Welcome to the April edition of

MILK MATTERS
DAIRYGOLD’S DAIRY ADVISORY BULLETIN

Dear Milk Matters Reader,

For nearly a decade our Post Calver Gold Range has been the market leader. It combines the best in raw materials and additives. One of these additives, Yea-sacc has recently been accredited by the Carbon Trust as capable of reducing greenhouse gas emissions per kg fat/protein corrected milk. This new string to the Post Calver Gold bow adds to our already extensive range of feeds and fertilisers that deliver on profitability, productivity and sustainability. Read our article on page 5 to read more about our Dairygold Agribusiness sustainability range of feeds and fertilisers.

Grass Matters looks at managing grass in the month of April. When should you start the 2nd round of grazing? Spring fertiliser application drives early grass growth. The aim is to have 90-100 units applied by the 1st of May. Should you be using straight N or should you apply some P&K now?

In Fertility and Breeding Matters, Doreen Corridan has an in-depth look at how to manage the breeding season. To achieve a 90%, 6 week in-calf rate you need to maximise maiden heifer and cow fertility performance. Dorreen lays out a plan for this.

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
As cows approach the breeding season they need to be on a rising plane of nutrition.

**Signs that your cows’ energy demand is not being met?**
- Low milk proteins
- A milk butterfat to protein ratio of greater than 1.4:1
- Excessive BCS loss: a body condition score loss of greater than 0.5 in the 8 weeks after calving will lower your conception rates

**Meeting your cow’s energy demand?**
1. Grazed grass is the most economical way to feed a cow. You must maximise grass intake.
2. Feed an appropriate level of concentrates based on how much grass your cows are consuming and your herds milk yield
3. Do not over-estimate grass intakes. Over estimating grass intake by 1kg dry matter is the same as lower concentrate feeding rate by 1kg daily
4. If your cows current BCS is less than 2.75 you can a. Add 1 kg to feeding rates recommended in the below table b. Put these cows on once a day milking while holding concentrate feeding levels. This will negatively affect milk yield while improving BSC
5. Be-wary that late calving cows overall intake will be nowhere near that of your cows that calved in the first few week of the season. These cows will be eating lower levels of grass and will need extra concentrates to ensure their BSC stays in check.

**BE-WARY OF OVER ESTIMATING THE VOLUMES OF GRASS YOUR COWS ARE CONSUMING.**

**Concentrates required: Grass + concentrates**

<table>
<thead>
<tr>
<th>Grass DMI</th>
<th>Milk Yield (kg)</th>
<th>Milk Solids (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 kg DM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 kg DM</td>
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<td></td>
<td>16 kg DM</td>
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<tr>
<td></td>
<td>17kg DM</td>
<td></td>
</tr>
<tr>
<td>Grass DMI</td>
<td>18</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td>24</td>
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</tr>
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<tr>
<td>12 kg DM</td>
<td>2</td>
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</tr>
<tr>
<td></td>
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<td>5</td>
</tr>
<tr>
<td></td>
<td>6.5</td>
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<tr>
<td>14 kg DM</td>
<td>1*</td>
<td>1*</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>2.5</td>
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<td></td>
<td>4.5</td>
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<tr>
<td></td>
<td>6.5</td>
<td>6.5</td>
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<tr>
<td>16 kg DM</td>
<td>1*</td>
<td>1*</td>
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<td>1*</td>
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<tr>
<td>17kg DM</td>
<td>1*</td>
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<td></td>
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<td>1*</td>
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</tr>
<tr>
<td></td>
<td>3</td>
<td>3</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 1kg of concentrates at grass is the cheapest and most effective method of supplying these minerals.
Mineral Nutrition:
Grass does not meet your cow’s Phosphorus, Calcium, Selenium, Iodine, Zinc requirements. Cows also need a daily intake of cal mag to prevent grass tetany.

Dietary deficiencies of copper, selenium and iodine are linked to:
- poor fertility,
- cystic ovaries,
- anoestrous,
- irregular or suppressed oestrus
- and early embryonic death.

Grass Tetany:
Grass tetany is caused by a lack of magnesium (Mg) absorption. Grass tetany affects muscle function, hence the trembling/twitching/trashing. Death is caused by the heart (a muscle) giving up.

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 of a chance to absorb the magnesium. Magnesium is stored in the grasses stem. Lush covers have a higher leaf to stem ratio and therefore 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

Maiden Heifers:
Heifers have had a long and hard winter. A lot of heifers are behind target. Avoid holding back light heifers, breed them and work with them throughout the year to maximising weight gain and allow them to catch up.

<table>
<thead>
<tr>
<th>LWG NEEDED</th>
<th>CURRENT LW</th>
<th>GRASS IN DIET</th>
<th>CONCENTRATES REQUIRED (kg)</th>
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</thead>
<tbody>
<tr>
<td>Below Target</td>
<td>Scarce</td>
<td>Plentiful</td>
<td>3-4kg</td>
</tr>
<tr>
<td>Scarce</td>
<td>1kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plentiful</td>
<td>2kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on target</td>
<td>1kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scarce</td>
<td>1kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.dairygoldagri.ie
Sustainable farming, greenhouse gases (GHG) and ammonia, 3 words or terms you’ve heard a lot of lately and will continue to hear a lot about into the future.

This is because agriculture accounts for one third of all greenhouse gas emissions and the majority of ammonia emissions in Ireland. As a country we have committed to the EU to reducing our GHG emissions by 20% by 2020 and ammonia emission by 5% by 2030. These targets are challenging to say the least.

There are three greenhouse gases that cause problems to the atmosphere. These are:

1. Carbon Dioxide (CO₂)
2. Methane (CH₄)
3. Nitrous Oxide (N₂O)

Within the farming community, Methane (CH₄) and Nitrous Oxide (N₂O) are our primary concern.

Methane = 64% of agricultural emissions. Nitrous oxide = 31% of agricultural emissions. The remaining 5% comes from the carbon dioxide associated with fuel combustion.

*A Source: An Analysis of Abatement Potential of Greenhouse Gas Emissions in Irish Agriculture 2021-2030 - Teagasc*

**Agricultural Sources of GHG:**
80% of the agricultural methane emissions comes from the rumen of our cows, bullocks, bulls, calves, ewes, lambs etc, the remainder comes from manure management. Agricultural nitrous oxide comes from fertiliser, manure and animal dunging directly onto pasture.

**Ammonia:**
Ammonia is a toxic, pungent and suffocating gas that can cause respiratory problems in humans and that destroys the natural flora and fauna of our peat bogs. Agricultural accounts for 98% of Irish ammonia emissions. 75% of agricultural ammonia emissions come slurry, with the remainder coming from chemical fertilizer application.

As a farmer how can I reduce GHG and ammonia emissions?

1. **Extend the grazing season**
   - Increased grass intake leads to increased production and lower emissions per kg of milk produced.
   - Longer grazing seasons leads to reduced slurry methane and nitrous oxide emissions from storage and energy use from spreading

2. **Improve your herds genetic potential with a higher EBI**
   - Using the EBI to increase the genetic potential of your herd to produce more milk from the same feed input, while also improving fertility performance and lower emissions per kg of milk produced.
   - By increasing 6 week incalf rate you are better matching your cows intake needs to the grass
growth pattern while also maximizing the number of productive days a cow has every year. This lowers emissions per kg of milk produced.

c. Improved survival and health reduces the incidences of disease and death, also reducing replacements rates and emissions.

3. Increase your Nitrogen efficiency
a. Correcting soil pH improves the efficiency of the N fertiliser you’re spreading
b. The use of clover in swards increases its ability to fix its own atmospheric nitrogen; thus reducing the need for chemical N.
c. Using a fertiliser plan to improve the timing and application of fertilizer nitrogen;

4. Using protected urea products lower ammonia and GHG emissions
a. Protected urea products have been shown to decrease ammonia emission by 84% compared to Urea and GHG emissions by 73% compared to CAN.

5. Slurry application timing and method
a. Spring application reduces gas emissions following land spreading due to the more favorable weather conditions at that time of year.
b. Spring application reduces storage losses due to the shorter storage period
c. Spring application reduces the requirement for chemical N as spring spread slurry contains 50% more N than summer spread
d. Spreading slurry with a trailing shoe, dribble bar or injection system can reduce ammonia emissions by up to 97% of than those emitted with a splash plate and can increase N availability by 3 units per 1,000 gal of slurry

6. Be mindful of Energy Use
a. Make sure your plate cooler is working effectively. Measure the temperature of your milk entering your bulk tank and make sure it is not being pumped through too quickly.
b. A variable speed vacuum pump can significantly reduce electricity consumption
c. Water heating with gas or oil reduces carbon emissions by 50% and the use of solar power can reduce it even further.
d. Monitor fuel usage on the farm and ensure there are no leaks from oil or fuel tanks. Ensure that machinery are maintained regularly to ensure efficiency of fuel usage

Dairygold Agribusiness your sustainability partner:
Within Dairygold, we have always offered the best quality, latest innovation and best value within our product range. We also believe it is our responsibility to be your partner in sustainable farming. Our feed and fertiliser range now offers products that can help make our industry more sustainable.

1. Protected Urea Products:
Until 2015, the nitrogen market in Ireland was dominated by Urea and CAN. Both these forms of Nitrogen have considerable limitations in our changeable and somewhat inclement weather conditions. Past experience shows us that one of the problems with using untreated Urea is the risk of nitrogen loss due to ammonia release during hot drying weather conditions. On the other hand, CAN products run the risk of leaching during wet conditions. Moving from CAN to an unprotected urea fertiliser decreases the risk of nitrous oxide losses but increase the risk of ammonia losses. Protecting the urea fertiliser decrease this risk of ammonia losses.

Within Dairygold, we have a range of protected urea products. These products are powered by differing additives some coating the urea granule, some contained within the CCF. These products:

a. Decrease the ammonia losses versus urea, by 84% compared to urea
b. Decrease the nitrous oxide emissions versus CAN, by 73% when compared to CAN
Protected Urea Products Available through Dairygold Agribusiness:

<table>
<thead>
<tr>
<th>Product</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected 46% N</td>
<td>Ideal as CAN replacer on grazing ground or silage ground getting 3000 gals slurry</td>
</tr>
<tr>
<td>Protected 40% N + 6% S</td>
<td>Ideal as CAN replacer on grazing ground or silage ground getting 3000 gals slurry</td>
</tr>
<tr>
<td>Protected 38% N +7.5% S</td>
<td>Ideal as CAN replacer on grazing ground or silage ground getting 3000 gals slurry</td>
</tr>
<tr>
<td>Protected 28-2.5-5 + 6% S + Na</td>
<td>Ideal as compound replacer on grazing ground that needs P and K</td>
</tr>
<tr>
<td>Protected 25-2.5-10 + 5% S + Na</td>
<td>Ideal as compound replacer on grazing ground or for silage ground</td>
</tr>
<tr>
<td>SWEET 18’S 4PACK (18-6-10+3%S+4%NA)</td>
<td>Ideal as compound replacer on grazing ground that needs P and K</td>
</tr>
<tr>
<td>MAIZE BOOST 19-4-19+1.3% S+0.5KG ZN</td>
<td>Ideal as a maize silage fertiliser</td>
</tr>
<tr>
<td>Protected 27-0-11</td>
<td>Ideal as compound replacer on grazing ground or for silage ground that is index 4 for P but needs K</td>
</tr>
<tr>
<td>Protected 29-0-14 + 3% S</td>
<td>Ideal as compound replacer on grazing ground or for silage ground that is index 4 for P but needs K</td>
</tr>
</tbody>
</table>

Ever wonder how methane emissions from dairy cows are measured?

2. Post calver gold feed range:

Post calver gold has been a flagship product for many years. It is formulated with only the best raw materials; it contains high levels of maize meal, good protein quality, yea-sacc, biotin, protected copper, zinc, selplex and elevated levels of vitamin E. Its ability to drive efficient milk production while ensuring your cows go back in calf is an industry leader. Recently post calver gold has added a sustainability string to its bow.

The Yea-Sacc® from Alltech used with post calver gold has certified by the Carbon Trust as capable of reducing greenhouse gas emissions per kg fat/protein corrected milk. Yea-Sacc is the only yeast culture designed for use in ruminant diets that has been awarded this certificate.

3. Hi ProEco Lac range:

Hi-Pro ECO LAC is designed around the same core values that extend right throughout the Dairygold quality feeds range. It contains high levels of maize meal, has good protein quality and a high level of available minerals. It also contains Agolin, a natural rumen modifier that has also be awarded a Certificate of Achievement, by the Carbon Trust stating that Agolin® Ruminant reduces methane emissions by 10% in cattle daily and by 14.4% per litre of fat corrected milk.

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.
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Switch to Zurich and like Michael, you too, can avail of our exclusive farm insurance deal and preferential pricing for Dairygold members.

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To see how much you could save, call JP Aherne on 086 411 37 97 or call our farm team on 053 915 76 77.

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DRIVING FARM SUSTAINABILITY THROUGH SOIL FERTILITY

By JOHN McCARTHY and WILLIAM BURCHILL,
Teagasc Moorepark

By in large the sustainability of Irish dairy farms compare favourably, with other countries largely due to our grass-based spring calving system. The two sided challenge of improving grass growth while reducing carbon emissions and nutrient losses to water will be key to the financial and environmental sustainability of our farms in the future. Efficient use of fertiliser and slurry on the farm and good soil fertility has a very important role to play in this.

Soil Fertility Targets:
- soil pH of 6.3 to 6.5
- soil P index 3
- soil K index 3

With this in mind, Teagasc and Dairygold Co-op under the new joint programme have enlisted 33 Dairygold Co-op suppliers that are representative of their catchment area to be soil sustainability monitor farmers for a three year period.

Programme Focus: improving soil fertility and water quality.

How will the programme achieve this outcome?
- yearly soil samples to establish soil fertility status
- yearly nutrient management plan, including colour coded maps of each paddock (Figure 1) indicating where extra lime P or K are needed
- yearly targeted plan for slurry and fertiliser, slurry can be targeted to paddocks that are low in P and K and a better mix of fertilisers can be used that suit their farms.

KEY POINT: 89% or 1 in 10 fields on Irish Farms are sub-optimal for soil fertility, meaning that either lime, soil phosphorus (P) or soil potassium (K) are too low for optimal grass growth.

Long term goals:
- Reduce fertiliser costs,
- Increased grass growth,
- Improved water quality,
- Grow farm profit

Figure 1 – Screen shot of a Nutrient Management Plan (NMP)

Another aim of these soil sustainability farmers will be to reduce carbon and ammonia emissions using LESS slurry spreading technologies (trailing shoe, dribble bar or injection system):

LESS system:
- Are compulsory on derogations farms after the 15th of June each year.
- Increase the nitrogen value in slurry from 6 units/1000 gals when using a splash plate to 9 units/1000 gal when using either the trailing shoe or dribble bar.
- Reduced grass contamination leading to a quicker return to grazing.
- Are suitable for spreading on covers of up to 1,200 kg DM/ha.

The soil sustainability farmers have also found these spreaders to be very useful to get slurry out on paddocks that need P and K that had high covers of grass on them this spring.

The progress of these soil sustainability farmers will be highlighted in Milk Matters over the coming two years. The moto for these farms is a simple one – better soil fertility drives better grass growth and farm profitability while also protecting our environment.
MAXIMISE YOUR GRASS FOR 2019

Dairygold will run the grassland specialist service again this year across the Dairygold catchment area. The programme is a free service, which intends to improve your grassland productivity and sward weed control.

About the service:
I will be available to offer advice and on farm support in all aspects of your grassland management, with the focus on grassland weed control of both new leys and established swards as well as reseeding. A 20% dock infestation equals 20% less grass. Controlling these docks can grow an extra 2 ton of grass dry matter, valued at €360.

I will be running branch workshops in your local branch offering advice on grass seed mixtures for 2019, fertiliser advice for reseeding, and weed control pre/ post emergence, and established grassland.

Please contact me on 086 793 8408, your Area Sales Manager, Inside Sales or your local branch with any queries on grassland weed control and your reseeding options this year.
WHY SHOULD I RESEED?
By LIAM STACK, M.Agr.Sc, Ruminant Technical Manager

Reseeding costs c. €750/Ha. Reseeded swards should last 8-10+ years on your farm if correctly managed. High perennial rye grass swards cover the cost of reseeding within 18 months.

1. Low perennial rye grass swards grow less grass, especially in the spring when grass is of most economic value to your enterprise. Spring grass growth accounts for c.15% of the PPI value of a variety.

Dry Matter Production of 15% and 100% Perennial Ryegrass Swards

Each extra tonne of grass dry matter can increase farm profit by €181/ha for Dairy farmers.

2. Low perennial rye grass swards are of lower quality (DMD) and support lower levels of production compared to new reseeds. Correct grassland management also plays a massive role in pasture quality. A combination of both will lead to increased grass DMD across the main grazing season.

An increase of 1% in grass digestibility will:
- increase dry matter intake by 0.3-0.4kg DM
- increase milk yield by 0.5-0.6 kg

High PRG swards allow 8% higher milk output per hectare compared to old permanent pasture.

3. New reseeds are 25% more responsive to Nitrogen

KEY POINT: Swards with a low content of Perennial Ryegrass (PRG) are reducing your profit by €300/ha (€120/acre) due to reduced dry matter (DM) production alone.

9 POINT GUIDE TO ACHIEVING OPTIMAL RESULTS WHEN RESEEDING

1. Identify fields most in need of reseeding. Fields not reseeded in over 10 years should take priority.

2. Take a soil sample of the field for Lime, P & K levels. Contact your Area Sales Manager or local Dairygold store for soil sampling rates and advice.

Lime:
Lime at sowing is essential. As the old sward decays, it releases acids which lower the pH and create a difficult environment for the new seed trying to germinate.
Using either ground lime or bagged lime will help counteract this acidity and is essential even if your soil pH is already good.

Phosphorus and Potassium:
As the new seed germinates it requires Phosphorous (P) and Potassium (K), which are essential for root and tiller development as the new plants emerge.

<table>
<thead>
<tr>
<th>Soil Index</th>
<th>P (units per acre)</th>
<th>K (units per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>110</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>75</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>30</td>
</tr>
</tbody>
</table>

On index 3 soils 3 bags of 10-10-20 will provide: 30 units of P and 60 units of K.

3. Spray off the field with a glyphosate product. Graze or cut for silage within 7-10 days. For min-till operations, leave 16-20 days from spraying to cultivation. Carry out land drainage if needed.

4. Choose the most suitable seed mixture for your needs. Choose seed varieties on the Irish Recommended List. Your Area Sales Manager is available to offer advice on seed mixtures.

When choosing a mix:
• Ensure the mixture only contains varieties off the DAFM Irish Recommended List or PPI – these varieties have proven performance in our growing conditions.
• Have the right balance of diploids and tetraploids – generally the advice is 40-50% tetraploid and 50-60% diploid; this will help ensure a high-quality, palatable sward with good persistency and sward density.
• Ensure a narrow range in heading date.

Why is heading date important?
Heading date is important as it refers to the date when a grass plant turns reproductive and the seed head emerges from the plant.

A range of less than seven days is advised for your silage swards and 10 days for your grazing sward. The longer the range in heading date, the more difficult it is to manage the sward and maintain sward quality during the mid-season period.

5. Ensure there is no thrash in the field. You should have a firm and fine seedbed whether you are ploughing or using a minimum cultivation technique.

Cloddy seedbed
A cloddy seedbed occurs as a result of cultivating too soon after spraying the old sward.

Allowing adequate time for the herbicide to kill the roots is essential to ensure the roots are destroyed – and will avoid clods in the seedbed.

Soft Seedbed
A soft, loose or ‘fluffy’ seedbed can occur if the soil is overworked and is often seen when too many passes of the disc harrow or power harrow occur.

Avoiding this is essential, as the seed will get buried too deep and poor establishment will occur.

An old rule is you should be able to cycle a bike across the seed bed before the seed is sown, so roll prior to sowing if necessary to firm it up.

Inadequate rolling – plant pulling and moisture loss
Rolling is essential to create good soil-to-seed contact and it also helps maintain moisture within the seedbed.

Often plants emerge quickest where the tractor wheel marks are; this is a sure sign the field was inadequately rolled and a common issue seen with new reseeds.

6. Sow the field and lime once a suitable seedbed
is established. Apply fertiliser as per your soil sample recommendations.

7. Observe the field regularly after sowing to examine for pest damage (slugs, fruit fly etc.)

8. Graze the sward at a low cover for the first grazing. This supports tillering of the plant in order to promote establishment.

9. Use a suitable spray after establishment to control common grassland weeds.

**Should I use clover?**

White clover can supply over 150kg Nitrogen/ha at inclusion levels of 25% to 30% in the sward. This can contribute to a significant saving from reduced chemical nitrogen usage.

However, clover inclusion within a reseeding programme is not without its challenges. Post emergence weed control can be more difficult. If chickweed is present you may have to sacrifice the clover. Clover can also lead to challenges during the grazing season, later spring growth may lead to extra silage being fed in the spring and bloat during the summer. But recent research is clear. With clover in the sward, it grows more grass (DM) and supports higher levels of milk solids production and I believe its ability to make atmospheric nitrogen available to grass will become an important strategy for our industry as we try to maximise our nitrogen use efficiency.

When over-seeding with clover sow 2kg/ acre with a bag of 0/7/30.

**Consult your local Area Sales Manager or Branch Agri Lead for more information on reseeding.**
Mixture No. 1+: High Clover Grazing (Also available without clover)

High inclusion of astonenergy and meiduno make this mix 52% tetraploids. Higher levels of T are being encouraged by Teagasc due to their palatability and performance on farm. Astonenergy has continually proven its quality and superior graze out potential within the Teagasc on-farm variety trials. New within the mixture this year are Oakpark (a Teagasc bred variety) and Astonking. Over all this mixture offers good seasonal growth, quality and palatability.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Heading Date</th>
<th>Pliody</th>
<th>PPI</th>
<th>RL Ground Score</th>
</tr>
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<tbody>
<tr>
<td>Astonenergy</td>
<td>02-Jun</td>
<td>LT</td>
<td>€132</td>
<td>5.4</td>
</tr>
<tr>
<td>Meiduno</td>
<td>03-Jun</td>
<td>LT</td>
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<tr>
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<tr>
<td>Clover</td>
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<table>
<thead>
<tr>
<th>% T</th>
<th>Total PPI</th>
<th>Spring</th>
<th>Summer</th>
<th>Autumn</th>
<th>Quality</th>
<th>Silage</th>
<th>Persistency</th>
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<tbody>
<tr>
<td>52%</td>
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<td>€38.1</td>
<td>€31.6</td>
<td>€33.3</td>
<td>€12.3</td>
<td>€19.1</td>
<td>-€1.2</td>
</tr>
</tbody>
</table>

Mixture No. 2: Two Cut Silage (Also available with clover)

A mixture designed specifically for silage (two or more cuts) with exceptional spring growth for high first cut yields, no clover (questionable role in an intensive cutting system) and durable varieties to ensure a long lasting sward.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Heading Date</th>
<th>Pliody</th>
<th>PPI</th>
<th>RL Ground Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astonconqueror</td>
<td>25-May</td>
<td>ID</td>
<td>€165</td>
<td>6.4</td>
</tr>
<tr>
<td>Rosetta</td>
<td>23-May</td>
<td>ID</td>
<td>€156</td>
<td>6.3</td>
</tr>
<tr>
<td>Fintona</td>
<td>22-May</td>
<td>IT</td>
<td>€191</td>
<td>5.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% T</th>
<th>Total PPI</th>
<th>Spring</th>
<th>Summer</th>
<th>Autumn</th>
<th>Quality</th>
<th>Silage</th>
<th>Persistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>€172.6</td>
<td>€78.6</td>
<td>€25.1</td>
<td>€39.4</td>
<td>-€1.3</td>
<td>€30.9</td>
<td>€0</td>
</tr>
</tbody>
</table>
Mixture No. 3: Dairygold Extend Gold (Also available with clover)

Excellent spring and autumn growth combined with exceptional quality for a palatable sward. This mixture is for intensive grazing situations where extending grazing, is a priority. The level of abergain has been increased within the mixture this year to increase the %T. Also suitable for one cut silage systems.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Heading Date</th>
<th>Pliody</th>
<th>PPI</th>
<th>RL Ground Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abergain</td>
<td>04-Jun</td>
<td>LT</td>
<td>€214</td>
<td>5.7</td>
</tr>
<tr>
<td>Aberchoice</td>
<td>09-Jun</td>
<td>LD</td>
<td>€189</td>
<td>6.1</td>
</tr>
<tr>
<td>Drumbo</td>
<td>07-Jun</td>
<td>LD</td>
<td>€117</td>
<td>6.4</td>
</tr>
</tbody>
</table>

% T | Total PPI | Spring | Summer | Autumn | Quality | Silage | Persistency |
---|-----------|--------|--------|--------|---------|--------|-------------|
46% | €183.2    | €33.6  | €38.4  | €43.6  | €45.2   | €22.4  | €0          |

Mixture No. 4: Heavy Soils/Extensive Grazing Mix (Also available without clover)

This is an excellent mixture for heavy soils or for extensive farmers that struggle to keep rotation lengths at the 18-20 days during the summer. It has a higher levels of diploids to provide a good dense base to the sward with high ground scoring varieties which will ensure a persistent sward in challenging soils. This mixture delivers good seasonal growth and high grass quality.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Heading Date</th>
<th>Pliody</th>
<th>PPI</th>
<th>RL Ground Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drumbo</td>
<td>07-Jun</td>
<td>LD</td>
<td>€117</td>
<td>6.4</td>
</tr>
<tr>
<td>Clanrye</td>
<td>06-Jun</td>
<td>LD</td>
<td>€68</td>
<td>6.8</td>
</tr>
<tr>
<td>Ballintoy</td>
<td>02-Jun</td>
<td>LT</td>
<td>€150</td>
<td>5.6</td>
</tr>
<tr>
<td>Clover</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

% T | Total PPI | Spring | Summer | Autumn | Quality | Silage | Persistency | RL GS |
---|-----------|--------|--------|--------|---------|--------|-------------|-------|
27% | €1171     | €29.2  | €29.6  | €31    | €13.5   | €13.8  | €0          | 6.3   |
DAIRYGOLD / TEAGASC
JOINT PROGRAMME 2018-2020

By GRAINNE HURLEY, Teagasc.

Mark Lonergan who is the breeding focus farmer of the Dairygold/Teagasc Joint Program is farming just outside Rosegreen, Cashel Co Tipperary. Mark is farming a total of 52.3ha of which the milking platform makes up 47.5ha. Last year Mark milked 115 cows and had a replacement rate of 19%. Replacement heifers are kept on farm while all bull calves are sold at a few weeks of age. In 2018 Mark sold 509kg milk solids/cow to the co-op with protein at 3.74% and butterfat at 4.33%. Mark received a milk price of 2.5c/litre greater than the Dairygold average supplier last year due to the high percentages of fat and protein which was worth an extra €153/cow. Over half of this extra milk value can be attributed towards excellent herd genetics. As can be seen from the herd EBI report the genetic potential for milk or milk PD is 1kg in the herd and cows yielded 6,129 litres/cow to the co-op. Due to the reduced grass growth on the dry farm, cows were fed 1.6 tonnes meal/cow, however, on a normal year Mark would feed on average 750kgs/cow.

The herd EBI is currently €134 which is weighted slightly more towards fertility. High fertility can be seen on the ground with a calving interval of 363 days and a six week calving rate of 85%. A compact calving pattern is vital to increase milk solids output.

Spring Breeding and Herd Health Events in Conjunction with Dairygold.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Host Farmer</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 10th</td>
<td>11am-1pm</td>
<td>Mark Lonergan</td>
<td>Rosegreen, E25 NC42</td>
</tr>
<tr>
<td>April 17th</td>
<td>11am-1pm</td>
<td>Jimmy Cotter</td>
<td>Leades, Coachford, P12 DA58</td>
</tr>
<tr>
<td>April 30th</td>
<td>11am-1pm</td>
<td>Pat Mulcahy</td>
<td>Killeagh, P36 YD57</td>
</tr>
</tbody>
</table>
| Further events | that will take place in Mallow, Mitchelstown and Limerick are to be confirmed

Current average Performance of Monitor Farmers:
20th March 2019

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocking rate on milking platform</td>
<td>3.0</td>
</tr>
<tr>
<td>Average Farm Cover kgDM/ha</td>
<td>885</td>
</tr>
<tr>
<td>Grass Demand kgDM/ha</td>
<td>28</td>
</tr>
<tr>
<td>Grass growth rate kgDM/ha</td>
<td>23</td>
</tr>
<tr>
<td>% farm grazed</td>
<td>63</td>
</tr>
<tr>
<td>Milk litres/cow</td>
<td>27.8</td>
</tr>
<tr>
<td>Fat %</td>
<td>4.56</td>
</tr>
<tr>
<td>Protein %</td>
<td>3.30</td>
</tr>
<tr>
<td>Milk solids/cow/day</td>
<td>2.25</td>
</tr>
<tr>
<td>Meal kg/cow</td>
<td>5.1</td>
</tr>
<tr>
<td>Silage kg/cow</td>
<td>2.8</td>
</tr>
</tbody>
</table>
**KEEPING ON TOP OF GRASS AT START OF THE 2ND ROUND**

Growth rates have been well above average over the last few months. Grass supply on many farms is well above normal. Figures from Pasturebase Ireland show very little change in grass supply from late January to late March. So simply put farms have almost grown as much grass as has been eaten (Average Farm cover 900kg DM/ha in late March). Some farmers have a lot of grazing carried out during Feb & March while others have a lot of grazing still to complete.

There are many farms with a lot of high covers of grass and figures from Pasturebase Ireland (www.pbi.ie) reflect this. A similar pattern of grass supply on farms at this time of year happened in 2017. Many farmers persisted in trying to graze all the grass in the 1st rotation. However this resulted in 2 very clear consequences. Milk protein levels dropped due grazing very strong and old grass. The start of the 2nd rotation was delayed and this resulted in many farms not getting control of their grazing during April.

**WHEN TO FINISH FIRST ROUND OF GRAZING**

The end of the first round should normally occur in early April. However, there is huge variation in the proportion of farms grazed by St. Patrick’s day. This should have been around 60% by mid-march.

A decision will have to be made as to when you should start the 2nd round of grazing. You should begin the 2nd round when the grass is almost right for grazing i.e. 1100 – 1200kg DM/ha. This level of cover is the right amount to start with and means you are starting the 2nd round of grazing BEFORE the grass supply EQUALS the herd demand for grass. If we wait until we have enough grass (supply is greater than demand) grass will get ahead of you and grass quality will suffer.

It is important to walk your farm and keep your eye on the few paddocks that were grazed first this spring. By watching what is happening in terms of growth on these paddocks will determine whether you will speed up or slow down grazing of the paddocks at the end of the first round in the first 2 weeks of April. It is important to note that the farmers who finish the 1st round of grazing earlier are growing more grass on their farm.

For those farmers who carry out pasture measurements, try to target a cover of about 150-160kgDM/cow on the farm at the start of the 2nd round of grazing. The farm cover should not fall below 550kg DM/ha

**For Example:**

One of the 1st paddocks grazed in early February has a cover of 600kg/ha on St. Patricks Day. Expected start of the 2nd round of grazing is April 7th.

Expected growth rate for last 2 weeks of March: 14 days X 25 kg/ha/day = 350

Expected growth rate for first week of April: 7 days X 40 kg/ha/d = 280

Total Growth: 600 + 350 +280 = 1230 kg/ha

Total grass available on April 7th: 1230 kg/ha
WHAT TO DO WITH UN-GRAZED HIGH COVERS OF GRASS?
There will be situations on many farms where some of the paddocks will need to be skipped in terms of grazing as this will only delay the start of the second rotation. Some of these paddocks skipped have grass of very high cover (2000+kg DM/ha). These paddocks will need to be diverted to silage production but cut sooner rather than later. A fertiliser top up (20-30 units/acre) is required to help maintain quality and “store” the grass. They should be cut for silage in the latter half of April. Paddocks that are skipped with a low cover of grass can be diverted to main crop silage.

FERTILISER: AN APPLICATION OF P & K?
Most dairy farms need to have 60-70 units of Nitrogen/acre applied by early April. Due to some difficult weather, fertiliser application has been delayed on some farms. The next target is to have 90-100 units of fertiliser N/ac applied by May 1st. Remember that many farms are deficient in P and K (and sulphur) so applying compound fertiliser e.g. 18:6:12 + S (2 bags/acre) needs to be considered.

SULPHUR
Many dairy farms will also respond well to Sulphur (S) application. The target is to have 15-20 units/ac of Sulphur applied by late June. This can be achieved by spreading Nitrogen + S type fertiliser or using ASN (14 units of S/50kg bag) type fertiliser. If you are going to use Nitrogen + S type fertiliser then you need to start now as there are only about 5 units of S per 50kg bag.

Application of fertiliser P & K will also help damaged pasture recover. Phosphorus (P) in particular is very important for growth of grass in spring.
**GRASSLAND FARMER OF THE YEAR 2018**  
**OVERALL WINNERS**

Farm Open Day hosted by John and Olivia Macnamara,  
Starview Farm, Knockainey, Co Limerick,  
April 24th 2019 from 10.30 - 12.30.

“A consistent approach to grassland management as well as having a good team of people working with us have always been and will continue to be a pivotal part of our business strategy”

➢ Since 2014 this farm has averaged produced on average 15.0t DM/ha  
➢ 42 grass walks were completed on the farm last year, this is crucial to our grassland management  
➢ Soil fertility is at index 3 for both P and K, soil ph is 6.2  
➢ Grazing season length is on average 290 days

**DAIRY FARMING ON DIFFICULT / HEAVY LAND**  
By JOHN MAHER, Ger Courtney & James O’Loughlin  
Heavy Soils Programme, Teagasc.

**SPRING GRAZING: WE GRAZE WHEN WE CAN!!**

The current supply of grass on many dairy farms is high. The level of grass supply on the HSP programme farms is outlined in the table below. The AFC cover figure is over 1100 kg DM/ha. So there is lots of grass available for grazing. The challenge of course is achieve the right ground conditions to get grazing. The high level of grass supply is a reflection of the high level of winter and early spring growth. Even though, all the farms had cows out grazing fulltime during late February and the latter half of March, grass is very plentiful!

**Grass Summary: End of March**

<table>
<thead>
<tr>
<th>Farm</th>
<th>Cover Date</th>
<th>Farm Cover (kgDM/ha)</th>
<th>Growth/ha (kg DM/ha/day)</th>
<th>Demand/ha (kg DM/ha/day)</th>
<th>Pre-grazing yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listowel</td>
<td>24/03</td>
<td>1107</td>
<td>14</td>
<td>10</td>
<td>2300</td>
</tr>
<tr>
<td>Athea</td>
<td>19/03</td>
<td>1143</td>
<td>15</td>
<td>10</td>
<td>2700</td>
</tr>
<tr>
<td>Castleisland</td>
<td>24/03</td>
<td>972</td>
<td>16</td>
<td>25</td>
<td>2300</td>
</tr>
<tr>
<td>Kiskeam</td>
<td>25/03</td>
<td>1467</td>
<td>11</td>
<td>32</td>
<td>2200</td>
</tr>
<tr>
<td>Rossmore</td>
<td>20/03</td>
<td>1131</td>
<td>11</td>
<td>48</td>
<td>1600</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>1164</td>
<td>13</td>
<td>29</td>
<td>2220</td>
</tr>
</tbody>
</table>
The spring rotation plan is different for a heavy farm. The aim is to try and graze as much of the farm as possible by April. Depending on grass growth, the 2nd rotation will normally begin around the middle of April. The early grazed paddocks will need to be examined in early April as these will be the first to be grazed at the start of the second round. It is important to keep an eye on the recovery of these paddocks to ensure that enough grass is available to start the 2nd rotation. Therefore you must walk the farm.

There will many farms that will excess grass in April. A decision will have to be made as to when you should start the 2nd round of grazing. You should begin the 2nd round when the grass is right for grazing i.e. 1300–1400kg DM/ha. This level of cover is the right amount to start with and means you are starting the 2nd round of grazing on time. There is a temptation to try to graze all the farm and paddocks with very high cover of grass (2000+ kg DM/ha) even though there is enough grass there to start the second rotation. These excess paddocks will need to be skipped in terms of grazing as this will only delay the start of the second rotation. These paddocks will need to be diverted to silage production but cut sooner rather than later. A fertiliser top up (30-40 units) is required to help maintain quality and “store” the grass. They should be cut for silage in the latter half of April/Early May when the weather and ground conditions are right. Paddocks that are skipped with a low cover of grass can be diverted to main crop silage.

Heavy Farms need early P&K fertiliser application
Remember that many farms with heavy land are very deficient in P and K (and some sulphur) so applying compound fertiliser e.g. 18:6:12 + S (2 bags/acre) needs to be considered during April (if not done so already). Application of fertiliser P & K will also help damaged pasture recover. Phosphorus (P) in particular is very important for growth of grass in spring. Many heavy farms will also now respond to Sulphur (S) application. This wasn’t the case in the past but with newer environmental regulations now in place, very little sulphur is coming from the atmosphere.

Grassland Farmer of the year on Heavy Soils:
Farm Event April 16th at 11.00am

Recently, Danny Bermingham was awarded the Grassland farmer of the year award for the Heavy Land category in this competition.

Danny farms in Doonbeg, Co. Clare. This land has a mix of mineral clay soils and peat soils. Rainfall is about 1250mm (50 Inches). Considerable investment in the farm grazing infrastructure (and farm yard) has been carried out over the last 20 years. Different drainage systems have been installed on the farm.

Danny is very keen to stress that “we are a grass based system of dairy farming” despite the challenging nature of the soils and the level of rainfall. The farm grows about 11+ tons DM/ha on average over the last 5 years and the 100+ cow herd produced about 525kgMS/cow in 2018.
FERTILITY & BREEDING

By DOREEN CORRIDAN,
MVB MRCVS PhD, Munster Cattle Breeding

PLAN THE BREEDING SEASON

How do I achieve 90% of my cows calved prior to 17th March 2020?

1. Calve all the heifers in February 2020 - 20% of the herd.
2. Calve 70% of the current herd by 17th March 2020.

Key is high submission rates and high conception rates in maidens and the cows.

How many replacements do I need for 2020?

Decide the number of replacements required and calculate the number of dairy straws required. Breed them to the highest genetic females that you will be retaining for 2020.

<table>
<thead>
<tr>
<th>Number of replacements required</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of straws required</td>
<td>40</td>
<td>80</td>
<td>120</td>
<td>160</td>
<td>200</td>
</tr>
</tbody>
</table>

How do I select the dams to breed the replacements from?

€BI is the best tool to select the dams of the 2020 replacement heifers from. Secondly try and ensure all your replacements are born in February 2020. Breed all your replacements to dairy sires provided they have a high €BI and then select the highest €BI cows with a low SCC and good feet to breed the remainder.

Decide start date of breeding season.

22nd April start date is 30/1/2020 calving @ 283 days - however you may have 15% of the herd calved prior to that. 1st May start date is 8/2/2020 calving @ 283 days.

Plan

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st April Monday</strong></td>
<td>COWS</td>
</tr>
<tr>
<td>15th April Monday</td>
<td>HEIFERS</td>
</tr>
<tr>
<td>3 to 2 weeks pre breeding</td>
<td>Clip rumps and apply tail paint. Put low BCS cows on once a day milking – OAD. Treat lame cows immediately. Put late calvers on OAD. Record heats at each milking. Ensure heifers are on a rising plane of nutrition. Supplement those under 320Kgs.</td>
</tr>
<tr>
<td><strong>15th April Monday</strong></td>
<td>Top up tail paint and record all cows with tail paint rubbed or scuff marks. Watch weather to get a dry day. OAD low BCS cows and late calvers. Familiarize the heifers to coming into the yard daily. Watch the weather forecast for applying scratch cards.</td>
</tr>
<tr>
<td><strong>22nd April Monday</strong></td>
<td>Draft all cows calved 35 days not seen in heat for vet examination to check if clean and fit for breeding. Then put them onto the synchronization programme for fixed timed AI. Tail paint all cows and heat detect daily. Heifers are bought to the yard daily and get 1Kg concentrates and scratch cards read and inseminated.</td>
</tr>
<tr>
<td><strong>Mating start date</strong></td>
<td></td>
</tr>
</tbody>
</table>
Maiden Heifers

1. Live Weight and Body Condition Score
Live Weight and Body Condition Score are the two factors influencing heifers coming into heat and their subsequent conception rates.

Ensure heifers are 330 + Kgs and their BCS is 3.0-3.25 at mating.

On the following regime heifers can gain 1kg per day.
- Heifers on target/Grass Plentiful -grass is sufficient
- Heifers below target/Grass Plentiful need 2 Kg of concentrate

Get heifers out immediately as their weight gain will lift and they need to be outside 3 weeks prior to breeding, this ensures that they are nutritionally stable.

A short-term two-week reduction in energy intake during or after AI severely reduces embryo survival rate in heifers. Maintaining dry matter intakes during the early pregnancy period by avoiding sudden grass shortages is critical in achieving a high pregnancy rate.

Avoid delaying the breeding of light heifers for 3 weeks, breed them and work with them throughout the year to maximise their gain each month.

2. Vaccinations
Complete all vaccinations prior to breeding season; BVD and Lepto are licensed to be administered together.

3. Heat Detection Aids
A vasectomised bull is absolutely superb in detecting heifers in heat.
The next best system is scratch cards.

4. System for heifers to maximise the number in calf in 4 weeks.
- Get heifers used to coming into the yard each day. Feeding them 1Kg of concentrate each day in yard is a great encouragement to get them in easily. Each morning after milking get them into the yard, do your heat check, AI what is on heat and replace any cards that need to be replaced or top up the chin ball.

- If you begin on Mon 22nd April, get all the heifers into the yard and apply scratch cards. The day needs to be dry, watch the forecast- it may be necessary to apply the cards the previous week if there is a wet forecast. AI each day what is on heat and remove the used scratch cards.

By Mon 29th April you should have 1/3 of the heifers bred, (10/30) if you have not a 1/3 bred either the heifers are not cycling, or your heat detection needs improvement.

The 2/3 that is not bred should receive a dose of PG (e.g. Estrumate, Lutalyse, Enzaprost, Cyclix) on Mon 29th or Tues 30th or Wed 1st May. Plan ahead as the injected heifers will be on heat 48-72 hours later, so ensure that you are available for heat detection and drafting.

- Breed the heifers at detected heat; by 4th May all heifers should be bred once.
- Now we have two choices either pick up repeats or let them off with a stock bull.
SYNCHRONISATION PROTOCOLS
Dairy Cow - Synchronization for cows AI at fixed time

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Action</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 22nd April</td>
<td>0</td>
<td>Insert PRID or CIDR and inject GnRH</td>
<td>AM</td>
</tr>
<tr>
<td>Monday 29th April</td>
<td>7</td>
<td>Inject PG &amp; Remove PRID/CIDR</td>
<td>AM</td>
</tr>
<tr>
<td>Wed 1st May</td>
<td>9</td>
<td>Inject GnRH (56 hours post PG)</td>
<td>PM</td>
</tr>
<tr>
<td>Thur 2nd May</td>
<td>10</td>
<td>AI all cows (16-20 hours post GnRH)</td>
<td>AM to noon</td>
</tr>
</tbody>
</table>

Herds that wish to tighten and advance the mean calving date & maximises pregnancy rates as 100% submission is achieved.
Ensure cows calved 35 days, BCS of 2.75+ and Intakes are maximised.

Dairy Heifers - Most cost effective regime & highest conception rates - AI at observed heat

<table>
<thead>
<tr>
<th>Date</th>
<th>Day 0-Day 6</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon 22nd April</td>
<td>0-Day 6</td>
<td>AI on observed heat -should have 1/3 detected at end of week.</td>
<td></td>
</tr>
<tr>
<td>Mon 29th April</td>
<td>Day 6 or Day 7 or Day 8 or Day 9</td>
<td>PG to heifers not detected in heat. Only inject if 1/3 bred. otherwise investigate</td>
<td></td>
</tr>
<tr>
<td>Wed 1st May to Thur 2nd</td>
<td>Day 7 – Day 12</td>
<td>AI on detected heat. Majority on 48-72 hours post PG</td>
<td>For those that are not observed- re-inject PG 11 days after the 1st injection. (1st injection 29th April then 2nd injection on 10th May). If releasing a bull after AI, watch carefully for the repeats to ensure he is not overworked in those 2-4 days - prudent to use AI for those 2-4 days.</td>
</tr>
</tbody>
</table>

Dairy Heifers - Fixed Timed AI - Cost effective. Synchronisation - PRID Regime

<table>
<thead>
<tr>
<th>Date</th>
<th>Day 0</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 22nd April</td>
<td>0</td>
<td>Insert PRID and inject GnRH</td>
<td></td>
</tr>
<tr>
<td>Saturday 27th April</td>
<td>5</td>
<td>Inject PG and remove PRID</td>
<td></td>
</tr>
<tr>
<td>Tuesday 30th April</td>
<td>8</td>
<td>Inject GnRH and fixed timed AI (72 hours after PG injection)</td>
<td></td>
</tr>
</tbody>
</table>

Decide at the beginning of the protocol whether it is AM or PM that is convenient for you and remain with it. Talk to your AI technician.
May get 10-15% early heats on Monday that can be inseminated.
This regime allows you to inseminate all heifers with 3 handlings.
Then you can let bulls run with them for 17 days (Wed 1st to Fri 17th) - remove the bulls and AI repeats day 18 to 24 (Sat 18th to Fri 24th).

Dairy Heifers - Fixed Timed AI. Synchronisation - PRID Regime

<table>
<thead>
<tr>
<th>Date</th>
<th>Day 0</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 22nd April</td>
<td>0</td>
<td>Insert PRID &amp; Inject GnRH</td>
<td>AM or PM</td>
</tr>
<tr>
<td>Saturday 27th April</td>
<td>5</td>
<td>Inject PG</td>
<td>AM or PM</td>
</tr>
<tr>
<td>Sunday 28th April</td>
<td>6</td>
<td>Inject PG and remove PRID</td>
<td>AM or PM</td>
</tr>
<tr>
<td>Tuesday 30th April</td>
<td>8</td>
<td>Inject GnRH and fixed timed AI (72 hours after PG injection)</td>
<td>AM or PM</td>
</tr>
</tbody>
</table>

Decide at the beginning of the protocol whether it is AM or PM that is convenient for you and remain with it. Talk to your AI technician.
This regime allows you to inseminate all heifers with 3 handlings.
Then you can let bulls run with them for 17 days (Wed 1st to Fri 17th) - remove the bulls and AI repeats day 18 to 24 (Sat 18th to Fri 24th).
Stock Bull Purchase

1. Check his easy of calving index. In AI we are finding that for maiden heifers you need less than 2% difficult calving figure and for cows 4% or less. The reliability is lower in stock bulls and to be sure you need to try them out in cows in their first year for security. In achieving a 90% 6-week calving rate calving ease is crucial to get cows cycling but also to be able to cope with the calving.

2. Buy him/them two months in advance of when needed, to allow for acclimatisation and disease testing.

3. Bulls are very susceptible to stress and sudden nutritional changes.

4. Footbath him/them on arrival to avoid introduction of Mortellora and pair him with another animal.

5. Vaccinate him/them with whatever the herd is being vaccinated for.

6. Get him/them fertility tested by your vet- this ensures semen quality.

7. Ensure a young bull is able to serve prior to letting him loose with females. Confine him in a paddock with a female of similar size or smaller than himself on heat and observe, repeat until he is capable of serving.

8. Monitor him/them throughout the breeding season either with a chinball on him or scratch cards on heifers.

9. Young bulls need to be fed during the breeding season and prevent weight loss in excess of 50-80Kg.
Advanced Nutrition for Enhanced Performance

- PROTECT YIELD
- ACHIEVE QUALITY
- SAVE MONEY

by switching to a Goulding proven urease inhibitor

Available as straight N and in a range of NS and NK grades

WORKS
Used extensively across Ireland and worldwide for 25 years

SPREADS
Free flowing granular product proven to spread evenly

SAVES
Compare the cost per kg of N against CAN/CAN + sulphur

Advanced nutrition for enhanced performance

For further details please contact your local fertiliser stockist or Goulding Fertilisers on 021 4911611 / www.gouldings.ie
Every year brings its challenges and the changeable weather of the last number of weeks has put pressure on many calf management systems. Once calves reach a month of age, scour is no longer their greatest enemy; instead respiratory disease takes the lead.

Via cows’ colostrum calves will receive varying levels of protection against many of the common causes of pneumonia. These maternally derived antibodies last for approximately three weeks for *Mannheimia haemolytica* (a cause of pasteurella pneumonia), three months for the viruses RSV and PI3 and six months for IBR, though they may not be fully protective for these periods of time. The gap in time when maternal antibodies wane and before calves have built up their own active immunity is a vulnerable time.

In the regional laboratories in 2017 respiratory disease accounted for 37.1% of all deaths in calves aged between one and five months of age. Bacterial pneumonia is still the most common type of pneumonia diagnosed. Other common causes of pneumonia in calves are viruses like RSV and PI3. The source of infection can be other animals on farm which emphasises the importance of segregating calves from older stock to minimise spread of disease. These causes of respiratory disease are present on practically every farm so there is no escaping them. Stressed calves are much more susceptible to disease such as pneumonia and this is something we can address.

**Causes of stress in calves**

**Environment**

Stressors such as cold housing, damp bedding and overstocking can often be overlooked. Ventilation plays an important role in controlling pneumonia. Calves in their first weeks of life have a lower critical temperature of 15 degrees Celsius, meaning that they use up energy to stay warm if environmental temperatures are below this. What temperature is it in your calf shed today? We can counteract the cold by deep dry straw bedding and increased milk feeding to allow for growth and keeping warm. Sometimes additional measures are also necessary especially in the first few weeks of life such as calf jackets and heaters. Aside from the cold, draughts can be a significant stressor to calves. To assess if draughts are an issue, you need to position yourself at calf level and watch for subtleties such as straw movement. There are many practical ways draughts can be excluded such as sheeting gates, placing round bales to provide shelter and canopies to reduce down draughts. Air quality also needs to be assessed at calf level. If you can smell ammonia then ventilation is most likely not adequate and bedding may also need to be replaced more regularly.

**Nutrition**

Milk feeding should allow for calves to grow at a rate of at least 800 grams per day with the aim to double the birth weight plus ten
percent by weaning. We know that nutrition during this time significantly affects milk yield in the first lactation and can also boost lifetime milk production. Calves should be fed 15% of their birth bodyweight in whole milk or high quality milk replacer for the first weeks of life. Underfeeding can be overlooked if poor quality milk powder is fed or if automatic feeders are not calibrated regularly. Irregular feeding, sudden changes in concentration or incorrect milk temperature all negatively impact calf digestion. Fresh drinking water and calf concentrate should be available from the first week of life. This helps with rumen development from the outset and allows calves to become gradually accustomed to eating concentrates, ensuring that intakes are good at weaning time (aim for greater than one and a half kilograms per head).

Management Procedures
Tagging, de Budding, regrouping and weaning are all events that must occur in a calf’s young life. Careful handling, pain relief (for debudding) as required, minimal group size and difference in age groups and finally gradual weaning all helps to reduce the stresses associated with these unavoidable events.

Vaccination
Vaccination from two weeks of age with Bovilis Bovipast RSP provides protection against RSV, PI3 and Mannheimia haemolytica. A second injection four weeks later provides protection throughout this high-risk period for young stock. A further booster dose can then be administered before the next period of risk e.g. winter housing. Conveniently Bovipast can be administered on the same day as Bovilis IBR marker live to calves from three weeks of age.

Responsible use of antibiotics
Since 2018 Ireland has a policy in place regarding the responsible use of antibiotics in farm animals. By addressing management issues and by implementing vaccination programmes we can improve calf health and welfare whilst reducing the amount of antibiotics needed.
WEANING CALVES
By SUSAN CASEY, B.Ag.Sc.

Calves should be weaned a double their birthweight, so roughly 85-90kg or when they are consuming 1kg of solid feed for 3 consecutive days. The age at which calves will achieve these targets will differ from farm to farm and feeding systems. With a typically bucket feeding system it takes calves c.8-10 weeks to achieve these targets, on computerised feeding programs these targets are achievable earlier.

Typical Concentrate intake pre-weaned calves:

<table>
<thead>
<tr>
<th>Expected Starter Intake (Minimum)</th>
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<tbody>
<tr>
<td>0-2 weeks</td>
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<tr>
<td>2-3 weeks</td>
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<tr>
<td>5 weeks</td>
</tr>
<tr>
<td>6-8 weeks</td>
</tr>
<tr>
<td>9 weeks</td>
</tr>
</tbody>
</table>

For successful weaning calves:
1. Need fresh Water, As weaning approaches calves need 5 litres for every 1kg of dry feed consumed
2. Need clean dust free forage, preferably straw, separate from their bedding
3. Need palatable concentrates, ensure calves are eating at least 1 kg per day of concentrates for 3 consecutive days before weaning (i.e. the day milk is removed)
4. Need good Housing: Pairing or grouping calves early in life encourages solid feed intake (as a result of social facilitation) and improves weight gain during the milk feeding period
5. Need a stress free environment: Avoid placing additional stress on calves around weaning such as dehorning or vaccinating

How to Wean:
Gradually wean calves by reducing the amount of milk fed over 3-weeks before weaning. This encourages starter intake, stimulates rumen development and improves post weaning digestibility of nutrients. If calves are to be weaned on day 56, start reducing the milk offered on day 36, or if calves are to be weaned on day 63, start reducing the milk offered on day 43.

Weaning from twice a day feeding:
Decrease Milk/CMR by 0.2L a day i.e. drop a litre every 5 days.
Dropping from 6L to 2L over 20 days and finish on the 2L, feeding once a day for the final 7-10 days.

Weaning from once a day feeding:
Assuming once a day started from 4 weeks of age (i.e. 3L water + 750g CMR = 20% conc.) start reducing the concentration of powder from week 8 to wean at c.10weeks.

Weaning on an Automated Feeder

<table>
<thead>
<tr>
<th>Urban (Volac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 44</td>
</tr>
<tr>
<td>6L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Holm &amp; Laue (Dairymaster)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From day 40 reduce by 0.2 litres per day</td>
</tr>
</tbody>
</table>

KEY POINT: Gradually weaned calves suffer less post-weaning performance checks.
<table>
<thead>
<tr>
<th>Period</th>
<th>Days</th>
<th>From (Ltrs/day)</th>
<th>To (Ltrs/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 1</td>
<td>7</td>
<td>5.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Period 2</td>
<td>35</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Period 3</td>
<td>14</td>
<td>6.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Period 4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Duration</td>
<td></td>
<td></td>
<td>56 days</td>
</tr>
</tbody>
</table>

**Forster Technic (Volac/Lely/Delaval)**

Teddy Cashman runs a 185 autumn/spring calving pedigree Holstein Friesian herd near Carrignavar co, cork. The herd is 70:115 split herd. When calves are born they receive colostrum and then stay on transition milk for around 9-10 days, this is very important for Teddy as he vaccinates for rotavirus.

The Calves then move on to and Urban automatic feeder which Teddy purchased this year. Teddy choose to buy an automatic feeder for many reasons, it’s a more consistent feed for calves and takes out the human error of mixing, very labour saving and helps to monitor calf health and it’s performance.

All calves have access to fresh water, concentrate and straw within a few days of birth. Teddy starts calves on a calf starter and then moves on to Kaf Pride after about 3 weeks.

Teddy has been using the Prime Elite 25 plus for the last 3 years and has continued using it with the feeder this year and has been very happy with calf performance. All heifers are calving down at 2 years of age.

Besides for Rotavirus Teddy also vaccinates for pneumonia and thinks, vaccinations are something which is very important especially with a larger herd. On top of vaccinations Teddy keeps on top of hygiene and ensures calves have a clean deep bed of straw. With the automatic feeder Teddy also alternates the teats every couple of days and soaks them in Milton to keep bacteria down.

Please contact Susan Casey, Dairygold Calf rearing specialist on 087 - 0671246 with any questions.
UP COMING FARM WALK

The Cork Holstein Friesian Club will be holding a farm walk on the farm of Dairygold suppliers, Kevin and Bernie Downing, on the 30th of April.

Kevin and Bernie farm along with their farm manager Tom Carr, who has been with the Downings for over 35 years, and farm assistant James Wycherley. The 150 pedigree Holstein herd, which farms under the ‘Parkduv’ prefix, has a long history of achievement in dairy farming and assisting in the development of the dairy farming industry.

They have been part of their co-op’s monitor farm program and have won many milk quality and farming awards. The Parkduv herd is currently ranked in the top 25 herds in Ireland with a Herd EBI of €178. The herd won the Dairygold ‘Milk Quality Award 2017’ for consistently supplying quality milk to the co-op throughout 2017. The club is very much looking forward to seeing this impressive farm and would like to thank the Downings for hosting us.

BULL SHOW AND SALE

This years Bull Show and Sale will take place on Wednesday 3rd April at Bandon Mart.

As previously mentioned, this years annual Pedigree Holstein Friesian Bull Show and Sale will take place on Wednesday 3rd April at Bandon Mart. The show will start at 10.30am with the sale commencing at 12.00 noon. For a full list of bulls for sale and much more, check out our Facebook page, Cork Holstein.
Prevention of mastitis should be our primary goal—if cows don’t get infected, then we don’t have to worry about how to cure them! Knowing which pathogens the herd is being challenged with can help to ensure that efforts at prevention are targeted correctly. It is not possible to tell which bacteria are involved just by looking at milk, udders or somatic cell counts—you have to actually grow the bacteria to know for sure. We can do this easily by taking a sample of milk from a cow with mastitis (clinical or sub-clinical), and getting a laboratory to identify which bacteria are in the sample.

Once the laboratory has grown the bacteria, they can also check if they are resistant or sensitive to a predetermined list of antibiotics (‘sensitivity testing’). This does not guarantee that an infected cow will be cured by a particular antibiotic, as conditions on a laboratory plate can differ dramatically from conditions in the udder. However, it is important to be aware of any resistance issues that may be emerging on farm and to choose a treatment that should be effective.

To get good results......take good samples, and use a laboratory that has a proven performance record i.e. a CellCheck Partner Laboratory.

**Taking good samples:**
Hygiene is essential—whatever bacteria are in the sample of milk, is what will grow in the lab, whether they come from the cow or from the environment. Mixed bacterial infections can occur in mastitis, but when three or more different bacteria are identified in one sample, this is universally recognized as evidence of a contaminated sample.

**CellCheck Partner Labs:**
CellCheck has been working in partnership with the Department of Agriculture, Food and Marine (DAFM) to harmonize methods and standards of commercial services available for mastitic milk samples. Limerick Regional Veterinary Laboratory has developed a proficiency test (PT) scheme, which all commercial laboratories offering milk culture/PCR services are welcome to participate in. Any commercial laboratory successfully participating in the DAFM PT scheme is recognised as a ‘CellCheck Partner Lab’, delivering mastitic milk sample services to an agreed standard and undergoing continual evaluation in this area.

For the current list of CellCheck Partner Labs – see [http://animalhealthireland.ie/?page_id=8731](http://animalhealthireland.ie/?page_id=8731)

For step-by-step instructions on taking and handling milk samples in a sterile fashion, see Management Note A in the CellCheck Farm Guidelines for Mastitis Control.
LeanFarm - Visualisation
Each month we will profile a key lean farm tool and show practical examples of how the tool can be considered for your farm.

Visualisation is one key Lean Principle. Using Visual Management Aids will help you save Time, Money and taking Less Effort to manage your Farm on a daily basis. “What gets Measured gets Managed”. If you want to improve something on your Farm start measuring and managing.

Key Features of Farm Maps:
• Paddock numbers
• Area of paddocks
• Location of roadways and farm yards
• Key features e.g. rivers, forestry, paddock dividers.

Benefits of maps and visual aids
• Contractor can be given a pocket map to follow instructions for locating paddocks for spreading fertilizer / slurry or cutting out paddocks for bales.
• Work colleague can be given instructions to move cows to specific paddock numbers.
• Pocket map can be saved on the phone.
• Geomeasure App can be used to locate fields / paddocks on the farm and calculate the area.

Competition
We are now accepting entries for the Dairygold LeanFarm Competition. Please forward your ideas or improvements by photo to:
(1) leanfarmcomp@dairygold.ie OR
(2) by post to LeanFarm Competition, Dairygold Cooperative Society Limited, Clonmel, Mitchelstown, Co. Cork
Please note closing date 31st May 2019
Prize for the winner is €200.