

Breeding data and herd management join forces

# Key to unlocking herd potential lies in the detail

The latest NMR breeding system can turn genetic or genomic data into useful management information on a herd-by-herd basis. This opens the door to more reliable and faster herd genetic progress and will, in turn, make a valuable contribution to herd profitability.

text **Karen Wright**



Nick Kirby: "It's worth 'lifting the lid' and looking closely at PTAs"

Exactly how much producers use breeding indices varies. Some still view it as a specialist area and leave a lot of the decisions to their breeding advisers. "There's no harm in this," says NMR's breeding services manager Nick Kirby. "But a little more understanding and embracing the data can go a long way. I would encourage all producers to look at the information they receive, either through their milk records or

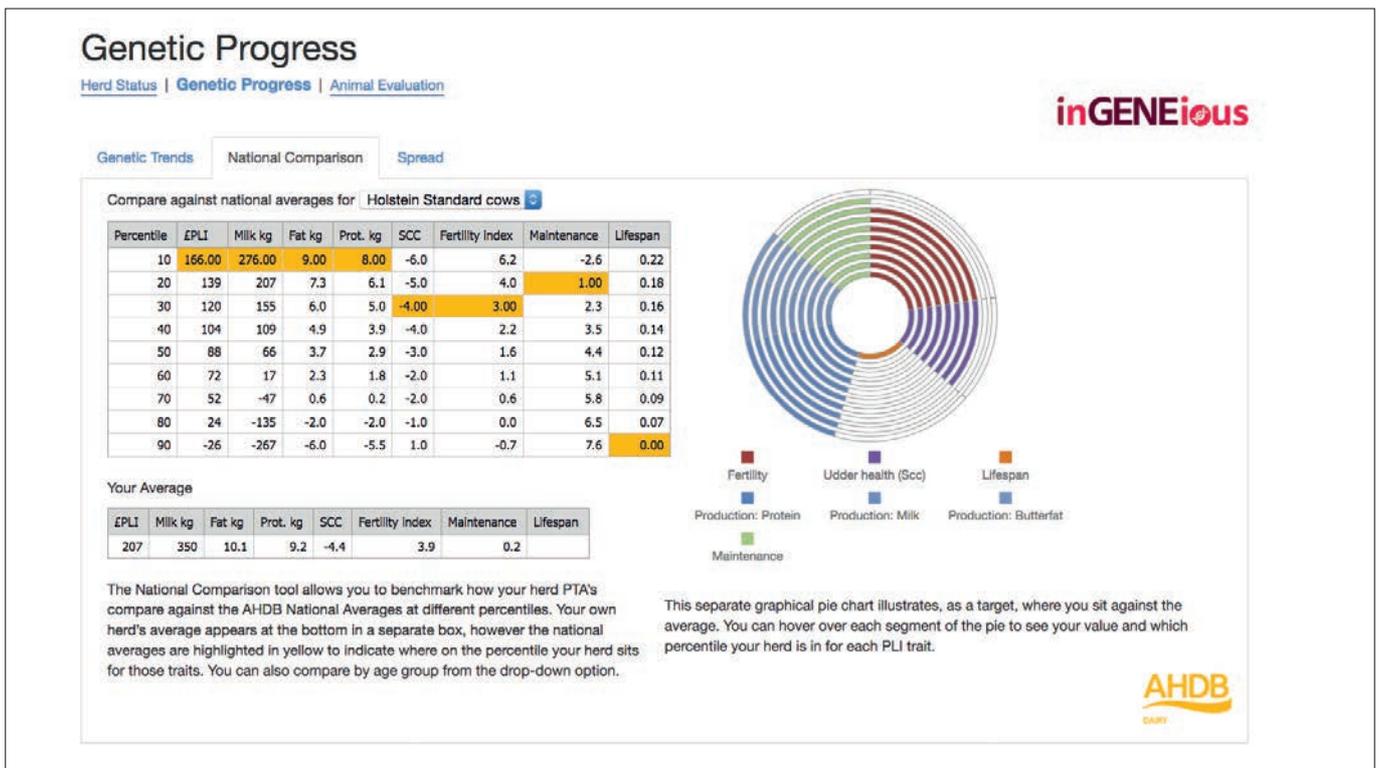
genomic services, or both," he adds. His first 'stop' is the £PLI (profitable lifetime index). "This takes account of the key traits that affect the cow's profitability across her lifetime, such as production, fertility, udder health and lifespan.

"£PLI is tried and tested. It has been updated in line with the dairy industry requirements and, since its introduction, it has been a significant step forward in

selecting animals for breeding and in helping to progress the profitability of our herds. AHDB Dairy has also recently developed related indices for spring- and autumn-calving herds.

"It's a great initial screen. As a rule of thumb, you would breed from your highest ranked £PLI animals."

Genetic report: an example of the information generated by inGENEious





Mr Kirby also encourages producers to look beyond £PLI and at the Predicted Transmitting Ability data (PTAs) provided for key traits. “PTAs are the building blocks that make up the £PLI. While not recommending them as a scatter gun approach to putting everything right, they show up where the strengths and weaknesses are within the herd and within individual animals.

### Interesting reading

“Look at cows with comparable high £PLIs and see if and how their PTAs vary. They may be among the best in the herd, but one could have a low PTA for fertility while another may be low for udder health. It makes for interesting reading and can also guide mating plans. It’s worth ‘lifting the lid’ and looking at PTAs.”

Making this happen has been a challenge – of sifting and sorting data – but it’s one that NMR has met through the development of its new inGENEious module. “This system ‘bridges the gap’ between genetic data and management information. It is an independent system that analyses genetic or genomic data in a more systematic way and ranks

animals more accurately. It’s a huge step for producers who no longer have to base decisions on raw data or gut feel.” NMR-recorded herds can now use inGENEious free of charge as part of the Herd Companion system. It accesses the herd’s most recent recording and genetic data – and genomic data if they are using GeneTracker – and ‘sorts’ animals.

Those with genomic data have the advantage of improved reliability on their younger animals. This makes the inGENEious tool even more valuable in the herd breeding programme.

Producers can review their herd status, then benchmark animals against AHDB Dairy national averages and view and compare genetic trends (see Figure 1). Each herd’s inGENEious system is kept up to date, with £PLIs and PTAs updated three times a year, through monthly new genomic test results.

“Producers can rank cows on £PLI and breed replacements from the highest ranking, but I would encourage them to look beyond this and use PTAs to improve their progress.”

It’s here that inGENEious, as a management tool, comes in to its own. It allows cows to be grouped by whatever

PLI/PTA values the producer wishes to apply and then presents the PTA values for key traits for the group.

And for individual matings, inGENEious will list each cow in the group alongside its own data.

### In-depth analysis

“We can then breed a cow as an individual. For example, producers can look for sires that will improve fertility and those that will enhance lifespan and use them on specific cows.

“And there is the flexibility to move a cow from one group to another. A cow with a lower ranking £PLI can be moved up, as a ‘special’ case cow.”

This more in-depth analysis of genetic and genomic data provides information that can be used for discussions with breeding advisers, and it will help manage semen requirements.

“We’ve developed inGENEious to encourage producers to reap more benefit from the genetic information provided through their milk records,” adds Mr Kirby.

“It’s a simple tool with a lot of ‘power’ that can generate a more accurate breeding strategy.” |