

The rain in Spain falls mainly in the winter

Galicia in northwest Spain is the country's main dairying region

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During a recent visit to Galicia, a group of Teagasc clients and advisors discovered that Spain's dairy industry has some similarities and some huge differences compared with our own.

The visit was part of a new Inter-Reg project set up using EU funding called Dairy4Future. It's an EU project looking at how new technologies can improve the long-term future of dairy farms in regions along the Atlantic Coast.

Galicia is an autonomous region in northwest Spain with its own language in everyday use. Its best-known city, and capital, is Santiago de Compostella, the final destination for pilgrims on the famous Camino Way.

Dairy industry in Galicia

The province of Galicia, with a population of 2.7m people, accounts for 40% of total dairy production in Spain. Dairying is a very important part of agriculture here and accounts for 80% of total agricultural activity. There are 8,000 dairy farms in Galicia, more than half of the total number of Spanish dairy farms. In size, it's about one fifth bigger than Munster.

Total annual milk production in Spain totals about seven billion litres, which is almost identical to production in Ireland of 7.2bn litres in 2017 (from 16,000 suppliers).

However, the similarities end there when we look at the systems in use, with 90% of milk production in Galicia being from confined-indoors systems and only 10% from grazing.

Two metres of rainfall per annum

Who would expect an annual rainfall in this area of almost 2m (80")? Maybe it's not too surprising when we consider that the Galician coast is



The Irish Dairy 4 Future group on one of the farms with group leader Eddie Burgess, Teagasc, and host Cesar Zafra from Ag Research Organisation, INGACAL in Galicia.

adjacent to the wild Atlantic, with its many weather systems, on two sides. However, this rain is quite seasonal, with little falling for two or three months in high summer and very high winter rainfall.

With mild winters, this leads to almost two growing seasons, consisting of April to June and a second season of lesser growth from October to April when there is nonetheless a considerable amount of growth.

SAT Samperez Farm

An SAT farm is a type of family co-operative farm, not unlike our registered farm partnerships. The farm operators, Pepe Samperez and his wife Maite, together with Dr Cesar Zafra from the Agricultural Research Centre in Mabegondo Ag Research Centre, outlined the farm system and performance, both physical and financial.

The farm was established by Pepe in 2012, with 100 Holstein cows with high solids sourced in Holland and Germany. Milk is sold to Nestlé, a private milk company which pays a premium for high constituents. Two-thirds of the milk price is determined by the level of constituents.

Cows are indoors all year, with large electric fans in operation in the

dairy shed and milking parlour. Dairy sheds are big and spacious, with 4.5m-wide passages and high roofs. Cows calve all year. Bull calves are sold at 15 days and heifers go to a rearing farm.

Dairy system and production

The area farmed amounts to 50ha. A total of 39ha of maize silage, followed by a catch crop, is grown, with an additional 11ha cut three times for grass silage.

One-hundred-and-thirty cows are kept and 75 heifers, with cows calving all year. The cows' diet is made up of grass silage 3.5kg DM, maize silage 11kg DM and concentrate 10.5kg DM.

Cows currently have an annual yield of 11,067 litres, with 4.11% BF and 3.48% protein (305 days). This amounts to 865kg MS per cow per annum due to his good figures for solids. The farm is in the top 5% of Spanish farms for milk constituents.

The farm is certified under the Nestlé milk quality scheme, which incorporates high standards on vaccination and health, animal welfare and traceability.

Profits and costs

Costs on these confined systems are high and margins are tight. At

present, base price for milk supplied under contract to Nestlé is 30c/l at 3.7% BF and 3.2% protein. Pepe earns an additional 5c/l due to his high solids.

However, feed costs alone amount to 16.4c/l, including home-produced forage and concentrate costs. He has calculated his other costs at 14c/l, giving a total cost structure of 30c/l. He also has BPS payments, which were not included in the calculations. This indicates a net margin before BPS payments of just 5c/l.

Challenges in Galicia

Like Ireland, there is a very large problem with the structure of holdings and small grazing platforms are one of the reasons for the very low percentage of grass-based farming. There is huge competition for land, with forestry accounting for 66% of the arable land area in Galicia.

The main tree species is the rapidly growing and profitable Eucalyptus, which is harvested every 15 years. Many small farmers who leave farming are holding on to their land and planting it with forestry, making it difficult for dairy farmers to increase their holdings. The forestry issue comes up again and again in discussions with farmers and advisors.

Maize production is a huge part of forage production on Galicia's dairy farms, accounting for around 70% of total forage. Yields are high, with up to 16t DM/ha achieved, but summers, including this summer, can be dry, with even maize suffering in certain cases (there was no rain during the 50 days prior to our visit).

The cost structure on confined farms is also of great concern, with high volumes and small margins leaving producers very exposed at times of low prices.



A group of growing replacement heifers on the co-op farm, confined indoors and fed TMR.

For example, the milk price averaged just 29c/l in 2016, with some producers on poor contracts getting less than 20c/l. A considerable volume of milk is bought by agents or wholesalers, which also adds to price pressures.

Shortage of processing

There are many milk purchasers in the region, with the result that there is a shortage of milk processing facilities, including milk drying. A lot of milk is transported unprocessed to other parts of Spain. This adds to costs, due to long distances and transport costs, and reduces added value potential of the product.

Heifer-rearing co-op and TMR station

The group's final visit was to a farm with a difference that none had seen or heard of before. It was to a heifer-rearing co-op, near Santa Comba, rearing over 1,000 heifers from eight farms in the co-op. Heifers are brought in for rearing at 15 days of age and leave at 20 months for calving at 22 months.

They get nine litres of milk replacer (3X3 litres) from arrival to weaning at 95kg at nine weeks. Heifers weigh approximately 615kg at 20 months, when they return to their owners.

The farm is owned by eight dairy farmers with a combined milk production of 30m litres (or 3m to 4m litres each). Each farmer retains ownership of his own heifers and there are a minimum of 140 heifers per owner.

Calves are fed milk in individual pens and spend their final period housed in cubicles. In the middle period, they are loose housed, with access to an outdoor area bedded with timber byproduct.

In addition to rearing the heifers,

the co-op farm makes all the silage centrally for the eight farms in the co-op. The silage is made from lands owned by the farmers and every load is weighed and sampled.

After the maize is harvested in September, a catch crop consisting of a mix of ryegrass and annual legumes is grown and harvested twice in October or November and April before maize planting.

Maize typically yields 16t/ha DM and the forage mix yields approximately 2.5t and 4.5t DM/ha for both cuts. Protein is typically about 19% for the catch crop. A total of 700ha of maize and catch crops is conserved, with a further 100ha of permanent grass silage (four cuts) made on the co-op farm.

TMRs are mixed on the co-op farm and delivered and fed out to the members' farms. This system works well. The farmers have a detailed agreement in place and hold regular management meetings.

Dairy 4Future

Dairy4future is a €3.8m EU-funded project, made up of 12 regions from eight countries, located along the western seaboard of Europe. They stretch from Spain to Scotland. Countries include Northern Ireland, Republic of Ireland, Scotland, England, Wales, France, Spain and Portugal.

One-hundred-and-ten pilot farms are being studied with the assistance and co-operation of 10 experimental research farms. The project will run from 2018 to 2021.

The project will work to develop and foster innovative and efficient dairy systems and promote better co-operation between research and development groups across these regions.



Growing one-year-old heifers spend part of their time on an outdoor pad, with feeding provided indoors.