Viking legacy stands Iceland's dairy industry in strong stead

Land of ice and fire – and milk

Automated systems and strong domestic demand are seeing many Iceland-based producers thrive in an otherwise tough dairying environment. CowManagement joined the AB Vista and Celtic Sea Minerals study tour of the island to find out more.

text **Rachael Porter**

It's hard to believe that Iceland has a dairy industry when you see the rocky, mossy landscape surrounding Reykjavik – the country's capital city and the area inhabited by two thirds of the 338,000 head population.

But travel north and south east and there's grass. It's not grass as UK producers know it, looking somewhat out of place in what is still a somewhat volcanic environment, but it's grass non the less. And it's this grass, as well as other home-grown crops and bought-in feed, that supports Iceland's 24,500 dairy cows, managed on 596 dairy units, most which are situated in the southern and south eastern regions.

This island's industry produced 150 million litres of milk in 2016. Average yield stood at 6,000 litres, with 4.8% butterfat and 5.44% protein. A large proportion of its milk is processed to make Icelandic skyr – a high protein (11%), low fat (0.2%) whey-based product that's been consumed by Icelandic people since Viking times. The same traditional cultures are still used to make it today.

'Viking' breed

Another legacy of the Viking invaders are the Icelandic dairy cattle – the only breed of cattle on the island. Producer Runar Bjarnason has a 65-cow herd of them, all milked and managed through a Lely robotic milking system, near Selfoss in southern Iceland. They are small cattle, brought from Norway during the settlement of Iceland in the 10th century. The breed is typically polled and colourful, with six basic colours and more than 100 different schemes. The most common are red or red pied, brindle, brown and black, or black pied. Runar's herd has all these colours and more. None are bigger than a typical Jersey.

Runar Bjarnason: "Automation will allow me to continue dairying"

They're sturdy, hardy cows, according to Runar, who runs his unit in partnership with his wife.

His family has been farming here since 1798 and he's determined to continue that tradition for the foreseeable future. Despite being in his 60s, and the fact that none of his children want to take on the business, he has just invested in a new automated cubicle housing system.

"It's the automation that's going to allow me to continue farming for the next 20 years," he says, adding that he's not sorry to see the back of his old eight-stall milking parlour. Not only does the new set up comply with the latest cow housing regulations that are forcing many producers out of the industry, but it also lightens Runar's physical workload and frees up more time for individual cow management.

Limited grazing

His herd produces 420,000 litres each year – an average of 6,500 litres per cow – and is run on a 162-hectare unit, which comprises 40 hectares of 'productive' grassland. The remainder is 'rough' land and grazed by sheep and horses. This grassland comprises ryegrass varieties and is cut for haylage and is also grazed for just four months in the summer, for no more than four hours a day. Even then, if the weather is wet or cold, the cows stay indoors.

Replacement heifers: Runar thinks that the gene pool is limiting milk-yield progress

Viking breed: Icelandic dairy cattle were brought from Norway in the 10th century

New system: recent investment means that cows are now milked automatically

Water wonder: Selfoss Waterfall is just a short distance from Runar's dairy unit

Runar takes just two cuts of haylage each year to feed the all-year-round calving herd. This is given on an ad-lib basis with concentrates fed to yield through the milking robot. And they are also fed additional concentrates through an out-of-parlour feeder. "How much we feed also depends on the milk price and the strength of the krone. Because so much of what's fed is imported, I have to take extra care to ensure that I make money," he explains.

A tonne of 20% CP concentrate costs Runar 90,000 Icelandic króna (£662) per tonne and currently milk price is 63ppl. "So I have to keep a close eye on milk price and cost of production."

Cows are fed a maximum of 10kg of concentrate per day and each cow is being milked, on average, 2.8 times a day. The robotic system was installed in 2015 and Runar is happy with how both it – and the cows – are performing. He adds that robots are now extremely commonplace on Icelandic dairy units, with 42% of producers milking and managing their cows through automated systems.

Replacement rate

"Iceland's climate suits this way of dairying. It's too cold for cows to be outside in the winter and only really warm enough for grazing from mid-May to mid-September at best," he says. So most cows are, predominantly, housed for much of the year.

Runar rears his own replacements using AI and says that the most cows last in the herd for at least six lactations – some as many as 10. "It's yield that's the decider. We have very little disease – production or infectious – and fertility is extremely good so these factors are rarely reasons for culling. Anything giving less than 4,000 litres is usually sent off."

Increasing yields, from a genetic perspective, is proving tricky: "It is illegal to import any cattle or cattle semen, so our gene pool is limited.

"I think that, if it could be done in a controlled way to protect the traditional breed and prevent the introduction of disease, we could have access to imported genetics that would enable us to increase yields.

"But I'd still be wary – I know how lucky we are to have such a low level of disease in our herd and I'd want to protect that."|

Icelandic dairy facts

- Herd numbers are falling in Iceland, with smaller producers leaving the industry and those herds that remain are increasing in size. It's a similar trend to that seen in the UK, but in Iceland consolidation is being driven by cow housing legislation. Producers either invest in free-stall barn systems or sell their cows and quota and exit the industry.
- Milk price is 85 Icelandic króna per litre – or 63ppl. But the cost of production is considerably higher than the UK because feed, fertiliser and other inputs have to be imported. The Icelandic government removed quotas in 2013 to encourage production but re-introduced them in 2016 after production increased to control the amount of milk. The national quota pool for 2017 is 144 million litres.
- Milk price has increased by 3.56% during the past 12 months. MS Dairies, a cooperative owned by 700 dairy producers (90% of Iceland's producers), process 98% of Iceland's milk production.
- The company has four plants on the island, each one producing either cheese, skyr, butter or liquid milk. Around 10% of Iceland's dairy products are exported – 90% is for the domestic market.