Positive results from switch to Robots

The groups first stop was with David and Stephen Morrison in Ballymoney, County Antrim. David and Stephen had 200 cows and replacements on 154 ha which was a mix of owned and rented ground.

In March 2014 two robotic milking systems were installed. Following successes with this system, David and Stephen plan to add two more robots and increase the herd size to 250.

Cows were split into two milking groups, parlour or robot and two dry groups, far off or close up. Good quality forage was paramount to the success of this business.

Key points from the visit with the Morrisons concluded:

- Hardworking father and son team capable of producing a well run business. Father working on past retirement age.
- Investment in robots and calve feeder had taken place to increase output and increase performance whilst maintaining ability to run farm with family labour.
- Reluctance to take on paid labour – lack of quality and availability.
- Business had built up numbers over a number of years.
- Investment always ongoing.
- Heavily stocked buildings for young stock with good airflow and environmental conditions can accommodate a large number of young stock successfully.

This was the 10th meeting for the Hillend focus farm discussion group, which saw the group travel to Northern Ireland to visit four dairy units and see how they have maximised profitability.

Current performance

<table>
<thead>
<tr>
<th></th>
<th>Robot (average 3.5 milking’s)</th>
<th>Parlour (2x day milking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of cows</td>
<td>100</td>
<td>78</td>
</tr>
<tr>
<td>Average milk yield litres</td>
<td>44.5</td>
<td>26.9</td>
</tr>
<tr>
<td>Butterfat %</td>
<td>3.91</td>
<td>3.91</td>
</tr>
<tr>
<td>Protein</td>
<td>3.26</td>
<td>3.26</td>
</tr>
<tr>
<td>Average concentrate input</td>
<td>14.5</td>
<td>10</td>
</tr>
<tr>
<td>Milk for Forage</td>
<td>12.3</td>
<td>4.7</td>
</tr>
<tr>
<td>Feed rate (kg/litre)</td>
<td>0.33</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Robot group

- Proplyene glycol is fed to all cows for the 1st 25 days and cows over 50 litres are fed it for up to 100 days, these cows are housed 365 days a year.

Parlour group

- Grazed during the summer depending on weather conditions, may consider zero grazing if conditions not suitable for turnout.

Far off dry

- Cows can be grazed during the summer or when housed are fed a mix of hayledge and straw

Close up dry cows

- Fed hayledge and a precalver nut in the last month before calving. The haylage is first cut which has grown on longer than normal which has had no slurry or Potash applied.

Thanks are due to our hosts David and Stephen Morrison, David, Gloria, Alan and Julie Wallace, Michael Graham and Allister McCullough, plus Alan Agnew and Aiden Cushnahan Dairying Development Advisors from DARD for helping organise and facilitate the host farm visits.
Making best use of forage; Ulster Grassland Farmer of the Year 2016

Ashdale Farm, run by David, Gloria, Alan & Julie Wallace was the groups next stop to hear from Alan about how the team manage the farm and 250 pedigree Holstein herd.

The farm covers 110 ha with an additional 54 ha of rented ground. Land is 380 feet above sea level on heavy clay soils with 861mm average rainfall.

With an average yield of 9342 litres per cow sold per annum at 3.97% BF & 3.23% protein, Alan calculated that 3460 litres are from forage.

Their main calving period is August to April and have a 390 day calving interval. The team at the farm calve heifers at 22 – 25 months old maximising livestock productivity. Bull calves are sold for export at 3 weeks.

Whole crop silage is grown, which acts as a reseeding tool. Soil testing is carried out every three to four years and slurry and fertiliser applications are targeted accordingly.

Cows are split into two milking groups, high or low yielders. High yielders are milked 1\textsuperscript{st} in the morning and last in the afternoon milking; low yielders are milked 2\textsuperscript{nd} in the morning and 1\textsuperscript{st} in the afternoon.

Maximum use is made of summer grazing; the high yielders are housed at night and buffer fed during the grazing period.

When cows are at grass the high yielders are given fresh grass every 12 hours

Key points from the visit were:

- Family business; hard working and driven father and son team with assistance from their respective wives.
- Focused on pedigree Holsteins and making the best use of nutrients, grass and forage on the farm - attention to detail is key.
- A business which had evolved with ongoing investment in capital infrastructure and had not missed any grant opportunities over the years.
- Developing the farm infrastructure, e.g. adapted old buildings and put in additional underground slurry storage.
- A very tidy and well presented farm which was a credit to the family involved.
Greenmount College Farm

Michael Graham Greenmount College Farm manager took the group on a tour of the facilities at Greenmount and explained some of the work they were doing with their 180 cow dairy herd.

The new dairy centre was part of a £2.5 million investment in the site in 2014 which includes a purpose built education faculty for students and ongoing investment.

Part of the improvements saw the parlour size increased from a 16x16 to a 20x20 to accommodate more cows, plus improvements to their slurry collection system in the sheds.

Key points discussed at this visit included:

- Trials were taking place with the different flooring systems.
- Focus on reducing ammonia emissions and getting the slurry out of the shed and into the store (rubber under slats acting as one way valve for slurry and capped stores minimising ammonia emissions to the atmosphere).
- Adapting building design to accommodate different ridge heights and bay widths within the shed.
- Keeping birds and badgers out of the building

Investing in technology

Father and son team Allister McCulloch – far right and his father William John – 2nd from the right explained their system of 120 cows on 30 acres of owned heavy clay and peat soils plus rented ground at 800 feet above sea level near Broughshane.

Working with two Lely robots for the last four years have seen an increase in milk yields, with their 120 cows producing 10,000 litres milk on 4.1% BF and 3.2% protein.

Key points from this visit included:

- 1 million litres of milk produced from 30 acres of owned land plus additional rented ground
- They have made significant investment in recent years with buildings, robots, out of parlour feeders and robotic scrapers.
- Increased flexibility with the introduction of the robots.
- Changes led to an increase in milk yields of 5 litres/ cow/day
- Family farm with no paid labour.
- Their system appeared to be working well.

Note the small area taken up in the building compared to a parlour and collecting yard. In photo.
Key points to take home?

All three family farms we visited provided a forum for discussion, with ideas and tips that we could take home, consider and adapt to help improve efficiency and profitability and in doing so, potentially reduce greenhouse gas emissions.

The farms we saw were very reliant on family labour to meet business requirements. Investment in robots was evident in two of the three farms we visited. Interestingly the only paid labour was on the farm where there was still a traditional milking parlour.

The three family farms had all accessed funding to support development on the farm through the capital grants system for a range of projects over the years. A ‘little and often’ approach seems to be the method of support available to the farmers to help them invest in their business and improve farm efficiency.

The three family farms were still reliant on the older generation to make the system work. These farmers were all past normal retirement age but still actively farming. However it was very much the younger generation who were in charge of running the businesses which we saw. The Northern Irish farmers may be better at handing control over to the younger generation whilst still being available to work on farm and provide counsel to the younger generation.

Greenmount College showcased best practice ideas, for both the current and aspiring dairy farmer which could then be incorporated into their own developments/expansion plans.

Slurry is a rich source of nutrients to be utilised on the farm, balanced with results from soil tests. Reducing ammonia emissions and capturing as much as of the ammonia as possible in covered slurry stores was a key focus of the system at Greenmount.

Thanks again go to the farmers and DARD for kindly hosting our visit.

Meetings are free to attend and all farmers are welcome.

For Hillend, contact farm facilitator James Buchanan on 01738 636 611 or via james.buchanan@sac.co.uk for more information.

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www.farmingforabetterclimate.org