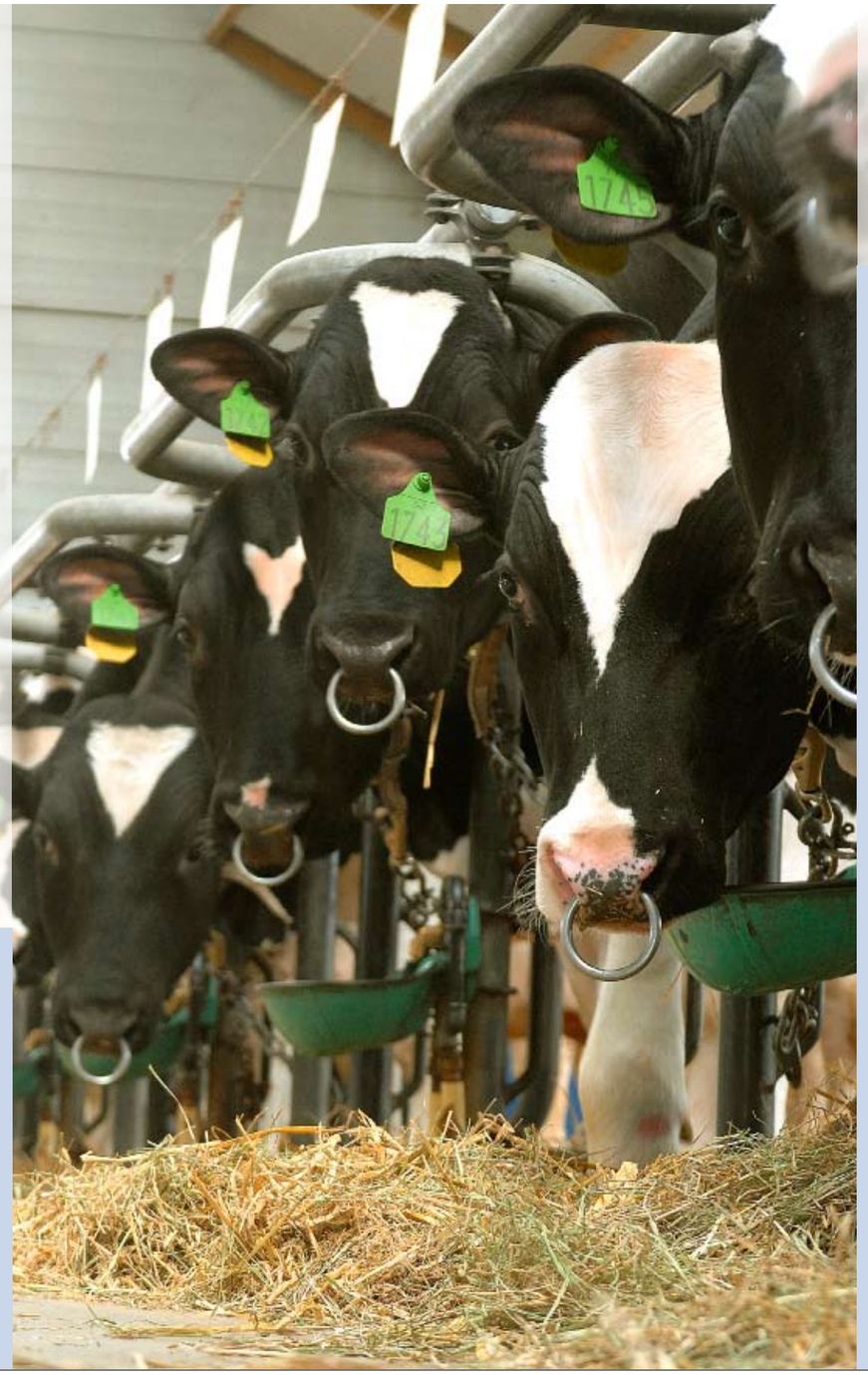
Back in the UK, David reiterates that he is excited by the technology and it's something he's watching closely and with a degree of anticipation. "Once I feel that the reliability is high enough, I'll be tempted to give genomically tested sires a go. At that point there should be far more to gain that there is to lose."

One producer who has embraced the technology is Rupert Major, who farms with his father James at Tutbury in Staffordshire. He used genomically tested bulls from LIC in New Zealand on his herd this year and is eager to see the resulting calves on the ground.

"It didn't feel like a risk, particularly because I used several bulls rather than just one. Two teams of eight to be more precise. So I'm spreading the risk anyway and not pinning all my hopes on one bull," he says. "And if they all turn out to be good bulls, then I have the advantage of having a bit of everything."

Rupert believes in the genetic quality of the sires and the potential advantages that are on offer. "It should certainly 'skip' a generation or two in terms of the speed of my herd's rate of genetic gain."

He adds that the ability to screen a large population in such a way should help the best to rise to the top much more quickly and easily, and he wants a slice of that. "I compare the introduction of DNA profiling and genomically selected sires to the introduction of AI. Producers were sceptical – afraid almost – when that was introduced more than 50 years ago, but look at the industry now. AI is the norm and has taken breeding forward in leaps and bounds. And I think that genomic testing is the tool that will take us to the next level." |



Tool taps into cow 'talent'

A genetic profiling tool is now available for exclusive use on cows. Aware of the need to bring genomic technology closer to the commercial breeder and producer, CRV has launched InSire TalentScan, which it says offers maximum insight into the genetic quality of the female herd and brings genomic technology closer to customers.

Avoncroft's David Matthews is certainly excited about the product, which was introduced in the Netherlands and Belgium on late October. "It is a service for Holstein breeders who want to know the genetic qualities of the female animals in the herd. By means of a 3K-genomic test, the scan literally reveals the 'talents' of the animals in terms of sustainability, health, fertility, production and type," he says

InSire TalentScan can be applied to both young stock and mature cows. Mapping the genetic qualities of animals in the herd in this way offers many advantages, according to David.

"Not least is the acceleration of genetic progress," he says. "And there's also savings on rearing costs and fewer 'disappointing' heifers."

Higher financial turnover from increased milk production and/or sale of heifers is another benefit and ultimately the tool gives producers a strong grip on targeted breeding for health, sustainability and fertility.

Good reliability

Reliability is key to the efficacy of TalentScan. The full genomic test costs around €250 Euros (£212) – not bad to get your hands on breeding values based on 50,000+ markers with a reliability of between 65% and 70%. This reliability comes from the Euro Genomics partnership of CRV, which involves Denmark, Sweden, Finland, France and Germany, which together have a reference population of more than 16,000 bulls.

"But it's still a little pricey, which is why they now offer the TalentScan test for €65 Euros (£55) based on 3,000 markers, but with a reliability that's only 6% to 7% lower than the more expensive screening, which they say is equal to the breeding value of a cow with records of three lactations. I think that's impressive and allows the producer to breed the cows to suit their set up and market conditions," says David Matthews.

DNA analysis reveals the genetic quality of the animals tested and the results are expressed in the form of genomic breeding values. This approach is an important step forward in the field of reliability, according to David. "One of the problems in cattle breeding is the relatively low reliability of breeding values of young female animals. But this tool has the ability to raise the reliability of the breeding values to a level similar to that of the breeding values of cows with three lactations."

Coupling this new tool to management products, such as mating programmes, will also be an option in the near future. "And combinations of tools, products and services will be an important aid to herd management – both in the short and long term," he adds.

CRV is considering whether to offer TalentScan to UK producers, but as yet no decision has been made. "So for now it's benefitting only members of the farmer-owned co-operative," says David.

"Genomic technology will continue to cut costs for AI companies, who can move towards testing fewer bulls, and now it can allow producers to breed replacements only from their best cows – whatever they think 'best' is."