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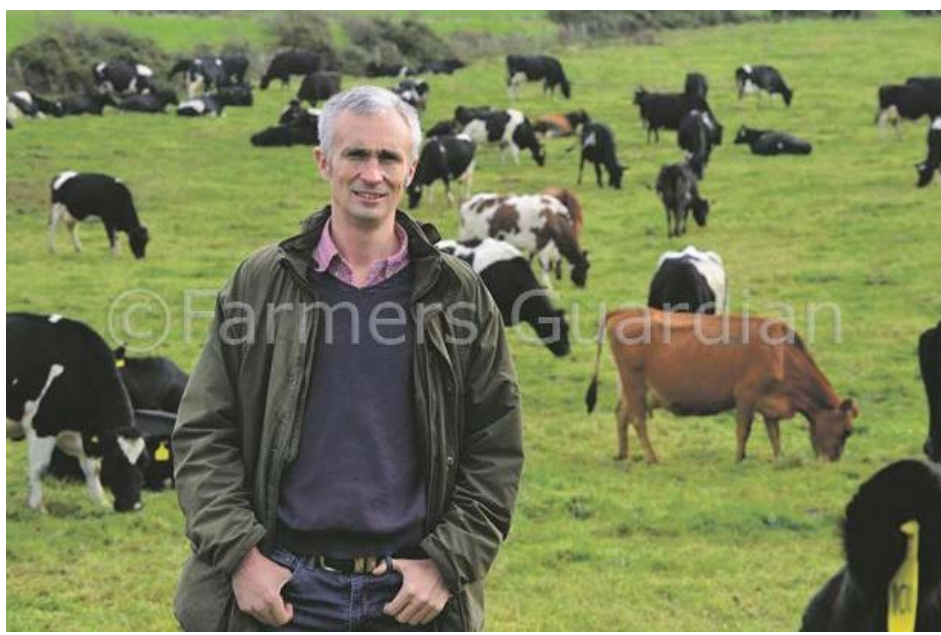
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**Farm focus: Running a New Zealand grazing system in south west Scotland**

November 7, 2014



A Wigtownshire dairy farmer is exploiting the unique climate created by the Gulf Stream, as it winds its way past his land next to the sea at Port William, to run 1,500 Jersey cross Friesians on an outdoor, grass-based New Zealand system. Rog Wood reports.

Rory Christie farms in a limited farming company, Dourie Farming Co, with his brother Gregor and father Robin. Most of the 1,000 hectares (2,470 acres) is owned, with the rest on both long- and short-term tenancies.

In the 1980s the company was producing 450,000 broilers a year as well as keeping 1,100 sows, using the abundant supply of whey from local cheese factories to produce 15,000 finished pigs annually.

The poultry muck and pig slurry helped grow grass for their 500 dairy cows and they finished 250 Friesian bullocks annually while also keeping 400 breeding ewes.

Times change and the poultry, prime cattle and sheep have now gone. More significantly, there was a complete destocking of the pig unit in 2012 to allow a new state-of-the-art, green-field pig unit to be built.

It now houses 200 sows, originally imported from Denmark, which produce top quality, high health status, prolific breeding gilts and bacon pigs - with Gregor overseeing a total investment of £2.75 million.

**Expansion**

Mr Christie says: "The buildings have been designed with a view to future expansion, should profits allow. It is a 1.5-man unit and, as far as



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I know, the only complete breed-to-finish unit built in the UK in recent years."

Following the installation of a 44-point rotary parlour in 2005, originally designed to milk 500, the herd has evolved to an outdoor system with 1,200 cows.

The plan is to expand again to 1,500 next February following the most recent import of 250 in-calf Jersey heifers from Denmark. "I have to go abroad to be sure of sourcing healthy heifers and maintain my TB-free status," he says.

Throughput of the parlour is 300 cows per hour, so it currently takes four hours, morning and night, to milk the 1,200 cows, but the parlour will be in use 10 hours a day once the imported heifers calve alongside an extra 50 home-bred ones next spring. "The herd will then be at its maximum until we get more land."

After trips to New Zealand, Mr Christie based his system on Jersey cross Friesians. "They are a better animal due to hybrid vigour. They have better feet, they are aggressive grazers and they are more fertile," he says.

After an investment of about £1,000/ha (£400/acre) for electric fencing, water infrastructure, gates from the paddocks and hard tracks to reduce poaching, the cows are grazed in herds of 300 on a paddock system of 2ha (five-acre) or 4ha (10-acre) blocks spread over 400ha (1,000 acres). Another 100ha (247 acres) of paddocks are grazed by the youngstock.

"The herd calves between February and April and graze from February to November. Basically our cows' lives follow the seasons and their milk production is matched to the grass growing season. Our constant challenge is to make summer as long as possible and winter as short as possible," he says.

"We try to maximise the amount of milk we make from forage. Cows need a daily intake of 17kg of grass dry matter [DM]. We monitor grass DM in the same way as a conventional farmer monitors the ingredients in his feed wagon."

### Grass meter

This involves measuring the grass in every paddock each week with an ATV-trailed C-Dax grass meter, imported from New Zealand.

The information gathered is downloaded to a PC which quantifies the DM available on the farm. This way he can understand the daily growth rate of grass, which allows him to budget the herd's feed going forward.

The aim is to produce 5,000 litres per cow by feeding grass, silage and 900kg of rolled barley, although current yields are 4,300 litres with 5.31 per cent butterfat and 4.35 per cent protein.

"We are not looking for volume but solids, as our milk goes to the Lactalis creamery in Stranraer to be made into Seriously Strong and Galloway cheddar.

"The computer programme allows us to pick appropriate paddocks to graze our 300-cow herds. Depending on time of year and growth rate of the grass, this could be for anything between one and three milkings.

"So if cows need 17kg and there is only 16kg available, we top them up with 1kg of barley in the parlour. In autumn when, for instance, growth rate has dropped off to a point when there is only 9kg available, we top up with 5kg of silage fed on the ground in the paddocks and 3kg of barley in the parlour," says Mr Christie. "The key is to measure the grass."



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Innovation in and out of parlour

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Mr Christie says when he started a pasture-based system, he was a relative purist in his thinking. "Port William receives about 38 inches or a metre of rain a year and it rarely freezes.

## Climate

"There are few places in the world with a similar climate - with the exception of the south of New Zealand's South Island, Ireland, and, of course, Cornwall and West Wales. This unique climate is particularly suited to growing grass and it is a natural resource which we have always tried to exploit.

"Everything was to be reared outside with little capital spent. This worked fine when stocking rates were low but, as time went on and numbers grew, it became increasingly difficult to manage the animals efficiently.

"Out-wintering was becoming a logistical nightmare, particularly with the amount of silage we were feeding on the ground.

"I was concerned about public perceptions as well as environmental issues, such as run-off and water pollution."

Following a trip to New Zealand in 2011, he decided to construct an outside, unroofed cubicle yard for 1,000 cows on the site of an old piggery. Now, as grass growth slows and it becomes difficult to feed silage in the paddocks, the cows are brought into the cubicle yard for a few hours a day until they are dried off at the end of December and then kept in full-time.

The cubicles are constructed on two slopes which meet in a 'valley' in the middle. Water is flushed from four large holding tanks containing 54,553 litres (12,000 gallons) each, which are situated above each end of the dung passages. This flushes the muck down to a cross-channel in the valley, taking it to lagoons where it is separated into slurry and 'green' water and then recycled back to the flushing tanks.

"The cows seem to do fine; they hold condition, are easily managed and we have been able to push up days in-milk rather than having to dry cows off because we had run out of accessible grass," says Mr Christie.

From February 1, cows will be calved in batches of 50 on straw in a bedded area, currently being built to accommodate 250. While there will be no individual calving pens, there will be individual units for those recuperating from post-calving problems.

After calving, cows will return to the cubicle yard before going out to grass full-time at the end of the first week of April, with calving ending on April 14.

## Atmosphere

Calves are reared in a shed with a poly-tunnel design. Built in 2010, it is split into two areas - one to hold 120 young calves and the second, which has 20 pens which are used until weaning. It is designed to provide an atmosphere as close as possible to a warm spring day and one which gives the best opportunity to turnout calves at target weight.

All dairy heifer and beef-bred calves are reared, while dairy-bred bull calves are destroyed.

Once back to grass, cows are artificially inseminated from May during a six-week period by a specialist couple who travel from New Zealand to manage the programme. Cows are then chased up with Hereford bulls for four weeks.

Overall conception is an impressive 90 per cent. "We have an empty rate of 10 per cent and a voluntary cull rate of 20 per cent which puts us in the top 10 per cent in the world in terms of fertility," says Mr Christie.

### Dourie Farming Co

1,000ha (2,471 acres) all in grass



- Around 15,000 tonnes of silage made in two cuts
- Analysis of first cut was 25 per cent DM, 14 per cent protein, 11.5 per cent ME
- Currently 1,200 Jersey cross Holstein cows run outside on New Zealand system, increasing to 1,500 in February
- Aim is to produce 5,000 litres per cow, but currently yielding 4,300 litres
- Overall conception rate of 90 per cent
- 10 per cent barren and 20 per cent voluntary cull rate puts herd in top 10% in the world in terms of fertility
- Total of 11 staff, including Rory, run the dairy enterprise

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November 2014 1:34 pm

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