Herd progress tracked online

Most producers have plenty of herd and cow data – some would say too much. But putting it to good use can accelerate herd progress, as one Devon-based producer is finding out from his new on-line genetic reports.

TEXT KAREN WRIGHT

Phil Cooke: **"Rankings for key traits allow us to make better progress"**

Producer Phil Cooke, from Honiton in Devon, has genomic tests for all cows in his two dairy herds. He started testing his 150-cow Jersey herd just before breeding them, when he established the herd in 2014. While he knows that, overall, their performance has improved and there's more milk in the tank, he is enlightened by the InGENEious reports that show just how well these cows have progressed in key traits.

Figures 1 and 2 are taken from Phil's InGENEious reports that he accesses through NMR's Herd Companion. Figure 1 compares Phil's third and older lactation cows with the AHDB national average for the same aged cows.

"I stocked the Jersey herd with a group of cows and heifers – half from UK herds and half from Denmark. I knew they were a mixed bunch and the report shows this. Their average PLI is below average, in the 60th percentile, and key traits are fairly average."

Figure 2 shows the Jersey heifer rankings at Sutton Barton Farm with Phil's Jersey heifers now ranking in the 30th percentile nationally and their milk, fat and protein in the top percentile. "The difference in ranking between the old cows and the heifers shows the progress that's been made, but it also shows me where I can improve the breeding going forward."

Phil runs his Jersey herd, on the 324-hectare unit at Sutton Barton, alongside his 600-cow Holstein herd. "It was an unusual route, but we realised that the Holstein cows were too big for our old cubicles and we wanted to expand. We set up new facilities with larger cubicles more suited to Holsteins. Instead of making the old facilities redundant we decided to get some smaller cows. And so the Jerseys arrived."

Mixed bag

Knowing his Jerseys were a mixed bag, Phil decided to genomically test all the animals pre-service and use the results to decide how to breed each cow. Using the genomic results, he selects the top third of cows on the combined production and type index then sets a benchmark for somatic cell count and fertility – two of the key criteria Phil wants to improve within the herd. The herd is autumn calving, from September to November.

The top third of Jersey cows meeting his criteria are bred to Jersey sexed semen, and the bottom two thirds are bred to sexed Holstein semen, with these heifer calves joining the Holstein herd. He breeds these F1 crosses, which he says are great cows and exceed his expectations, to a beef bull.

Keen to keep tabs on progress and improve the Jersey

Compare against national averages for Jersey 3+ lactation

Percentile	£PLI	Milk kg	Fat kg	Prot. kg	SCC	Fert.	Maint.	Lifespan
10	149	223	8.1	7.4	-4.3	2.7	-2.1	0.16
20	110	143	5.8	5.6	-2.9	2.2	0.5	0.14
30	84	74	4.6	3.9	-2.2	1.5	1.7	0.12
40	68	40	3.5	2.8	-1.30	1.3	2.6	0.11
50	51	2.00	1.90	1.7	-0.9	0.9	3.1	0.09
60	29.00	-25	0.4	0.60	-0.3	0.6	3.9	0.07
70	3	-56	-1.4	-1.0	0.4	0.40	4.6	0.05
80	-48	-100	-4.8	-3.2	1.0	0.0	5.4	0.03
90	-140	-201	-9.7	-7.3	2.0	-0.6	6.6	0.00

Your Average

N animals	£PLI	Milk kg	Fat kg	Prot. kg	SCC	Fert.	Maint.	Lifespan
78	34	25	2.3	1.5	-2.0	0.4		0.14

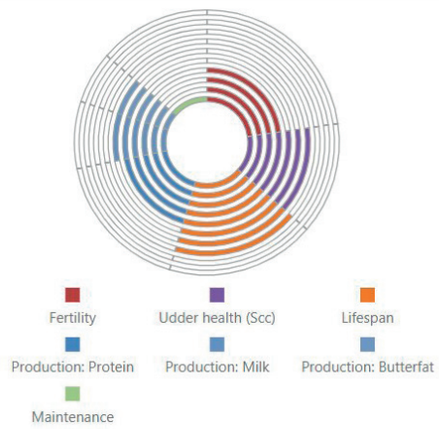

Figure 1: Third lactation and older cows at Sutton Barton Farm compared to AHDB national average (Jerseys)

The power of **InGENEious**

InGENEious is a powerful genetic reporting tool for dairy producers and is easily accessible through NMR's Herd Companion web site. NMR's customer account managers are available to help producers to use inGENEious and get the best from the data to use in their herd

Richard Miller, NMR's genomic business manager

management. "It allows you to benchmark and compare your herd's performance against the AHDB Dairy national average for a range of breeding traits," says NMR's genetics manager Richard Miller.
"You can monitor how your breeding traits are changing over time, if you are making progress and if any traits are slipping."

Animals can be grouped on inGENEious depending on their genetic merit.
"It means that you can select the 'top' group for perhaps sexed semen and the 'bottom' group for breeding to beef bulls. But the actual choices will depend on the replacements needed and the herd business strategy," adds Mr Miller.

herd further, Phil is now using InGENEious. "I can see the progress we're making for each trait and how we rank alongside the national averages for the breed," he says. "The production indexes can hide weaknesses in other traits, so it's valuable to see where our cows rank for all traits, particularly those for health and fertility.

Trait rankings

"But, better still, I can use InGENEious data to select breeding groups. The herd is ranked on a national scale for each trait and it includes the most recent genetic evaluations, so I know I am using accurate and current information as I plan how to breed the cows."
Phil can also see the ranking of his Holstein herd on InGENEious. But at the moment he isn't using genomic results to select breeding groups for these cows. "We're in a TB affected area so we need all the heifers we can breed."
He breeds all maiden Holstein heifers and first and second calvers within their first 100 days post calving to sexed Holstein semen. "I am breeding from the best and from the most fertile," he adds. "The rest of the herd is bred to a beef bull."
Average production for the Holstein herd is 11,500kg of milk at 3.8% fat and 3.3% protein, with a SCC of 98,000cells/ml. This herd is housed and fed a TMR.
The Jersey herd, which grazes during summer, is averaging 6,016kg of milk at 5.35% fat and 3.98%

InGENEious reports are tracking improvements in breeding

protein, with a SCC of 72,000cells/ml. The calving interval for the Jersey herd is 377 days, and 366 days for the Holsteins.
Milk is sold to Pattermores Dairy and the milk price reflects milk-constituent values. "We want to focus on health and fertility without compromising yield and milk quality," adds Phil.
"The Holsteins are in the top percentile on the inGENEious report for our key traits and I will keep an eye on these and make sure we maintain this. But there is still scope for improvements in the Jersey herd and genomic test data and the breeding report will hopefully allow us to make good progress." |

Compare against national averages for Jersey Heifers

Percentile	£PLI	Milk kg	Fat kg	Prot. kg	SCC	Fert.	Maint.	Lifespan
10	230	232.00	13.60	9.70	-5.7	2.0	0.8	0.16
20	194	172	10.6	7.9	-4.00	1.3	2.3	0.13
30	158.00	146	9.2	7.0	-2.9	0.80	3.3	0.12
40	132	111	7.6	5.9	-2.3	0.4	4.3	0.10
50	110	81	5.9	4.8	-1.3	0.1	5.5	0.09
60	85	58	4.6	3.9	-0.3	-0.2	6.0	0.08
70	62	30	3.1	2.8	0.7	-0.5	7.3	0.07
80	26	-9	1.5	0.9	1.7	-0.9	9.0	0.05
90	-38	-73	-1.6	-2.0	3.7	-1.4	10.7	0.02

Your Average

N animals	£PLI	Milk kg	Fat kg	Prot. kg	SCC	Fert.	Maint.	Lifespan
154	191	272	13.6	10.1	-5.2	0.9		0.10

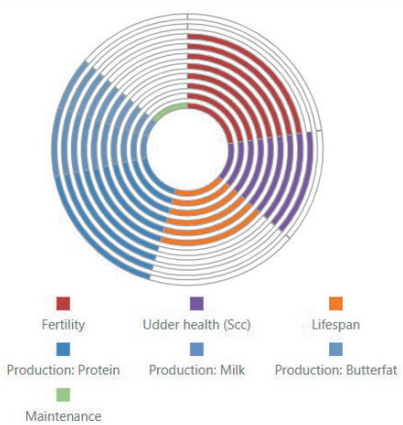

Figure 2: Heifers at Sutton Barton Farm compared to AHDB national average (Jerseys)