Dear Milk Matters Reader,

During the month of June it’s vital that you maintain grass quality by adopting the best grassland management practices. Concentrates are required for energy and minerals, but they must be used in balance with the grass on your farm.

Soil pH has been improving on farm recently. We must continue this improvement. On pages 8 and 9, Michael O’Neill outlines how and when to use lime.

On pages 10-11, Alan Ryan discusses the nutrient requirements of 2nd cut grass silage. The important role slurry pays in meeting these requirements and what chemical fertilisers are needed to balance it.

Within Grass Matters, John Maher looks mid-season grassland management, how we maintain grass quality and its impact on milk protein % across the summer.

June 1st 2020 breeding = calving from the 3rd-10th March 2021. Within Fertility and Breeding Matters, Doreen discusses the actions we must take now to maximise March 2021 calving.

Incorporating clover into our grassland is an important arrow in our battle to farm sustainability. Clover has been shown to have higher intake potential and support higher production than PRG, while requiring less fertiliser nitrogen for growth. On pages 16-18, our Teagasc joint programme team discuss how we can establish clover into our grass swards.

Yours Sincerely,

Liam Stack

Liam Stack M.Agr.Sc
Ruminant Technical Manager,
Dairygold Agribusiness

To contact the editor of MILK MATTERS
email: lstack@dairygold.ie
**THE YEAR TO DATE**

By LIAM STACK, M.Agr.Sc, Ruminant Technical Manager

---

### Grass Growth

![National Grass Growth Curve](image)

**Milk production to week 20 (figures based on ICBF cow numbers):**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YTD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total annual Milk Yield per cow in Dairygold (kg)</td>
<td>2000</td>
<td>1854</td>
<td>1977</td>
<td>1975</td>
</tr>
<tr>
<td>Total annual Milk Solids per cow (kg)</td>
<td>148</td>
<td>137</td>
<td>148</td>
<td>148</td>
</tr>
<tr>
<td>YTD Average Protein %</td>
<td>3.34</td>
<td>3.37</td>
<td>3.33</td>
<td>3.42</td>
</tr>
<tr>
<td>YTD Average Fat %</td>
<td>4.05</td>
<td>4.02</td>
<td>4.13</td>
<td>4.06</td>
</tr>
<tr>
<td>YTD Average Lactose %</td>
<td>4.96</td>
<td>4.92</td>
<td>4.89</td>
<td>4.86</td>
</tr>
</tbody>
</table>

**Milk Protein % (weeks 1-20)**

![Milk Protein % chart](image)

**Milk Butterfat % (weeks 1-20)**

![Milk Butterfat % chart](image)

**Milk Lactose % (weeks 1-20)**

![Milk Lactose % chart](image)
NUTRITION MATTERS

By LIAM STACK, M.Agr.Sc, Ruminant Technical Manager

From a nutritional stand point the most important and influential job you will do across the summer is to manage the quantity and quality of grass on your farm.

To manage your grass:
1. Walk your grass weekly (more frequently during times of high growth)
2. Create a grass wedge. A grass wedge looks at how your farm is fixed for grass now and over the coming weeks.
3. Graze paddocks at 1400-1600kg/ha and down to 4cm. Grazing paddocks at the correct pre-grazing covers and to the correct post grazing heights, increases utilisation and maintains grass quality (digestibility). The better the grass quality, the higher the grass intakes, milk yields and the milk protein %s.

Throughout this summer we will go through times of excess and deficits.

In times of excess we must increase our grazing pressure by:
- removing heavy covers as round bales
- re-seed unproductive pasture

In times of grass shortages we need to reduce our grazing pressure.
- Can you graze ground closed up for silage?
- You can increase concentrate feeding levels
- You can feed back some of the round bales you cut during times of excess grass

Should I feed concentrates at grass:
To answer this question, we must firstly consider the yield carrying potential of the grass we are feeding our cows. 17kg DM of grass grazed at the correct pre-grazing cover can carry 25 kg of milk, whereas 17kg DM of strong grass will only support 21 kg of milk. If your cows are yielding more than your grass can support some concentrate feeding will be required.

Milk Yield Carrying Potential of Grass

<table>
<thead>
<tr>
<th></th>
<th>Milk Yield supported (kg)</th>
<th>Concentrates required for 28 kg</th>
<th>Concentrates required for 32 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Target Pre-grazing Cover</td>
<td>25</td>
<td>1.5kg</td>
<td>3.5kg</td>
</tr>
<tr>
<td>Excessive Pre-grazing Cover</td>
<td>21</td>
<td>3.5kg</td>
<td>5.5kg</td>
</tr>
</tbody>
</table>

Concentrates must be fed in balance with your grass. There is no point feeding concentrates at the expense of grass that a cow might eat but there is also no point in underfeeding concentrates at the expense of the cow and yield.

I would be making feeding decisions with one eye on production (yield and protein %) but the other on graze out. Good production with paddocks grazed out well is the perfect balance. Good production with poorly grazed paddocks is not where you want to be. Are you buying this production with concentrates? With better grassland
management could you get more of this production from the grass proportion of the diet?

Poor production with poorly grazed paddocks is not where you want to be. Excessive grass does not have the same milk carrying potential as on-target grass. Manage surplus grass to improve both production and graze out.

Poor production with over grazed paddocks is also not where you want to be. Feed more concentrates or introduce round bales to relax grazing pressure. Ensure you’re not overestimating grass intake. With plenty of grass available, milk production should not be poor. But remember your production is relative to your herd and your cows EBI. If your neighbour has a jersey crossed herd and you don’t, all the feeding in the world won’t fill the protein gap. Feeding will only allow your cows to express their genetic potential.

Secondly, we need to consider the minerals supplied by grass. Grass does not meet a cow’s requirement for Calcium, Phosphorus, Iodine, Selenium and Zinc.

Factors causing grass tetany:
1. Not feeding magnesium: Magnesium is not stored by the cow. Daily supplementation is required.
2. Anything that affects intake: Bad weather, stress, poor grass covers, cows in heat
3. Decreased rumen function Magnesium is absorbed by the cow in the rumen.

Lush highly digestible grass passes through the rumen quicker than lower digestibility forages. The cow has less chance to absorb the magnesium. Magnesium is stored in the grasses stem. Lush covers have a higher leaf to stem ratio and therefore it has a lower magnesium content.

4. High grass potassium decreases magnesium absorption,
5. High grass Nitrogen. High levels of ammonia breakdown in the rumen decreases magnesium absorption
6. Low sodium (Na) content decreases magnesium absorption
7. Milk yield. Higher yielding cows need more daily magnesium

To get magnesium and/or minerals into our cows at grass we can use:
1. Boluses only supply trace elements:
   - How much are they supplying daily?
   - What form is the mineral in?
   - You need to supply magnesium separately

2. Minerals in the water are available in all combinations:
   - Magnesium only
   - Magnesium + iodine and selenium
   - Magnesium + all trace element
   - Are intakes guaranteed?

3. Concentrates:
   Feeding concentrates at grass on average generates a milk yield response of 0.6kg milk per 1kg of concentrates but it will be 1 to 1 for higher yielding cows that struggle to meet their intake requirements from grass alone.
To evaluate which one is the most cost effective we must take this milk response into account.

**Mineral feeding costs net of milk yield response**

<table>
<thead>
<tr>
<th>Mineral feeding costs net of milk yield response</th>
<th>Milk Response</th>
<th>Ca + P</th>
<th>Net Cost (c/hd/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dusting Cal mag + trace element bolus</td>
<td>No</td>
<td>No</td>
<td>17</td>
</tr>
<tr>
<td>Mag chloride flakes + trace element bolus</td>
<td>No</td>
<td>No</td>
<td>16</td>
</tr>
<tr>
<td>Flow mag + trace element bolus</td>
<td>No</td>
<td>No</td>
<td>21</td>
</tr>
<tr>
<td>Flow mag fertility + trace elements</td>
<td>No</td>
<td>No</td>
<td>32</td>
</tr>
<tr>
<td>Supermag 5.6% @ 1kg/hd/day</td>
<td>Yes</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td>Post Calver gold 14% @ 2kg/hd/day</td>
<td>Yes</td>
<td>Yes</td>
<td>26</td>
</tr>
<tr>
<td>Hi Pro ECO LAC 14% @ 2kg/hd/day</td>
<td>Yes</td>
<td>Yes</td>
<td>22</td>
</tr>
</tbody>
</table>

* assumes a milk yield response of 0.6kg milk/kg concentrates and a milk price of 30c/ltr

**Feeding Recommendation at Grass for the summer**

With good grass land management grass + 1.5kg of concentrates will support 28kg of milk, additional concentrates will be required for higher yields.

However, with poor grassland management cows milking 28 kgs will need 3.5 kg of concentrates

<table>
<thead>
<tr>
<th>Pregrazing Yield = On-Target</th>
<th>Pregrazing Yield = Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Yield (kg)</td>
<td>Milk Yield (kg)</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Milk Solid Yield (kg)</td>
<td>Milk Solid Yield (kg)</td>
</tr>
<tr>
<td>1.25</td>
<td>1.25</td>
</tr>
<tr>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2.25</td>
<td>2.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17 kg DM Grass</th>
<th>1.5*</th>
<th>1.5*</th>
<th>1.5</th>
<th>3.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 kg DM Grass</td>
<td>1.5*</td>
<td>1.5*</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>15 kg DM Grass</td>
<td>1.5*</td>
<td>1.5</td>
<td>3.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17 kg DM Grass</th>
<th>1.5*</th>
<th>1.5</th>
<th>3.5</th>
<th>5.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 kg DM Grass</td>
<td>1.5*</td>
<td>2.5</td>
<td>4.5</td>
<td>6.5</td>
</tr>
<tr>
<td>15 kg DM Grass</td>
<td>1.5*</td>
<td>3.5</td>
<td>5.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Feeding During A Growth Slump**

If grass growth declines across the summer you need to lower grass demand to a level that matches grass growth.

To lower grass demand we can increase concentrate feeding or start buffer feeding some silage and/or alfalfa.

How much addition concentrates or forage is needed is dependent on your cows’ demand vs your grass growth rates? Please contact to your ASM for feeding advise if needed.

**Filling a Growth Slump by lowering grass demand:**

<table>
<thead>
<tr>
<th>Current Diet for 28 kg average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass (kg DM)</td>
</tr>
<tr>
<td>Concentrates (kg)</td>
</tr>
<tr>
<td>Stocking rate (Lu/Ha)</td>
</tr>
<tr>
<td>Growth Needed to Meet Demand</td>
</tr>
</tbody>
</table>

**Impact of differing measures on grass growth requirements**

<table>
<thead>
<tr>
<th>Stocking rate (Lu/Ha)</th>
<th>Growth Needed to Meet Demand (Kg DM Per Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>35 42 49 56</td>
</tr>
<tr>
<td>3</td>
<td>29 35 40 46</td>
</tr>
<tr>
<td>3.5</td>
<td>29 35 40 46</td>
</tr>
<tr>
<td>4</td>
<td>29 35 40 46</td>
</tr>
</tbody>
</table>
FARM INSURANCE
THAT’S WITH
YOU EVERY STEP.

During these unprecedented times, we are with you every step.
Your dedicated Dairygold farm insurance experts are committed to helping you with your farm insurance needs and can offer you an exclusive farm insurance deal.

CONTACT YOUR DEDICATED FARM INSURANCE EXPERTS TODAY.

Munster
JP Aherne
086 411 3797

Cork/Kerry
Mike O’Donoghue
086 831 2441

Zurich Insurance plc is regulated by the Central Bank of Ireland. Terms, conditions and standard underwriting criteria apply.
NOW IS THE TIME FOR LIME

By MICHAEL O’NEILL

Teagasc research has found huge benefits of correcting soil pH to the target of 6.3 to 6.5 pH by applying lime;
- Increased grass growth (extra 1 tonne dry matter/ha)
- Extra N released from the soil (Up to 2.5 bags of CAN/acre/year)
- Extra P and K unlocked from the soil
- Better grass growth response to recently applied N, P and K.

Soil pH Target:
Mineral soils should have a pH of 6.3.
Peat soils should have a pH of 5.5.
On grassland soils with high molybdenum pH should be kept below 6.2.

How to correct low pH:
Test soil every 2 to 4 years to determine your soil fertility status. Apply lime at the recommended amount to raise soil pH. If the recommended lime application rate is greater than 7.5T/ha (3T/acre), apply 7.5T year one and the remainder in year 2 + 3.

Liming in high molybdenum areas:
For high Mo areas deduce 5 t/ha (2T/acre) from the lime advice.

RULE OF THUMB:
2.5t lime per ha (1T of lime per acre) increase pH by 0.2-0.3.

To maintain a correct soil pH apply 2T per acre every 5 years (0.5-1t/ha/year)

When to apply lime:
Lime can be applied during any time of the year, but late summer and early autumn is an ideal time. Liming softens the soil. Heavier soils and organic matter rich soils may poach more quickly after liming. On these types of soils apply a reduced rate more regularly.

How to spread lime across the main grazing season:
Apply lime now:
- on bear paddocks that have been either cut for 1st cut silage or surplus bales
- on paddocks that will be reseeded
- bye using a little and often approach during the grazing season
On grazing ground aim to apply the lime when the grass is dry, to avoid the lime sticking to the leaf, and when rain showers are forecast over the next few days to wash the lime in.

Slurry, urea and liming:
If your using slurry or Urea before liming leave 7-10 days between the slurry and lime.
If you intend using slurry or urea after liming leave at least 3 months. This will reduce N loss from the fertiliser.

Chemical Fertilisers and Lime:
Protected urea can be spread 7 -10 days after lime application.
Can based fertiliser can be spread 7 -10 days after lime application.
However, the best practical advise is to spread fertiliser before liming. Once the fertiliser has dissolved lime can be spread.

Silage and Liming:
Leave at least 3 months between liming and silage harvest. Do not apply lime on ground intended for 2nd cut silage. Apply the lime after 2nd cut instead.

Ground Lime vs Granulated Lime (Gran Lime):
Ground limestone is cost effective. It has an immediate (3-6 months) and lasting (12-36 months) effect on soil pH. It affects the top 4-5 inches of the soil.
Granulated lime has an immediate and short-term effect requiring yearly application. It affects the top 10cm of the soil.

Through yearly application gran lime is a potential option to maintain the pH of soils in an already good pH status. To correct a low soil pH ground limestone is the preferred option.

**Magnesium Lime:**
Apply magnesium lime where Mg levels are index 1 & 2.

**Lime and fertiliser**

<table>
<thead>
<tr>
<th>1st application is</th>
<th>2nd application is</th>
<th>Time between 1st and 2nd application</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime</td>
<td>Urea</td>
<td>Avoid urea for 3-6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protected</td>
<td>No issue once lime is washed in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAN</td>
<td>No issue once lime is washed in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slurry</td>
<td>3-6 months (if concerned about N uptake from the slurry)</td>
<td>Ammonia losses from Urea and slurry are increase by high pH. Lime increase pH. If urea or slurry goes on 1st there is very little issue. If the lime goes on 1st the increase in pH following the lime will increase the ammonia loss. There is no issue with CAN as CAN contains less of the N in the ammoniacal form. The active ingredient used within protected urea mitigates any issues associated with ammonia loss after lime.</td>
</tr>
</tbody>
</table>

**Urea**
- Lime: 1 week
- Protected Urea: No issue
- CAN: No issue
- Slurry: 1 week

Ammonia losses from Urea and slurry are increase by high pH. Lime increase pH. If urea or slurry goes on 1st there is very little issue. If the lime goes on 1st the increase in pH following the lime will increase the ammonia loss. There is no issue with CAN as CAN contains less of the N in the ammoniacal form. The active ingredient used within protected urea mitigates any issues associated with ammonia loss after lime.
NUTRIENT REQUIREMENTS AND FERTILISER OPTIONS FOR 2ND CUT SILAGE

By ALAN RYAN, B.Agr.Sc, Area Sales Manager

The nutrient requirement of 2nd cut silage is dependent on:
1. The soil P and K index
2. Have you applied the build-up P and K when spreading fertiliser for 1st cut

P and K requirements units per acre for 2nd cut silage

<table>
<thead>
<tr>
<th>Yield potential/acre</th>
<th>Nitrogen (N) Requirement (units/acre)</th>
<th>Phosphorus (P) Requirement (units/acre)</th>
<th>Potassium (K) Requirement (units/acre)</th>
<th>Sulphur (S) Requirement (units/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd cut</td>
<td>6</td>
<td>80</td>
<td>8</td>
<td>60</td>
</tr>
</tbody>
</table>

Build-up Requirements (units/acre) for index 1 and 2 soils for P and K.

<table>
<thead>
<tr>
<th>Build-up Requirements</th>
<th>P (Units/Acre)</th>
<th>K (Units/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index 1</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>Index 2</td>
<td>8</td>
<td>25</td>
</tr>
</tbody>
</table>

KEY POINT: 2nd cut silage ground in index 2 for P and K that did not get its build up P and K fertiliser when fertilising the 1st cut needs; 16 units of P and 85 units of K.

The Value of Slurry

Approximately 85% of the economic fertiliser value of slurry is due to its P and K, of which the K content is c.70%. The remaining 15% is Nitrogen.

Nitrogen availability from slurry is c.40% lower in the summer than in the spring. 1000 gals per acre of cattle slurry applied using a splash plate in the spring will supply 6 units N per acre. In the summer the N supplied this is reduced to 3.6 units per acre. Using low emission slurry spreading (LESS) equipment increase the N supplied by c. 25-30%.
Average available Nitrogen in 1000 gals of cattle slurry applied to soils with low P and K indexes (1 or 2) in either spring or summer

The time of the year has little effect on P and K availability.

**Fertiliser Plan for 2nd cut silage**

<table>
<thead>
<tr>
<th>No Slurry</th>
<th>Rate</th>
<th>Nitrogen</th>
<th>Phosphorus</th>
<th>Potassium</th>
<th>Sulphur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silage Boost</td>
<td>4 bags/ac</td>
<td>84</td>
<td>8</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>21-2-10+S</td>
<td>4 bags/ac</td>
<td>84</td>
<td>8</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Greengrow Cut</td>
<td>4 bags/ac</td>
<td>84</td>
<td>9</td>
<td>40</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>With Slurry</th>
<th>Rate</th>
<th>Nitrogen</th>
<th>Phosphorus</th>
<th>Potassium</th>
<th>Sulphur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slurry</td>
<td>2000 gals/ac</td>
<td>6</td>
<td>10</td>
<td>60</td>
<td>5</td>
</tr>
</tbody>
</table>

Eco N 38% + 7% S | 2 bags/ac | 82 | 10 | 60 | 19 |
Sweetgrass 3% S | 3.25 bags/ac | 81 | 10 | 60 | 15 |
Sweet SustainN 35% N + 5% S + 5% N | 2 bags/ac | 82 | 10 | 60 | 15 |

**Dairygold Sustainable Fertilisers:**

1. **Protected Ureas:**
   - Protected Urea products are c.10% cheaper per kg of N when compared to CAN. Teagasc research has shown that they grow the same levels of grass as CAN and Urea throughout the year while:
     - decreasing ammonia emissions by 80% when compared to Urea
     - decreasing greenhouse gas emission by 74% when compared to CAN.

   Green on the environment and green on your pocket.

2. **Avail Phosphorus**
   - Avail® Phosphorus is a water-soluble additive for granular phosphorus fertiliser that enables phosphate to remain free in the soil, allow for greater plant uptake.

3. **Sulphur**
   - Sulphur is an essential nutrient for grass growth and is closely associated with Nitrogen uptake and efficiency. Sulphur application has been shown to:
     - Increase grass silage protein content by 22%
     - Increase grass silage sugar content by 20%
     - Increase grass yield by 2t/ha/yr (€500/ha) and silage yields by over 3t/ha/yr (€750/ha).

4. **Sodium**
   - Sodium increases the palatability of grazing grass – especially where slurry is being spread. Sweeter grass means tighter grazing and higher % grass utilisation.
NOW MORE THAN EVER, FARMERS ARE UNDER CONSTANT PRESSURE TO REDUCE THEIR FARMING EMISSIONS AND EXCRETION OF EXCESS NUTRIENTS INTO THE ENVIRONMENT. DAIRYGOLD AGRI BUSINESS FEED RANGE CAN PROVIDE A WAY FOR FARMERS TO REDUCE THEIR CARBON FOOTPRINT BY ALTERING THEIR HERD’S DIET, WHILE RETURNING PROFITS TO THEIR POCKETS, ACCORDING TO DAIRYGOLD NUTRITIONIST, COLMAN PURCELL.

The ‘Hi-Pro Eco Lac’ range designed and manufactured by Dairygold Agri Business, which is the largest user in Munster of Irish grown grain, is yielding higher performances from dairy herds by increasing milk yields and supporting herd health, according to Colman.

“Our feeding range include additives to drive performance and improve cow health, while also reducing the cow’s emissions. The additive Agolin in our Hi-Pro Eco Lac range does just that. It is proven by published trial work to reduce methane emissions produced by the cow while also increasing milk production by 1L/cow/day or more,” he explained.

He also said it is important for farmers not to over supplement protein in the diet, especially during the good grass growing season, and to reduce to a 14% or 12% concentrate provided there is adequate grass available for the herd. During conditions that are very favourable to grass growth and intake, lower protein levels can be fed.

“Cows at grass full time do not require a huge amount of crude protein supplement. By reducing the crude protein levels in the diet, we can mitigate ammonia emissions produced by the cow,” he said.

Post Calver Gold – the ‘flagship’ feed of the Dairygold Agribusiness range comes complete with additives including Organic Copper, Zinc and Selenium, Yeast, Vitamin E and Biotin at very high inclusion rates.

“From an environmental point of view, the use of organic minerals increases the mineral bioavailability and reduces the amount excreted into the environment as waste product which has been demonstrated by numerous trials.

“Additional Vitamin E and Selenium have fertility benefits by acting as a potent antioxidant which increase embryo viability and survivability and increase pregnancy rates.”

The use of Yeast at the full recommended rate in dairy feeds has been shown in trial reviews to deliver 0.75 litres milk/day or more. This derives from the ability of yeast to very significantly increase the total rumen bacterial count, the soldiers that do the work of digestion, and to reduce rumen lactic acid production providing a more ideal environment for those soldiers to work in.

Dairygold uses Yea-Sacc® produced by Alltech Ireland, the most proven of all the yeast products on the market. Our policy in Lombardstown Mill Dairygold is to only use additives/micro-ingredients that have solid scientific proof of efficacy and to include them at the full correct level.

Biotin is added at the full rate to improve hoof health and the overall health status of the herd.

Furthermore, Dairygold prioritises Irish grown grain for inclusion in rations ahead of all imported alternatives when formulating diets where possible, said Colman.

“By choosing to include locally produced grains and proteins, not alone are farmers reducing their carbon footprint and becoming more environmentally friendly, they are also supporting Irish tillage farmers and reinvesting back into their own economy.

“Here in Dairygold we have always been conscious of our carbon footprint when buying raw materials, even more so now with the current focus on sustainability in Irish agricultural systems.

He said Irish grains and proteins are as good if not better quality than its imported alternative and should be used by Irish feed mills if possible.

“Our native grains and proteins can match or surpass any feed ingredient in the world in terms of nutrient density, traceability, carbon footprint and microbiological quality and should be prioritised for inclusion in all diets ahead of imported alternatives.”
For more information on these products or to discuss how we can work together to achieve greater environmental sustainability please contact your Area sales manager, your local branch Agri lead or our inside sales department. Inside Sales Team on 022 31644
LET’S TALK CARBON

By CIARA DONOVAN,
Farm Sustainability Advisor, Supply Chain Division

Last month, for the first time, Dairygold have printed supplier’s carbon number on milk statements. We have been hearing in the media about the Carbon Footprint for many years and everyone is familiar with it, but what does it actually mean? How is it calculated? And what difference does it make if it increases or decreases in relation to your farm?

What is a Carbon Footprint?

A Carbon Footprint is the sum of all the greenhouse gasses it takes to make or do something. It can be calculated for any action or service.

A Carbon Footprint is a measure of all greenhouse gasses, not just Carbon Dioxide, that would be emitted by carrying out an action or used in making a product. These greenhouse gasses include Nitros Oxide (N2O) and Methane (CH4) and when added together with Carbon Dioxide (CO2), are termed ‘Carbon Dioxide Equivalent’, written ‘CO2e’. On your statement the reported number is ‘Kg CO2e/Kg FPCM’ -that is the number of kilograms of carbon dioxide equivalent used to produce each kilogram of fat and protein corrected milk produced on your farm.

The carbon number of your previous audit as well as the footprint of the average and top 10% of Dairygold suppliers is also now printed on your statement.

Below: On Page 2 of your Monthly financial statement, your Carbon Footprint information is now printed in the Additional Information section

How is this Carbon Footprint being Calculated?

This is being calculated for your farm using the information that you, the ICBF, the Department of Agriculture and Dairygold supply to Bord Bia after each SDAS audit you complete. All information is fed into a computer program or a model, which has pre-set measurements and calculations appropriate for dairy production in Ireland. This model has been designed by Teagasc using methodology defined and verified by the Carbon Trust, a specialist company in the UK. This model calculates the carbon footprint shown on your statement and is the source of the information fed into your SDAS Bord Bia producer report. This producer report should be used to help you
to understand where you produce carbon emissions on your farm. Next month’s article will look at the producer report and the factors that affect the Carbon Footprint in more detail.

**The difference between Carbon Intensity and Absolute Carbon**

It is important to remember that the term ‘Carbon Footprint’ can be used in many ways. On your statement, your carbon footprint is describing the production of a kilogram of milk on your farm. This is a measure of what’s called ‘Carbon Intensity’. By using this figure, you can quickly and easily compare your efficiency with other milk producers and compare production year-on-year, regardless of any change in stock numbers over time. This figure has been decreasing nationally year-on-year for over twenty years across all dairy suppliers. The total amount of carbon produced on your farm however, or ‘the Absolute Carbon’ produced, is calculated by multiplying your carbon footprint on your statement by the total number of litres of milk produced on your farm. Due to the large expansion in the national dairy herd, this figure has been increasing since Ireland exited the quota period.

Below: Illustration of the difference between Carbon Intensity and Absolute Carbon

![Illustration of the difference between Carbon Intensity and Absolute Carbon](image)

**Using your Carbon Number**

Your Carbon number on your statement is a tool that can be used to improve your farm efficiency and reduce the amount of greenhouse gasses you lose to the atmosphere when producing your milk. You can estimate your performance by comparing your figure to your previous SDAS audit as well as comparing to your peers within Dairygold. However, there are a few things to remember when doing this:

- Your **Carbon Footprint number is only as accurate as the information that you have supplied** to the auditor during the SDAS audit. If for example, your fertilizer usage was incorrect or was not inputted at all, then your footprint would change drastically from one audit to the next.

- **One audit’s performance should never be judged on its own** to indicate a trend as weather conditions can have a large effect on the carbon footprint in one year and not the next.

- **Many factors affect your Carbon footprint** and in any given year/audit, it would be very unusual that one factor alone is entirely the reason for any change occurring. Next month’s article will look at this in more detail.
1. What do I need to do before establishing clover?
Soil fertility is one of the most important factors affecting the success of clover incorporation (establishment and persistence). You need a soil pH between 6.5 and 7, and adequate soil P and K levels (target index 3). Refer to soil sample results. Clover will not last in the sward if soil fertility is poor.

2. What is the best way to establish clover on my farm - full reseed or over sowing?
A full re-seed is considered the best means of getting clover into a sward especially if the existing sward is dense or has a butt which would result in the clover seed failing to achieve adequate seed to soil contact to allow germination to occur.

Broadcasting clover seed into existing pastures is cheaper than a full reseed and can be successful, but the management of the sward before and after over-sowing is the key to success.

3. When is the best time to sow clover seed?
The best time to over-sow is during May and June before the ground gets too dry. Moist soil conditions during and after over-sowing are critical for success. On wetter soil types, the ideal time is post-harvest of first cut silage in late May/early June. While on light drier soils, over-sowing earlier in May following grazing or removal of a crop of bales would be better. Over-sowing during the autumn is rarely successful and is not recommended.

Similarly with a full reseed it is best to do this earlier in the season. This maximises the number of grazings that can be achieved post sowing unlike autumn reseeding which is unlikely to allow for the grazing management required to help establish clover in the sward.
4. What type of clover should I use red or white?
Red clover is not suitable for grazing swards as its persistency is compromised if grazed or cut at intervals of < 30 days. It is however, suitable for use in silage leys.

White clover is the most appropriate type for grazing swards with small and medium leaf clovers the most appropriate varieties. Examples of medium leaf clovers are Buddy and Chieftain while Coolfin and Galway are small leaf varieties that have been bred by Teagasc in the last number of years. Medium leaf clovers are best suited to swards for cows and young stock, while small leaf covers work better for sheep.

5. Should I use pelleted or unpelleted clover seed?
The major advantage of unpelleted clover seed it that it has a much larger number of clover seeds per kg verses a kg of pelleted clover seed so you are getting more seed for your money. The pelleted clover has a coating which generally contains lime, phosphorus and rhizobia bacteria (bacteria that work with the clover to produce N). However, where soil fertility is good, unpelleted clover seed should work equally well. Pelleted clover seed many have some small advantage in terms of spreading versus unpelleted seed.

6. At what rate should I sow clover at?
Over-sowing: 2kgs per acre
Full reseed: 0.6 kg per acre of non-pelleted or 1 kg per acre of pelleted seed. The inclusion of clover at these seeding rates for reseeding is compulsory for derogation farms from this year forward.

7. At what depth should I sow clover at?
The clover seed is very small and should not be sown deep – less than 1cm. Having a fine, firm seed bed is vital to achieve this. Rolling before sowing the seed will help this. When incorporating into an existing sward clover seed is broadcast with a fertiliser spreader or an air seeder and rolled. Good soil to seed contact is important.

8. What fertiliser should I use if reseeding with clover or over-sowing?
Fertiliser P and K recommendations for reseeding are outlined in Table 1.

<table>
<thead>
<tr>
<th>Soil index</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>48</td>
<td>32</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>K</td>
<td>88</td>
<td>60</td>
<td>40</td>
<td>24</td>
</tr>
</tbody>
</table>

The initial demand for N in reseeds is relatively low until the seedlings become established. Apply 30 units N/acre in the seed bed and another 25-30 units 6-8 weeks after reseeding. This second N application is important to drive on tillering in the reseed.

Where clover is being over-sown into an existing sward a fertiliser with no N such as 0:7:30 can be used as a carrier to spread the clover seed. Where there is no P allowance on the farm a product like Muriate of potash (0:0:50) or granulated lime can be used. Slurry can be applied after over-sowing but nitrogen fertilizer application should be limited for the remainder of the year. Fertilizer N will drive on the grass to the detriment of the clover seedlings. Once the clover gets established it will start supplying N to the sward itself.

9. Do I have to graze a clover sward differently to help it establish?
Yes, you should graze tight (≤4cm) or cut silage before sowing in the case of over-sowing. Management post sowing for both reseeds or over-sowing requires regular grazing at covers of <1200kg DM/ha in order to allow light to the base of the sward. This allows sunlight to the clover plant and stops the ryegrass out-competing it.
This is the single most important factor under the control of the farmer, which can greatly improve the success of establishing clover.

10. What sprays can I use with white clover?
Spraying reseeds 6-8 weeks after sowing is the most effective time to kill troublesome grassland weeds. Some of the common clover safe sprays that are approved for reseeds include Underclear, Legumex DB, Clovermax and Undersown. Underclear at 2.8ltr/acre will control moderate levels of docks, thistles, chickweed, and most annual weeds. Legumex DB, Clovermax and Undersown control similar weeds to Underclear but are weaker on chickweed and certain annual weeds. For issues with chickweed we would generally recommend Undersown + Triad, but due to the unavailability of Triad this season you may not be able to kill the chickweed and save the clover. Tight grazing for the year may control the chickweed.

If over-sowing clover into an existing sward aim to tackle docks or other problem weeds before over-sowing as the range in non-clover safe sprays is much greater. Depending on what spay is used to control the docks you will need to leave 6-14 weeks between spraying and over sowing.

11. Are clover safe sprays on the way out?
Farmers should be aware that the active ingredient 2,4-DB, which is a key chemical in Underclear, Legumex DB, Clovermax and Undersown, will be removed from the market this year. Farmers will be able to purchase herbicides containing 2,4-DB until October 31 2020. Use of these sprays on farm will not be permitted after October 31 2021. At present, there is virtually no suitable alternative clover-safe herbicide for reseeded grassland once 2,4-DB leaves the market. For this reason any farmer wishing to establish clover via reseeding should try to take the opportunity this year and in 2021 while these sprays can be used.
Farm: Pat Kelleher milks 100 cows on his family farm in Cloundrohid, Co. Cork on a milking platform of around 100 acres. The land is undulating with a mixture of good permanent pastures and reclaimed land. Most years without fail, upwards of a week of intense digger work is completed by an experienced local contractor in turning hilly areas with exposed rock and low-lying grey clay soils with rising springs into productive green pastures. His grazing season length is weather dependent, but it typically extends from early-March to early November. He is part of the Soils Pilot Project in the Dairygold / Teagasc Joint Programme.

Soil Fertility: Pat has made great strides in improving his soil fertility. Having initially only 5% of his farm correct for pH, Phosphorus (P) and Potassium (K), the pH has now been fully corrected (Figure 1), P is 90% correct and K is 70% correct. The positives of the project so far are simply that he is getting more value for money from his fertiliser in the form of improved grass growth and increased quantities of quality silage. His annual fertiliser usage has reduced year on year but further improvements are possible. He plans to retrofit a dribble bar to his own tank this year and is hoping this will allow more versatility in the application of his slurry and allow him reduce his chemical fertiliser bill even more. Fifty percent of his silage ground is cut 3 times a year. Even with slurry going back to these fields, there is a need for extra K to be applied in the autumn period with a compound product like 29-0-14 to maintain K at index 3.

Value of Potassium: It is an essential nutrient for plants but has traditionally received much less attention in comparison to nitrogen (N) and P. One of the primary roles of K in the grass plant is to improve nutrient uptake, aid photosynthesis and develop a harder plant which can better withstand the stresses of Irish weather conditions. Similar to lime, the only restriction to applying K as a straight product like Muriate of Potash (MOP) is appropriate weather and ground conditions.

Potassium deficiency is often hidden and difficult to identify without soil sampling. Low soil K levels will reduce crop yield, quality and nitrogen use efficiency especially on intensive crops like silage and maize. Low K silage fields tend not to be fit for cutting when they are supposed to be. This week or two delay can have a dramatic impact on silage quality. If K requirements are met in terms of feeding the crop, it will be fit when it is supposed to be. This will improve the overall productivity of the land as cutting earlier allows for a substantial second cut plus grazing time after that.

Most K deficiencies on the soil pilot project farms occur on silage ground due to the large K offtakes and often inadequate nutrient replenishment. On loam mineral soils, the advice would be to feed the crop to requirement during the main growing season and build K in the autumn to prevent luxury uptake of K in first cut silage or during spring grazing. This will minimise cow metabolic issues associated with high soil K levels such as grass tetany or milk fever. Adequate mineral supplementation should always be supplied during susceptible periods. Peat soils should get a little and often approach to K application as these soil types tend not to store nutrients very well over an extended period.

![Figure 1: 2017 V 2020 soil pH status](image)
Those who have had the opportunity to visit the farm of monitor farmer John Walsh would agree that John boasts a fine display of biodiversity on his farm. John inherited his interest in trees and wildlife from his father and grandfather and there are many large native trees on this farm planted from these times past. Many of the fields on the farm here outside Ballylooby Co Tipperary have thick, high, stock proof ditches (see Fig 1). When John joined REPS a number of years ago, even though he found the overall scheme beneficial, he felt the approach of hedge trimming ditches only once in three years resulted in ‘woody’ but thin and open ditches. John started doing his own hedge cutting shortly thereafter and continues to do so yearly in mid-October.

Incorporating hedgerows and forestry on farm is one of the 7 steps of the Teagasc plan to improve farm sustainability plan (Fig 2). There is no reason why biodiversity cannot flourish on intensive dairy farms like Johns whose overall stocking rate is 2.5LU/ha. Johns thinks that for any farmer who wants to improve biodiversity on their farm, start with improving what you have first. If there are very tall, thin, open hedgerows coppicing may be a good option but for many hedgerows Johns approach would be to go easier with the hedgecutter - cut little and repeat yearly. Don’t be afraid to ask your contractor not to cut your ditches too low or too tight. John targets ditches that are 7ft high and getting a slope is critical to the hedge – the slope should be sloping inwards to the top with a 7-8ft wide base (see Fig 1). John’s hedgerows are thick and stockproof and he doesn’t have much electric wire around ditches as a result – which is one less job of maintaining around the farm! He also plants corners of fields for example with native trees such as oak, ash, alder or beech. Getting your hedgerows back into a healthy state can take time but it is very rewarding for both farmer and nature!

John Walsh 2020 performance to date: By mid-May 185kg Milk solids/cow with 360kg concentrate/cow. The farm has grown 2.9tonnes grass DM/ha to date (total 2019 grass grown 13.6ton/ha).

<table>
<thead>
<tr>
<th>Current Performance</th>
<th>Milk litres</th>
<th>Fat</th>
<th>Protein</th>
<th>Milk solid/cow</th>
<th>SCC</th>
<th>Meal kg</th>
<th>Stocking rate</th>
<th>Grass cover/cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>15th May</td>
<td>27.6l</td>
<td>4.08%</td>
<td>3.72%</td>
<td>2.22kg/cow</td>
<td>53</td>
<td>2.0</td>
<td>4.36LU/ha</td>
<td>161kg/ha</td>
</tr>
</tbody>
</table>

Figure 1. Side view of high, thick hedgerow with wide base at John Walsh farm.

Figure 2. The 7 steps to improve farm sustainably
GRASS MATTERS

By JOHN MAHER, Dairy Specialist, Teagasc Moorepark

FEAST OR FAMINE, GRASS SUPPLY MUST BE MONITORED!!

Regardless of soil type and level of rainfall, the key objective over the coming weeks will be to maintain an adequate supply of high quality grass!!!

With most of the country in a soil moisture deficit, monitoring grass supply will be an essential task every week. Those who farm on heavy land will probably be growing more grass than normal, so monitoring grass supply will also be an essential task every week.

Where growth is adequate (about 65 KGDM/ha/day & view www.pbi.ie for growth rates) a 20 day rotation and grazing the magic 1400 kg DM/ha will be the target. It will also keep the sward at the right stage of growth. So the grass plant is right for grazing when it is at the 2 to 3 leaf stage.

Here are some key points for grazing during a “green” drought (grass is growing but at much lower rate than normal).

1. Hold the rotation length: minimum 20-25 days. So if the grazing platform is 80 acres, then 4 acres is the maximum amount of ground that should be grazed in 24 hours. If there is not enough grass to feed the herd, then other feed options must be examined.
   1. Extra grass is required (silage ground should be grazed if available or heifer ground)
   2. Feed extra meal or feed high quality round bale silage. Walk the farm weekly to monitor grass growth

3. Hold the average farm cover (above 500 kg DM/ha). Do not run down the grass supply on the farm. Be proactive and make decisions early. Remember grass will grow grass!!!

4. Match the growth to demand on the farm. If the farm is only growing 40Kg DM/ha/day, the cow should not be eating more than 10 kg grass DM/cow/day if stocked at 4 cows/ha or 13 kg Grass DM/cow day if stocked at 3 cows/ha. Introducing extra feed or decreasing stocking rate are the two main options to matching reduced grass growth and herd demand.

Mid-Season Grazing Management
5 Point Plan:
1. Target Rotation Length 18-20 days
2. Pre Grazing Yield 1300-1500kgsDM/ha
3. Farm Cover/cow: 160-180kg DM/cow
4. Post grazing Height: 4cm
5. Maintain a sward that is all leaf to the base of the sward

Where Drought Occurs?
When the soil moisture deficit goes beyond 25-30mm, grass growth rates will reduce. Beyond 50mm soil moisture deficit and grass growth is severely compromised!
**Grass Quality:**

Grass quality can be poorer in June due to increased stem content. This will decrease the digestibility of the grass to be grazed. Grass stem is also difficult for the cows to graze. Therefore the energy intake of the cow will decrease and then cow performance will decrease.

It is natural for the plant to try to reproduce and go to seed. By default, stem content increases. However with the right approach to grazing management, grass can be kept leafy.

High quality pastures are green to the base and have a much better stem to leaf ratio. Leafy grass is highly digestible. Every 5% increase in leaf content increases digestibility by 1 unit.

The only real way of ensuring high grass quality is to graze covers of grass at the correct pre-grazing yield. Many farmers unfortunately try to graze grass that is too high in yield and the paddock should have been grazed 2-3 days earlier. Grazing grass covers of 1300-1500 kg DM/ha while maintaining an average rotation length of 18-21 days (assumes an average growth of 65 KgDM/ha/day) will help maintain grass quality during June. Maintaining an average grass cover of 160-180 kgDM/LU will ensure that high quality pasture is maintained.

**Milk protein content:**

Milk protein content should increase every month. As most of the cow’s diet is made of grazed grass, the quality of grass eaten has a large influence on milk protein content. Milk protein production suffers the most when grass is stemmy. Often milk protein falls by 0.1-0.2% during mid-season months. This will result in a lower value milk cheque. So we must aim to have the right grass ahead of the cows as much as possible.

Every 0.1% drop in milk protein will cost the average milk supplier over €300 for the month of June.

**Sulphur: Not too late!!!**

Sulphur deficiency arises mainly during the summer months but you need the “money in the bank” before the summer arrives. Every paddock needs about 15-20 units/acre of Sulphur applied to it by the end of June. Silage ground also requires 10 units/ac of sulphur.

**Fertiliser:**

Grazing ground requires about 30 units of N/ac for the month. However, where 1st cut silage area is coming back into the grazing rotation, apply about 40 units N/ac. Slurry should be applied to the silage ground for 2nd cut silage. Every 1,000 gals of good quality slurry is almost equivalent to 1 bag of 0:7:30/ac. Normally 80 units N/ac is required for 2nd cut silage.
DAIRY FARMING ON DIFFICULT / HEAVY LAND

By JOHN MAHER, Ger Courtney & Tom Condon
Heavy Soils Programme, Teagasc.

The weather conditions over the last few weeks have proved excellent for grass growth, grazing and making silage on heavy farms. While many parts of the country are running soil moisture deficits (and therefore the risk of drought), grass production is fabulous on heavier soils and it is making farming on difficult soils much easier than normal.

When we examine the farms in the Teagasc Heavy Soils programme, On average each farm has generated almost 1 bale of silage per cow from surplus grass before June 1st. This figure does not include any grass silage from outfarms or the main crop silage area. This is grass that is surplus to cow requirement on the grazing platform and converted to round bale silage.

3 bales/cow are required as a silage reserve for those who dairy farm on heavy land

Making round bale silage is very useful way to keep grass supply under control and provide quality short term high quality feed in times of deficits and/or poor grazing conditions. There should be a greater emphasis on making high quality silage as cows will end and begin lactation on some silage in their diet.

Having a supply of high quality forage is necessary in difficult grazing years like 2009 and 2012, early 2013 and 2018 but more recently wet autumns of 2017 and 2019. The grazing season is shorter on farms with heavier soils and the amount of time spent indoor is longer both during the grazing season and at the start and end of the season. Round bale silage technology provides the opportunity of taking small surpluses in grass production during the grazing season. This surplus can then be fed back to animals when they are housed and at the same time sustaining good levels of milk solids production at a reasonable cost.

Therefore every effort must be made by the farmer to generate this type of forage. The cost of purchasing additional forage is generally much higher when a weather crisis arises. There is also risk associated with the quality of the forage purchased.

There will be many farms that will have excess grass production during June. A decision will have to be made as to when these paddocks will need to be skipped in terms of grazing and diverted to silage production but cut sooner rather than later.

Outlined below is the current grazing management figures for the farms in the Teagasc Heavy Soils programme from PastureBase Ireland.

It is obvious that farms are growing well and entering the right cover of grass to graze. Rotation length is about 23 days. Meal feeding levels are 3kg/cow/day.

<table>
<thead>
<tr>
<th>Farm Cover Date</th>
<th>Farm Cover (kg DM/ha)</th>
<th>Cover/LU (kg DM/LU)</th>
<th>Stocking Rate (LU/ha)</th>
<th>Growth/ha (kg DM/ha/day)</th>
<th>Demand/ha (kg DM/ha/day)</th>
<th>Pre Grazing Yld</th>
</tr>
</thead>
<tbody>
<tr>
<td>Con Lehane (Macroom) 10/05</td>
<td>813</td>
<td>225</td>
<td>3.62</td>
<td>74</td>
<td>58</td>
<td>1500</td>
</tr>
<tr>
<td>Danny Bermingham (West Clare) 13/05</td>
<td>727</td>
<td>213</td>
<td>3.42</td>
<td>77</td>
<td>56</td>
<td>1350</td>
</tr>
<tr>
<td>Donal and Michael Keane (Listowel) 14/05</td>
<td>605</td>
<td>117</td>
<td>5.19</td>
<td>61</td>
<td>73</td>
<td>1500</td>
</tr>
<tr>
<td>John Leahy (Athea) 16/05</td>
<td>515</td>
<td>148</td>
<td>3.47</td>
<td>52</td>
<td>49</td>
<td>1600</td>
</tr>
<tr>
<td>John O’Sullivan (Castleisland) 15/05</td>
<td>828</td>
<td>254</td>
<td>3.26</td>
<td>61</td>
<td>54</td>
<td>1400</td>
</tr>
<tr>
<td>Sean O’Riordan (Kiskeam) 16/05</td>
<td>554</td>
<td>194</td>
<td>2.85</td>
<td>53</td>
<td>46</td>
<td>1700</td>
</tr>
<tr>
<td>Tom and TJ Ryan (Dundrum) 17/05</td>
<td>481</td>
<td>152</td>
<td>3.17</td>
<td>53</td>
<td>54</td>
<td>1600</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>646</strong></td>
<td><strong>186</strong></td>
<td><strong>3.57</strong></td>
<td><strong>62</strong></td>
<td><strong>56</strong></td>
<td><strong>1521</strong></td>
</tr>
</tbody>
</table>

The top priority for the farms in the Heavy Soils Programme is to make enough silage for next winter and try and put a silage reserve in place also. About 65-70% of the grass produced for the year on a heavy farm grows between mid-April to mid-August. This is the time to “make hay” and grow as much grass as possible so we can generate enough winter feed and also have a silage reserve.
This spring has been a difficult spring with environmental mastitis due to a difficult February and March. In the last month we have seen a number of cases of mastitis in high yielding free flowing cows after been on heat, this should have resolved itself by now.

In June bulk tank SCC often rises due to milk no longer being fed to calves.

Chronically infected high SCC cows are continually infecting low SCC cows unless appropriate controls are in place.

These chronically infected cows may have no clots shown however they can infect the next 8 cows in the parlour.

**Actions for June**

1. Any case of clinical mastitis that you are presented with take a sample for culture and sensitivity prior to treatment.
   - Label it
   - Date
   - Cow ID
   - ¼ sample taken from
   - Freeze immediately

2. Milk record & Identify the chronically infected cows and stop the spread to other clean cows. If you have not got a cluster flush mark these cows and dip the clusters after milking.

3. Avoid treating cows that are not worthy of treatment - this is just leading to antibiotic resistance on your farm. Dry the quarter or cull the cow.

4. Lock cows off cubicles.

5. Clip tails.

6. Keep yards and passages as clean as you can.

7. If stripping cows- prespray the teats prior to stripping and keep your gloves sprayed.

**USE MILK RECORDING TO CUT COSTS THIS YEAR**

**NOT TOO LATE TO GO MILK RECORDING – NEVER TOO LATE.**

**1st Test June**

Identify the 1st calvers that have high SCC and talk to your vet with regards treatment. Need to retain these heifers in the herd for 5.5 lactations, SCC and empty at year end are the two main reasons for leaving the herd.

Identify the high SCC cows that are spreading infection to the remainder of the herd and avoid them doing so. Eg Dip the clusters after them.

**2nd Test August**

Identify the chronically high SCC cows for culling this Autumn and start to fatten them.

**3rd Test October**

Identify the SCC status of the cows that need to be dried off now – 1st calvers, high SCC cows that are being retained and need a long dry period for cure and low BCS cows. This will ensure that they will get the appropriate treatment at dry off. Depending on the herd some of these cows may be suitable for selective dry cow therapy.

Confirm and identify the chronically high SCC and poor production cows for culling and start to fatten them.

**4th Test Late Nov/Dec**

Identify the SCC status of the cows that need to be dried off now. This will ensure that they will get the appropriate treatment at dry off. Depending on the herd some of these cows may be suitable for selective dry cow therapy.
1st June is the 3rd to 10th March calving

June is key to maximise March calving.

Need 82% of the current milking cows in calf and calving in 2021. Next month is crucial to maximise your 6 week calving rate and to reduce your empty rate. Avail of the increased help now available each morning to check the rumps and draft cows for insemination.

1. Heat detection method

<table>
<thead>
<tr>
<th>Weeks Breeding</th>
<th>100 Cow Herd</th>
<th>200 Cow Herd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cows in heat per day</td>
<td>Mounts per Cow per day</td>
</tr>
<tr>
<td>1st 3 weeks</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>2nd 3 weeks</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>3rd 3 weeks</td>
<td>1 to 2</td>
<td>11</td>
</tr>
<tr>
<td>4th 3 weeks</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

- Heat activity is now halved.
- Change colour in the tail paint and work with new colour. If cows had being painted blue and it was now on in layers ignore it and paint the cows a different colour eg Pink. If the Pink is gone the cow is on heat even though there may still be blue underneath.
- Scratch cards are excellent this time of year.

2. Cows calved 35 days and not bred.
The following programme works well it ensures that each cow that is treated is bred in 10 days and gives an opportunity of 3 serves before mating ends.

Treated 1st June
Inseminated 11th June
1st Repeat 31st June
2nd repeat 21st July

<table>
<thead>
<tr>
<th>Synchronisation for cows calved 35 days not bred. Fixed timed AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 1st June AM Day 0 Insert PRID or CIDR and inject GnRH</td>
</tr>
<tr>
<td>Monday 8th June AM Day 7 Inject PG &amp; remove PRID or CIDR</td>
</tr>
<tr>
<td>Wed 10th June PM Day 9 Inject GnRH 56 hours post PG</td>
</tr>
<tr>
<td>Thur 11th June AM to Noon Day 10 AI all cows 16-20 hours post GnRH</td>
</tr>
</tbody>
</table>

3. Scan the end of June.
Scan cows that have been bred 4 weeks and have not repeated. Any of those that are empty can be synchronised and achieve 2 serves before breeding ends. The pregnant cows need not be scanned at a later date.

Late Calvers - The Forgotten Ladies Program - 5 Point Plan!
Ensure a calving date after St Patrick’s Day does not define the life span of cows in a herd. Ensure these cows go in calf and it is possible to gain a month with them.

Give them an opportunity of 2-3 serves in 2020, to maximise their chances of remaining in the herd in 2021 and perhaps gain 3-4 weeks.
We need cows to last for an average of 5.5 lactations in the herd to maximise profitability.

1. **Nutrition.** Late calvers need an extra 3-5Kgs of concentrated more per day than the early calving cows for the 1st 6 weeks of lactation. Secondly putting these cows on once a day milking and feed them extra twice a day will allow them to commence cycling earlier. Ensure these cows are gaining or maintaining weight, avoid any further loss of weight.

   **Concentrate level (Kg) required to supply 100% of required energy at varying yields and at grass full time**

<table>
<thead>
<tr>
<th>Milk Yield (ltrs/day)</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>26</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Kg DM grass</td>
<td>2 kg</td>
<td>3 kg</td>
<td>4 kg</td>
<td>5 kg</td>
<td>6 kg</td>
<td>7 kg</td>
</tr>
<tr>
<td>16 Kg DM grass</td>
<td>1.5 kg*</td>
<td>1.5 kg*</td>
<td>1.5 kg*</td>
<td>1.5 kg*</td>
<td>1.5 kg*</td>
<td>2.5 kg</td>
</tr>
</tbody>
</table>

   *grass alone does not meet a cow’s daily requirement for calcium, phosphorus, magnesium, zinc, iodine and selenium. Even though a cow’s energy demand might not require concentrates, feeding 1.5kg of concentrates at grass is the cheapest and most effective method of supplying these minerals.

Cows do not reach their peak intakes of grass until they are calved 6 weeks. Therefore, late calving cows will be consuming between 10 and 12Kgs of grass DM in early lactation as opposed to 16-18Kgs for the February calving cows.

2. **Metricheck.** Metricheck at 28 days calved to ensure no endometritis present. If present insert a Metricure- zero milk withdrawal. A cow calved early February has had over 80 days and possibly 2-3 cycles to repair and cleanse her uterus – in late calvers we are continually aiming to gain time.

   Cows that calved in May should receive a metricheck now.

3. **Synchronisation.** Synchronisation at 35 days calved and check to ensure any uterine infection is cleared prior to synchronisation. The following program works well for late calvers and cows calved 35 days not bred.

   Cows that calved 25th April should be synchronised on 1st June, Al’d on 11th June. Will have some calving the 1st to 2nd week of March 2021.

4. **Inseminate.** Inseminate the late calving cows with easy calving short gestation bulls. These bulls will gain you 7-10 days next year.

5. **Scan.** Scan once 30 days has passed and cow has not repeated. These late calvers are repeating at a time when activity is decreased, and it can be more difficult to detect them.

   Cows that calved 25th April should be synchronised on 1st June, Al’d on 11th June. Will have some calving the 1st to 2nd week of March 2020. Scan the end of June to ensure she is in calf or identify if she is empty. This will give her an opportunity of 2 more cycles before breeding ends in July.

**Top Tips Late Calvers**

1. 5 Point Plan for late calvers- OAD milking, Metricheck/Metricure, Synchronisation, Insemination & Scanning.
2. €50 cost to keep these cows in the herd, reduce replacement rate and keep mature herd to maximise production. 6 days milk production covers the cost of the program.
Maiden Heifers Breeding

Heifers 50Kg or less under target weight.

When grass quality begins to decrease in July start feeding these heifers not up to target weight to ensure that at housing, they are at target weight. Avoid delaying the supplementation of these heifers until November.

Heat Detection

Decide which method or combination of heat detection you are going to use. Ideally for heifers use two methods as they can be difficult to detect accurately. Vasectomised bulls, scratch cards or paint sticks are superior to tail paint in heifers, heifers are not heavy enough to rub off the paint unlike cows.

Vasectomised Bull & Scratch Cards or Paint sticks

Scratch Cards & Paint sticks

Scanning

This is an extremely worthwhile exercise in heifers. Scan the heifers 30 days after the majority have been served and place scratch cards on the empty heifers and watch them carefully for repeats.

Monitor stock bull when released

In maiden heifers it is crucial to monitor the stock bull throughout the season either with a chinball or scratch cards on the heifers. Repeats are not as evident in maidens; they are usually checked mid-day and activity is greatest early in the morning after daybreak or very late in the evening.

Following synchronisation, the stock bull can be left in the following day. However, AI’ing the repeats ensures that the bulls are not overworked, fertility is maximised, and it avoids bulls getting injured ensuring we will have them when we need them. AI each day when more than 1 repeat is presented to a young bull or 2 to a mature bull. Periods of low conception rate can occur when an increased number of repeats are presented to the bull.

STOCK BULLS

Every 3 weeks of Al halves the number of bulls required.

This table outlines the number of bulls required for cows only.

<table>
<thead>
<tr>
<th>HERD SIZE</th>
<th>80 COWS</th>
<th>120 COWS</th>
<th>150 COWS</th>
<th>200 COWS</th>
<th>250 COWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks Al</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 weeks Al 90% submission rate. Number of empty cows.</td>
<td>40 empty cows</td>
<td>61 empty cows</td>
<td>76 empty cows</td>
<td>101 empty cows</td>
<td>126 empty cows</td>
</tr>
<tr>
<td>Number of bulls required with 3 weeks Al</td>
<td>1 Mature bull &amp; 1 Young bull</td>
<td>2 Mature bulls</td>
<td>3 Mature &amp; 1 Young bull</td>
<td>4 Mature &amp; 1 Young bull</td>
<td></td>
</tr>
</tbody>
</table>

| 6 weeks Al |         |         |         |         |         |
| 6 weeks Al 90% submission rate. Number of empty cows. | 20 empty cows | 31 empty cows | 38 empty cows | 51 empty cows | 64 empty cows |
| Number of bulls required with 6 weeks Al | 1 Young bull | 1 Mature or 2 Young bulls | 1 Mature & 1 Young bull | 2 Mature bulls | 2 Mature & 1 Young bull |
Top Tips For Stock Bull Management

1. Work out how many empty cows you have prior to releasing the stock bull with the cows. Over worked bulls result in reduced fertility and injured bulls.
2. Get your ratios correct.
3. Fertility test your bull prior to being released. Last years performance is no guarantee.
4. Keeping Inseminating for 14 days after releasing the stock bull to ensure he is well settled into his routine.
5. Any day that there are more than 2 cows on heat inseminate as well.
6. If you have 2 bulls or more work with 24 hour on and 24 hours off- this maximises performance.
   - Avoids wasted matings
   - Reduces injury to bulls
   - Allows time for rest
   - Protects against a dominant sub fertile bull
7. Remove lame and injured bulls and allow them rest.
8. Fertility test a bull post a rise in temperature or any other noticeable incident. Even if he is not fertile he can be used as a teaser and inseminate the cows that are on heat.

Ensure A Market For Your Calves in 2021

Selecting Beef Sires for Your Dairy Herd.

1. Decide which breed you wish to use.
2. Select appropriate sires for your 2nd calvers, cows and mature cows
3. Select the highest Beef Value within your calving range

The higher the beef value the more profitable the calf will be to the finisher and hopefully you will have a returning customer.

<table>
<thead>
<tr>
<th>Bull Name</th>
<th>Beef Value</th>
<th>Gestation</th>
<th>Dairy Heifer Cdiff</th>
<th>Dairy Heifer Cdiff Rel</th>
<th>DBI</th>
<th>DBI Rel</th>
<th>Use on</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTELAGRI MATTEO E.T. (ET)</td>
<td>€31</td>
<td>-3.85 days</td>
<td>6.63%</td>
<td>91%</td>
<td>€93</td>
<td>92%</td>
<td>Maiden Heifers</td>
</tr>
<tr>
<td>SALLOWGLEN JAMIE T771</td>
<td>€45</td>
<td>-2.65 days</td>
<td>5.40%</td>
<td>65%</td>
<td>€98</td>
<td>58%</td>
<td>Maiden Heifers</td>
</tr>
<tr>
<td>GABRIEL PAT 1949</td>
<td>€47</td>
<td>-2.44 days</td>
<td>5.60%</td>
<td>65%</td>
<td>€103</td>
<td>59%</td>
<td>Maiden Heifers</td>
</tr>
<tr>
<td>COOLRAIN PATRIARCH</td>
<td>€65</td>
<td>-1.02 days</td>
<td>2.80%</td>
<td>53%</td>
<td>€105</td>
<td>48%</td>
<td>Cows</td>
</tr>
<tr>
<td>SALLOWGLEN JAMIE T716</td>
<td>€57</td>
<td>-0.63 days</td>
<td>3.00%</td>
<td>76%</td>
<td>€82</td>
<td>61%</td>
<td>Cows</td>
</tr>
<tr>
<td>GABRIEL PAT 1949</td>
<td>€53</td>
<td>-0.34 days</td>
<td>3.60%</td>
<td>95%</td>
<td>€71</td>
<td>93%</td>
<td>Cows</td>
</tr>
<tr>
<td>COOLRAIN PATRIARCH</td>
<td>€65</td>
<td>-1.00 days</td>
<td>2.80%</td>
<td>53%</td>
<td>€105</td>
<td>48%</td>
<td>Cows</td>
</tr>
<tr>
<td>IDEAL DE PETIT WARET</td>
<td>€143</td>
<td>-0.76 days</td>
<td>8.30%</td>
<td>92%</td>
<td>€72</td>
<td>78%</td>
<td>Mature Cows</td>
</tr>
<tr>
<td>RACHID DE REMICHAMPAGNE</td>
<td>€126</td>
<td>0.54 days</td>
<td>9.00%</td>
<td>97%</td>
<td>€29</td>
<td>90%</td>
<td>Mature Cows</td>
</tr>
<tr>
<td>COOLBANAGHER KING</td>
<td>€120</td>
<td>1.83 days</td>
<td>6.90%</td>
<td>87%</td>
<td>€65</td>
<td>65%</td>
<td>Mature Cows</td>
</tr>
<tr>
<td>MOORSIDE 1 PANDA (HYF)</td>
<td>€49</td>
<td>-1.17 days</td>
<td>3.90%</td>
<td>75%</td>
<td>€68</td>
<td>53%</td>
<td>2nd Calvers</td>
</tr>
<tr>
<td>FABB 1 NORTHERN STAR (HYF)</td>
<td>€42</td>
<td>-1.62 days</td>
<td>3.70%</td>
<td>95%</td>
<td>€62</td>
<td>85%</td>
<td>2nd Calvers</td>
</tr>
<tr>
<td>ALLOWDALE ADVANCE 573 ET</td>
<td>€46</td>
<td>-0.39 days</td>
<td>4.20%</td>
<td>94%</td>
<td>€53</td>
<td>86%</td>
<td>Cows</td>
</tr>
<tr>
<td>MOONDHARRIG KNELL</td>
<td>€130</td>
<td>3.01 days</td>
<td>4.60%</td>
<td>87%</td>
<td>€113</td>
<td>85%</td>
<td>Cows</td>
</tr>
<tr>
<td>CASTLEVIEW GAZELLE</td>
<td>€124</td>
<td>3.94 days</td>
<td>4.40%</td>
<td>99%</td>
<td>€104</td>
<td>97%</td>
<td>Cows</td>
</tr>
</tbody>
</table>
“Test your grass today and get the best quality silage for this winter”

SERVICES AT A GLANCE

FORAGE ANALYSIS
- Grass
- Silage
- Wholecrop
- Pulses

NUTRITIONAL ANALYSIS
- Proximate Analysis
- Macro Minerals
- Undesirable Substances
- Pesticide Residues
- Chlortetracycline
- Mycotoxins

SOIL ANALYSIS
- pH
- Phosphorus
- Potassium
- Trace Elements
- Organic Matter
- Fertiliser Plans

GRAIN ANALYSIS
- Quality Analysis
- Pesticides Residues

- Testing grass before cutting provides a key decision-making tool when targeting a High Sugar Content and Low Nitrogen Content at harvest time.
- Low sugar levels in conjunction with high nitrogen has a negative impact on the fermentation process and the overall quality of your winter forage.
- Feeding a higher DMD silage or a silage with improved fermentation characteristics can:
  - Increase forage intake
  - Improve growth rates/milk yield
  - Reduce the need for concentrate feeding across the winter period
  - Extend the ‘shelf life’ of silages that may be carried over to subsequent years

The only way to ensure that your grass is suitable for cutting is by availing of grass testing services.

CONTACT
address Dairygold Analytical Services Laboratory, Lombardstown, Mallow, Co Cork
eircode P51 F992
telephone +353 (0)22 31580
e-mail asl@dairygold.ie
Due to ongoing Covid-19 restrictions on club activities, we thought it would be a good opportunity to get to know the people behind the Cork Holstein Friesian Club. Over the next few months we will profile some of the club’s organising committee. First up is club chairperson, Ivor Bryan. For more profiles and online YMA stock judging competition, check Facebook, ‘Cork Holstein’ and ‘Cork YMA’

Name/Herd name.
Ivor Bryan married to Carol with 3 children; James 10, Emma 8, and Grace 5. Parents, Alec and Jane. The Hilltop Herd of pedigree holstein friesians.

Output.
1.4million litres produced, 7460 litres, 4.37% F, 3.54% P, 590kgs milk solids in 305 days. Surplus calves are sold at 3 to 4 week of age.

Supply system.
30% Autumn calving, October/November, 70% Spring calving January-April. As we have been growing the herd over the last number of years, we have not been selling much dairy stock but we hope to be able to offer some for sale going forward.

Feeding system.
Our main focus is to make use of what we can grow on the farm, so in the summer our cows diet is made up of grazed grass topped up with ration in the parlour. We try and get cows out early, typically end January/early February until the end of November. Our winter diet is made up of grass silage, maize silage and fodder beet/potatoes fed through a diet feeder.

Breeding policy.
Our main focus is improving milk solids output, fertility, functional type and health traits. We do this by using indexes like EBI and looking at bull proofs. In recent years we have been using mostly Geonomic bulls. We have been using sexed semen on heifers with reasonable success for many years. We find once the heifers are well grown and on a settled diet/weather it works well.

Reasons for pedigree registration/classification.
We pedigree register our stock to add value to them, by increasing the number markets for my surplus stock. Also the benefit of having access to full ancestry for each animal. We use the IHFA to type classify our cows as we feel it identifies weaknesses and strengths in our cows type, which helps us in our breeding decisions.

Main area of focus at the moment.
At this moment we are progressing with our spring breeding.

Other interesting information about your farm.

Currently we do most of our own machinery work, doing our own silage and slurry amongst other things. Only getting contractors for maize and beet crops and when needed due to work load. Labour is myself, fulltime man, Alain, with family help and part time help as required. Pedigree highlights cow families that work well on our farm. Such as our Priscilla and Fabiola families, of which we have multiple generations producing large volumes of milk annually. I like to work with cows that are high producing, easy care cows, that last multiple lactations. Finally I really enjoy my involvement with the CHFC for information/knowledge garnered from meetings and farm walks also, the social aspects and meeting like minded dairy farmers.
Traditionally, in quota times this was the time of year farmers bought in cows. It was the beginning of the new quota year so there weren’t any restrictions on milk production. There are still advantages to buying in at this time of year. Firstly, there aren’t as many susceptible animals (like pregnant heifers and new-born calves) on the farm. In addition, the weather is usually conducive to growing large volumes of grass, so it is an economical time of year to buy in, from a feed point of view. However, it is worth remembering that bringing cows into a herd carries a high risk of introducing infectious disease. Therefore, it is worth having a specific Bioexclusion Plan in place before any purchase is made to reduce the level of risk associated with purchasing animals. A template for a Bioexclusion Plan has been drawn up by the Biosecurity Technical Working Group and involves a 7 step plan [https://online.flippingbook.com/view/618966/](https://online.flippingbook.com/view/618966/). Each farm should complete its own risk assessment, which can then be used to develop its own action plan. It is important to remember however, that while these 7 steps will reduce the risk of bringing in disease, the risk cannot be eliminated entirely.

Although people consider conditions such as Johne’s disease and Neospora when they purchase cows, they often forget that mastitis is also a disease that can be bought in. One of the most common ways of bringing bacteria that cause cow-associated mastitis into a herd is in the udder of introduced cows. Older cows have higher rates of mastitis than younger cows because they have had more exposure to mastitis bacteria and machine milking which may lead to damage of the udder tissue. Also, they are more likely to have had mastitis in a previous lactation and this increases the risk of mastitis in the current lactation by two to four-fold. Farmers should be encouraged to obtain information about the mastitis status of the farm of origin before they purchase, regardless of where the animals are being bought e.g. dispersal sale, mart, saleyard etc. Farmers should not buy from vendors who are unwilling or unable to provide this information. Ideally only buy from herds that milk record and have these records available. If there is no milk recording information, the bulk milk tank SCC levels over the previous 12-month period will give some idea of how well mastitis has been controlled in the herd.

It is important to manually check cows before buying them or at least when they arrive on your farm before they are mixed with your home herd. Wearing gloves, feel udders for uneven consistency or lumps and look at teats for teat sores or damage. If they are lactating, check the foremilk by stripping milk. Use a California Mastitis Test (CMT) on all new cows at the first milking to identify any problem quarters. If abnormalities are detected, have a milk sample cultured. It is advisable to milk newly introduced cows last until you are confident that they are free of mastitis. Be aware of how the management of your homebred animals will be affected by the bought-in animals. Remember that newly introduced cows are being simultaneously exposed to changes in feed, management, climate and a different range of micro-organisms in the environment as well as being expected to integrate into a new herd hierarchy. These stressors may increase the susceptibility of the newcomers to disease, or trigger diseases that were not previously apparent.
DAIRYGOLD GO-TO FARM INITIATIVE

FARMER PROFILE: Dan and Norann O’Donovan, Coolmakee, Farnanes, Co. Cork

Dan and Norann milk a Spring calving herd of Holstein Friesian cows in Mid Cork. Dan’s father, Dan, also works on the farm. Since becoming a Dairygold Lean "Go To" farmer an emphasis has been placed on assessing work practices and infrastructure on the farm. This has resulted in improvements in the use of time, health and safety standards and animal welfare practices on the farm. Waste walks were hosted which allowed insight from other farmers on how improvements might be made on the farm. Improvements and changes have allowed for better use of time, better management and a better quality of life. Dan’s view is that better preparation ensures that a task will be done properly. Ongoing assessment takes place and Dan’s attitude is that there is always room for improvement.

Leanfarm Practices on the O’Donovan Farm

Dan has introduced changes which have helped to improve his daily work routine and management practices on his farm.

Farm underpass installed in 2019
• Dan has calculated that time savings of 50 min per day have been achieved.
• Grassland management has improved as the underpass has allowed for better grass utilisation.
• Cows movement has also improved and therefore cows are less stressed resulting in improved SCC.
• Substantial labour saving with only one person required where previously two were needed twice daily.
• Additional health and safety benefits.

Heat detection system installed
• Improved heat detection and conception rates.
• Less time spent watching cows during the breeding season.

• Dan is in the process of installing a drafting system which will be linked to the heat detection system.
• Monitors can help identify health issues before visible signs occur.

Yard signage, communication and labelled tool shed
• Clear signage around the yard for machinery and fertilizer locations. This helps to reduce confusion when deliveries arrive on farm.
• Whiteboard in place based on lean principles of key communication points e.g. farm map, improvement ideas, priority task.
• Labelled storage points for equipment in tool shed.
• "A place for everything and everything in its place".

Grass measuring service used
• Ensures grass is measured regularly and consistently.
• This has reduced workload and frees up time for other tasks.

Dan O’Donovan’s views on the main BENEFITS of Leanfarm

“Since incorporating Dairygolds Leanfarm tools into our business, it has enabled us to become more productive and efficient. Safety precautions are paramount to the completion of all daily tasks.”

Benefits Delivered to the O’Donovan Farm
✓ Significant time savings
✓ Improved work / life balance
✓ Improved farm safety

Making farms safer and more sustainable. Saving farmers time, money and effort.