Welcome to the December edition of

MILK MATTERS
DAIRYGOLD’S DAIRY ADVISORY BULLETIN

Firstly, a Merry Christmas and Happy New Year from all involved in the production of Milk Matters. 2019 has been kind, offering a great opportunity to recover from the challenges of 2018. Grass growth has been strong, mirroring the 5-year average. Milk yield per cow and milk solids produced per cow are c.4-5% ahead of 2016 to 2018.

It is the goal of this publication to provide you with correct, timely and relevant technical advice, to challenge the way you do things, to highlight what the best 10% are doing and to drive efficiency and profitability on your farm. I trust we have achieved these goals in 2019 and we welcome your feedback on anything that can improve our publication going forward.

Is your total farm growing enough grass to meet your farms feed demand? Within Grass Matters John Maher examines how we can critically assess our farms performance.

Doreen Corridan looks at a plan for 2019 drying off, while also planning for the best herd fertility performance in 2020. Dry cow management will have a big impact on your 2020 calving and breeding season. A successful dry cow period should culminate in a healthy calf on the ground with few metabolic disorders.

This month in Nutrition Matters we highlight the importance BCS has at calving and we examine the interaction between pre-calving minerals and metabolic disorders.

Yours Sincerely,

Liam Stack

Liam Stack M.Agr.Sc
RUMINANT TECHNICAL MANAGER,
DAIRYGOLD AGRIBUSINESS

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email: lstack@dairygold.ie

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www.dairygoldagri.ie
THE YEAR TO DATE

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

Grass Growth

Milk Protein % (weeks 1-46)

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

THE YEAR TO DATE

Grass Growth:

Milk production to week 46 (figures based on ICBF cow numbers):

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>YTD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total annual Milk Yield per cow in Dairygold (kg)</td>
<td>5116</td>
<td>5294</td>
<td>5266</td>
<td>5488</td>
</tr>
<tr>
<td>Total annual Milk Solids per cow (kg)</td>
<td>392</td>
<td>406</td>
<td>405</td>
<td>425</td>
</tr>
<tr>
<td>YTD Average Protein %</td>
<td>3.50</td>
<td>3.52</td>
<td>3.51</td>
<td>3.57</td>
</tr>
<tr>
<td>YTD Average Fat %</td>
<td>4.15</td>
<td>4.14</td>
<td>4.17</td>
<td>4.17</td>
</tr>
<tr>
<td>YTD Average Lactose %</td>
<td>4.86</td>
<td>4.87</td>
<td>4.76</td>
<td>4.74</td>
</tr>
</tbody>
</table>

Milk Butterfat % (weeks 1-46)

Milk Lactose % (weeks 1-46)
**DAIRYGOLD DRY COW NUTRITION PROGRAMME**

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

**The 2 most stressful times in a cows life are:**

1. Weaning
2. The weeks leading up to and after calving

KEY POINT: 50% of dairy cow metabolic problems occur within three weeks of calving.

Correct dry cow management and preparation for this period of stress is critical.

**FOUNDATION for success: Correct Body Condition Score (BCS) at Calving**

Without a strong foundation, your dry cow programme has little chance of success. Calving your herd down in the correct BCS (individual cow range 3.0 > 3.25) delivers this sound foundation; with proven benefits for fertility, milk yield and cow health (reduced metabolic problems e.g. milk fever).

**Body Condition Score Target:**

- **DRY COW TARGET:** 3.25 • **HERD RANGE:** 3 - 3.5

How to Body Condition Score

To condition score your herd properly you need to run your cows through the crush and handle them. However an overall visual inspection is also important. Apply firm pressure on the three primary reference points:

1. **Pins and Tail Head:** Use fingers to score by feeling for the amount of fat around the tail-head and the prominence of the pelvic bones.

2. **Short Ribs/Loin:** Use a flat hand to refine the score by feeling the boney projections and the amount of fat in-between.

3. **Ribs:** Use flat hand to refine the score by feeling the boney projections and the amount of fat in-between.
Feeding Dry Cows This Winter:

Your cows will only gain weight for 6 of their 8 weeks dry. During the 1st and last week they won’t gain any weight. For the mid 6 weeks if a cow is gaining 1kg per day, 40% of this is going on her back with the remainder used to grow the calf. During this 6 weeks your cow’s therefore has the potential to increase her liveweight by c. 20kg or c.0.5 BCS.

Assuming your cows don’t have to gain any body condition it is relatively easy to meet your dry cows energy requirement in month 7 and 8. However, in the final few weeks before calving your cows intake drops, as her dry cow energy demand is peaking. An all grass silage diet will not meet her energy requirement then. During this phase concentrates are required to limit the degree of negative energy balancing at calving.

What are the consequences of the wrong BCS at calving:

Too Thin:
1. Poor subsequent fertility performance
2. Low milk yield, milk protein % and milk fat %
3. Increase incidence of lameness
4. Increase degree of immune suppression

Too Fat:
1. Higher degree of negative energy balance at calving will result in:
   a. A 4-fold increased risk of milk fever
   b. An 80% increased risk of retained cleansing
   c. Increased risk of fatty liver, ketosis and displaced abomasums
   d. Lower milk yield and milk protein %
   e. Poor subsequent fertility performance
   f. Increase degree of immune suppression

It is preferential to avoid both scenarios.

**KEY POINT:** Cows in the wrong body condition score (BCS) need to have this rectified 2-3 weeks before calving starts.

**ENERGY REQUIREMENTS OF DRY COWS**

<table>
<thead>
<tr>
<th></th>
<th>MONTH 7</th>
<th>MONTH 8</th>
<th>MONTH 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 BCS</td>
<td>7</td>
<td>7.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

**PROPORTION OF THE COWS ENERGY REQUIREMENT MET BY ALL GRASS SILAGE DIET (ASSUMING 0 BCS CHANGE)**

<table>
<thead>
<tr>
<th></th>
<th>MONTH 7</th>
<th>MONTH 8</th>
<th>MONTH 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 DMD</td>
<td>95%</td>
<td>88%</td>
<td>67%</td>
</tr>
<tr>
<td>65 DMD</td>
<td>100%</td>
<td>100%</td>
<td>83%</td>
</tr>
<tr>
<td>70 DMD</td>
<td>100%</td>
<td>100%</td>
<td>95%</td>
</tr>
</tbody>
</table>

**BCS AT CALVING DEPENDS ON:**

1. BCS when dried off
2. Length of dry period
3. Quantity and quality of feed.

**Concentrates Required By Dry Cows**

<table>
<thead>
<tr>
<th></th>
<th>Very Poor</th>
<th>Poor</th>
<th>Average</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Cows - BCS 3-8 week dry period</td>
<td>55 DMD</td>
<td>62 DMD</td>
<td>68 DMD</td>
<td>72 DMD</td>
</tr>
<tr>
<td></td>
<td>2Kg</td>
<td>1Kg</td>
<td>Silage to appetite</td>
<td>Restricted Silage</td>
</tr>
<tr>
<td>Dry Cows - BCS 2.75-10 week dry period</td>
<td>3Kg</td>
<td>2Kg</td>
<td>1Kg</td>
<td>Silage to appetite</td>
</tr>
<tr>
<td>Dry Cows - BCS 2.5-12 week dry period</td>
<td>4Kg</td>
<td>3Kg</td>
<td>2Kg</td>
<td>1Kg</td>
</tr>
</tbody>
</table>
MINERAL FEEDING FOR PRE-CALVING COWS
By LIAM STACK, M.Agr.Sc, Ruminant Technical Manager

DRY COWS SHOULD RECEIVE A HIGH QUALITY FORMULATION, PRE-CALVING MINERAL MORNING AND EVENING FROM 6 - 8 WEEKS BEFORE CALVING

The main aim of this feeding is to
- Prevent milk fever, and retained cleansings,
- Produce a healthy calf,
- Ensure the cow calves down in the correct mineral status.

Milk Fever

Sub clinical milk fever is a gateway disorder, with these cows being more susceptible to retained cleansings, metritis, ketosis, lower production, poor fertility performance.

When assessing your herds risk of milk fever be wary of:
1. Herd body condition score, with fat cows being 4 times more likely to suffer from milk fever.
2. Herd age, with cows on their third and greater lactation being more likely to suffer.
3. Calcium status. Where low, milk fever risk is very high.
4. History, a cow that had a milk fever in the previous lactation is 10 times more likely to have it in the current lactation.

Calcium supply and demand
Grass silage generally supplies an excess of calcium for a dry cow but a deficit of calcium for milking cows. During the dry period the cows stores this excess. Once she starts to bag up, her diet cannot meet her requirements and she needs to draw calcium from her body reserves. This switch from storing to drawing calcium requires a hormonal change, which is controlled by the cows’ magnesium and vitamin D nutrition.

The Potassium Effect:
An excess of potassium limits magnesium absorption, delaying the release of stored calcium and increasing...
the incidence of milk fever. Grass silage with greater than 1.5% potassium can cause such issues. Grazed grass can contain 2-2.5 times the level of potassium compared to grass silage leading to higher levels of milk fever from cows calved off grazed grass.

**Milk Fever Check List:**

1. **BODY CONDITION SCORE**: CALVE COWS AT CONDITION SCORE 3.0
2. FORAGE: GRASS SILAGE

Organise through your Dairygold area sales manager or our inside sales department to have your grass silage tested:

   a. **potassium level checked**.
   If the potassium result is greater than 1.5% you should:
      i. Dilute the grass silage potassium levels with straw, hay, maize silage, wholecrop. While doing this you need to ensure that the cows UFL and PDI requirements are being met. If not colostrum yield and quality will be negatively affected.
      ii. Feed adequate Mg and vitamin D (Read the label before you buy precalver minerals).

   b. **calcium level checked**
   A dry cow has a requirement for 50grms of calcium. Silage calcium percentages of greater than 0.5% are over supplying calcium (grass silage only diets). Do not feed additional calcium in minerals. Feed adequate Mg and vitamin D to overcome (Read the label before you buy precalver minerals).

   c. **magnesium level checked**
   A dry cow requires 40grms of Mg. Good quality pre-calver minerals will supply 30 + grms. Your silage needs to supply the rest.

3. **PRE-CALVING MINERAL**
   - Calcium. Your dry cow does not require large amounts of Ca, pre-calving mineral should contain less than 2% Ca.
   - Magnesium, Pre-calving mineral should supply 25grms of Mg per head per day
   - Vitamin D, pre-calving mineral needs to supply greater than 10000iu/per day

Dairy cows intake naturally declines as “she” approaches calving. This decline comes as her pre-calving energy demand is peaking. Silage only diets will struggle to meet the cows’ energy requirement in the final 3 weeks pre-calving. Ask about Transition GOLD cubes for these 3 weeks (fed regardless of BCS).

**Retained Cleansing**
Retained cleansings can be a secondary issue from sub-clinical milk fever and are therefore controlled by similar management to milk fever.

*When assessing your herds risk of retained cleansings be wary of:*

Body condition score / Energy balance. Fat dry cows dry matter intake can be 30% lower at calving down than cows in the correct condition score. Lower dry matter intake means lower energy intake and increased negative energy balance at the point of calving down.

Cows in a high degree of negative energy balance at calving are at an increased risk (by 80%) of suffering from retained cleansings.

Feeding 2-3 kg of transition gold in the last 10 days before calving will help fill the energy gap and ensure your cows are calving down in a positive energy status.

**Mineral and vitamin feeding to help eliminate retained cleansing**
1. *Ca status*: It’s important to control cows calcium status using the same mineral nutrition as plan as with milk fever.
2. Selenium: Pre-calving needs to supply between 3-5mg (dependent on silage Se status). The form of the mineral is also important. Organic forms of the minerals like Selplex are more bio-available to the cow and give better results.

3. Vitamin A: Pre-calving needs to supply approx 40000iu per day

Healthy Calves:
Limiting calf mortality and morbidity is influenced by getting 3 litres of good quality colostrum into new born calves within the first 2 hours of birth. Pre-calving nutrition can influence the quality of colostrum.

For good quality colostrum ensure:
• Your cows energy and protein requirements are being met

• Your pre-calver minerals contain between 3-5mg/day of selenium and that c.30% of this selenium is in the organic form.

• Your pre-calver minerals contains greater than 800iu/day of vitamin E. In the US up to 2000 iu of vitamin E are feed per day.

• Your pre-calver minerals contain 50-60 mg of iodine. Calf thrive is influenced by iodine nutrition.

Choosing a dry cow mineral for your farm

WHEN TO FEED?
Start feeding dry cow minerals a minimum of six and preferably eight weeks prior to calving.

FEEDING OPTIONS?
Fixed rate feeding of well-balanced minerals is the cheapest and best way to guarantee an adequate mineral supply. This can be done by:

1. Powdered minerals - divide the allowance into two parts and top-dress evenly over silage twice a day (allows all animals the opportunity to take in the correct allowance of minerals) or as part of a TMR.

2. Including the correct daily allowance in concentrates (where BCS is below target)

<table>
<thead>
<tr>
<th></th>
<th>Total Daily Cost (€/hd/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Feed + Pre-calver gold mineral</td>
<td>c0.66</td>
</tr>
<tr>
<td>Pre-calver gold cube</td>
<td>c0.69</td>
</tr>
</tbody>
</table>

3. Other options
   - Liquids, boluses etc. are useful where options one and two are impractical but inferior due to limited specification i.e. they can supply:
     • 0 Mg
     • 0 vitamins
     • 0 organic minerals etc.
Free access supplementation (e.g. mineral buckets and licks) is not as reliable as fixed rate feeding as there is variation in intake between animals and should only be used where it is impractical to use fixed rate feeding. Again they are often low in Mg content.

**The objectives of a Dry Cow Management Program are for the cow to calve:**

1. In an optimum **calcium** status,  
   This is a function of the silage mineral status and the level of Magnesium and Vitamin D3 in the mineral.

2. With reduced **metabolic disorders**,  
   This is influenced by the minerals Magnesium, Iodine, Selenium and Vitamin E & A levels

3. In an optimum **immune status**,  
   This is influenced by the minerals, vitamins and trace elements (Selenium and Vitamins A & E)

4. Producing **high quality colostrum**,  
   This is influenced by the mineral and vitamin supplementation.

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**2019 PRE-CALVER GOLD MINERAL OFFER**

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Please contact your local Agri Branch Lead, your local Area Sales Manager or Inside Sales on 022-31644 for more details
MEET OUR FARM INSURANCE EXPERTS IN MUNSTER.

JP Aherne and Mike O’Donoghue, our dedicated Dairygold experts, are happy to visit you at your farm to talk about the cover you need - they can even put it in place straight away.

Zurich exclusive farm insurance deal and preferential pricing for dairygold members.

TO REGISTER YOUR INTEREST, CALL JP ON 086 411 3797 OR CALL MIKE ON 086 831 2441.
NOW IS THE TIME TO SOIL SAMPLE

By LOUISE O’CONNOR, Agri Technical Graduate

As we face into December, most farmers are running through their winter checklist. However, one of the best things you can do during this period to set yourself up for the following year is to get your soil tested.

Getting your soil tested is especially important for derogation farmers who are required to get theirs tested every four years. Having a Nutrient Management Plan with regular soil tests allows farmers to assess the current soil fertility status on the farm and to see how the soil fertility has changed since the last set of soil results.

Qualifying farmers with low soil P status on their farms can avail of extra P until 2021 under the Nitrates Action Plan (NAP). This has increased P build-up allowances for P index 1 and 2 soils which will allow an additional 30kg/ha on P index 1 soils and 20 kg’s/ha for P index 2 soils. This only applies to farmers with a grassland stocking rate >130 kg N/ha. Farmers wishing to avail of these P build-up allowances must submit a nutrient management plan (NMP) to DAFM so it’s highly advised to consult with your area sales manager for help with a fertiliser plan and allow you to target any index 1 and 2 fields to increase fertility.

New applicants for derogation who do not have soil analysis results must assume Index 3 for 2019 but soil sample analysis, in respect of crop year 2020, must be available and the fertiliser plan amended accordingly and submitted online to the Department before 31st March 2020. It’s important to give the lab 3 weeks working time to process your samples.

Even if you’re not in derogation, testing your silage yearly or every second year can have major benefits, both for your grass management and for your pocket. Knowing what P & K index each of your fields are, helps aid in management decisions such as where you’ll spread your farmyard manure, which fields to re-seed, which fields need lime and how much of it is needed. There’s also the potential for major financial savings on fertiliser as you may discover that you might be able to skip or use low P or K fertilisers on some fields. Or if your fields are at index 4 for both P and K, you may be able to completely skip spreading P and K fertilisers on that field and only provide the field

KEY POINT: The annual cost of soil sampling is roughly 50 cents/acre/year. This is the same cost as 0.5 units/acre of P fertiliser

KEY POINT: Soils with P Index 3 will yield more grass DM than a soil in P Index 1. Approximately 0.6t/acre (or 1.5t/ha) This extra grass could be worth approximately €180/acre (assuming all other nutrients are optimum). *smartfarming.ie

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with lime if it's needed to adjust the soil pH.

KEY POINT: By soil testing, you can save €23/acre on fertiliser. This is on land with high P and K levels (Index 4) and stocked at 2 dairy cows/ha (0.8 cows/acre) *smartfarming.ie

I understand that sampling your soil does take time, however we have a highly-trained team of over 15 samplers who are on call to help and complete the sampling and deliver the samples to the Agri-business analytical laboratory for you meaning all you have to do is wait for your results to be posted out to you.

Please contact our Inside Sales team a call on 022-31644 if you’d like to request this service or have any questions about getting your soil tested.
STEPS TO IMPROVING YOUR SOIL FERTILITY

- **GET YOUR SOIL TESTED** - Soil testing and fertiliser planning are key requirements for any successful farm and should be carried out during the winter period in advance of fertiliser purchases. We provide a comprehensive sampling and testing service from our lab at competitive prices.

- **ADDRESS THE pH OF THE SOIL** - Farmers should aim to maintain mineral soils at pH levels of 6.3.

- **OPTIMAL P & K INDICES** - Aim for a target index of 3 for both P and K.

- **SLURRY & MANURES** – Target the fields that have yet to reach optimal P & K indexes first.

- **CHOOSE COMPOUND FERTILISERS WISELY**
  Our Inside Sales team are on hand to provide you with free advice on this. Call us on (022) 31644.

**BENEFITS**

- Environmental Sustainability
- Targeted application of organic & chemical fertilisers
- Efficient use of nutrients by the plant
- Grass Yield

Every €1 spent in building up soil fertility gives a return on investment of €3

Every extra tonne of grass grown increases profits by €173 per hectare

Please contact your local Agri Branch Lead, your local Area Sales Manager or Inside Sales on 022 31644 for more details.
The calf rearing process is critical in the success of any livestock system. Over 50% of calf mortality within the first year occurs within the first six weeks of life, and high mortality rates subsequently reduce farm profitability. The three key influencers of calf survival and lifetime performance are colostrum management, nutrition and correct housing conditions.

**Colostrum Feeding**

One of the most critical factors of calf health is the management of colostrum feeding. There are three simple steps to ensuring that your calf receives enough good quality colostrum. Aim to feed a minimum of three litres of colostrum from the first milking within the first two hours of life. Colostrum contains protective antibodies called immunoglobulins. The ability of the calf to absorb antibodies is at its greatest during this time. Colostrum milked from the cow within the first hour after calving has the highest level of antibodies. Each hour after calving the cow’s colostrum antibody content reduces. Excess colostrum should be frozen and stored for future use. Hygiene around calving is vital to ensure that infection does not enter the calf before colostrum consumption.

**Nutrition – top tips for milk feeding**

To achieve 0.9kg/LWG/day milk replacer fed to young calves should have a protein content of between 23% to 26%. Temperature, timing of feeds and milk volume should remain constants throughout the milk feeding period. Inconsistencies may cause guzzling and the overspill of milk from the abomasum into the under developed rumen. Consistent milk replacer mixing rates are vital. Milk replacer is commonly mixed at 12% or 15% solids, accurate measurement of both powder and water is vital to achieve this. Fresh water and ad lib straw must be made available to the milk feed calf with starter ration available from three days of age.

**Calf Housing**

Irrespective of what feeding system you choose good quality housing facilities are important for good health. A draught free environment should be provided for calves with temperatures greater than 20 degrees. Young calves will spend over 80% of their time lying down. Therefore, it is important to have adequate quantity of quality bedding material. To check if calf houses are adequately bedded and dry, kneel with all your weight on the bedded floor. If the knees of your trousers are wet, the house is not bedded sufficiently. Good ventilation is important to reduce the risk of respiratory diseases among calves. Check ventilation in pens by crouching to calf level. If there is a smell of ammonia, it is not well ventilated.
Prime Elite 23 and Prime Elite 25 Plus Milk Replacers both contain the highly concentrated bio-active milk complex imunopro. Imunopro, a concentrated Whey Protein, is carefully balanced to ensure the optimum level of amino acids, fatty acids and milk sugars for growth, health and development of the calf.

Imunopro contains:
- Over 4.5% IgG - The protein responsible for calf health found in colostrum.
- Higher levels of key amino acids such as lysine (9.4%) and leucine for growth and muscle development.
- Higher levels of bovine milk oligosaccharides this helps to develop a healthy gut bacterial population.
- Elevated levels of lactoferrin which is important for gut health and has been shown to reduce scours.

High quality vegetable fats (coconut & sustainable palm oil) are used to mimic milk fat and provide the energy which normally comes from milk fat. Sugar levels are adjusted to ensure that the right amount of energy is present for the calf to reach it’s growth potential.

Added Health Supplements
Gardion – which is derived from garlic, has the ability to enhance the immune system as garlic is linked to having antibacterial, antiviral and antifungal properties. This all helps to improve gut health in the calf which is important to maintain good growth and thrive. Gardion is in both our Prime Elite 23 and Prime Elite 25 Plus Milk Replacer.

Digesterom – which is a plant based feed additive, contains a unique blend of herbs, essential oils and functional flavours which help to increases the palatability of the milk replacer and therefore encourage intakes. Digesterom also helps to enhance the digestive secretions within the calf, which in turn increases the calf’s ability to digest nutrients so it gets the maximum potential out of the feed you give it. Natural gut bacteria are also increased and populate to further improve gut health, as there is healthy bacteria to digest the feed source.

Digesterom has also been shown to reduce the incidence of scour in calves and reduce the number of days it takes calves to recover from scour. These combined give the calf the best chance for growth and high performance.

Both our Prime Elite Milk Replacers can be mixed in cold water because of the high-quality protein and spray drying technique. When using an automatic feeder, the machine will mix it at a maximum of 42°C. It is important when mixing that the water temperature is not over 42°C as this could damage the proteins thus reducing the quality of the milk powder.

If you have any questions on our Prime Elite Milk Replacer range or calf related queries please contact our calf milk replacer specialist Trisha on 087 949 9553.
SUSTAIN Fertiliser
TEAGASC Proven

SUSTAIN Fertiliser
High Nitrogen Content

SUSTAIN Fertiliser
Environmentally Stable

Sustain is a protected nitrogen fertiliser treated with AGROTAIN stabiliser technology.

AGROTAIN reduces both GHG and Ammonia emissions, while ensuring the Nitrogen is available to fuel crop growth all season long.
CLEANING DRAINS & PROTECTING RIVERS
By CIARA DONOVAN,
Farm Sustainability Advisor, Supply Chain Division

It is difficult to always know how to do things the ‘right way’ and there are so many rules and regulations today in farming that it is sometimes hard to keep up! This is very evident when it comes to drainage and carrying out work in or near rivers and streams. Are you allowed to clean your drains or streams? If so, when can you clean them? Is drain cleaning damaging or beneficial to the environment? This article aims to dispel the confusion and help you to make the right decisions.

The Positives and Negatives:

- Cleaning of drains dries land and helps to prevent flooding. Drier soils will heat faster, aeration allow roots to access minerals more easily and generally soil productivity is improved.

- Faster movement of water off your land, might mean increased flooding of land downstream.

- Sediment will be lost downstream when the banks and river floor are disturbed. This increases the nutrients available to aquatic plants which then grow unnaturally quickly, causing extreme fluctuations in oxygen levels in the water. The sediment also covers the river floor and can smoother and kill aquatic insect and fish that need clean gravelly areas to live and reproduce in.

(Above left: drain cleaned too deep and water is now almost stagnant. The sediment released into the water caused a massive growth of Duckweed which grew so aggressively that all other species in the river would struggle to survive.
Above right: A year after cleaning, this entire length of drain is filled with aquatic weeds which is now trapping sediment and slowing the flow through the drain)

- When drains are cleaned in long strips, the increased aquatic weed growth that it causes, often will slow the movement of water and cause sediment to build up faster than normal, ironically necessitating the drain to be recleaned. Rivers will usually recover over time however, if frequently cleaned, then recovery is extremely difficult.
• Cleaning drains can physically damage species that live directly in the river beds (like pearl muscles) and stone and gravel can be removed which is essential for fish to spawn in. Often cleaning drains can be environmentally damaging if some simple steps aren’t followed;

Some Simple Steps to follow if Cleaning Drains

Step 1: As a rule of thumb- only carry out works in July, August or September. If works must be carried out outside of this period (for instance to prevent flooding) the regulations vary in different rivers, so you should contact Inland Fisheries Ireland first on 01 8842600. Farmers have been prosecuted for damaging fish spawning areas on rivers, so if unsure, find out!)

Step 2: Only clean the section of the drain that needs to be cleaned. If possible leave an area downstream uncleared to act as a silt trap. Clean only the bottom of the drain leaving the banks undamaged (as in 1 & 2 below). Don’t remove any stones or gravel (as in 3 below). Try to only remove the layer of silt and vegetation growing on it and don’t dig too deep. Place the spoil well outside the bank and spread it out.

Step 3: Erect a fence to keep livestock out (2m out from the bank) and stay out at least 5 meters when applying slurry (This increases to 10 m within 2 weeks of the closed period). Also stay 2 meters out from the fence when spreading chemical fertilizer.

Remember – Many rivers could be easily mistaken to be drains. Many rivers have historically been straightened and drained, particularly when passing through farmland. However, regulations differ in relation to drain maintenance or river maintenance, with river maintenance being much more stringent. If you are not sure, check the Ordinance Survey map of your area. If indicated on the map, then it is defined as a river by governing bodies.

Below: Two examples of some in-stream works carried out to help a stream recover from the effects of heavy sedimentation. Large stones were placed along and across the stream changing the direction of flow, varying the rate of flow and depth of the river. The stones provide a place for insects and small fish to shelter and hide from bigger prey. The banks were also planted with native hedgerow species like common willow which secured the banks and prevented further sediment loss.
John Walsh farms with his wife Maria and their family Brendan, Claire and Helena near Ballylooby Co Tipperary. John is one of the nine Teagasc/Dairygold monitor farmers and his focus is on herd health. The total farm is made up of 92 hectares. This year 130 Friesian cows were carried on a milking platform of 49 hectares. All replacements are reared on farm and John also keeps some beef animals. 

Herd health is key driver for success on John’s farm and this is clearly visible with his herd SCC for example. John carried out selective dry cow therapy (SDCT) on 60% of his herd last winter. Any cow that had an average SCC reading of 50,000 for the year with no milk recording reading above 70,000 and no case of mastitis received a sealer only. John had excellent results with SDCT as the average herd SCC for 2019 is averaging at 55,000 to date. Hygiene and attention to detail is critical to get a positive result when completing SDCT.

It is projected that milk solid production per cow will finish up at 535kgs/cow on approximately 720kgs concentrate/cow for 2019. This is due to a combination of excellent genetics and management. The herd EBI is €138 and the 6 week calving rate last spring was 78%. With a 21 day submission rate of 92%, 12.5% of the herd was empty after a 10 week breeding season – which should further compact the calving pattern. By having sufficient calf space with excellent hygiene optimises calf health while the herd is still growing and calving is becoming more compact. Grass measuring and budgeting is also a priority job on this farm. Brendan has completed over 50 grass measurements this year and the farm has grown 13.5 grass DM/ha.

The Walsh’s will hold a farm walk on their farm in December 12th at 11.00am. The discussion on the day will focus around 2019 farm performance, calf health and housing, Antimicrobial Resistance and how selective dry cow therapy has worked for the Walshs.

There will be speakers from Teagasc, Munster Bovine and MSD vets.

All are welcome. Farm Eircode: E21T938
AN END TO A GOOD GRAZING YEAR BUT WHAT CAN WE IMPROVE?

The year of 2019 has brought a huge recovery in grazing after a very difficult 2018 which was a year of extreme weather events. Grass production looks like being similar to other years with some bonuses. Outlined above are the grass DM production patterns of 2019 compared with 2018 and the previous 5 year average of grass production from PastureBase Ireland. This 5 year average grass production pattern results in about 14 ton of grass DM/ha being produced.

It is obvious from the graph that grass growth in 2019 largely tracked the 5 year average. However early spring grass production was above normal with slight dips in grass production in late May, June and October. An added bonus was that there was a good recovery in winter feed generation in 2019.

Outlined across is the annual grass production (DM/ha) over the period 2013 to 2019 from PastureBase Ireland. As mentioned earlier, the level of grass production looks similar to previous years of 2014 to 2017. However, there is a significant increase in the number of farmers recording grass growth through regular grass measurement throughout the year.

Grass10 campaign:
Grass10 is a campaign that aims to increase the level of grass grown and eaten on Irish farms. The reality though is that most dairy farmers are only achieving
about 65-70% of the grass growth potential of their farms. The best farms grow over 14 tons DM/ha. The Teagasc National Farm survey (NFS) data suggests dairy farms are growing about 10 tons DM/ha on average.

As it is now the end of the year, every farmer should review how the farm performed. As feed costs are the biggest expense on most dairy farms and grazed grass the cheapest available feed, then the performance of the farm in terms of grass production should be a priority.

Review of grass production on your farm:
Outlined below are 5 steps that will enable you the farmer to review grass production on the farm. The first 3 steps are required if you want to review grazing management which has a huge influence on the level of grass production. Unfortunately, most farmers miss this fact as it is hidden in how the ryegrass plant grows. Simply put, when the fourth leaf appears on the grass plant, the first leaf dies, more stem is produced and less grass is grown and eaten. Steps 4 and 5 will increase grass production if tackled properly but will require financial investment. Steps 1 to 3 only require your enthusiasm!!

Step 1: Grass production
Walking the farm 30 times or more during the year and measuring grass production in the paddock will enable you gain a very good picture of the level of grass produced on the farm. Primarily this involves walking the farm almost every week between April 1st and August 31st and measuring the level of grass cover in the paddock. The farm needs be walked once in February, twice in March, twice in September, twice in October, twice in November and on Dec 1st to gain the full picture.

Outlined below is the grass production for an example Annual Tonnage Report

farm in the Dairygold co-op region.

An assessment of grass production on each paddock needs to be carried out. Some paddocks will perform better than others. Primarily though the underperforming paddocks need to be examined and questions asked as to why they are at the lower end of grass production scale. Questions such as paddock wetness, their soil fertility status, level of ryegrass, were they grazed by heifers/calves etc.? Sometimes problems with grass production are identified that need to be addressed.

Step 2: No. of grazings
The aim of the grass 10 campaign is to achieve 10 grazings/paddock/year. The average number of grazings being achieved/paddock on dairy farms nationally is about 6. Maximising the number of grazings achieved on each paddock is a very effective method of increasing farm grass utilisation. Every extra grazing/paddock achieved increases annual grass DM production by 1.5 Ton DM/ha. PastureBase Ireland enables the farmer to keep track of grass growth per paddock, the number of grazing's per paddock and the quantity of grass being consumed at each grazing. This highlights poor performing paddocks and deficiencies in grazing management. Completing the grazings board is another useful tool to assess the level of grass production being achieved. Outlined below is how 10 grazings/paddock can be achieved on the grazing platform.

Step 3. The average pre-grazing yield
This needs to be 1400 kg DM/ha.

The average level grass growth recorded on PastureBase Ireland across the months of May to September is about 65 kg DM/ha/day. Therefore achieving a 20-21day rotation during the main part of the grazing season will ensure that the cows enter a

**GROWING 14 TON GRASS DM/ha**

<table>
<thead>
<tr>
<th>Growth Period</th>
<th>Grass Growth Rate (kg/ha)</th>
<th>Rottn. Length (days)</th>
<th>No. of Rotations</th>
<th>Growth (kg/ha) required/day</th>
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<td>975</td>
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<td>1</td>
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<td>Apr 1 to Aug 5</td>
<td>1400</td>
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<td>2-7</td>
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<td>Oct 11 to Nov 20</td>
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<tr>
<td>Total Grass production/ha</td>
<td>14000</td>
<td>290</td>
<td>10</td>
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</table>

Step 3. The average pre-grazing yield
This needs to be 1400 kg DM/ha.

The average level grass growth recorded on PastureBase Ireland across the months of May to September is about 65 kg DM/ha/day. Therefore achieving a 20-21day rotation during the main part of the grazing season will ensure that the cows enter a
pre grazing yield of 1300-1400 kg DM/ha. That is 20 days multiplied by 65 kg DM/ha = 1300 kg DM/ha. A leaf on the ryegrass plant appears about every 7 days. This is why a 20-21 rotation is targeted (see diagram below). The grass plant is right for grazing when it is at the 2-3 leaf stage. The performance of the plant and the performance of the cow grazing the plant are ideal. Of course if grass starts growing the ‘fourth’ leaf - the rotation is getting too long - then this field/paddock should be removed as surplus grass for silage.

Longer rotations result in:
- less grass grown/ha
- poorer cow performance
- less grass eaten per ha

The pre-grazing yield can be calculated from the annual tonnage report in pasturebase Ireland.

Pre-grazing yield is calculated by dividing the tonnage grown by the number of grazing eg 11.5 T (11500kg) grown per ha in 8 grazing is an average pre-grazing yield of 1437kgDM/ha.

Step 4: Soil Fertility:
Having the soil with adequate P, K and lime is a huge driver of grass growth on dairy farms. Soil sampling is the only reliable way of establishing where soil fertility is at. The reality is that soil sampling should be carried out for agricultural purposes (i.e. to grow more grass). Completing soil sampling every 2 years will inform you about the level of soil fertility improvement and increase (in most cases) the level of P fertiliser allowed on farm. National figures suggest that only about 15% of the soils have adequate P, K and lime status.

Step 5: Reseeding
If steps 1-4 above are tackled, increasing grass production through reseeding is the final step. It is costly (€700/ha) but even still the return on investment is high and the return is very fast.

Finally, I would like to wish all the Grass Matters readers a Happy Christmas and a better grass growing year in 2020.
DAIRY FARMING ON DIFFICULT / HEAVY LAND

By JOHN MAHER, Ger Courtney & James O’Loughlin
Heavy Soils Programme, Teagasc.

The year 2019 has brought a much more favourable weather pattern. While early spring grass production was favourable everywhere, the grazing conditions were much more favourable especially for those who farm on heavy land. This came about due to 2 main reasons: 1) below average rainfall through the latter end of 2018 and 2) more importantly, the very dry summer enabled the land to dry out and “crack open” thereby improving the soil aeration entering winter 2018. The water table was also lower.

Grass production was also much higher in 2019 than previous years. As can be observed from the table below, this was the first time that the 12 ton of grass DM/ha barrier has being broken. The grass production year got off to good start and the summer season was also favourable with the result that all farms are quite content with the level of winter feed generated. The back end of 2019 was wetter and this proved challenging for grazing.

Obviously the weather is a greater barrier to increasing grass production compared to other farms given the nature of the soils but soil fertility improvement has also been difficult to achieve. Soil sampling took place on the farms in late 2018 and for first time a noticeable improvement in the fertility status of the farms was noticed on all the farms. Our aim in this programme though is to keep trying to improve grass production and the level of grass eaten.

Current Grass and Milk Production:
The average farm cover on the heavy soils programme farms is about 600kg DM/ha at the moment. On most of the programme farms there is not an excessive amount grass left behind so the level of grass decay should not be very high. Certainly there is enough grass being carried over to have grass available in March for grazing. This is the “normal” turnout month for most of these farms. Generally any grazing that takes place in February is considered bonus territory by the farmers and that was the case in spring 2019. Outlined in the table below is the closing farm grass cover and current cow performance on the programme farms.

Grass Summary:
The average level of rainfall (30 years) and the level of rainfall for 2019 is outlined in the table below. While farming on heavy land is challenging in itself, often these farms are located in high rainfall areas. A huge variation in the level of rainfall achieved exists across the farms but it is interesting to note that the level of rainfall is behind on some farms. There has been a level of catch-up though in late 2019.

Rainfall Summary (mm):

Finally, I would like to wish all the Heavy Soils Grazing readers a Happy Christmas and a good year for farming in 2020.
LOW EMISSIONS SLURRY SPREADERS: BUYING VERSUS USING THE CONTRACTOR

By WILLIAM BURCHILL, PhD., Teagasc/Dairygold Joint Programme

Buying a new machine
Estimates of the cost of buying either a 2,000 gal galvanised tanker fitted with a splash plate, dribble bar or trailing shoe or retro-fitting a dribble bar onto an existing tanker is shown in Table 1. Retro-fitting a dribble bar to an existing tanker is substantially cheaper than buying a new tanker and maybe a more viable option if the existing tanker is in good condition, of sufficient size, and the axle is suitably located on the tanker chassis.

Table 1. Comparison of the cost of buying a LESS machine after taking into account TAMS grant, capital allowance tax saving and value of extra N over a ten year period

Using the contractor
Depending on farm size and available labour the use of a contactor with a LESS machine is another option for farms. The hourly rate for a trailing shoe can be €85/hr v’s €65/hr for a conventional splash plate (FCI, 2019). The extra cost per hour is small when the extra N value from the slurry when using trailing shoe is taken into account (Table 2).

Table 2. Extra contractor cost and value of N saved when using a trailing shoe compared to a splash-plate depending on the number of 2,500 gal loads of slurry spread per hour.

Other considerations
- Residual value of the tanker
- Will you need a bigger tractor?
- Should a contractor be used to spread slurry to reduce labour?
- What is the availability of LESS machines among contractors in your area?
FERTILITY & BREEDING
By DOREEN CORRIDAN, MVB MRCVS PhD, Munster Cattle Breeding

PLANNING THE HERD 2020
Planning which cows and heifers to retain for 2020 and which to cull?

<table>
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<th>JUMBO</th>
<th>LACT NO.</th>
<th>CALVING DATE</th>
<th>PRODUCTION MILK €</th>
<th>SCC</th>
<th>JOHNES +</th>
<th>ISSUES DISEASE</th>
<th>COW €</th>
<th>€BI</th>
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<td>20 MAR 20</td>
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<td>+300</td>
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</table>

1. Calving Date 2020
2. Production
3. SCC & Johnes Status
4. EBI & Production
5. COW Report

The key here is to plan on which cows and heifers to retain to fill your required number that you wish to milk in 2020. Firstly, all empty cows can be considered for culling and the late calving cows depending on the numbers you need. Johnes positive cows should ideally be culled. Then we need to cull the high SCC cows that did not achieve a cure in 2018/2019 dry period and were high in the 2019 lactation. These cows especially if in 4th lactation + are unlikely to cure and are likely to spread to 1st lactations in 2020. Then we need to focus on the cows that are not leaving a profit currently and are unlikely going forward to leave a profit. In milk recording herds these are the cows in red – poor performers. If this production is combined with their genetics it is an excellent predictor of profitability. The COW report combines the above and the economic values into a nice report.

For the incalf heifers that have not yet calved genomic testing is an excellent tool to determine the most productive and profitable heifers to retain. This test costs €22 and is extremely worth while if you have surplus heifers to sell.

Fertility for 2020 - Maiden Heifers

To maximise the Kgs of milk solids sold we need to maximise the number of mature cows in the herd and calve as many cows as possible in February.

The aim is to calve all 1st calvers in February. I am constantly seeing maiden heifers calving in March and April in herds.
Let’s aim to have our 2019 born maiden heifers weighing 350 kg and ready to be mated on April 20th, 2020.

The heifers on target to do this are weighing 250Kg now.

Tasks
1. Weigh the maiden heifers now
2. Test the silage they are being fed

250 Kg heifer on 70% ad lib DMD silage needs 1 - 1.5Kg of an 18-20% protein.

250 Kg heifer on 68% ad lib DMD silage needs 2 - 2.5Kg of an 18-20% protein.

Actions
Group the heifers by size.

The heifers under target need to be grouped separately and fed accordingly.

Ensure they get ad lib access to the best silage.

A 210 Kg heifer is 30Kg under target, she will need an extra 140 Kg of concentrate to get to target. This is a 1.5Kg extra over a 90-day period. She will need 3Kg of an 18-20% protein ration, divide this into two feeds per day.

Genomic test your maiden heifers now.

Genomic testing an animal costs €22 and gives as much information as milking 20 daughters, it will also verify the parentage.

Genomic testing can be done at any stage of an animal’s life, as young as a day old.

All dairy herdowners who have surplus heifers should genomic test the whole group to identify those that have superior genes for milk solids and fertility.

Then when you have this information you can make a more informed decision.

Long term this will allow you to breed a very profitable herd.

Fertility for 2020 - Incalf Heifers
I am constantly seeing the calving interval between the first and second calving 15-25 days longer than between other parity cows.

Aim now is to get the incalf heifers up to target weight and to avoid fat heifers at calving.

In calf heifers will grow very little in January due to the demands of the 9th month of pregnancy and the reduced intakes.

These heifers should be between 480-500Kg now. Again, the same principles of feeding as for the maidens.

Check these heifers now for warts and get them treated prior to calving. Warts are one of the reasons for mastitis and increased SCC in heifers.

Fertility for 2020 – Cows

10th December cows dried calving in February will have 60 days dry

10th December cows dried calving in March will have 90 days dry

10th December cows dried calving in April will have 120 days dry

What we are getting is March/April/May calving cows within excess of 90 days dry on ad lib silage and calving in a BCS of between 4-5.

Often these cows are factory fit at calving, resulting in huge metabolic issues post calving, rapid weight loss and very poor fertility.

We cannot ignore these cows, we need to act on them now at drying off.

Group them into a pen of the shed on their own.
Feed them the poorest quality silage available- need to have the silage tested. It is recommended to feed them 75% of their appetite, this is very difficult due to the issue of barrier space not being available on most farms. The easiest option is to include 3Kg of straw in their diet with the silage, this works well on most farms.

**Fertility for 2020 – Heat detection**

**Vasectomised Bull**

These boys are unbeatable for heat detection.

Each herdowner that acquires a vasectomised bull fitted with a chinball sees an immediate improvement in the calving pattern. Ideally start them off in their first year with the maiden heifers as they can get experienced easily with animals of a similar size. In their second season they are extremely valuable and can have a very high work rate with the main herd. Some herdowners I met were selling them after their first season, keep them for their second and third season unless of course they change their attitude and become aggressive.

They are the best paying animal on the farm.

Get your bull vasectomised for 2020 now.

**Abortions**

We are now in the peak abortion season for spring calving cows.

Investigate all abortions, there is a tendency to ignore the first abortion seen.

This view needs to be changed as the first one seen may not be the first one as studies have shown that less than 30% of all abortions are observed.

All abortions storms start with a single abortion case initially.

An abortion rate of 2% between the fourth month and term may be considered normal.

The main aim of abortion investigation is to prevent abortions next season by implementing informed control strategies and to try and limit further abortions this season.

Call your veterinary practitioner to investigate the abortion and get samples to the regional lab.

Identify the cow that aborted. Ensure no other cow, especially pregnant cows, dog or fox has access to the cleaning and foetus.

Tissue tag the foetus for BVD.

Have all collected material foetus and placenta stored in a plastic bag, tie the bag and place in a second strong bag and tie again- cable tie. This material along with a blood sample from the dam will greatly improve the diagnostic rate in the regional veterinary lab. Fresh samples are superior to those left for a few days.

Isolate the aborting cow asap (not in the calving box) for at least 3 weeks until vaginal discharges have ceased, and the lab tests are back.

Have as much information available as possible for your vet.

Prepare a recent history of husbandry and management changes.

Have previous laboratory reports available e.g. bulk milk results for 2018 etc.
When cows abort always assume it may be infectious, you need to protect yourself and the other pregnant cows. Risks to you include salmonella, neospora, leptospirosis and listeriosis. You can reduce these risks by wearing protective clothing and gloves when handling aborted material. Always keep pregnant women, children and older people (lower immune system) away from aborted cases.

**Neospora**

It seems to be an increasing problem in a proportion of herds. I have seen an issue with zero grazing – perhaps the cows are not as discerning as those grazing. However, those who are tackling it and farming their way out of it are having good success. It spreads in the herd either by positive cows already in the herd having positive daughters, this is very common or by cows and heifers eating food contaminated by infected dog faeces containing Neospora eggs. Herds that have put control measures in place and are breeding their replacements from negative cows are having good success. If you have a high bulk reading in Neospora it is worth tackling it this Autumn. The best time to blood test is late pregnancy, avoid the last 3 weeks of pregnancy. Identify the positive cows and breed them to beef bulls (resultant progeny for beef only, avoid replacements entering the sucker herd). Use the negative cows to breed your replacements from and put in measures to prevent ingestion of contaminated food by dog or fox faeces. Do not shoot the dog! Keep your own dog as they become immune over time.

**Salmonella**

A number of herds have experienced abortions in their in-calf heifers, with salmonella being isolated, prior to them receiving initial vaccination and booster. On investigation the cows were boosted as normal in September however the in-calf heifers did not begin their vaccination programme till October or November, mainly because they were in an outside place. A simple solution to this is that if you are vaccinating for Salmonella do your 2019 born maiden heifers now with two doses, three weeks apart. They will then have immunity throughout all their pregnancy and will just need to be boosted once with the cows in the autumn of 2020. This results in just one extra shot in a cow’s life yet you’re in-calf heifers are protected throughout their pregnancy. It will also reduce the carrier state.

Moorepark in conjunction with UCD have shown a benefit of €70 per cow per lactation to vaccinating with Salmonella in infected herds.

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**OWN HEALTH**

When dosing do not smoke or eat or drink

Wash splashes from eyes and skin immediately

Wear Gloves and protective clothing

Take off any contaminated clothing immediately after dosing

Wash hands and exposed skin before meals and after use
<table>
<thead>
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<th>Month</th>
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<td>Cows, In-calf heifers &amp; Bulls</td>
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Notes:
With the festive season and end of year fast approaching, the Cork Club would like to thank everyone for making 2019 a successful and enjoyable year for all. We wish you a happy Christmas and prosperous new year. We look forward to seeing you at club events next year. Here are only some of the highlights of the past year.

CHFC MATTERS

By ALAN BUTTIMER, CHFC Public Relations Officer

CLUB AGM

The club will hold its agm on Wednesday 4th December at 8pm in the Kingsley Hotel, Cork. Guest speaker on the night will be Dr. Pat Wall with his presentation, "Connecting with consumers for a sustainable future." All welcome.

Two field evenings at Donal Murphy’s Roovesmore Herd and Martin and Michael Kennedy’s Glenrea Herd were held in June.

The IHFA national open day came to Cork in June, to the Radney Herd of Henry and Liam O’Keeffe.

In April the club had a farm walk at Kevin and Bernie Downing’s Parkduv Herd.

Champion bull, Mountfarna Futuristic at the bull show and sale in April.
Good Housing Means Happy, Healthy Cows!

Mastitis occurs because bacteria get into the udder through the teat end. Bacteria such as E. coli and Strep. uberis, which survive in the cow’s environment, can cause severe cases of mastitis. When cows are housed, their exposure to these bacteria can be higher. We often blame the calving environment if we experience cases of mastitis in early lactation, however research tells us that in many cases these infections are acquired not just around the time of calving, but even earlier during the dry period. With the change in weather and as we approach the dry period, cows in many parts of the country are being housed now. Remember that the housing conditions for these dry cows and in-calf heifers can influence the incidence of new mastitis infections next spring.

Reduce the risk of mastitis by making sure housing is CLEAN, DRY and COMFORTABLE

1. Cleaner houses = cleaner udders = less bacteria at the teat ends
   - Scrape passageways, cubicles and yards at least twice a day, or run automatic scrapers at least 6 – 8 times daily
   - Don’t forget, cubicle mats and bedding should be clean!
   - In straw-bedded houses, bedding should be refreshed daily

2. Dry housing makes it harder for bacteria to grow
   - Good ventilation is essential
   - Liming of cubicles (twice daily) will help keep them dry
   - Make sure straw bedding isn’t damp. Wet knees after kneeling on it means it’s damp!

3. Comfortable cubicles=cows will use them more=cleaner udders and teats
   - Don’t overstock cubicle housing this winter-aim to have 10% more cubicles than cows

For more information, see CellCheck Farm Guidelines 1 & 16, and Management Note L
Dairygold is the first Co-operative in Ireland to successfully pioneer the widespread application of lean tools at farm level. This will benefit farmers by helping them to streamline work practices, improve farm safety and quality and create a better work-life balance.

**Dairygold Go To Farm**

Dairygold has a number of farmers who are actively engaging with the Leanfarm project across the Dairygold Regions. These farms receive coaching from the Dairygold Continuous Improvement (CI) team on the Leanfarm principles.

Each farm has taken a specific Leanfarm principle and applied it to a range of tasks on their farms. In the coming months we will conduct case studies on key lean initiatives being rolled out on these farms.

**Dairygold farmers who are active Go To Farm participants in the Dairygold Leanfarm Programme.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
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</thead>
<tbody>
<tr>
<td>Patrick Shine</td>
<td>Tipperary</td>
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<tr>
<td>Tom Horan</td>
<td>Tipperary</td>
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<tr>
<td>John Walsh</td>
<td>Tipperary</td>
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<tr>
<td>Ger Buckley</td>
<td>Mid Cork</td>
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<tr>
<td>Barry Bateman</td>
<td>Mid Cork</td>
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<tr>
<td>Dan Donovan Farm</td>
<td>Mid Cork</td>
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<td>Martin O'Brien</td>
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<td>Thomas Walsh</td>
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<td>Shane Crean</td>
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<td>Andrew Gow</td>
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<td>Liam Herlihy</td>
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<td>Pierce Breen</td>
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<td>John Dunne</td>
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<td>Joe Morrissey</td>
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<td>Jerome Desmond</td>
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<tr>
<td>Conor O'Farrell</td>
<td>Mitchelstown</td>
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<tr>
<td>Anthony Carroll</td>
<td>Mitchelstown</td>
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<tr>
<td>Ned O’Brien Farm</td>
<td>Mitchelstown</td>
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</tbody>
</table>

**Benefits Delivered to Participating Farms.**

- Reduced waste
- Time savings
- Increased production
- Reduced costs

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

Dairygold wishes to acknowledge the effort given by all farmers who hosted Leanfarm Waste Walks during 2019.

Sean Moher (Mitchelstown) is the Leanfarm Representative on the Dairygold Teagasc Joint programme.

**Photo (above) showing Lean Problem Solving session with Continuous Improvements (CI) coaches Brendan Dunne and Graham Kavanagh at Ned O’Brien’s, Mitchelstown.**

**Photo (above) showing Leanfarm Waste Walk at Dan O’Donovans, Farnanes, Co. Cork.**