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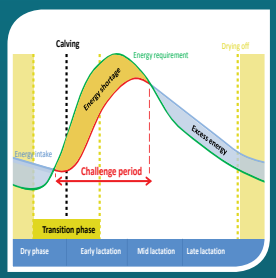
AGRI DIVISION

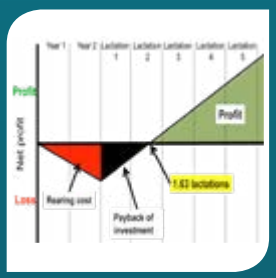
MILK MATTERS

Issue 48 - FEBRUARY 2017 www.agritrading.ie

Dairygold's Dairy Advisory Bulletin

ALSO IN THIS ISSUE





Welcome to the February edition of

MILK MATTERS

DAIRYGOLD'S DAIRY ADVISORY BULLETIN

Dear Milk Matters reader,

Its February, let the madness begin. Calving is upon us. In 6 weeks' time, on average, you'll all have 60% of your cows calved and like Daisy on the front cover you'll probably have dropped a dress size.

This month's **Nutrition Matters** focuses on the importance of early lactation feeding to your breeding season. Moving from a 60% 6 week calving rate to 90% could generate €25,000 for a 100 cow herd. While your herds fertility performance is controlled by a number of factors we concentrate on energy intake and maintaining BCS after calving.

Your farms ability to grow grass this spring and your ability to manage it will have major impact on your performance and profitability. In this month's edition of **Grass Matters**, John Mahers focus on how to grow as much grass a possible this spring.

This year's heifer calves will calf down in 2019 but won't leave a profit until half way through their 2nd lactation. This month, Doreen examines how we protect and realise the investment.

Yours Sincerely,

Liam Stack

Liam Stack M.Agr.Sc

RUMINANT TECHNICAL MANAGER,
DAIRYGOLD AGRIBUSINESS

CONTENTS

To contact the editor of

MILK MATTERS

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Dairygold Rewards Loyalty in 2016 with Cash and Share Bonus

Dairygold Co-Op rewarded its customers in 2016 with cash and share bonus of c.1.9m

Dairygold Loyalty Reward Scheme

1 Cash Bonus

Each year you will receive a loyalty bonus related to your eligible purchases of feed, fertiliser, farm requisites and hardgoods from the Society over a 12 month period.

Cash bonuses will not be paid unless the calculated bonus reaches a minimum of €20 in the year.

2 Share Bonus

Society Members will also receive bonus shares in relation to the value of their eligible purchases from the Society and in addition for Milk Suppliers, their kilograms of milk solids (protein and Butter Fat) supplied over the 12 month period.

SAMPLE VALUATIONS

The table below illustrates the bonus payments applicable at each purchase tier for a farmer supplying 400,000 litres per annum to Dairygold. The midpoint in each range has been used to illustrate the bonus shares awarded on purchases.

400,000 Litres (@ 31,750 kilograms of milk solids)

Tier	Purchases CPL	Bonus CPL	Purchases Bonus €	Purchases Bonus Shares	Milk Supply Bonus Shares	Total € Value
1	1.00 to 2.99	0.01	40	27	127	194
2	3.00 to 5.99	0.03	120	60	127	307
3	6.00 to 8.99	0.06	240	100	127	467
4	9.00 to 11.99	0.09	360	140	127	627
5	12.00 to 14.99	0.12	480	180	127	787
6	>15.00	0.15	600	200	127	927
	20.00	0.15	600	267	127	994

For full details and eligibility criteria, see recent newsletters and mailed brochures.

The Board reserves the right to amend the Terms and conditions of the Loyalty Reward Scheme if deemed appropriate.

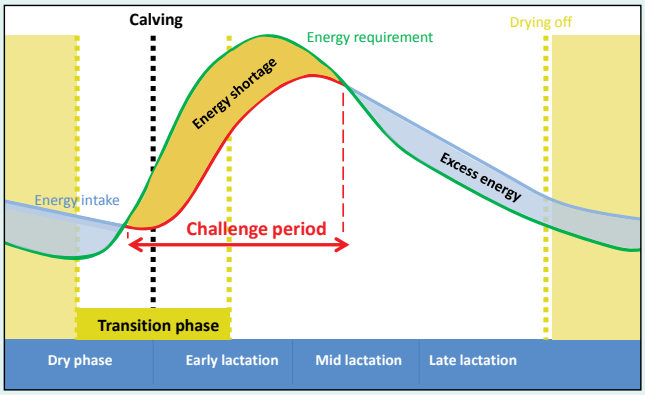
NUTRITION MATTERS

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

Early Lactation Nutrition:

Feeding regimes for freshly calved cows have one ultimate goal: **Getting your cows back in calf.**
To achieve this we need to:

1. Feed enough energy to limit BCS loss in early lactation
2. Supply the cow with adequate minerals
3. Feed a diet with a balanced protein profile



Fertility Performance is not all nutrition related. For could fertility performance we need:

- An optimum breeding management programme
- A feeding programme appropriate for your cow
- A good herd health status
- An AI programme that breeds for fertility

Early Lactation Nutrition Challenges:

1. Do you know the energy requirement of your cows?

This is a function of milk yield, the higher the yield the higher the UFL requirement.

MILK YIELD	UFL / DAY	MILK YIELD	UFL / DAY
20 Litres	15 UFL	30 Litres	19 UFL
25 Litres	17 UFL	35 Litres	22 UFL

2. Energy intake:

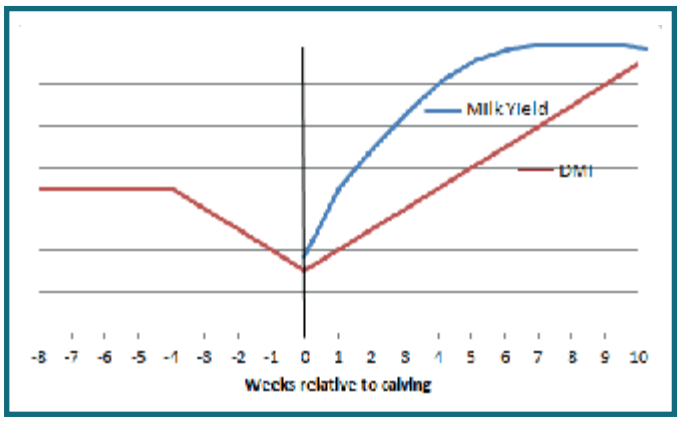
FEEDSTUFF	UFL / DM
Grass Turnout	1
Grass Silage (70DMD)	0.78
Maize Silage (30% St)	0.87
Post Calver Gold Range	1.13

Energy intake is a product of the energy density of the diet and the intake potential of the diet. You need to maximise both to achieve a high overall energy intake.

Put simply, the higher the UFL of a feed stuff the higher its energy density

KEY POINT:
It is not uncommon to be feeding the highest energy feeds and through low intakes to still have a low overall energy intake.

Intake profile of a dairy cow



KEY POINT:
In early lactation when our cow's intake is at its lowest point we need to prioritize the feeding of the highest UFL feeds.

What is the Intake Potential of our Forages?

Grass Silage:

The intake potential of our grass silages is influenced by

a. The DMD:
Grass silage of 65 DMD can have an intake potential of 8-10kg DM
Grass Silage of 75 DMD can have an intake potential of 10-12kg DM

b. The Dry Matter: Wetter silages have a lower intake potential.

c. The preservation (pH, lactic acid %, Ammonia N). Poorly preserved silages have a lower intake potential.

Concentrate required to sustain differing levels of milk production will vary depending on forage quality

	Yield				
	23ltrs	25ltrs	28ltrs	33ltrs	37ltrs
Silage DMD	5 gals	5.5 gals	6 gals	7 gals	8 gals
60	9kg	10kg	11kg		
65	7.5kg	8.5kg	9.5kg	11kg	
70	6kg	7kg	8kg	9.5kg	11kg
75	5kg	6kg	7kg	8kg	10kg

+ 1kg for poorly preserved, wet silages.

Sustainable milk yield is the level of production the energy in the diet will support. Actual milk yield is a combination of the cows genetic potential to produce milk + her diet. This can lead to cows milking over what the diets energy level can support. This in turn leads to low milk protein, excessive BSC loss performance and poor fertility.

NUTRITION MATTERS

Grass Silage, Maize Silage or Wholecrop Combinations:

Two forage diets have a higher intake potential than grass silage only diets. These diets typically have forage intake potentials of c.14kg DM but can be higher if the silage quality is very good.

Feed recommendations for Good Maize Silage for 28ltr (6 gals)	
25% Maize Silage : 75% Grass Silage	7.5 kg Balancer Post Calver Gold 6-24%
50% Maize Silage : 50% Grass Silage	6.5 kg Balancer Post Calver Gold 6-24-28%
25% Maize Silage : 75% Grass Silage	5.5 kg Balancer Post Calver Gold 4-28-33%

Grazed Grass:

Intakes of grazed grass can be as high as 17kg DM, if the grass allocation, grazing conditions and grassland management allow it.

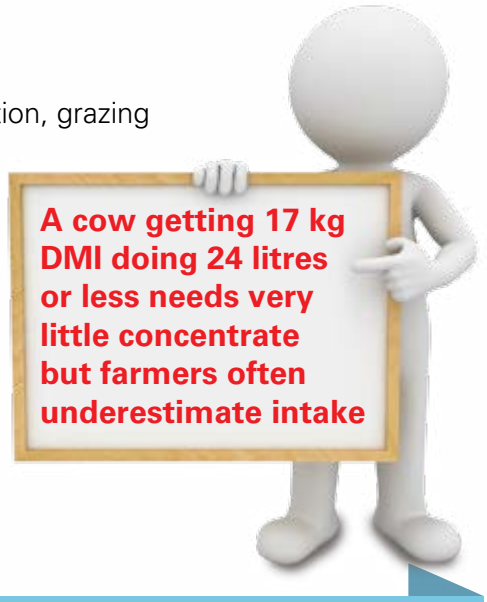
The intakes of grass are dependent on:

a. Kgs allocated

b. Ground condition

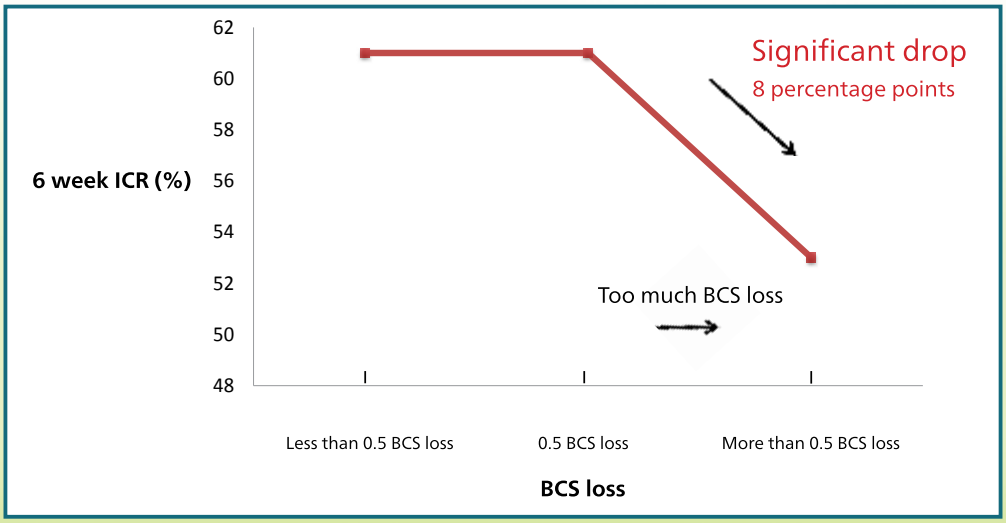
c. Grass quality (DMD). This has a big effect during the main grazing season

d. Dry Matter



KEY POINT: Ultimately if we get this energy intake wrong, the cow will lose too much BCS in the 1st 8 weeks after calving, resulting in poorer herd fertility performance.

Relationship between body condition loss post calving and 6 week in calf rate (for cows with a pre-calving condition score of > 3). Teagasc trial 1999.



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:

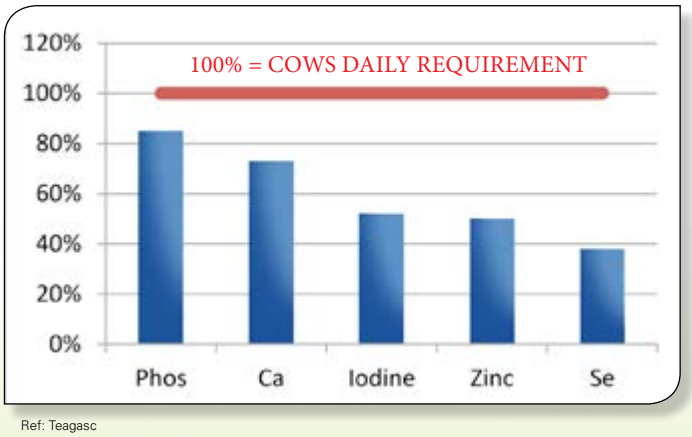
1. **Pins and Tail Head:** Use fingers to score by feeling for the amount of fat around the tail-head and the prominence of the pelvic bones.
2. **Short Ribs/Loin:** Use a flat hand to refine the score by feeling the boney projections and the amount of fat in-between.
3. **Ribs:** Use flat hand to refine the score by feeling the boney projections and the amount of fat in-between.

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

Mineral Nutrition:

On both silage and grass diets cows need mineral supplementation.

Grass as a mineral source for dairy cows



Ref: Teagasc

Dietary deficiencies of copper, selenium and iodine are linked to:

- poor fertility,
- cystic ovaries,
- anoestrous,
- irregular or supressed oestrus
- and early embryonic death.

TRACE MINERAL REQUIREMENTS OF A DAIRY COW

	mg/hd/day	Mineral Role
Copper	150 - 450	Infertility & production
Selenium	3 - 5	Fertility, SCC, Mastitis, Disease resistance
Cobalt	5 - 10	Low production, low DMI
Manganese	100 - 450	Low production, possible dwarfism
Zinc	375 - 750	Lameness, SCC, Production
Iodine	12 - 60	Weak Calves, Embryonic Death

Teagasc: Higher levels are for deficiency situations – lower levels are for routine supplementation

Are your concentrates supplying minerals pro-rata with the cal mag level?

As the feeding rate of your feed decreases the total trace element inclusion should increase. Not just the level of cal mag.

Let's take copper as an example:

- 1.05% cal mag feed should contain c. 65 mg Cu per kg.
- 1.80% cal mag feed should contain c. 95 mg Cu per kg.

Research carried out by Dairygold nutritionist team indicate competitor feeds in the market have a fixed trace element inclusion. This means mineral inclusion is not topped up to allow for lower feeding rates.

NUTRITION MATTERS

These feeds can contain as low as 25-50% of the Copper, Zinc, Iodine, Se and Vitamin E that the feed should contain. This leads to under feeding of trace element in a period critical for your herds' fertility performance.

Its not all about mineral inclusion, mineral form is also important:
We need to ensure that the mineral we feed our cows are being used by the cow and are not being excreted.

There are 2 different forms of mineral.

1. Inorganic.
These minerals have:

- Poor animal availability. A lot of what you feed is excreted.
- Have a big environmental impact
- Can lock up of other minerals

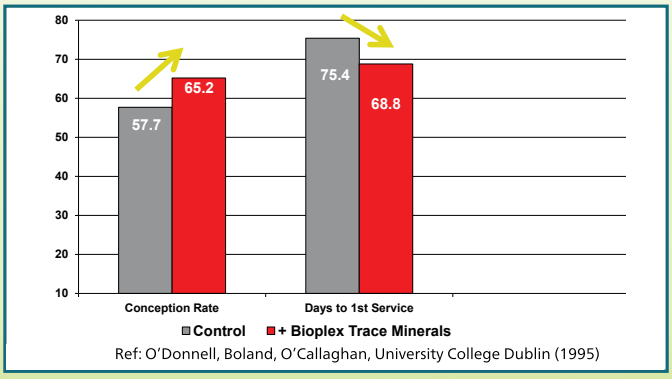
2. Organic
These minerals mimic the structure of natural plant minerals. They have:

- High animal availability
- Have a low environmental impact
- Don't lock up other minerals
- Have mastitis, lameness and fertility benefits when compared to inorganic minerals

Dairygold feeds contain:

- ***Organic Copper, Zinc & Mn, to help improve hoof & udder health, performance & fertility.***
- ***Selplex, Organic Selenium which works with our elevated vitamin E levels to help boost cow & calf immunity and help improve retained afterbirths, SCC, mastitis & fertility.***

Organic vs Standard Minerals



Ref: O'Donnell, Boland, O'Callaghan, University College Dublin (1995)

Post Calver Gold:

1. Is a high energy feed, with high levels of bypass starch coming from maize meal and a blend of high energy digestible fibre. Resulting in good rumen function and maximum milk yield and protein %.
2. Is only uses good quality protein, leading to high levels of PDI, good protein efficiency, maximum yield and protein %
3. Has yea-sacc include to aid rumen function and efficiency leading to lower levels of digestive upset, higher milk volume and improved fertility performance.
4. Has bioplex copper, zinc and seplex included for better fertility performance, lower SCC and mastitis and less lameness.
5. Has elevated levels of Vitamin E, which works with seplex to boost the cows immune function leading to lower SCC and mastitis.

Let's do the maths

Assuming your going to feed 400kg per cow between calving and cows going back in calf, with post calver gold commanding a €20/T premium.

That an additional spend of €8 per cow.

What do I get for my €8 spend:

Yea-Sacc = 4% increase in milk yield + better fertility performance.
For a 25 ltr cow at 30c/ltr = €27/cow

That's a 3:1 return on investment from the Yea-Sacc alone + the fertility, lameness and SCC benefits of the bioplex minerals

FOR YOUR BUSINESS

We look forward to providing you with a best in class advisory and sales service in 2017.

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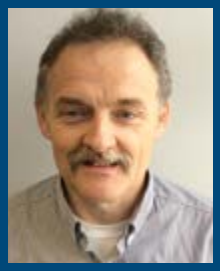

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- ✓ Ready to use

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- Improves milk intakes and weight gain
- Promotes gut integrity & immune function
- Reduces incidences of scour

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Milk shield is a milk acidifier for both whole milk and milk replacer. Milk is ingested by calves and digested by the formation of curds. In order for this process to take place, acid and enzymes are required. At times, large proportions of the milk can go undigested due to an inadequate acid and/or enzyme supply. One of the ways to mitigate against this problem is to acidify the milk being ingested. This reduces the pH of the milk, reducing the requirement for acid production in the gut of the calf. With this, it improves the digestion of the milk being ingested, leading to improved health, growth rates ad immunity. As a result, there are reduced incidences of scour or health challenges.

For further details ask instore at your local stockist or call Nutribio on 021 4507303 or visit www.nutribio.ie

KEY PRINCIPLES OF CALF REARING

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

Colostrum

According to Animal Health Ireland, 35% of calves that die in the first year of life do so because of inadequate Colostrum absorption!

Colostrum is the first milk your cows produce after they calve. Your new-born calves are born without immunity to disease, and colostrum contains high levels of antibodies which build immunity in your calves as well as being a very nutritious feed.

Later milkings contain much lower levels of these antibodies and your calves' ability to absorb antibodies decreases dramatically within hours of birth and is virtually zero after 24 hours.

First 24 hours critical for calf health

Fresh colostrum from the dam is the preferred option in the majority of cases and pooling of colostrum is not recommended due to the risk of spreading disease on your farm e.g. Johne's disease.

COLOSTRUM FEEDING CAN BE SUMMARISED BY THE AHI 1,2,3 RECOMMENDATION:

1. Use colostrum from the first milking for the first feed.

2. Give colostrum within two hours from the calf's birth.

3. Give at least three litres.

KEY POINT: Colostrum has the potential to save over 1 in 3 calves that die on your farm in their first year of life. Follow the AHI 1-2-3 recommendation to save these calves.

What is the best way to get colostrum into your calves?

It is recommended that dairy calves are separated from their mothers and either bottle fed or stomach tubed colostrum. It is important to remember however, that stomach tubing is only recommended for the first colostrum feed, as repeated stomach tubing can cause digestive upsets.

KEY POINT: It is recommended you use a stomach tube for the first feed to ensure colostrum is received.

Early Nutrition - Rumen Development

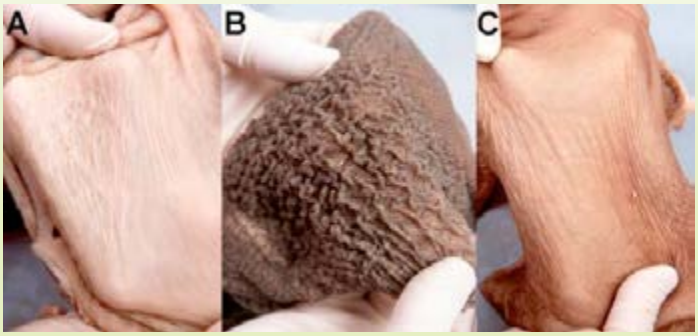
Early calf nutrition is focused on developing the calf's immature rumen, taking the calf from digesting milk to digesting concentrates and forage.

The development of the rumen is dependent on the chemical end-products of bacterial fermentation from concentrates. Most important is butyric acid which comes from starch digestion.

For this fermentation to take place the bacteria need water. Milk does not act as a water source.

For rumen development it's critical that the calf is fed a palatable concentrates made from cooked; flaked starchy raw materials; a roughage source and clean water. Allow calves access to fresh concentrates, water and straw from day 3.

Rumen papillae development in 6 week old calves fed 3 different Diets



A. Milk Only | *B. Milk and concentrates* | *C. Milk and hay*

KEY POINT:
Milk and concentrates drives rumen development

KEY PRINCIPLES OF
CALF REARING

Hay is not recommended for calves.

Straw NOT Hay.

Calves should be fed straw as opposed to hay. High intakes of hay can decrease concentrate intake, limiting butyric acid production, and lead to the calves developing "hay/pot bellies". The level of straw required will depend on the physical structure of the concentrate, with finely ground rations needing more.

Successful rearing of your calves requires proper colostrum management (see previous pages) and unrestricted access to:

- Clean water (in addition to milk/milk replacer fed)
- Fresh, palatable starter concentrate (preferably coarse)
- Straw

Allow access to fresh water, straw and Prime Elite Krispi Kaf from day 3

Whole Milk vs Milk Replacer

Milk replacer offers several advantages over whole milk as a feeding strategy for your calves:

Economics:

	Cost/Bag (€)	Cost (c/ltr)	Cost to wean (€)
Milk Replacer	45-50	28-31	93-108
Whole Milk		30-32	101-108

Costs assume 6 ltrs of CMR at 12.5% solids for 56 days vs 6 ltrs of whole milk for 6 days

Earlier Weaning:

- Whey milk proteins stimulate earlier concentrate feed intake.
- Calves reach a daily concentrate feed intake suitable for weaning earlier.

Better Performance / Less Scour:

- Consistent Milk replacer composition reduces the risk of nutritional scour. Cows milk butterfat and protein % change between morning and evening milking.
- Digesterom, blend of essential oils boost the calf immunity to scours and increases LWG.
- Acidification in milk replacer improves digestion and reduces scour.
- Gardion Plant extract (alliin) - Helps reduce colonisation by pathogenic bacteria.
- Elevated vitamin E and Selenium - promote the calf's natural defences (immunity) with improved antioxidant levels, helping it to fight disease.

Reduces Johnes Disease risk:

- Reduce Johnes Disease transfer risk from feeding cow's milk to heifers.

Labour Saving: Earlier weaning is facilitated.

TRIED, TRUSTED AND RECOMMENDED FOR TARGET DRIVEN RUMEN DEVELOPMENT

Formulated to increase intakes & performance, increase growth rates, improve immunity, enhance utilisation of Vitamin E and increase general calf health

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www.agritrading.ie/Key-Calf-Rearing-Guidelines

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Prime Elite Krispy Kaf is Dairygold's 18% Coarse Calf Starter Ration. Colman Purcell, Dairygold Quality Feeds Nutritionist and Liam Stack, Dairygold Ruminant Technical Manager, **recommend you use Prime Elite Krispy Kaf as the calves first solid feed** since it caters extremely well for the targeted rumen development needs of your young calves.

WHY SHOULD YOU CHOOSE PRIME ELITE KRISPY KAF FOR YOUR YOUNG CALVES?

1. Prime Elite Krispy Kaf 18% is formulated with **high quality, palatable ingredients** featuring generous levels of:
   - Pulses and cereals, including flaked maize.
   - Soya and good sources of digestible fibre.
2. Prime Elite Krispy Kaf 18% protein is made with **high quality protein ingredients** to help promote calf growth.
3. Prime Elite Krispy Kaf 18% is **fully balance for macro minerals vitamins and trace elements** to meet your growing calf's needs, enhance the utilisation of Vitamin E and improve calf immunity.
   - From day 3, feed daily along with water and a roughage source, preferably straw.
4. **Contains Nustart** a unique combination of essential oils, prebiotics, functional fibres and natural antioxidants.
   - Nustart also includes a precise profile of vitamins and trace elements required by young calves.
   - Nustart promotes healthy rumen development and is **proven to increase intake,** increase growth rates, decrease the risk of scours and increase general health.

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For the start of a lifetime

Please see back of each bag for the Dairygold Calf & Heifer Rearing Programme recommendations or log onto www.agritrading.ie/Key-Calf-Rearing-Guidelines

GRASS MATTERS

By JOHN MAHER
Dairy Specialist, Teagasc Moorepark

Early turnout to grass will increase profit, reduce costs and enable the farm to grow more grass!!!

Targeting early turnout and high grass utilisation can increase the grass growing capacity of a farm. Grazing management in the first 2 months after the start of calving is a key driver of spring milk production costs and animal performance into the production season.

This figure does not include any benefits to pasture production or utilisation. Well controlled grazing management during the springtime will set up the farm for excellent milk production from grazed grass for the remainder of the year.

KEY POINT: Each additional day of grazing in spring increases farm profit by €2.70 per cow per day, through improved milk constituents and lower feed costs.

Before we describe the plan for early spring grazing, let's be clear about what is achievable:

The ideal average farm cover (AFC) of 900 kgDM/ha on February 1st allows a farm operating at a milking platform stocking rate of 2.5 to 2.9LU/ha to turn freshly calved cows (4 days after calving) out full-time to a predominantly grass diet even where the 6-week calving rate is in excess of 80%. The 2nd rotation will begin on about April 6th. There will be a requirement of about 300kg meal/cow during the first rotation.

And, yes we need reasonable weather to do so.

It is clear that most famers can turn out cows fulltime soon after calving, however there is often a reluctance to this which is a mistake from a grass production perspective. Starting to graze slowly and speeding up in March will generally not allow enough recovery time to have enough grass available at the start of the second round in early April. So let's try to follow the spring rotation planner and reach the 30% grazed by March 1st.

Using the Spring Rotation Planner

The spring rotation planner is an excellent tool to help farmers plan spring grazing every day, every week, every month. It is designed to take the guess work out of grazing management. The planner relies on the principle of grazing a set area each day.

Table 1 shows the proportion of the farm to be grazed by three key dates in the early grazing season.

Table 1: Spring grazing targets when grazing from early February

DATE	% of Total Farm Area Grazed
1st February	Start Grazing
1st March	30% Grazed
17th March	65% Grazed
5th April	Begin Rotation 2

****These targets need to be adjusted by 1 week (later) for heavier/later farms***

The Spring rotation planner aims to:

- Simplify spring grass management
- Include grass in the diet of the lactating cow every day during Feb & March
- Maximise farm grass growth
- Avoid uncertainty in relation to grass availability
- Finish the 1st rotation in early April
- Set up the farm for production of high quality grass for the following rotations.

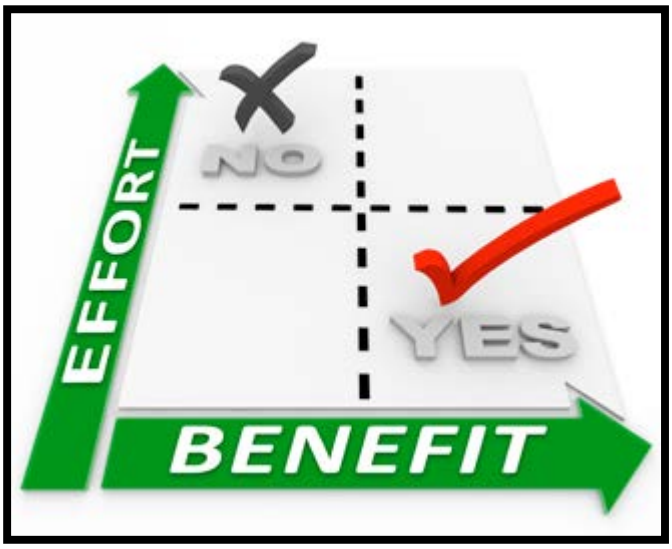
The Target:

Cows need to be turned out to grass as early as possible in February. The aim is to graze about 1% of the farm every day during this month. Many farmers struggle to reach this target. This is due to a number of reasons:

- Farmers reluctant to get cows out grazing both by day and full-time
- Poor grazing conditions
- Grazing covers of grass that are too high – thereby slowing down progress

GRASS MATTERS

Early Nitrogen Fertiliser Application



It is obvious from the PastureBase Ireland database that those farmers who grow the most grass on the farm target early grazing. They get cows out to grass as soon as possible in February. However, they are also applying about a half bag of Urea/ac (23 units/ac) in the latter half of January to get grass moving. Last year despite the weather challenge, the response to 1Kg N was 10kg DM of grass.

Many farmers have applied slurry and fertiliser N during January as the ground conditions and weather pattern were very favourable.

The next target will be to apply about 40 units of N/ acre in late Feb/early March to further boost grass growth if weather conditions allow. This will enable the start of the second rotation to begin in early April. If soil fertility is poor on the farm (which is most farms) and weather conditions are favourable, then many framers should consider 1.5 to 2 bags of 18:6:12/acre. If weather conditions are riskier, then Urea can be used to boost grass growth. Slurry application can also be targeted at the grazed paddocks.

Utilising grass during difficult grazing conditions

In spring, ground conditions and weather conditions can prove difficult and thereby reduce opportunities for grazing. However it is important that the farmer is enthusiastic about increasing the level of grass in the diet of the cow. So management strategies coupled with good grazing infrastructure can further increase the number of grazings achieved in early spring. The technique of on/off grazing management developed by Emer Kennedy at Moorepark has a vital role to play on all dairy farms. This is an approach whereby cows graze for a limited period (2-3 hours) after each milking. The aim of on/off grazing is to strike the balance between feeding cows adequately while at grass and minimising the levels of pasture damage.

However, having cows with an enthusiastic appetite for grass is also critically important to the success of this strategy as the cows need to go about the task of grazing and nothing else. Cows tend to do most damage to swards when they are not grazing intensively.

The aim behind the concept of on/off grazing is to take advantage of the cows own natural instinct to graze after each milking when given access to grass. Cows can change their grazing behaviour and adopt to the grazing regime imposed upon them. Cows generally adapt to the on/off grazing system quickly i.e. after about 2 days.

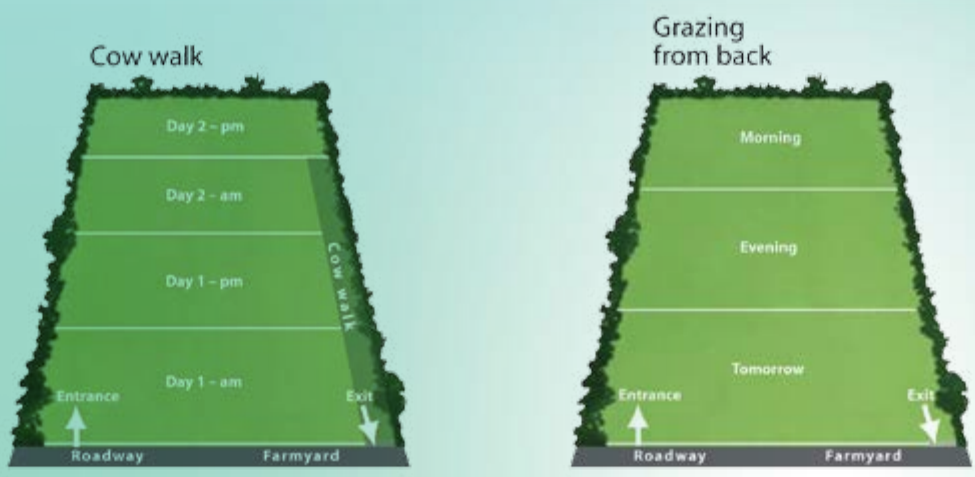
For practical reasons, the evening milking should be carried out earlier in the evening e.g. 3-4pm so cows that are on an on/off grazing regime are brought in at 6-7pm in the evening rather than at 10pm or later.

During difficult weather conditions:

- avoid highly vulnerable paddocks (graze these during drier weather).
- avoid long narrow paddock/strip layouts.
- avoid paddocks with poor grazing infrastructure (lack of roadways, poor access)
- avoid paddocks with very high covers of grass.
- use a back fence after each grazing so animals can't return to grazed ground. Soils are at their most vulnerable immediately after grazing when the sward is open.
- graze paddocks with low covers, so if they are not grazed well- subsequent sward quality will not be as poor.
- do accept an increased grazing residual height if necessary to avoid soil damage.

Grazing Techniques:

With variable weather patterns the grazing management approach needs to be flexible. Outlined below are 2 grazing techniques to minimise animal damage to pasture. Back fencing is vital to prevent animals walking back onto vulnerable grazed ground. Cows will always want to leave the paddock field at the exit nearest the farm yard.



FERTILITY & BREEDING

By DOREEN CORRIDAN
MVB MRCVS PhD, Munster Cattle Breeding

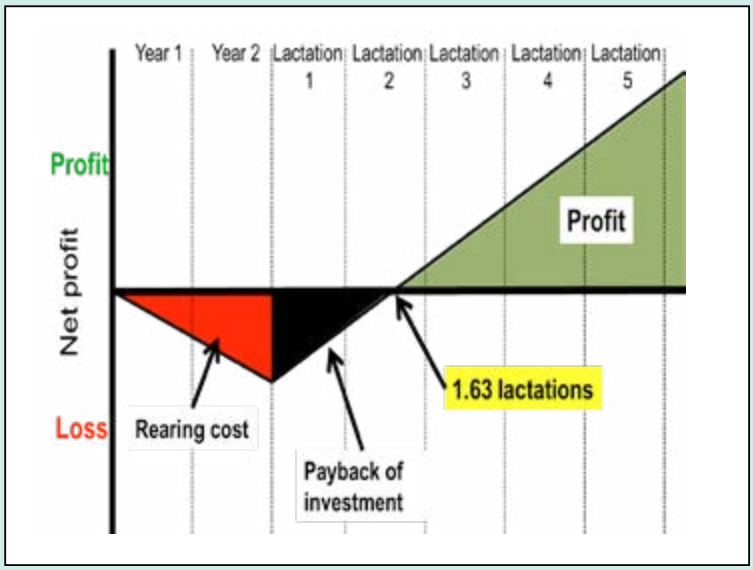
HEIFERS CALVES BORN FEBRUARY 2017 - HEIFERS IN MILK 2019

PROTECT THE INVESTMENT

NEED TO PROTECT AND REALISE THIS INVESTMENT.

February is the key month for the birth of replacement heifers.

These are key to future profitability.



Target is 18% replacement rate with cows averaging 5.5 lactations.

The cost of getting a heifer into milk is €1545. This includes her value as a calf and all the costs including the land and the labour required to rear her. She is a cost on the farm until she produces a calf and begins milking.

On average these heifers are half ways through their second lactation (1.63 lactation) before they have paid for their rearing costs and from there on they are in profit.

Therefore we need to keep them for an average 5.5 lactations to maximise profitability.

CALF HOUSE ENVIRONMENT; KEY REQUIREMENTS.

1. **Fresh Air**
2. **Moisture Management**
3. **Air Speed-Draughts**
4. **Temperature**
5. **Hygiene**

Calves need a clean, dry, warm environment, fresh air and no draughts. It sounds simple but few calf houses afford these 5 necessities.

1 Fresh Air - Healthy Calves

- Fresh air is a superb biocide.
- It results in the inactivation of bacteria and viruses quickly- in minutes.
- These bacteria and viruses live in enclosed air for much longer resulting in more calves being infected quickly.
- Need to focus on Outlets and Inlets.
- Outlets - Let stale air out.
- Need to have minimum of 0.4m² per calf. Measure it.
- Inlets – Let's fresh air in. Needs to be a minimum of twice the outlet along the full length of the building.
- Older buildings without adequate inlets and outlets should be mechanically ventilated by fitting a duct, the full length of the building to get fresh air into it.

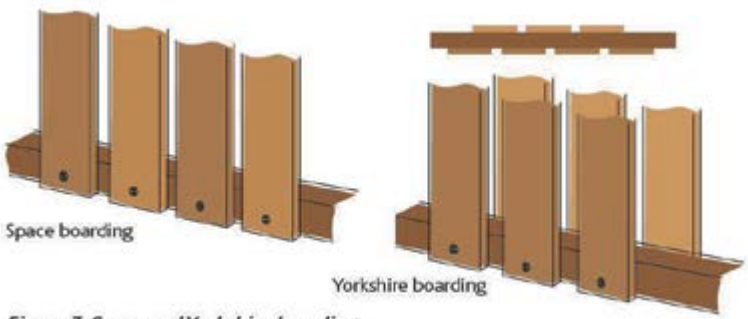


Figure 7: Space and Yorkshire boarding

2 Moisture Management

- Moisture in the calf house results in the big chill effect.
- The evaporation of 1 litre of water needs 3.5 hours of calf heat. A damp bed will drop the temperature of the calf environment by an average of 6°C.
- A healthy calf will lie down 20.6 hours 86% of the time.
- Drainage needs to be improved in most calf houses.
- Slope the floors and add competent drains.
- Where there are calf feeders in houses – drainage is even more critical.
- Watch the water drinkers, calves need access to clean, quality water, ensure it is not leaking onto the bed.

KEY POINT:
Crucial to have dry bed of straw.

3 Air Speed - Draughts - Wind Chill

- **Draughts - Wind Chill - A draught of 2m/second will drop temperature of the house by approx. 9°C.**
- **Avoid all draughts at calf level in the house.**
- **Often it is the sick calf that lies in the draught to avoid the interaction with the other calves.**

4 Temperature

Young calves need to be maintained at 15°C for the 1st 14 days of life.

The temperature the calf requires depends on:

- Air temperature-care in cold weather
- Moisture in the house-care with calf beds and drainage. Damp bed will drop temperature 6°C on average.
- Draughts – Wind Chill -A draught of 2m/second will drop temperature of the house by approx. 9°C

This will maximise their immune system and also maximise weight gain. It can then drop 0.5°C per day thereafter.

Get a max and min thermometer - measure it.

The whole house does not have to be kept warm, just the young calves up to 2 weeks of age.

- Have them nestling in loads of straw.
- Use warm materials plastic slats, stockbord and canopy's.
- Use straw bales as divisions.
- Use heating lamps. They give a 20% increase in daily liveweight gain.
- Calf jackets are superb and reusable and last for 5 seasons. They save energy and will give a 15% increase in daily liveweight gain.

5 Hygiene

- Make it easy to clean and add some colour.
- Make time and space to clean.
- Clean between batches of calves.
- Careful to ensure all the dung is being removed.
- Powerwash.
- Apply relevant disinfectant at correct concentration.
- Allow correct contact time.
- Allow to dry.

Do you have the necessary resources available for successful cleaning?

- Consider the cost of chronic losses due to poor hygiene
- Design a realistic cleaning protocol, and train people how to use it

1st Calved Heifers SCC

In the past 2 - 3years if you have had issues with mastitis in heifers or high SCC post calving - consider the following.

An early milk recording is key to establishing the SCC of 1st calved heifers, early identification will ensure more effective treatment outcomes, to ensure a long herd life of low SCC and reduced culling.

The aim is to have less than 15% of heifers which is less than 1/6 heifers having an SCC greater than 200,000 in the first milk recording after calving, ideally none.

The majority of these mastitis cases occur in the last 2 weeks before calving or/and in the calving pens.

The following actions reduce mastitis incidence.

1. Train the heifers to the parlour, spend time with them, have a gentle approach and get them familiar with teat spray.
2. Teat spray them daily either in the parlour or at the feed barrier for the last 2 weeks pre calving.
3. Keep spraying them while they are in the calving pens.
4. Similar to the cows lime the cubicles twice daily in the last 2 weeks.
5. Disinfectant Lime products are extremely useful.
6. Run the scrapers every 3 hours at a minimum.
7. Avoid the practice of turning off scrapers at night.
8. Prioritise heifers with cubicles spaces.
9. Keep the calving pens clean and well bedded with straw. Heifers can be bullied by adult cows in the calving pens.
10. Specific calving pens for heifers helps a lot if possible.
11. Any heifers that are leaking milk pre calving need to be milked precalving to reduce the incidence of mastitis.

Animal Health Ireland BULLETIN

BVD KEY MESSAGES 2017

The national BVD eradication programme has had considerable success in reducing the prevalence of the disease. The number of Persistently Infected (PI) animals born in 2016 is less than one quarter of that seen in 2013, the first year of the compulsory programme. Significant improvements have also been made in reducing the extent to which PIs are retained on farm. These very encouraging results indicate that complete eradication is well within reach, and the measures outlined below, including the continuation of tag testing, are designed to further accelerate progress towards this objective.

Tissue tag testing remains compulsory for 2017. DAFM no longer issues tag order forms. A list of suppliers of approved tags and of the laboratories approved to test these is available online. Contact laboratories for prices for testing each tag type. Only send tags to labs designated to test that particular tag type.

Increased DAFM supports but reduced time limits for removal of PI calves.

BEEF HERDS:
€185 for beef breed animals removed with a registered date of death on AIM within **3 weeks** of the initial test, reducing to €60 if removed in the **4th or 5th week** after the initial test.

DAIRY HERDS:
Dairy and dairy cross heifers: €150 if removed within **3 weeks** of the initial test, reducing to €35 if removed in the **4th or 5th week** after the initial test. €30 for removal of bull calves within 3 weeks of the initial test.

DAFM will issue an application form to farmers who are potentially eligible for payments.

Veterinary investigations of all herds with PI calves born in 2017. All herds with PI calves born in 2017 are required to undergo an investigation funded through the Rural Development Plan, and delivered by an approved private veterinary practitioner, within 3 months of the date of the first positive result. For details contact Animal Health Ireland on 071 967 1928.

Confirmatory and dam testing by blood sample only. Testing of the dam of PI calves and, where desired, confirmatory testing of the calf must be done by means of a **blood sample only**. DAFM will meet the cost of the visit by the herd's veterinary practitioner and the cost of testing.

Restriction of herds retaining PI calves and notification of neighbours. DAFM will automatically restrict movements into and out of herds that retain PI animals for more than five weeks after the date of the initial test. This will be automatically lifted following removal of PIs. **Neighbouring herds** will also be notified, advising them to take appropriate biosecurity measures to minimize the risk of accidental introduction of infection.

Farmers are reminded of the **benefits of obtaining and protecting Negative Herd Status (NHS)**. By identifying and testing any animals whose status is not known, farmers can obtain NHS and access lower cost testing, for further information. Appropriate biosecurity measures should be put in place to minimize the risk of accidental introduction of infection through movement of animals, people or equipment or across boundaries.

Animal Health Ireland, 4-5 The Archways, Carrick-on-Shannon, Co. Leitrim
Phone 071 9671928 • Email admin@animalhealthireland.ie • www.animalhealthireland.ie

If in doubt, leave it out!

Early lactation is a high risk time for bulk tank residues, particularly antibiotics, as many of the cows calving down will have been treated with dry cow antibiotic several weeks ago and it can be very busy of the farming year. Milk contaminated with any residue of antibiotic must **never** enter the bulk tank.

Remember!

1. Ensure colostrum and transition milk is not included in the bulk tank.

- Withhold milk for at least the **first 8 milkings** after calving-you can't visually assess colostrum levels.

2. Minimise residual teat sealer.

- At first milking after calving, strip any cows treated with internal teat sealers at least 10-12 times
- Withhold their milk for at least the **first 8 milkings**, even if they didn't get antibiotic DCT.

3. Dilution is not the solution!

- Once a cow calves check the **exact** date that she was treated with antibiotic DCT.
- Ensure that the specified Minimum Dry Period days **plus** the Milk Withholding Time post-calving is adhered to before putting her milk in the bulk tank.
- Cows calving earlier than expected may not have completed the full Minimum Dry Period. For these cows, you **must** follow the product instructions.
- If you suspect an error in cow identity, treatment or calving date records, **do not** put the milk in the tank until the issue is resolved. Consult your milk processor immediately.

4. Double check any bought-in cows

- Make sure you ask the seller for **exact** treatment dates of any purchased cows. Find out what DCT products were used.

5. Talk with your staff and relief milkers.

- Make sure they know the routine for checking before putting the milk into the bulk tank.
- Clearly mark all cows being excluded from the tank, and make sure all staff understand the marking system.

Finally, if you suspect any cows have been milked into the tank by mistake notify your milk processor immediately to avoid contaminating a full silo of milk.

For more information on reducing the risk of residues in milk, see Management Notes E & F in the CellCheck Farm Guidelines for Mastitis Control

CHFC MATTERS
ANNUAL AI NIGHT

The Cork clubs annual AI night was held on the 17th of January. There was a large attendance to hear guest speaker Dr Margaret Kelleher of ICBF give a very informative presentation on the EBI base change, and she went into a-bit of depth on the health index element of it. She also mentioned other areas being looked at developed.

The four AI companies in attendance presented a selection of their spring 2017 offerings. We'd like to thank all the speakers for their time and their donations of straws for the free raffle held on the night. The companies in attendance were DOVEA GENETICS, EUROGENE AI, MUNSTER AI, AND WORLD WIDE SIRE IRELAND.

Richard Forde, Dr Margaret Kelleher ICBF and Joe Collins.

John O Callaghan and Martin O Donnell.

Sean Murphy and Don Lucey

MAJOR FERTILIZER ADVANCEMENTS IN 2016

KOCH ADVANCED NITROGEN FERTILISER (KaN)

By CIARA DONOVAN
Milk Advisor

Every year new research and discovery occurs - in 2016 one piece of research in particular stood out! In June of last year, the conclusive results of a joint research trial carried out by Teagasc and the Agri-Food and Biosciences Institute (AFBI) were published.

KEY POINT: A large step in solving the significant environmental impact and financial cost to nutrient loses of chemical nitrogen fertilizers had been discovered.

Koch Advanced Nitrogen or KaN, (an NBPT containing Urea based fertilizer) has being available to all Dairygold for the past 3 years.

KEY POINT: The research published showed that a 'urease inhibitor' called N-(n-butyl) thiophosphoric triamide or NBPT for short, when added to Urea, could reduce direct greenhouse gas emissions associated with fertiliser application by 73% on average in grassland, when compared to CAN applications.*

In Ireland the application of CAN fertilizer is the main cause of Nitrous Oxide (N2O) pollution, a greenhouse gas with a 100-year global warming potential 298 times greater than carbon dioxide**.

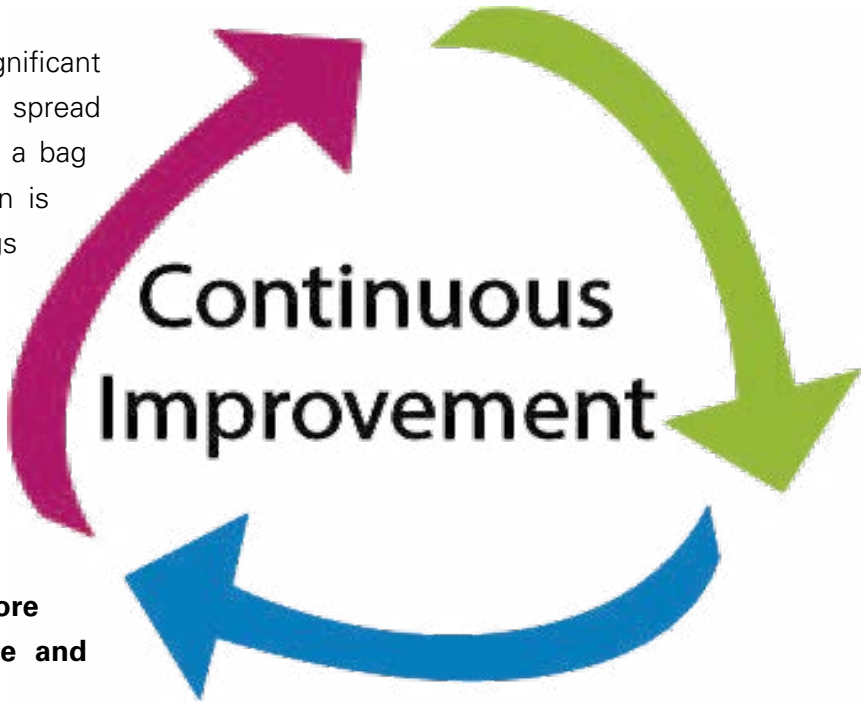
Switching to urea doesn't mitigate against all the losses:

By switching to straight Urea, the amount of N2O losses can be reduced significantly but nitrogen in the form of Ammonia gas (NH3) losses will still be significant and Ammonia is a major air pollutant. While using Urea instead of CAN is an improvement, Nitrogen losses will still be significant.

KEY POINT: By using Koch Advanced Nitrogen (KaN), reduction in both N2O (up to 73% less than CAN) and ammonia (up to 78.5% less than Urea on its own) can be achieved ***.

MAJOR FERTILIZER ADVANCEMENTS IN 2016
KOCH ADVANCED NITROGEN FERTILISER (KaN)

These reduced losses of nitrogen reflect significant financial savings since each bag of KaN spread delivers more Nitrogen to your grass than a bag of either CAN or UREA. So more nitrogen is delivered and this also has a knock on savings related to transport and spreading time. Since KaN is more stable than either CAN or Urea, it can be applied throughout the season, and shortly after lime application, simplifying your fertilizer programme.



By switching to KaN, your fertilizer programme will become more environmentally friendly, more effective and more financially efficient.

* Teagasc Press Release: Balancing Greenhouse Gas and Agricultural Production Targets on Irish Farms_10 June, 2016
** http://agri-i.ie/portfolio-items/
***Presentation given by Forrestal, JP 14th October 2016

DOES IT PAY? - ON FARM SUCCESS

Dairygold supplier, Trevor Cronin from Dripsey moved to KaN® and saved over €600 on his nitrogen programme whilst maintaining maximum output and had a positive effect on thie environment.

"We were introduced to Koch Advanced Nitrogen® by Diarmuid O'Riordan, our Dairygold rep. When we worked out the price of CAN, we were able to make a significant saving by using Koch Advanced Nitrogen (KaN®). Despite being wary to use Koch Advanced Nitrogen® at first, it was simple to get right and we believe it has worked 100%."

Brett Wesley of Advanced Fertilizers and Trevor Cronin of Cronin Agri

LAMENESS
Early Intervention is the key

By COLM MENTON, Provita Animal Health

One of the factors which appears to be associated with lower lameness risk includes prompt recognition and treatment of lameness (Barker et al, 2010). Provita firmly agrees with this statement, and are working hard to facilitate farmers, vets and other professionals in taking control of lameness on farms.

When speaking at the World Buiatrics Congress in July this year Nigel Cook noted that for Digital Dermatitis (commonly known as Mortellaro disease) prevention, we focus on the early identification of acute lesions (before the cattle are lame) and prompt effective treatment, starting around breeding age in replacement heifer pens and continuing throughout the life of the animal, coupled with an effective footbath program to control chronic lesions and hold them in check. It is therefore important that farmers and vets are able to appropriately measure and monitor Digital Dermatitis (DD), and have a clear understanding of how to control it.

There are often difficulties which arise when trying to measure the extent of Digital Dermatitis on a farm. Producers often do not recognise lame cows until they suffer from severe stages of lameness (Schindhelm et al, 2016). This is no longer acceptable as DD affects younger cows, with incidences peaking typically in the 1st or 2nd parity (Oikonomou et al, 2013).

Digital Dermatitis Control Plan

It's important to note that a specific farm orientated Digital Dermatitis control plan is imperative as it will allow a farmer to see the changes to the DD problem on their farm. Different levels of Digital Dermatitis should be tackled in various ways. For example farmers who wish to get rapid reduction in Digital Dermatitis can footbath at a higher rate of 3% to 5% on a regular basis, and then reduce this to 1% or 2% once the active Digital Dermatitis is less than 5%. This protocol was followed exactly on a farm

Images taken before the protocol was applied

LAMENESS
Early Intervention is the key

By COLM MENTON, Provita Animal Health

in Co Tyrone. They saw a 92% reduction in active lesions within six weeks by following the Hoofsure Endurance Control programme recommended to them by Provita.

Effective Footbathing:

Digital Dermatitis lesions are extremely painful, and are associated with significant lameness making Digital Dermatitis an important animal health concern and one of the most infectious diseases of cattle (Carter, 2016). It is extremely critical that farmers are able to monitor Digital Dermatitis on their farm, and can use their footbaths correctly to help tackle the problem. However a staggering 80% of footbaths are used incorrectly (AFBI).

The following are the steps that need to be followed for an effective Lameness Control Programme using Provita Hoofsure Endurance ;

1. **Measure and record Infection Levels:** Wash feet in parlour and score infection levels every month.

2. **Spot Spray in parlour or lift feet and wrap in severe cases.**

3. **Calibrate footbath properly:** Use 1% Hoofsure Endurance as routine and 2% for more difficult situations.

4. **Maintain footbath depth of 5":** Check depth during and after milking and top up as necessary.

5. **Use a pre-wash bath or wash feet in parlour for best results.**

6. **Footbath as often as possible :**
   Milking cows: Every milking every day.
   Dry Cows / Heifers: Three times a week.

Estimate Cost of a single case of Lameness	
	€/Case
Treatment Cost	55
Loss of Production (c.500ltrs @ 0.15c/lt margin)	75
Culling (10% of lameness = culling)	100
Reduced Fertility	50
	280 - 300

Images taken after the protocol was implemented, scab falling off.

Hoofsure

300 million cow passes **worldwide** can't be wrong!

Provita Hoofsure Endurance

- Fast acting footbath solution
- 100% biodegradable
- Potent blend of organic acids and tea tree oil
- Deep penetrating action
- Effective for up to 500 cow passes
- Works in heavily soiled conditions

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Golden Valleys, Growing Naturally
AGRI DIVISION

For more information contact your local Dairygold representative or Whelehan Animal Health at (01) 4688900

SPECIAL OFFER

Buy 5 x 20 litres Hoofsure Endurance
and get 1 x 20 litre FREE
...a saving of over €200

* Based on sales of Provita Hoofcare range since 2003, made up into footbath solution in a 200 litre footbath, averaging 500 cow passes per footbath.

Provita
Animal Health Naturally

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Co. Tyrone, N Ireland BT79 0EU
Telephone: +44 (0)28 8225 2352
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Email: info@provita.co.uk
www.provita.co.uk

Hoofsure Range

The Hoofsure range also includes;

Hoofsure Combat
Foot spray

Hoofsure Konquest
Hoof gel for wrapping

ICH1151/1202

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Golden Valleys, Growing Naturally
AGRI DIVISION

POSTCALVER GOLD

Postcalver GOLD Range

Features and Benefits

- High energy as per Teagasc recommendations
- Maize as the number one ingredient. NOW MAIZE IS ALSO INCLUDED AS THE NUMBER ONE INGREDIENT IN POSTCALVER GOLD 14% AND 16%.
- Sel-Plex and Bioplex minerals which have been proven to increase conception rates (Bioplex Zinc will also help hoof strength recovery).
- High levels of vitamins A, D and E
- Yeasacc is included at recommended daily rate to drive intake, increase fibre digestion and help reduce the energy gap. Yeast has been proven under Irish grazing conditions to minimise the risk of digestive upsets. This is particularly important when a cow's diet is abruptly changed e.g. turnout to grass after calving or where long fibre (fodder) is in short supply.

Postcalver GOLD delivers these formulation features and their associated benefits for 5-10 cent/head/day above the cost of our high energy range (More Milk, Dairy Pride, Milkrite and Grass Aid), irrespective of the feeding rate. We recommend feeding Postcalver GOLD feeds as soon as cows calve until confirmed in calf again.

http://www.agritrading.ie/GOLD-Range


14% Dairy Cubes
from €230/tn*
dairygold
Golden Valleys, Growing Naturally
"Full range of quality feeds available to suit all needs:
Post calver gold 14-20%, Hi Pro 14-18%,
Performane Range 14-18%, Megaboost 14%.
Contact your local Dairygold Area Manager, Co-op Store or Mill at 022-47275