

Milk Matters

SUPPORTING SUSTAINABLE FARMING



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Welcome to the February edition of

MILK MATTERS

DAIRYGOLD'S DAIRY ADVISORY BULLETIN



Dear Milk Matters Reader,

It's February, calving is upon us. In 6 weeks time, on average, you'll all have 60-75% of your cows calved.

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

Your farm's ability to grow grass this spring and your ability to manage it will have a major impact on your performance and profitability. In this month's edition of **Grass Matters**, John Maher looks at how the best in the business manage their spring grazing.

On pages 11 and 12 Maeve O'Connor looks at how we can adapt our bulk tank cleaning regimes to chlorine free products.

Trisha Hayes advises on how best to transition your calves to milk replacer feeding, while Cara Sheridan from MSD looks at controlling pneumonia in Irish herds.

Yours Sincerely,

Liam Stack

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



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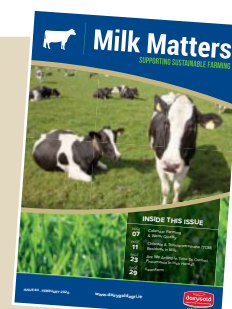


AGRI BUSINESS

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MILK MATTERS

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EARLY LACTATION NUTRITION

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:

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

However, fertility performance is not all nutrition related. For good 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.

UFL requirements For Lactating Dairy Cows

Milk Yield (kg)	Daily UFL required	Milk Solids (kg/day)	Daily UFL required
20	14.5	1.5	15
25	16.5	2	18
30	18.5	2.5	21.5
35	20.5	3	23

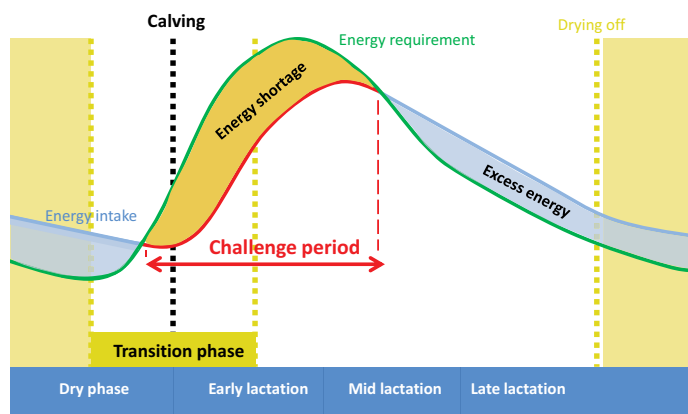


KEY POINT: It is not uncommon to be feeding the highest energy feeds and through low intakes to still have a low overall energy intake.

2. Energy intake:

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

In early lactation when our cow's intake potential is at its lowest point we especially need to prioritise 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

- 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
- The Dry Matter: Wetter silages have a lower intake potential.
- 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	25 ltrs	28 ltrs	33 ltrs	37 ltrs
	5 gals	5.5 gal	6 gals	7 gals	8 gals
Silage DMD					
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

Due to the lower intake potential add 1kg for poorly preserved, wet silages.

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.12-14kgDM but can be higher if the silage quality is very good. 2 kgDM extra forage intake will support 3-4 kg of extra milk or will reduce the level of concentrates needed at differing milk levels

Feed recommendations for Good Quality Maize Silage for 28 kg (6ltrs)	
25% Maize Silage : 75% Grass Silage	7.5 kg Dairy Balancer Gold 25%
50% Maize Silage : 50% Grass Silage	6.5 kg Dairy Balancer Gold 29%
75% Maize Silage : 25% Grass Silage	5.5 kg Dairy Balancer Gold 33%

+/- 1kg for every 2 kgs of milk

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:

- kg allocated
- Ground condition
- Grass quality (DMD). This has a big effect during the main grazing season
- Dry Matter

However, in the spring while you are using your spring rotation planner, your cows grass intake will be dependent on allowance.

Concentrates required, out by day in by night:

	Milk Yield (kg)				
	18	22	26	30	34
6kg DM grass + 6kg 64 DMD silage	4	6	8	10	12
6kg DM grass + 6kg 68 DMD silage	3.5	5.5	7.5	9.5	11.5
6kg DM grass + 6kg 72 DMD silage	3	5	7	9	11

Ref: Adapted from F mulligan, UCD

Concentrates required, grass full time:

	Milk Yield (kg)				
	18	22	24	38	32
12 kg Dm Grass	2	4	5	6.5	8.5
14 kg Dm Grass	1.5*	1.5	2.5	4.5	6.5
16 kg Dm Grass	1.5*	1.5*	1.5*	2.5	4
17 kg Dm Grass	1.5*	1.5*	1.5*	1	3

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

Spring Nutrition Plan for a cow peaking at 25 kg or 2.5 kg Milk solids

	Length of the period (weeks)	Concentrates (kg/day)	Total Concentrates for the period (kg)
68 DMD silage	3	8	168kg
Out by day, In by night	3	6	126kg
Grazing full time (13-14kg grass DM)	8	2.5	140kg
Total			434kg
Cost c/ltr (spring nutrition plan)*			2.3c/ltr

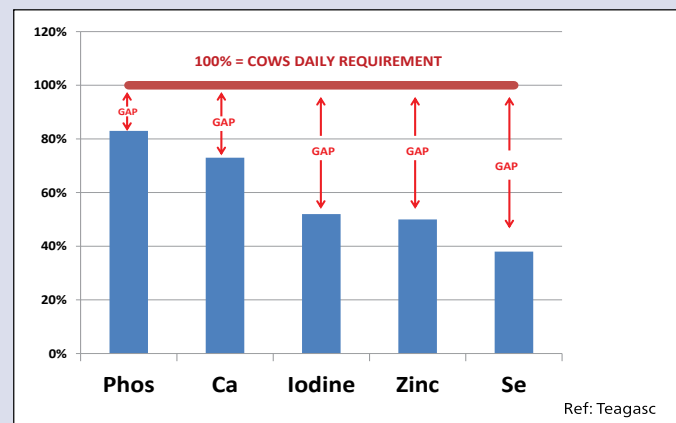
*Assumes a concentrate cost of €290/T and 5500kg annual production

Mineral Nutrition:

On both silage and grass diets, cows need mineral supplementation.

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

- poor fertility,
- cystic ovaries,
- anoestrous,
- irregular or suppressed oestrus
- early embryonic death



Be wary of feeds with low mineral inclusions.

Minerals and vitamins are expensive to include in compound feed. Our nutritional team at Dairygold Quality Feeds know the importance of the mineral nutrition of your cows to yearly performance. We include our minerals and vitamins pro-rata with our feeding or cal mag rates. This means that our vitamin and mineral inclusion are in sync with our feeding levels i.e. if you feed one of our feeds at our prescribed level all your cows vitamin and mineral requirements are being fully met. However, through investigation we have discovered that others players in the market have vitamin and mineral inclusions out of sync with their recommended feeding levels i.e. if you feed their feedings at the prescribed levels, your cows magnesium requirements will be met but your cows daily allocation of trace elements and vitamins will be low. These feeds can contain as low as 25-50% of the Copper, Zinc, Iodine, Se and Vitamin A, D and E contained in our feeds.



AGRI BUSINESS

Postcalver GOLD:

Available in 14%, 16%, 18% and 20%

Hi-Pro Ecolac:

Available in 14%, 16% and 18%

Super Choice:

Available in 14%, 16% and 18%

Dairy Pride:

Available in 14%, 16%, 18% and 20%

www.dairygoldagri.ie

For more Information please contact your local Area Sales Manager or our Inside Sales Team on 022 31644

BENEFITS OF OUR DAIRY FEED RANGE

- ✓ Dairygold is committed to maximising the use of native Irish cereals across its range of feed.
- ✓ High levels of bypass starch coming from the coarse processing of maize and a blend of high energy digestible fibre to stimulate rumen function.
- ✓ Contains YEA-SACC live yeast to promote an enhanced rumen through improved ration digestibility and the stabilisation of rumen function pH.
- ✓ Contains Agolin a natural plant extract designed to optimise rumen environment to increase feed efficiency, increase production, improve fertility and decrease daily methane emissions.
- ✓ BIOPLEX copper, zinc, manganese and SEL-PLEX organic selenium from Alltech to support the immune system and improve fertility parameters.
- ✓ Elevated levels of vitamin E to maximise cow immune status.
- ✓ Elevated levels of vitamin D to prevent milk fever post calving.





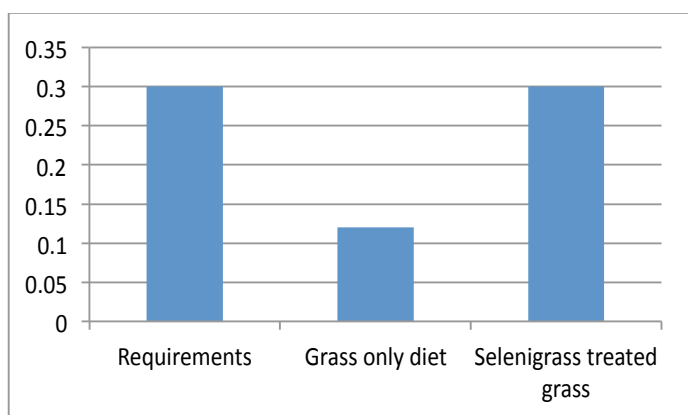
SELENIUM FERTILISER RANGE

By **AMIE COONAN**, B.Ag.Sc,
Area Sales Manager

Low levels of Se in dairy diets have been linked to:

- Poorer fertility performance
- Higher SCC
- Increased numbers of retained cleanings

A recent survey of Irish grassland by Teagasc has indicated that grass on its own only supplies 38% of the cows Selenium requirement.



Using Dairygold's Selenium fertiliser programme has been shown on farm to increase the selenium content of the grass to levels that meet the cows nutritional requirement.

Selenium Fertiliser Range

- Selenistart: 42% Nitrogen + Selenium (Urea based)
- Seleni 18s: 18-6-10 + Sulphur + Selenium
- Selenigrass: 25% Nitrogen + Magnesium + Selenium
- Selenigraze: 24½ : 2½ : 5 + Selenium
- Selenicut: 20 : 2 : 12 + Sulphur + Selenium

Building Selenium into your spring fertiliser plan

Stocked at 2-2.5lu/ha our aim is to apply:

- 70 units of N by the end of March and 90 units of N by the end of April
- 20 units of P on index 3 soils in the spring (+ 8 units of P for index 2, + 16 units of P for index 1)
- 40 units of K on index 3 soils in the spring (+ 25 units of P for index 2, + 50 units of P for index 1). Due to grass tetany risk don't apply more than 70 units in the spring
- 16 units of sulphur from March

We must maximise our use of organic fertilisers (slurry) to meet our nutrient needs. 2500 gallons of slurry per acre can meet 25% of your nitrogen, 60% of your P and 100% of your spring K requirements

Chemical Fertiliser Plan with 2500 gallons of slurry per acre

Timing	Product	Rate	N	P	K	S	Se
Jan/Feb	Selenistart	½ bag	21				Yes
March	Seleni 18's	1½ bags	27	9	(15)	3	Yes
April	Selenistart	½ bag	21				Yes
Total Chemical Fertiliser			70	9	(15)	3	

For index 2 P soils use 1.5 bags of Seleni 18's in April. For index 1 P soils use 1.5 bag Seleni 18's in April and May. You can then revert to Protected Urea + Sulphur for the summer.

Chemical Fertiliser Plan no slurry

Timing	Product	Rate	N	P	K	S
Jan/Feb	Selenistart	½ bag	23			
March	Seleni 18's	1.75 bags	30	10.5	17.5	3
April	Seleni 18's	1.75 bags	30	10.5	17.5	3
Total Chemical Fertiliser			83	21	35	6

For index 2 P soils continue using a 1.5 Seleni 18's in May, For index 1 P soils use 1.5 bag Seleni 18's in May and June. You can then revert to Protected Urea for the summer.

Does it work? - On farm Success.



Dairygold supplier, John Kingston, who milks a jersey cross herd, near cork city moved to the selenigrass programme in 2014.

"Selenium deficiency has been a problem on this farm. The spreading of selenistart and selenigrass has kept selenium readings up in the grass, the silage and my cows blood."

Does it pay?

Alternative selenium feeding was costing John €11 per cow/year. The selenium fertiliser programme cost John €4/ha over his old fertiliser programme.

Where farmers have used selenium fertiliser during the season, they have been able to cut out selenium injections, boluses and drenches.

The improved fertility, thrive and herd health from using selenium fertiliser is worth up to €50/ha.

CALENDAR FARMING & WATER QUALITY

By CIARA DONOVAN,

Farm Sustainability Advisor, Supply Chain Division



Just before Christmas the EPA published the most recent findings related to water quality and the results were worrying! There was an overall net decline in 4.4% or 117 surface water bodies since that last assessment 3 years ago. This means that only 53% of Irish rivers now meet the EU Water Frameworks Directive' target of having 'good or high' status. With water quality declining and stock numbers continuing to rise, many farmers believe that calendar farming is part of the problem. This article aims to look at the science behind the regulation.

So let us look at some of the facts. Met Eireann measure and store information collected from hundreds of weather stations across the country. The below tables show information collected from the Cork Airport weather station which is one example of many that could be used for this purpose and the vast majority show a similar trend to this monitoring station.

Mean Precipitation (mm) Cork Airport over Past 10 years								
Winter Period	Sept	Oct	Nov	Dec	Jan	Feb	March	April
2018/2019	77.4	62	201.5	193.2	74	81	128	135.8
2017/2018	169	127.9	74.8	126.2	156.6	48.7	164	180.7
2016/2017	136.3	48.7	40.7	94.2	108.5	113	115	24.6
2015/2016	97.6	82.5	139.3	402.2	251.7	150.9	84.4	103.3
2014/2015	19.7	180.1	192	52	88.8	16	137	16
2013/2014	42.9	182.9	64.2	211.4	200.4	240.5	107.8	104.6
2012/2013	23.1	100.1	116.8	145.2	159	51.7	134	97.2
2011/2012	115.6	91.7	148.7	82.6	94.1	42.4	23.7	82.6
2010/2011	79.1	120.5	85.6	66.9	74.5	129	32.3	42.7
2009/2010	55.4	166.6	245.3	160.3	125.7	42.7	95.5	41.3
Average	81.61	116.3	130.89	153.42	133.33	91.59	102.17	82.88
Avg precipitation 1991 to 2010	94.8	139.7	126.1	122.6	128.7	92.6	89.2	86.8

Many farmers feel that the amount of rain that occurs after the closed period finishes, makes it impossible to apply slurry onto dry land and that often, it is drier during the closed period. From the table above, I can understand this complaint. In 2016/2017, for instance, in this region, December was significantly dryer than Feb or March. However, if you look at the average precipitation over a 10 and 20-year period, the October to January period (which encapsulates the 'closed period'), was significantly wetter than the 'open' period.

Sun Duration (Hours) Cork Airport Past 10 years								
Winter period	Sept	Oct	Nov	Dec	Jan	Feb	March	April
2018/2019	134.9	130.9	44.6	35.1	51.7	72.9	134.9	155.5
2017/2018	135.4	50.4	81.6	49.9	72.1	107.1	91.5	104.4
2016/2017	68.4	93.4	116.1	35.8	70.1	60.1	107.4	108.2
2015/2016	115.6	81.7	47.3	24.3	24.3	41.5	85.4	96.7
2014/2015	133.7	91	94.3	70.7	70.4	81.3	134.7	223.7
2013/2014	119	85.1	73.3	40.2	73.2	65.2	108	144.6
2012/2013	147.8	105.9	89.8	61	51.3	73.6	76.9	168
2011/2012	68.4	71.7	63	43.6	35.7	38.7	120.1	163.3
2010/2011	128.9	133	97.3	83.8	87.5	70.2	159.2	182.8
2009/2010	153.7	80.4	84.1	80.9	118.4	113.2	151.9	198
Average	120.58	92.35	79.14	52.53	65.47	72.38	117	154.52



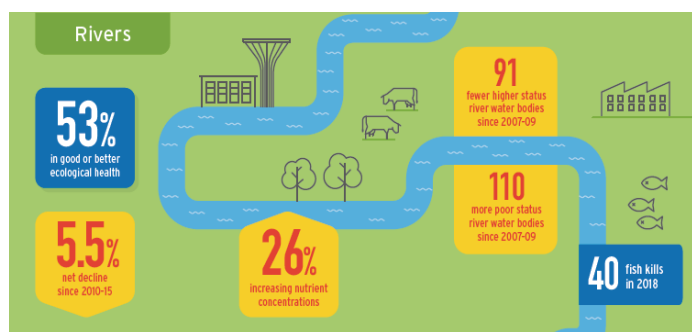
While precipitation is related to soil moisture deficit, soil temperature is a much more important factor when it comes to protecting our rivers and growing grass. Both air temp and sun hours, are directly related to soil temperature and grass growth. From the above tables, we can see that both air temperature and sun hours follow a more consistent trend annually than precipitation. In most years, both air temperature and sun light are substantially greater before the closed period starts and slowly increase after it reopens in Feb/March. It would be important to note that in this region, air temperature in February was, on average, lower compared to January. No growth occurs when soil temperature is less than 5 °C.

Mean Air Temperature (°C) Cork Airport Past 10 years

Winter period	Sept	Oct	Nov	Dec	Jan	Feb	March	April
2018/2019	12.3	9.9	8	8.3	6.4	7.3	7.2	8.9
2017/2018	12.7	11.3	7.7	6.3	6.2	4.1	4.4	8.4
2016/2017	12.7	10.9	5.9	7.4	6.3	6.5	8.1	9
2015/2016	13.4	11	9.5	8.3	6.1	5	6.1	7.3
2014/2015	14.8	11.2	8.4	6.3	5.4	4.8	6.5	8.8
2013/2014	13.5	11.9	6.7	6.4	5.5	5	6.9	9.4
2012/2013	12.6	9.2	6.5	6.5	6	5.1	4.3	7.4
2011/2012	12.7	11.1	9.5	6.1	7.2	7.4	8.3	7.1
2010/2011	13.4	10.3	5.5	1.7	4.1	6.8	6.8	10.6
2009/2010	12.9	11.7	7.4	3.9	3	3.4	5.7	8.6
Average	13.1	10.85	7.51	6.12	5.62	5.54	6.43	8.55

Soil temperatures should be greater than 7°C for at least 3 consecutive days for effective nutrient uptake

Across the Dairygold region storage requirement varies from 16 weeks in Cork, Limerick and Tipperary to 20 weeks in Kerry and Clare. If tanks are emptied before the 15th October, that should mean that slurry can be stored until 15th Feb in Cork, Limerick and Tipperary and until 15th March in Kerry and Clare. This means that most farmers should have at least a 2-week buffer over and above the closed period to allow for extra storage if weather conditions after the open period are not suitable.



Schematic relating to the latest findings for Irish rivers as published in the most recent EPA Water quality report.

The data shows that the closed period is generally the coldest, wettest time of the year when there is the least amount of growth, therefore it is generally the riskiest time for application of slurry. Given our changeable weather conditions, weather forecast

and soil temperatures should be checked before applications in the open period, particularly in February and into March when precipitation is often high and soil temperatures are generally still low.

Ireland currently has one of the shortest closed periods in the EU. In the UK, where a slightly different 'soil moisture deficit' system is in use, the closed period was extended recently by 2 weeks. A limit was also placed on the amount of slurry that may be spread from the end of the closed period until the end of February. Every four years the Nitrates Action Programme is reviewed by the EU and Irish representatives must justify the derogation and fight to ensure that the closed period or storage requirements are not extended for Ireland. Given the downward trend in water quality it is becoming increasingly difficult to defend the status quo.

Stock numbers have increased steadily post quota and there is more slurry to deal with than ever before. Inadequate slurry storage and poor use of existing storage is becoming more common. If farmers are struggling with slurry over the closed period, they should assess their storage and storage requirement, make a plan and address the issue as soon as possible.

If you need to calculate how much storage you require for your stock, use the tables at the rear of the Nitrates Explanatory Handbook (just google to locate) or contact your agri-advisor.

EFFECTIVE FOOTBATHING WITHOUT ANTIBIOTICS

By COLM MENTON, M.Agr.Sc



The Department of Agriculture, Food and the Marine (DAFM) has warned against the 'off label' use of soluble antibiotic powders such as erythromycin and lincomycin in footbaths to treat lameness in dairy cows. The unauthorised use of antibiotics carries a significant risk to public health, due to potential residues in milk and meat, antimicrobial resistance and environmental contamination. Alternatives to antibiotics must be the first choice for use in footbaths as part of a prevention programme to control lameness.

By reducing the incidence of new infections and improving the condition of the hoof - effective footbathing can reduce lameness by up to 70%! Cattle veterinarian Roger Blowey, FRCVS advises farmers to treat hoof issues as you

would treat mastitis and footbath all milking cows daily. For effective control of lameness, prevention is the best approach.

Mortellaro, or digital dermatitis (DD), is an infectious condition and one of the major causes of lameness reducing mobility, comfort, feed intake, milk yield and fertility. This infectious condition can spread quickly through the entire herd and can reduce milk yield by at least one litre per cow per day. Footbathing throughout the year is an important way to reduce the DD challenge.

FOOTBATH SOLUTION

Formaldehyde and copper sulphate are the most commonly used non-antibiotic footbaths. However, these chemicals quickly become ineffective when in contact with organic matter. Its

important to choose a scientifically proven footbath solution which has robust on-farm data. A clinical trial by the Royal Veterinary College compared **Hoofsure Endurance to formalin**. Results showed **Hoofsure Endurance** to be 19% more effective than formalin*. The Journal of Dairy Science published a study comparing **Hoofsure Endurance to copper sulphate**. Hoofsure Endurance was 7% more effective than copper sulphate at reducing the incidence of lesions*.

New Developments : Spraying infected animals with 25% Hoofsure Endurance Solution

Hoofsure Endurance can be used as a 25% topical spray using an acid resistant sprayer in conjunction with or as an alternative to footbathing. This involves 4 simple steps:

1. Clean feet if necessary.
2. Do not overfill the sprayer, leave at least 1 litre space at the top. If overfilled and/or over pumped the sprayer will be damaged.
3. Spray feet with Provita Hoofsure Endurance (1 part product to 3 parts water).
4. Apply for three consecutive days.

*References available on request

IF YOU THINK FORMALDEHYDE OR COPPER SULPHATE IS THE ANSWER

THINK AGAIN!

 **Hoofsure Endurance**

- Organic acids and tea tree oil - non-toxic, non-carcinogenic and biodegradable
- 7% to 19% better results than Copper Sulphate and Formaldehyde respectively
- The safer, proven alternative

*References available on request

SPECIAL OFFER

Purchase 3 x 20 litre Hoofsure Endurance

 **RECEIVE FREE 5 litre acid resistant sprayer**

Contact **Whelehan Animal Health** on **(01) 468 8900**

 **Provita** Animal Health Naturally

Whelehan ANIMAL HEALTH

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Transformula: - Now Available Through Dairygold

Transformula is the only Transition Milk Replacer on the market.



After colostrum, the cow produces transition milk which contains higher solids than regular whole milk. This includes greater amounts of antibodies that line the gut like a whitewash, protecting it while the gut develops and becomes more robust. Furthermore, it contains ingredients such as oligosaccharides for cell binding which help increase the speed at which the gut matures. Transformula, a step down milk replacer, is designed to replace transition milk. Transformula contains a high level of skim, a higher fat level than regular milk replacer and contains a blend of five fats to maximise digestibility for the young calf. Furthermore, it contains a level of prebiotics, probiotics, plant extracts and other immune factors to provide that extra support that the calf needs to get it off to the right start.

Milk Constituents:

	Colostrum	Transition Milk					Whole milk
No. of milking	1st	2nd	3rd	4th	5th	11th	
Total Solids	23.9	17.9	14.1	13.9	13.6	12.5	
Protein	14	8.4	5.1	4.2	4.1	3.3	
Fat	6.7	5.4	3.9	3.7	3.6	3.6	
Ig (antibodies)	6	4.2	2.4	0.2	0.1	0.009	

DAIRY HYGIENE EARLY SEASON SET-UP DEAL

GET AN **EXTRA 10% OFF***

WHEN YOU SPEND €500 OR MORE!

ACROSS RECOMMENDED:

- ☒ Dairy Detergents ☒ Bulk Tank Cleaners ☒ Cluster Care
- ☒ Teatcare ☒ Filter Socks



- THATS 10% OFF
ON TOP OF OUR DAIRY
HYGIENE SALE PRICES

*Offer does not
apply to IBC

- ✓ All calving & dairy hygiene purchases are eligible for 2020 loyalty bonus



- ✓ Redeem your 2019 loyalty bonus on purchases made today

CHLORATE & TRICHLOROMETHANE (TCM) RESIDUES IN MILK

By MAEVE O'CONNOR, MSc. Animal Science,
Milk Quality Advisor, East Cork Region



Stringent regulations for specific dairy products play a major part in our Irish Dairying Industry today. The main two chlorine residues that the dairy industry is focusing on presently is chlorates in powders which affects iodine metabolism in infants and TCM which affects butter quality. Due to increased food safety concerns this needs to be addressed promptly. Failure to comply can result in loss of current and/or future contracts with customers. Our customer base seeks the full removal of chlorine-based products by end of 2020.

Chlorates are produced by the degradation of sanitising agents such as Chlorine, Chlorine dioxide or Hypochlorite. TCM is formed when chlorine in the detergent/steriliser comes in contact with the fat in the milk or other organic matter.



All Milk Bulk Tanks must use Chlorine Free Detergent From 1st January 2020

All suppliers will be tested for both chlorates and TCM during 2020 and we will continue to complete a monitoring and education programme on chlorate levels.

The permissible limit of Chlorates in milk is < 0.00375 mg/kg and the TCM allowable limit is < 0.00124 mg/kg.

From the 1st of July 2020, all milk suppliers must use Chlorine - Free detergent for milking machine washing.

TOP TIPS TO AVOID CHLORATE AND TCM RESIDUES IN YOUR MILK

- **Use Chlorine Free products**, - consult your Milk Quality Advisor to discuss further.
- Choose detergents from the Teagasc list - full listing of registered Detergents www.teagasc.ie
- Avoid **Stock piling** or **Forward buying** of detergents.
- **Store** Detergents inside in a **cool dark room** and **out of direct sunlight**.
- Always check **Expiry Date** before purchasing and use within **Three Months** of purchase.
- Ensure **Correct Detergent usage rates**.
- All **wash procedures** should be laminated for all **farm personnel** to see in the dairy (see examples below).
- **Adequate Hot Water** is essential for both milking machine & bulk tank washing.
- Adequate Rinsing before and after milking and do **NOT** reuse Rinse Water.
 - **Detergent cycle** - 9L (2 gallons) of water with detergent/milking unit.
 - **Rinsing cycle** - 14L (3 gallons) of water/milking unit.
- Make sure the **Wash settings** in the Bulk Tank for Rinse water and Detergent usage is correct. Discuss this with your Bulk Tank Service Technician.
- **Peracetic Acid** should be used instead of Chlorine for Cluster Dipping, Water Sterilisation or for the Final Rinse in the Milking Machine.
- If using **Peracetic acid** in the "final rinse", it should be added to an additional rinse to that used to rinse out the detergent solution.
- **Some teat dips may contain Chloride or Chlorine Dioxide**, care needs to be taken if pre-dipping cows with these dips and always follow manufacturer's instructions on the label. Always wipe the product off the teats before attaching the cluster.



Bulk Tank Wash Programme



Best Practice Checks

- Ensure the thermostat is working correctly.
- It is recommended that the circulation temperature of the main wash is no greater than 50°C. (Consult your Bulk Tank technician for clarification).
- Use a torch to inspect that the bulk tank rinses sufficiently post wash.
- Ensure the bulk tank is properly drained.
- Only Teagasc approved Chlorine-Free products are permitted to be used. See www.teagasc.ie for the full listing.
- When using Chlorine-Free products for auto washers it is critical that the suction probes are both washed out and calibrated by the bulk tank technician.
- Never reuse Detergent washes (from milking machine to the bulk tank).
- Ensure Seals and Lids are tight fitting.
- Frequently check that bulk tank washer is correctly calibrated.

Your Farm

- Bulk tank size (lts):

Bulk Tank Type:

- Direct expansion:
- Ice bank:
- Manual / auto washer water quantity (lts):
- Detergent product name:
Usage rate (mls):
- Descaler product name:
Usage rate (mls):
- Peracetic acid name (if used):
- Peracetic acid usage rate (mls):

Milking Machine Wash Programme



Best Practice Checks

- Store all detergents in a cool, dark place away from sunlight and off the ground.
- Do not bulk buy detergents and ensure detergents are used within 3 months of purchasing.
- Check manufacture and expiry dates of all product.
- If using detergent containing chlorine it must not exceed 3.5% chlorine.
- Always use fresh water supply for rinsing.
- Ensure the rinsing cycle adequately removes all milk residues post milking and detergent residues post wash circulation.
- Add peracetic acid to fresh rinse water for the final rinse, rates should coincide with product guidelines.
- No recycling of detergents for consecutive milking's.
- Hot water is at sufficient temperature/capacity (75-80°C initially, and 55°C return), use a thermometer probe to check.

Your Farm

- Number of units:
- Mains / well water supply:
- Detergent product name:
- Wash trough capacity (lts):

Detergent usage rate (mls):

- Liquid hot water (mls):
- Liquid cold water (mls):
- Powder hot water (grams):
- Powder cold water (grams):
- Descaler product name:
Usage rate (mls):
- Paracetic acid name:
Usage rate (mls):

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
AM	Acid wash & Hot detergent	Hot detergent	Acid wash & Hot detergent	Hot detergent	Acid wash & Hot detergent	Hot detergent	Hot detergent
PM	Cold detergent	Cold detergent	Cold detergent	Cold detergent	Cold detergent	Cold detergent	Cold detergent



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GRASS MATTERS

By JOHN MAHER, Grass10 Campaign, Teagasc Moorepark



THE SPRING GRAZING PLAN FOR DAIRYGOLD MILK SUPPLIER MIKE BERMINGHAM



Recently, Mike Bermingham was awarded the Grassland Farmer of the Year award for the Dairy Category in this competition. Mike farms near Fermoy, Co. Cork and supplies milk to Dairygold. He is a recent entrant to milk production (2014) which

makes this achievement all the more remarkable. This spring, over 100 cows will calve down and over 90% (92% in 2019) of them will calve within 6 weeks. Calving is due to start on February 1st.

In this article, the spring grazing plan is outlined.

Spring Grazing Plan:

The plan is simple!

“To get cows out to grass immediately and keep them out”. This is not easily achieved unless there is grass on the farm and a grazing plan is put in place.

The average farm cover is currently about 925 kg DM/ha in mid-January. This level of grass supply allows cows (4 days after calving) to be turned **out full-time** to a predominantly grass diet even where the 6-week calving rate is high. Of course reasonable weather is needed to do so but the grass supply is there to start!

Over winter growth averaged about 3kg DM/ha/day. Last year Mike walked the farm over 40 times to assess the grass supply on the farm and used PastureBase to make informed decisions about grazing. He also completes a grass budget using PastureBase to make sure that he arrives at an average farm cover of 600kg DM/ha in early April.

This is a very important figure for this farm. The average height of the farm is 550ft above sea level and facing somewhat north so it is important that there is an adequate level of grass available to start the second grazing rotation. All grazing plans/budgets work towards this target.

Enhancing Grass Supply:

While the supply of grass on the farm is good at the moment (925kg DM/ha) the demand for grass is high due to the 6 week calving rate and a stocking rate of close to 3 LU/ha on the milking platform. So every effort must be made to grow as much grass as possible during early spring. Increasing early spring grass supply on the farm is necessary to reduce feed costs.



An application of Protected UREA (23 units/acre) is already completed on about 60% of the farm to boost the grass supply on the farm. Applying Nitrogen fertiliser from mid-January (weather permitting) will not only grow more grass but help the recovery of grass after grazing, so there will be more grass available for the next round of grazing also. A second application of Urea fertiliser is planned for late February/early March (about 46 units of Protected Urea/acre). This fertiliser N application will be reduced to a half bag of protected urea/acre where paddocks get slurry.

Slurry is targeted on the low grass cover paddocks

(about 40% of the farm) at about 2,500 gals/acre. A dribble bar is used to spread this slurry. The land that receives slurry will not receive the first application of Urea fertiliser.

The target is to have 100 units of N/acre through a combination of slurry and fertiliser applied by May 1st. An application of 18:6:12 is planned for April.

Cows will be turned out to grass as early as possible in February. The aim is to graze about 30% of the farm during this month. Grazing the paddocks with the lowest cover of grass is targeted. Paddocks with covers of grass of about 700-900kg DM/ha are targeted. Most of the silage ground is targeted for grazing in early March but some silage ground is grazed twice.

Rainy Days?



Wet days arrive every spring so a plan has to be put in place to deal with these days. The driest paddocks with multiple access points and that have covers of grass are used on these days to ensure access of cows to grass. In the first rotation of 2019, cows were housed for only 7 nights during February and March.

This is the typical wet day plan on this farm for grazing in early spring:

- Cows are milked at 7.30 am
- Cows out to grass by about 9am
- Cows return to shed by about 11.30am (No access to silage between 1.30am & 3pm)
- Cows are milked at 3pm
- Cows go back out to grass after milking
- Cows return to shed by about 7pm
- Cows have access to silage at night but all silage is gone by 7am

The level of meal feeding during early spring is:

- 3 kg/cow/day in February
- 4 kg/cow/day in 1st half of March
- 5 kg/cow/day in 2nd half of March

The lower level of meal feeding in February helps Mike reach his grazing target of 30% grazed by March 1st.

800kg of meal per cow was fed in total in 2019.

Mike farms with his wife Tina and their 2 children near Fermoy, Co. Cork. Recently Mike was awarded the Grassland Farmer of the Year award for the Dairy Category in this competition.

The farm grows about 14tn DM/ha on average. The 100+ cow (EBI €154) herd produced about 564kg MS/cow (550kg per cow delivered to Dairygold) in 2019 with 800kg meal fed per cow.



DAIRY FARMING ON DIFFICULT / HEAVY LAND

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



GRASSLAND FARMER OF THE YEAR ON HEAVY LAND

Spring Grazing Plan

"Every effort is made to make grazing happen!!!"



Recently, Paudie O'Brien was awarded the Grassland Farmer of the Year award for the Heavy Land category in this competition. Paudie farms in Firies, Killarney, Co. Kerry. His land has a mix of mineral clay soils and some peat soils. Rainfall is about 1400mm (55 inches). Considerable investment in the farm grazing infrastructure has been carried out over the last few years to enable the herd to get more grass into the diet particularly at the start and end of the grazing season.

Spring Grazing Plan:

Cows start calving in early February with over 90 % calved in 6 weeks (95 % in 2019). The plan is to get cows out to grass immediately by mid-February. This is not easily achieved unless a grazing plan is put in place.

Firstly, there are 5 set of reels and fences erected across the farm. These will be distributed on both the wetter and drier parts of the farm. It is important to state that there is no set strategy to graze wet or dry paddocks. When the

weather is good, wetter parts of the farm are targeted for grazing and when the weather is poor the drier parts of the farm are targeted.

Milking in Spring starts at about 5.30am. Between 5.30am and 9.30am, cows have no access to silage.

At 9.30 the decision is now made whether silage or grass is fed. The aim is always grass if possible. Cows are turned out to grass in the morning around 9.30am for 2-3 hours. So later in the morning cows return (depending on weather) to the shed and have no access to silage. Cows are milked around 3.30pm. After milking, cows go to grass again for 2-3 hours. If cows return to the shed later that evening (7pm), cows will have access to silage until the following milking.

The level of meal feeding during early spring is driven by the level of access to grass. When access to grass is high the level of meal feeding is around 3kg/cow/day. If silage is the dominant forage in the diet, the level of meal feeding is around 4.5kg/cow day. It should be noted that surplus grass that is converted into high quality (75-80%DMD) round bale silage is kept for feeding the cows in early spring.

A huge focus is placed on using spur roadways to gain access to grass. In addition, using grazing practices or techniques that will limit damage to grass are used. Outlined below is one of the many spur roadways in place on the farm.



Spring Fertiliser Plan:

Slurry (dribble bar)	3,000 gals/acre - low grass cover paddocks with low soil fertility
January/February	0.5 bags/acre urea fertiliser (23 units/ac) – on ground that didn't get slurry, assuming ground conditions allow
Early March	0.5 bags/acre urea fertiliser (23 units/ac)
Late March	0.5 bags/acre urea fertiliser (23 units/ac)
April	1.5 bags/acre 18:6:12

The target is to have 100 units of N through a combination of slurry and fertiliser applied by May 1st. Any application of slurry to a paddock will be skipped with Urea fertiliser.

The average farm cover is currently about 900kg DM/ha in late January. The farm grows about 14tn DM/ha on average with over 15tn DM/ha grown in 2019. The 75 cow (EBI €136) herd produced about 475kg MS/cow in 2019 with 710kg meal fed per cow.

FERTILITY & BREEDING

By DOREEN CORRIDAN, MVB MRCVS PhD, Munster Cattle Breeding



HEIFERS IN MILK 2020

Need to protect and realise this investment

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.

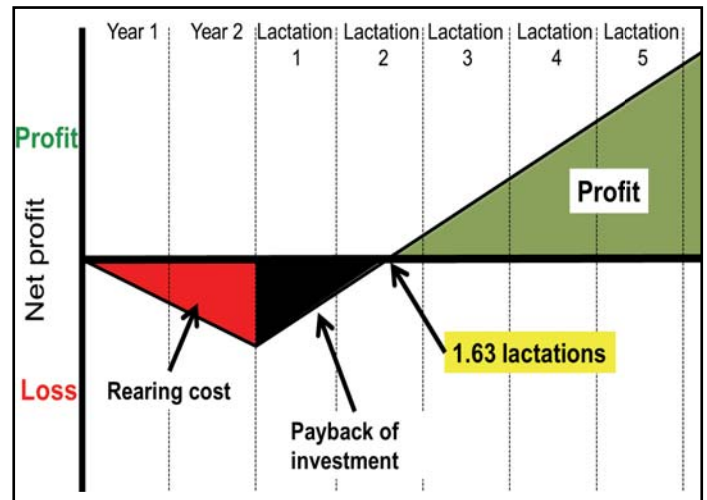
On average these heifers are half way through their second lactation (1.63 lactation) before they have paid for their rearing costs and from there on they are making profit.

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

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.



Protect the Investment.





1st calved heifers SCC.

SCC Analysis of 1235 milk recorded herds in Dry Period 2018/2019	
Heifers New Infection Rate	
Top 20%	0%
21-40%	0% - 8%
41-60%	8% - 14%
61-80%	15% - 25%
81-100%	25% - 100%
Median 12%	

In the average herd 12% of heifers are calving down with high SCC – this is 1 in 8 heifers. The majority of these mastitis cases occur in the last 2 weeks before calving or/and in the calving pens.

Actions to reduce mastitis incidence in heifers.

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 in the last two weeks pre calving
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. At least 1 cubicle space per heifer.
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 prior calving to reduce the incidence of mastitis.

Early Milk Recording Key

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 earlier mastitis is detected the better the treatment outcome.



Controlling SCC in Cows for 2020.

Get it right in February and it will stay right for the year.

SCC Analysis of 1235 milk recorded herds in Dry Period 2018/2019					
Heifers New Infection Rate		Cows New Infection Rate		Cows Cure rate over the dry Period	
Top 20%	0%	Top 20%	0% - 5%	Top 20%	100%
21-40%	0% - 8%	21-40%	5% - 9%	21-40%	95% - 81%
41-60%	8% - 14%	41-60%	9% - 13%	41-60%	80% - 71%
61-80%	15% - 25%	61-80%	13% - 18%	61-80%	71% - 57%
81-100%	25% - 100%	81-100%	19% - 100%	81-100%	57% to 14%

In the average herd 11% of cows who had a low SCC count the previous year, get infected over the dry period. The high-risk weeks are the two weeks prior to calving.

1. Ensure each cow has a cubicle space in the last 2 weeks pre calving. Tighten up the late calvers if short spaces.
2. Lime the cubicles twice daily in the last 2 weeks pre calving.

3. Disinfectant lime products are extremely useful in the last two weeks pre calving
4. Run the scrapers every 3 hours at a minimum.
5. Avoid the practice of turning off scrapers at night.
6. Keep the calving pens clean and well bedded with straw.
7. 25% of cows that need a cure in the dry period do not achieve it- these cows when they calve down infect other cows in the herd.

In the average herd 25% of cows that need a cure in the dry period do not achieve it- these cows when they calve down infect other cows in the herd, especially the 1st calvers.

Early Milk Recording Key

Prior to the first milk recording pull out the red cows from the persistent SCC cows in 2019 and CMT them to ensure they have got a cure.

Watch the bulk tank SCC.

An early milk recording is key in identifying these cows.

Cull cows who had 2 or more tests >500,000 SCC in 2019 and who did not cure over the dry period, are not worthy of antibiotic treatment- they increase the likelihood of AMR developing in your herd.

The earlier mastitis is detected the better the treatment outcome.

Chronically infected cows.

- Infect other clean cows - first calved heifers especially
- AMR – Increases antibiotic usage- calves ingesting waste milk
- AMR – Not worthy of treatment
- Profitability – Lower Production
- Peace of Mind – Antibiotics in bulk tank
- Time – Identification/ Treatment/Milk withdrawal
- Interrupted - milking routine
- Labour- Complications
- Work life balance – fear of contracting in a milker

Key requirements of the calf house.

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.

Fresh air kills bugs 10 times faster than stale air.

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 as the bacterial and viral load is increased substantially.

Need to focus on Outlets and Inlets.

Outlets - Let stale air out.

Need to have minimum of 0.04m² 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.

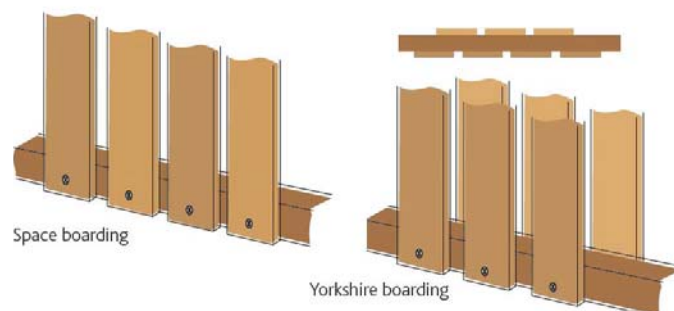


Figure 7: Space and Yorkshire boarding

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.

Lack of Fresh Air	Symptoms of Lack of Fresh Air
<ul style="list-style-type: none"> - Lack of fresh air increases survival time of airborne pathogens - Lack of fresh air increases concentration of gases (e.g. ammonia) - Lack of fresh air can reduce oxygen concentrations 	<ul style="list-style-type: none"> • Smell - ammonia, dampness • Dark corners - no light no ventilation? • Elevated air temperatures Animal health



2. Moisture management

Moisture in the calf house results in the big chill effect. To evaporate 1L of water, 3.5 hours of calf heat is needed. A healthy calf will lie down 20.6 hours a day or 86% of the time. Crucial to have a dry bed of straw. 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.

Keep an eye on the water drinkers. Calves need access to good, clean water from a day old. Ensure the water drinker is not leaking onto the calf bed.

Issues with too much moisture	Symptoms of too much moisture
<ul style="list-style-type: none"> - Supports microbial activity - Promotes bacterial growth - Absorbs energy - Acts as a transport medium - Increases slippery floors - stress 	<ul style="list-style-type: none"> • Dirty water lying • Dirty cattle • Damp Floors in areas that could be dry • Water ingress • Leaking drinkers • Condensation • Staining of underside of roof • Animal health



3. Air speed - 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 a sick calf that lies in the draught to avoid the interaction with the other calves.

Air Speed	Symptoms of too much Air Speed
<ul style="list-style-type: none"> - Too much: associated with excessive energy losses 	<ul style="list-style-type: none"> • Animals avoiding certain areas • Huddling • Hairy coat • High intake/low production rates • Animal health ...
<ul style="list-style-type: none"> - Too little: associated with lack of fresh air 	<ul style="list-style-type: none"> • Animals avoiding certain areas • Smell • Animal health

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
- ▶ 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.

Then it can 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, stokbord and canopies.

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 time and space to clean.

Clean between batches of calves.

Careful to ensure all the dung is being removed.

Apply relevant disinfectant at correct concentration.

Allow correct contact time.

Allow to dry.

Footbaths at entrances to all calf pens - changed twice a week.

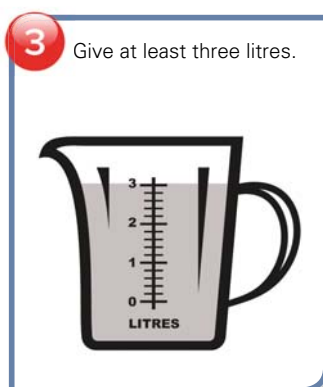
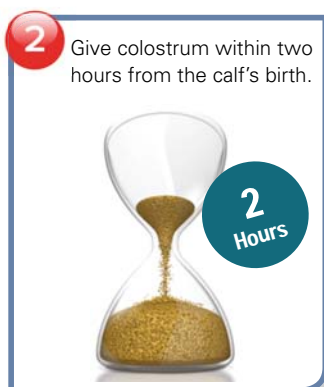


KEY PRINCIPLES OF CALF REARING

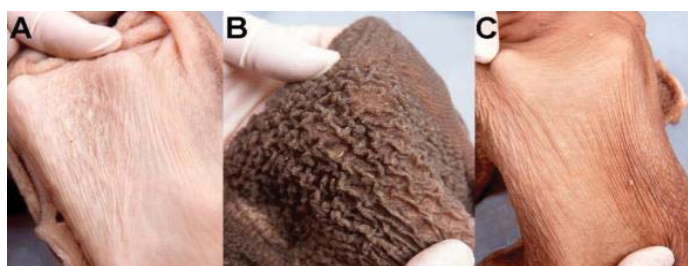
By LIAM STACK, M.Agr.Sc, Ruminant Technical Manager



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



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

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.

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.

Hay is not recommended for calves.



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

dairygold

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PRIME ELITE KRISPI KAF STARTER

Prime Elite® KRISPI KAF STARTER

- 18% Protein
- Contains highly digestible ingredients such as flaked maize and barley
- Fully balanced for macro minerals, vitamins and trace elements
- Nustart – which contains:
 - Essential oils which stimulate appetite and kill bad bacteria
 - Prebiotics and probiotics to promote a healthy gut
 - Contains antioxidants to support the growing calf's immune system
 - Functional fibres to promote rumen development

This promotes healthy rumen development and has been proven to increase intake



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AGRI BUSINESS

ARE WE ACTING IN TIME TO CONTROL PNEUMONIA IN IRISH HERDS?

By CARA SHERIDAN, MVB MRCVS Cert DHH
Ruminant Technical Vet MSD Animal Health



Bovine respiratory disease (BRD) is an umbrella term used to describe airway or lung disease in cattle. It is the single biggest cause of sickness and death in all ages of cattle greater than a month of age. It accounts for approximately one third of deaths in calves and weanlings. Neonates (calves less than one month of age) are also affected; after diarrhoea and septicaemia, BRD accounts for 11% of losses in this age group. We know how serious an issue respiratory disease is in young stock and yet alarmingly only 25% of this susceptible age group are currently vaccinated. Why is this?

Vaccination early in a calf's life can play an integral part in keeping the present and future impact of BRD to a minimum. However, vaccination alone cannot carry the responsibility for disease control. Management of the environment, nutrition, husbandry practices and control of other diseases all contribute to immune-



competence of the calf whilst keeping stress and the challenge of infection to a realistic level.

The benefits of early calf vaccination

Pre-weaning growth rates were found to decrease by eight percent for calves experiencing pneumonia and by up to 29% for calves affected by both diarrhoea and pneumonia. "Sick days" for calves have a life-long effect on their efficiency and productivity. Each sick day for a dairy heifer calf can result in her producing 120kg less milk in her first lactation.

Herd immunity

When implementing a vaccination programme it is important to vaccinate healthy animals and to complete vaccination before the risk or stress periods. For young calves this means the earlier the better, for weanlings vaccination should be complete prior to weaning and housing. When it comes to vaccination, group immunity is everything. All calves should be vaccinated, not merely for the benefit of that individual calf but for the benefit of the whole group.

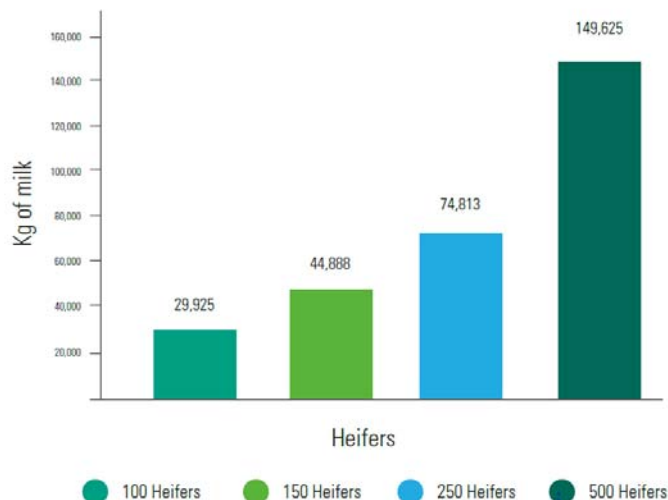
Reducing subclinical disease

So often the sick animals we see and treat for pneumonia are only the tip of the iceberg when it comes to the actual extent of the problem on a farm. How common is subclinical disease? The prevalence is essentially unknown and varies from farm to farm but is thought to affect 23-67% of animals.

The impact of subclinical disease is well documented. From a dairy heifer perspective, the presence of a small lung lesion in the first eight weeks of life can result in a decrease of 525 kg in milk production in a 305-day first lactation. In terms of beef production, calves who have encountered BRD have a decreased



growth performance (-61 to -108 grams per day) and a longer finishing period (+33 days), when compared to calves without a BRD history.



Reduction in kilograms of milk production in first lactation heifers having suffered from a 57% incidence of BRD as calves of two months of age and younger

Reduction in antimicrobial usage

In 2018 Ireland introduced a policy regarding the responsible use of antibiotics in farm animals. Over the coming years legislation will possibly restrict access to some of the antibiotics we currently have today. Oral antibiotics are potentially more likely to cause antibiotic resistance than injectable forms and it is likely they will be restricted in the future. Antibiotics classified as critically important are likely to be restricted also. A high proportion of such antibiotics are used in the treatment of respiratory disease. By addressing management issues and by implementing vaccination programmes we can improve calf health and welfare whilst reducing the amount of antibiotics we need to use.

Acceptable welfare standards

Good health (free from pain, injury and disease) is necessary for an acceptable standard of welfare. Every calf regardless of sex, breed or value deserves to be fed and taken care of. Without the birth of the calf the cow would not milk for the lactation; we must never lose sight of this fact. Welfare and care standards are everyone's responsibility and also fundamental for social acceptability.

Speak to your vet regarding your vaccination protocol. Every herd comes up against different disease challenges in the year and recognising these individual farm "danger points" will help determine which vaccine or vaccines are right for you and the best time to give them for most benefit.

MSD Animal Health's range of pneumonia vaccines for early calf vaccination

- ▶ Bovilis Bovipast RSP
- ▶ Bovilis Intranasal RSP Live
- ▶ Bovilis IBR Marker Live

MSD Animal Health emphasise the importance of choice when it comes to deciding on the correct vaccine to be administered at the right timing for individual farm vaccination programmes.

As a sector we must benefit from the feed efficiency of early life. We need to focus our attention to reduce the disease challenge to young calves and to ensure they receive adequate immunity via colostrum feeding and through vaccination. This will allow us to improve productivity, decrease antimicrobial usage, decrease losses and improve animal welfare.



MOVING FROM WHOLE MILK TO MILK REPLACER

By TRISHA HAYES, B.Ag.Sc,

Calf Milk Replacer Specialist

Email: thayes@dairygold.ie • Mob: 087 949 9553



During the first three months of life or during the feeding stage, young calves will have the highest

feed efficiency of their lifetime. They possess a feed conversion efficiency of 2:1 meaning that 100g of feed = 50g of growth. If you do not take advantage of this period it is a missed opportunity and is expensive to catch up. Feeding a good quality milk replacer to young calves that is carefully balanced to ensure the optimum level of amino acids, fatty acids and milk sugars for growth will drive the health and development of your calves. Prime Elite milk replacers contain highly concentrated bio-active milk complex which is a concentrated Whey Protein. It also contains added health supplements such as Gardion and Digesterom to promote less scour and higher growth rates.

By using milk replacer you can maximise the early season supply bonus. Prime elite 25% plus calf milk replacer is costing c.30c/kg mixed and ready to feed. If we assume an early spring milk price of 31.4c/kg (30c/kg based + the early season premium) that's a saving of c.€4 per day if your feeding 50 calves across the 1st three months of the year.

Calves can be moved from whole milk to milk replacer from 4 days of age with no nutritional issues.

You can also transition calves to milk replacer in combination with whole milk.

Day 0	AM	3L Whole Milk		The milk replacer must be mixed with water before being fed with the whole milk, i.e. 187g MR + 1.313L water = 1.5L (@12.5% solids). Do not add the milk powder to whole milk
	PM	3L Whole Milk		
Day 1	AM	1.5L whole milk	1.5L CMR	
	PM	1.5L whole milk	1.5L CMR	
Day 2	AM	1.5L whole milk	1.5L CMR	
	PM	1.5L whole milk	1.5L CMR	
Day 3	AM	1.5L whole milk	1.5L CMR	
	PM	1.5L whole milk	1.5L CMR	
Day 4	AM		3L CMR	
	PM		3L CMR	

However, depending on your feeding situation and vaccination programme you can transition calves onto milk replacer at any age.

If you have a vaccination programme in place make sure to check with your vet how long calves are required to stay on transition milk before moving over to milk replacer. For vaccines such as rotavirus the calf needs to receive transition milk for ten days to ensure they received the necessary levels of antibodies to protect them against infection. If this is not followed the vaccine may not be effective on the calves.

Transitioning calves onto milk replacer from birth:

Age: 1 Day	: colostrum, 3L (10% of body weight) within 2 hours from the cows 1st milking
Age: 2-4 Days	: Transition milk, 4-5L/day
Age: 5 Days	: 5L mixed calf milk replacer
Age 6 Days	: 6L mixed calf milk replacer
Age 6-44 Days	: 6L mixed calf milk replacer

If concentrate intake and live weight is sufficient start the weaning process at 44 days of age. Ideally wean calves over a 20-day period. This reduces stress within the calves, and calves will perform better and will thrive quicker, especially once out at grass

Transitioning calves onto milk replacer at any time:

If calves are on 6L of whole milk daily they can move straight to 6L milk replacer.

Day 0	: 6L whole milk
Day 1	: 6L mixed calf milk replacer



That is 1.5L of whole milk and 1.5L milk replacer, morning and evening for 3 days prior switching completely to milk replacer.

Moving from Twice a Day to Once a Day (OAD) Feeding

Under EU law, calves must be fed twice-a-day until they reach 28 days old. After 10 days of age one of these feeds can be a concentrate feed if the calf is consuming adequate levels of concentrate, this must be fed separate from the milk feeding. With OAD feeding, like twice a day feeding, the driver of performance is the grams of milk replacer the calf consumes.

When feeding OAD there are two choices, you can increase the milk replacer concentration into a smaller volume of water or feed a higher volume of water with the same concentration. I.e. 3L of water + 750gr of powder is a 20% concentration rate giving 750gr of powder daily. This gives the same volume of powder as 6L either feed once or twice daily with 750gr of powder included.

The second option with OAD, which is increasing the volume of water with the same concentration on milk replacer is only workable once the calf reaches 4 weeks of age. This is because below four weeks of age the calf's abomasum is not large enough to deal with these higher volumes of milk. Implementing this option can lead to waste of milk or milk replacer and calves can also be affected by bloat or scour.

When moving from twice a day to once a day feeding the following steps should be followed:

- On the day before going to once a day – feed

the calves their 3 litre morning feed but don't feed them in the evening.

- The calves should be fed in the following way for a smooth transition from twice a day feeding to once a day feeding.

Transitioning calves to OAD milk replacer

Day 0	3L Whole Milk/ CMR		2.625L water +375gr CMR
Day 1		3.5L CMR	3L water + 500gr CMR
Day 2		3.6L CMR	3L water + 600gr CMR
Day 3		3.75L CMR	3L water + 750gr CMR
Day 4 - start weaning		3.75L CMR	3L water + 750gr CMR

Both Dairygold's Prime Elite 23% and Prime Elite 25% plus milk replacers can be used in once and twice a day feeding systems.

Cryptoguard

In Ireland, 40% of calf deaths in the first six weeks are scour related, with 38% of infectious scour cases from Cryptosporidiosis. Cryptosporidium parvum is a parasite which causes scour by damaging the gut lining of the calf. Immuboostr Cryptoguard is a complementary feed for pre-weaned calves, containing a novel blend of polyphenols and organic acids. It reduces the permeability of the calf's gut lining to infectious agents and enhances immune function in the gut mucosa.

The benefits of cryptoguard include:

- Enhances gut immunity and protection in young vulnerable calves
- Improves weight gain
- Optimises digestive function and improves gut health and integrity
- Acidifies the milk supporting digestion.
- Controls Cryptosporidium and E. Coli by reducing the severity of infection.
- It is available in both liquid form and powder form. Whatever format is used, it is critical for the effectiveness of the product that Cryptoguard is fed at the recommended rates from birth.

PRIME ELITE CALF MILK REPLACER

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+

Get 1 Krispi Kaf Starter 25Kg FREE

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Our Calf Milk Replacer Specialist Trisha Hayes B.Ag.Sc is available for any queries regarding automatic feeder calibration, feeding routine & best practice milk replacer mixing advice. Contact her on 087-9499553 or thayes@dairygold.ie

PLUS EVERYTHING YOU NEED FOR AN EFFICIENT FEEDING ROUTINE

✓ WATER HEATERS ✓ MILK KARTS ✓ FEEDERS & FEEDING EQUIPMENT ✓ REPLACEMENT TEATS

PRIME ELITE MILK REPLACER



Mixing Rates @ 12.5% Solids



NUMBER OF CALVES	LITRES FED	MILK POWDER REQUIRED	APPROX WATER REQUIRED
1	2	250g	1.75L
	2.5	313g	2.18L
	3	375g	2.63L
3	2	750g	5.25L
	2.5	939g	6.56L
	3	1125g	7.89L
5	2	1250g	8.75L
	2.5	1565g	10.9L
	3	1875g	13.15L
10	2	2500g	17.5L
	2.5	3130g	21.8L
	3	3750g	26.3L
1 bag(20kg) will mix 160L of milk replacer 20,000g + 140L			

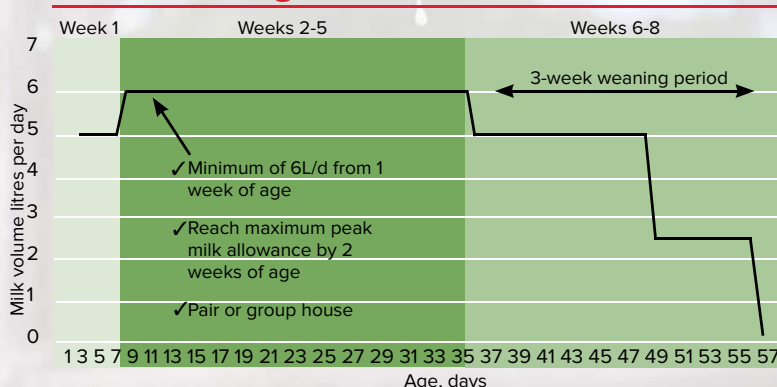
Feeding Instructions:

1. Weigh the required amount of powder using scales.
2. Measure the required amount of water (no warmer than 40°C).
3. Add the powder to half the required water.
4. Mix the powder thoroughly to ensure no lumps.
5. Top up to the required finished volume.
6. Feed milk replacer at body temp (37-39°C).

Tips:

- Ensure calves receive enough good quality colostrum (3L or 10% of body weight within first 2 hours after birth).
- Provide fresh concentrate and roughage daily, start off with small amounts and build up daily to avoid waste.
- Ensure calves always have access to clean fresh water.
- During periods of cold weather increase the volume of milk fed or increase the concentration of the milk replacer.
- Keep calf pens clean and dry to avoid any infection or disease. If you kneel on the bedding you shouldn't have wet knees.
- Begin weaning once calves reach double their birth weight.

Milk Feeding Curve



Milk replacer mixed at either 12.5% or 15%
This curve is based on twice daily feeding



www.dairygoldagri.ie

For further information please contact us on 022-31644



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PRIME ELITE MILK REPLACER



Mixing Rates @ 15% Solids



NUMBER OF CALVES	LITRES FED	MILK POWDER REQUIRED	APPROX WATER REQUIRED
1	2	300g	1.7L
	2.5	375g	2.12L
	3	450g	2.5L
3	2	900g	5.1L
	2.5	1125g	6.36L
	3	1350g	7.5L
5	2	1500g	8.5L
	2.5	1875g	10.6L
	3	2250g	12.5L
10	2	3000g	17L
	2.5	3750g	21.3L
	3	4500g	25.5L
1bag(20kg) will mix 133L of milk replacer		20,000g	+ 113.3L

Feeding Instructions:

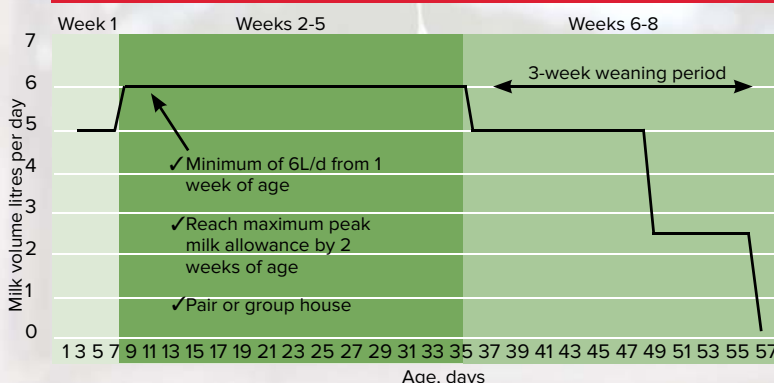
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leanform

FARMER PROFILE: O'Farrell Farm, Ballyporeen, Co. Tipperary

At the O'Farrell Farm in Ballyporeen Conor, Pat, family and work colleagues farm together daily. The O'Farrell Farm have been an active and enthusiastic participants in the Dairygold Go-To Leanfarm project. They have hosted Waste Walks as part of the Leanfarm training for other farmers in the area. This month's article will illustrate some of the Leanfarm tools and practices on the O'Farrell Farm which they credit with making their job more efficient.

Leanfarm Practices on the O'Farrell Farm

O'Farrells on recent Leanfarm initiative: "We have done a lot of farm maintenance and have prepared calf housing well in advance of calving. We have the items that we need for the Spring in place.

We have agreed an improved calf rearing procedure to ensure each calf gets maximum attention from birth to weaning. Then there are the everyday jobs such as feeding and checking stock"



Photo 1: 5 S on the O'Farrell Farm.

Photo shows a skip on the farm to allow for tidying of the farmyard and sheds.

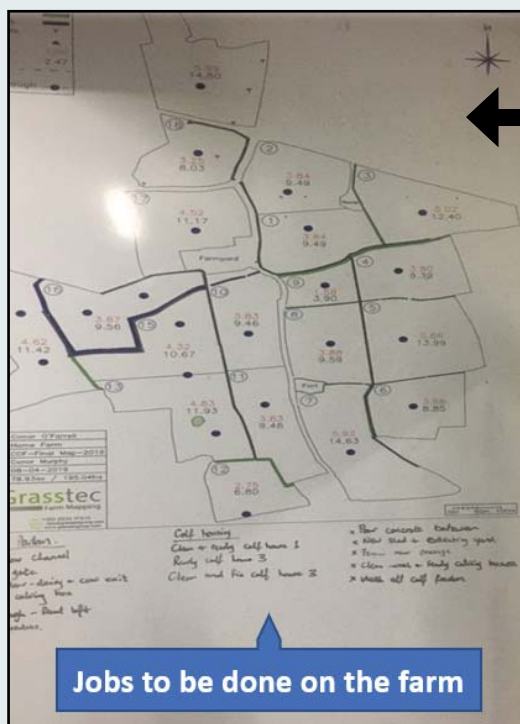


Photo 2: Farm map with paddock labels and area providing an excellent example of use of **VISUALISATION** on the O'Farrell Farm.

BEFORE LEAVING AFTER MILKING
PLEASE CHECK THAT
BULK TANK IS BELOW 4*
ALL TAPS AND POWER WASHERS
ARE OFF AND
COWS ARE LOCKED IN.

Photo 3: Colour coded instruction guide located in dairy to remind all persons what to check following milking.

O'Farrell View on the BENEFITS of LeanFarm

On Time Savings: "The use of lean has freed up time and has allowed us to be more organised to do jobs like bedding of calving boxes and liming cubicles (we use one cubicle to store lime at point of use) so that we can focus on the higher value jobs of calving and calf care"

Leanfarm has allowed time for managing stock: "When you have time then you learn to read the animals so that you know when something is wrong"

Benefits Delivered to O'Farrell Farm

- ✓ Reduced Waste
- ✓ Time Savings
- ✓ Improved quality Of Life
- ✓ More Efficient Business



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



Johne's Control

JD Bulletin, January 2020

As Phase 2 of the Irish Johne's Control Programme (IJCP) successfully rolled out to 1,660 registered herds in 2019, Animal Health Ireland has identified ways to improve the functioning and value of the programme in the new year.

Foremost amongst pending changes are improved tools for herdowners to understand and meet the programme's requirements for completion of both the veterinary risk assessment and management plan (VRAMP) and whole herd test (WHT). Herdowners' current access to herd Johne's data on ICBF will be improved with a user guide, and they will be advised by an automated SMS message following an upload of results to suggest the next action.

Programme information will be refreshed to make it clearer, simpler and more accessible, and will include a simple flowchart for actions and a new set of frequently asked questions that address issues that arose in 2019. Some herdowners and AVPs have misunderstood test results, required or recommended actions, movement constraints, and processes for submitting and

testing samples and for payments. AHI will seek to ensure that all channels provide only high-value, easily understood information.

Key learnings for herdowners are that they must work more closely with AVPs to interpret and respond to test results, to act on positive and inconclusive results to the blood or milk test and to complete testing of all eligible animals in the herd. Testing should not be left until the end of the year; non-breeding animals that are kept separate to an IJCP herd should be acknowledged in the VRAMP; culling of animals should be planned so that the WHT is not affected.

The process for payments for herd testing will be amended to enable a rapid turn-around, once VRAMP and WHT requirements are met.

The programme will again strive to register 1,000 new herds to benefit from the funded tools and advice to improve productivity, health and welfare, and market success.

AHI looks forward to building on the IJCP of 2019 to provide easier access, clear processes and more value for herdowners, AVPs and processors.

For further information, visit www.animalhealthireland.ie or call 071 967 1928.

CHFC MATTERS

By ALAN BUTTIMER, CHFC Public Relations Officer



AI Night

On Tuesday 14th of January the first club event of the year, Annual AI Night, took place in the Kingsley Hotel, Cork. A large crowd turned out to hear Ross Evans of ICBF outline the upcoming changes to the EBI index. Ross outlined the changes in the four areas of calving evaluation, genomics, maintenance sub index and dairy beef index. Following this, the four AI companies that were present on the night gave a presentation of the bulls they have available for the

upcoming AI breeding season. The four companies that were present on the night included; Munster Bovine, Eurogene AI Services, World Wide Sires and Dovea Genetics. A free raffle of AI straws, sponsored by the AI companies, was held to round off the evening. The CHFC would like to thank each company for attending and the generous raffle prizes, Ross Evans of ICBF and everyone who attended on the night.

New Committee

At the first club delegate meeting of the year, the election of the new committee took place. Elected on the night were;

Chairperson: Ivor Bryan

Secretary: Michael O'Sullivan

Treasurer: Mathew Walsh

Pro: Alan Buttimer

The club would like to thank outgoing chairperson, Ursula Forrest and outgoing treasurer, Donal Sweeney for their hard work and dedication during their terms.



Guest speaker, Ross Evans with club president, Pat Hayes.



(L to R) Ross Evans (ICBF), Tim Fitzmaurice (Dovea Genetics), Conor Morley (World Wide Sires), Ivor Bryan (club chairperson), Terry Dillon (Munster Bovine), Philip Whitley (Eurogene AI Services), Pat Hayes (club president)



CHFC Annual AI Night



Club Committee (L to R) Alan Buttimer (pro), Michael O'Sullivan (secretary), Mathew Walsh (treasurer), Ivor Bryan (chairperson), Pat Hayes (president)

The DairyGold logo features the brand name in a white, lowercase, sans-serif font on a red rectangular background.The Quality Feeds logo consists of the words "QUALITY FEEDS" in a white, uppercase, sans-serif font on a green rectangular background.

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By delivering optimal cow health, you can maximise herd fertility,
milk quality and solids providing you with peace of mind.**

Henry and Ann Bailey milk 150 cows at Grange House Farm, near Douglas in Cork. The Baileys recognise the need to ensure that the diet provided for their cows is properly balanced in the run-up to and throughout the grazing season. "We ensure that all the cows are calved down in the best possible condition. This includes the feeding of top-up minerals and vitamins throughout the dry period."

The performance of the Bailey herd is impressive with cows averaging 8,200 litres at 3.81% fat and 3.43% protein

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