

Teagasc Notes for week ending Friday 26th March 2021

Michael Fitzgerald, Dairy Adviser, Teagasc Kilkenny

Michael meets with farmer Francis Nolan, Knockalane, Coolcullen, to discuss his farming system and the actions he is taking to farm profitably and sustainably. Francis is a monitor farming in the Teagasc / Glanbia Future Farm Programme.

Farming at 700-900 feet above sea level is a challenge. Francis is demonstrating what can be achieved in these conditions, milking 140 cows & aiming to produce 550 kg milk solids/cow by 2025. Initially Francis was a suckler beef farmer & made the transition to dairying in 2013. As part of the Teagasc/Glanbia monitor farm programme since Autumn 2019. The aim is to achieve high profit while reducing his carbon footprint. The aim is to grow 15 tonnes grass DM/ha to sustain a stocking rate of 2.5 LU/ha and to continuously improve herd genetics. What does this mean in practice & what changes are taking place on the farm?

Overall farm stocking rate 207 kg organic N/ha (2.5 LU/ha on grass area), the farm is in Nitrates derogation.

Herd performance 2020:

- 491 kg milk solids supplied – 4.38% fat & 3.67% protein. Additional 28 kg MS fed to calves.
- 6 week calving rate 84% & 373 day calving interval.
- After 12 week breeding season herd infertility was 6%.

Breeding – Herd EBI in 2020 was €139 with the calves born in that year having an EBI of €182, demonstrating ongoing genetic improvement (2016 Herd EBI was €72). The overall EBI figure can be broken down into the milk sub-index & fertility sub-index. The 2020 born animals are in brackets. The maintenance, beef & health sub-indices are also closely monitored.

	Herd(2020 calves)	Target
Milk sub-index	€33(€58)	€80
Fertility sub-index	€72(€79)	€100
Maintenance sub-index	€16(€15)	€14 (570 kg mature cow)
Beef sub-index	€-12(€-15)	€-12
Health sub-index	€3(€3)	€5

Cows were weighed in July 2020 & had a mature weight of 587 kg which corresponds with a maintenance figure of €16 & the aim is to have a mature cow weight of 570 kg (maintenance €14). At present Francis is able to sell his beef calves off the farm & aims to continue to do this (maintain beef sub-index at current levels). Sires are selected to match these criteria. Mainly genomic sires are selected using a team of 10 bulls with an average EBI of greater than €250, a milk sub-index of at least €80 & a fertility sub-index of at least €100. The bull team will also have an average of +24kg fat & protein. Francis uses the Sire Advice programme on ICBF Herd Plus to match sire & dam and to avoid inbreeding.

The key components of the breeding season are:

- Pre breeding intervention to detect problem cases.
- 6 weeks Fr AI - DIY. Using 230 Fr straws to deliver 50 heifer calves(includes sexed semen).
- Heat detection – collars + automatic drafting. 2021. This is the first year using this.
- Late calvers & first calvers are on OAD 4 weeks pre breeding.
- Vaccination – Lepto, Salmonella, IBR (not vaccinating for BVD).
- Successful heifer rearing – 300kg+ spring turnout 2021.
- Used sexed semen on heifers in 2020 – conception rate at 50% was disappointing but going to try it again in 2021. Has the advantage of ensuring that replacement heifers are born early.
- Scanning will happen at the end breeding season.

Herd nutrition:

The backbone to the system is grazed grass. Francis uses the Teagasc Pasturebase system to measure grass growth. Monday is the day designated for measuring grass with results uploaded on to Pasturebase App as he is

walking the farm. In 2020 the farm grew 12.5 tonnes DM/ha but he needs to grow 14-15 t DM/ha to feed the herd without buying in silage. In order to increase production, steps are being taken to improve soil fertility combined with a re-seeding programme. Some of the key aspects of this are as follows:

- 38% farm index 1 & 2 for Phosphate (P) & 30% farm at index 1 & 2 for Potash (K) – using fertilizer such as 18-6-12 on fields in need of it. Slurry targeted at silage fields & low index fields. Francis has a derogation allowance of 1400 kg P and he works within this.
- A lime requirement of 178 tonnes will be applied over 3-4 years.
- He is buying in some silage at present but as more grass is grown this will cease.
- Re-seeding programme. Francis has used all tetraploid mixes on dry parts of the farm to facilitate better clean-outs. No issues with poaching resulting from more open swards.
- Paddocks set up for 2-3 grazings/paddock & pre grazing yield of 1400 kg DM/ha. Surplus grass harvested as baled silage. In 2020 this resulted in 150 bales high quality silage for milking cows (1 bale/cow).
- Early turn-out using on/off grazing system – mid February. Aims to complete first rotation by mid April. Closes off paddocks from early October to allow grass build-up.
- One round of topping in 2020.
- High quality silage – 78% DMD first cut 2020.
- Slurry spreading – use of Low emission umbilical system. Francis has applied for TAMS grant for tanker & trailing shoe.
- Nitrogen usage – 190 kg/ha (150 units/acre). Francis uses Protected urea and is happy with the results and its cheaper than CAN. Also uses about 20 units Sulphur on grazing ground during the year.
- Meal usage – 1 tonne in 2020. Aims to reduce this to 750kg in the future.

Sustainability & Biodiversity:

- Tree planting is happening in strategic locations.
- Biodiversity level on farm is 9% (hedgerows, watercourses, field margins). The target is to achieve 10% biodiversity.
- Watercourses are fenced.
- Roadways beside watercourses re-located with added benefit of improved cow flow.
- Solar panels installed on parlour roof through FarmGen (Glanbia) – saving of €100/month.
- Variable speed milk pump – reduced energy use.

Labour saving:

- Automatic calf feeder in use 2021 – middle of working day used to check calves.
- Collars on cows & automatic drafting – no stock bulls.
- New cubicle shed & tank built 2020 with robotic slurry scraper.
- Contractor hired to spread slurry with umbilical system.
- Additional labour on farm – local farmer with flexible hours.
- Farm records – uses technology as much as possible e.g. Herdwatch App. Assistance from Francis' wife Ann with paperwork. Ann busy with home schooling at present.

In summary the aim of this farm is to grow plenty of grass & convert it into milk solids in a sustainable manner. Maintaining farm biodiversity is a key component of this as is using energy efficiently & employing labour saving practices. Profitable farming & sustainable farming can go hand in hand.

Upcoming Events

Teagasc & Glanbia will host a webinar on *Planning a Successful Breeding Season on your Dairy Farm* as part of the Teagasc Glanbia Future Farm Programme. The webinar will take place on Thursday the 25th of March 2021 at 8pm. Speakers include Richard O'Brien (Teagasc), George Ramsbottom (Teagasc), Joris Somers (Glanbia) and special guest Francis Nolan, Teagasc Glanbia Future Farm. Register at <http://bit.ly/2Ns5iae>