

10 ORGANIC CALF TRIALS
Boosting growth rates in young dairy calves

12 CALF SCOUR
Action plan in the event of a scour outbreak

20 VET STORIES
Synergy Farm Health Youngstock Team in action

BRITISH DAIRYING

YOUNGSTOCK

GENOMIC TESTING • EARLY CALF CARE • MILK REPLACERS • PRODUCT UPDATES

MARCH 2023



Get your calves off to the best start with VITAMILK

- ✓ Accelerated Growth Rates
- ✓ Increased DLWG
- ✓ Added Health Packages
- ✓ Superior Bloom and Condition
- ✓ Profitable Calf Rearing

For more information
speak to your local
ForFarmers Account
Manager or visit >



for farmers
the **total** feed business

ReaShure®-XC

Precision Release Choline



WHY SETTLE FOR LESS?

**PROTECT YOUR HERD
WITH THE HIGHEST
CONCENTRATED
CHOLINE THIS SPRING**



Combining advanced core design with industry leading encapsulation technology, ReaShure-XC delivers the most unique rumen-protected choline product on the market today.

With over 25 peer-reviewed published papers, ReaShure-XC is proven to protect your herd!



IMPROVE CALF
PERFORMANCE



SIGNIFICANTLY
INCREASE MILK YIELDS
POST-CALVING



HELP PREVENT
METABOLIC DISORDERS

* ZENOBI ET AL., J DAIRY SCI. 101:1088 (2018) 2 LIMA ET AL.,
THE VETERINARY JOURNAL. 193:140-145 (2012)



Editor



Best start in life is key to happy healthy calves

Organic milk producer Andy King from Somerset, is a firm believer that getting calves off to a good start in life has benefits on lifetime performance and profitability. “My wife Rosemary keeps meticulous calf health records. If a heifer or cow does not perform as expected in the herd we can look back at its records and often find it had problems as a calf,” he says. “So I am a firm believer in getting calves off to the best possible start in life.” Read the full story on page 10.

In this special edition, AHDB report on a new study that has identified the critical key areas where farmers can get the best out of their calves during the first few months of life. Information on the current approaches to calf rearing was captured and analysed from 60 dairy farms across GB by Dr Robert Hyde who undertook the work as part of his AHDB funded PhD at the University of Nottingham’s Vet School. You can read more on page 18.

On pages 12 and 20-21 calf scour is discussed in detail, including some interesting on-farm intel from Synergy Farm Health youngstock vets... “A common issue we encounter on our rounds is scouring calves. We have seen that some simple management changes, tweaking of protocols and attention to detail can make all the difference,” comments Synergy Health Farm Vet Charlotte Debbaut.



And finally, a study by the University of Florida’s Department of Animal Science has concluded that human contact makes for happier and healthier dairy calves. The new study shows that five minutes of human company—and neck scratches—may help reduce stress and improve well-being for weaning dairy calves. It’s probably good for farmers too.

Enjoy the issue, and if you want to give any feedback or ideas for future editions please email: caroline@calderwood.cc

Caroline Calder
Editor

“A good colostrum programme is the single most important management factor in determining calf health and survival.”

Sarah Bolt, Kingshay, Technical Knowledge Exchange Manager (page 16).

ABOUT

Caroline Calder is Editor of the weekly e-newsletter for British Dairying magazine, Organiser of the Cream Awards – Dairy Industry Trade Awards and a Director of WB Publishing.

4	CALF REARING
8	CALF SCIENCE
10	ORGANIC TRIALS
12	CALF SCOUR
14	GENOMIC TESTING
16	MANAGEMENT
18	HEALTH TOOLKIT
20	FARM VET INSIGHT
22	EARLY CALF CARE
24	MILK REPLACERS
25	FEED OPTIONS
26	VENTILATION
28	PRODUCT ROUND-UP
30	NUTRITION

“To unlock the genetic potential of calves it is essential to ensure their requirements are met in early life”

Dr Laura Tennant, Young Animal Feed Technical Advisor with Trouw Nutrition GB (page 24).

BRITISH DAIRYING

Published by WB Publishing Ltd.
www.britishdairying.co.uk
www.creamawards.UK

Contacts:

Editor - Caroline Calder
E caroline@calderwood.cc

Contributing Editor - Mike Green
E mike@britishdairying.co.uk

Publisher Alan Whibley
E alan@whibleys.net
Tel: 07786 993789

Thank you to all our contributors.

Design Mark Day, Surface Creative Ltd.
Print Warners Midlands Plc

British Dairying does not necessarily share the views of contributors. No responsibility is accepted for the claims made by advertisers. This magazine is copyright © WB Publishing Ltd.

No part of it may be reproduced in any form without prior permission of the publisher.



Raising the bar on calf rearing

Dumfries-based farmer Fraser Nicholson is under no illusions as to the importance of youngstock rearing and its contribution to the future well-being of his and wife Susanna's dairy business, reports **Karen Wright**.

Susanna and Fraser have invested in two new calf sheds during the past 24 months and have also switched to feeding an advanced milk replacer to promote calf health and ensure target growth rates can be maintained throughout the rearing period.

There's a constant flow of calves from the 430-cow all-year-round calving pedigree Holstein herd. Cows are bred to dairy sires, with sexed semen used on cows and conventional semen on heifers. An Aberdeen Angus sire is used as a sweeper and all calves are reared on the farm, with beef cross and dairy bull sires sold at between four and six weeks old to Buitelaar. There are around 100 pre-weaned calves on the unit at any one time, plus 250 weaned, bulling and in-calf heifers.

"We're looking for consistent dairy heifer growth from birth to calving," says Fraser, who shares calf management with calf rearer Geri McDougall and Fraser's father Raymond, who provides extra help when needed.

The current average age at first calving is 25.2 months, with a range between 22 and 26 months. "I'm happy with between 24 and 25 months," says Fraser. "I like heifers to be mature enough and with a good frame before calving. If they're not big enough, or well-enough developed, it affects their performance in the herd."

Although a daily liveweight gain of 1kg for heifer calves through to calving would be a good target, they are not pushing too hard to achieve this at the expense of their system. "We're not rearing them on the most intensive system and I like heifers to have a grazing season, once they're more than six months old, so their daily liveweight gain probably slows down a bit while at grass."

That said, he's noticed that average daily liveweight gain is nudging 1kg a calf since moving to NeoMilk Beyond – a skim calf milk replacer, designed and formulated by Cargill, to provide a precise balance of amino acids and targeted fatty acids with a gut health package to support calf health, immunity and rumen development.



Katie Barnes and Fraser Nicholson: Mixing advanced milk powder for machine feeding to calves

"We're looking for consistent dairy heifer growth from birth to calving"

JB Nutrition's Katie Barnes encouraged Fraser to try this new advanced milk replacer soon after it was introduced in summer 2021, and she's measured growth and weight gain on the unit from the start.

Newborn calves are moved to individual pens close to the calving pen within the first 24 hours and receive three feeds of four litres of high-quality colostrum from a carefully monitored

store kept on the farm. They're then bottle fed NeoMilk Beyond – an easy progression due to its similarity to mother's milk and, once able to suck from a teat on their own, at three or four days old, they're moved into pens of 12 calves and fed NeoMilk Beyond through a carefully calibrated calf feeder.

As soon as calves go onto the calf machine, they are offered ad-lib calf pellets and straw to encourage rumen development, and fresh water.

"I wanted to be confident that this new milk did what it said it would," says Katie. "We followed recommended rates and fed four litres per calf with 150g of milk replacer made up to a litre, increasing to six litres per calf – so 900g of milk replacer, within the first two weeks.

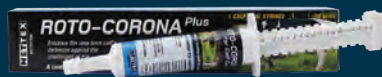
"Milk replacer is gradually reduced towards weaning at 70 days to encourage dry feed intakes and rumen development. This eases the transition to post-weaning diets with as little stress as possible."

Get the job done



Calf Colostrum Range

All Nettex colostrums are made from natural cows colostrum sourced exclusively from TB & EBL free UK herds.



Roto-Corona Plus

Highly concentrated digestible energy and proteins to help get calves off to a great start.



Hydra-Power

Essential electrolyte to have on hand before, during or after digestive upset.

Whatever your calving needs, we're here to help you get the job done.

Nettex here for farmers like you.



Achieving and maintaining healthy calves is the main driver at Newhouse Farm

Results were encouraging and weight gains notched up to 0.85kg to 1kg a day per calf across the pre-weaning period. “The greatest variation was seen among calves from heifers or twin calves,” she adds, “but we’ve consistently averaged daily liveweight gains of more than 0.9kg per calf per day. It definitely promotes growth rates and we see few health issues in the calves.”

Achieving and maintaining healthy calves is the main driver at Newhouse Farm. “So NeoMilk Beyond skim milk replacer, with its extra support for the immune system and other health packages, fits well.”

More than feed

Although extremely pleased with the growth results achieved by feeding the new milk replacer, Fraser and his team are aware that it takes a combination of diet, management and the environment to get the best performance from these youngstock.

“The whole calf rearing ‘package’ must be as good as it can be to prevent disease setbacks and get good growth rates. Our young beef-cross calves need to look attractive to our buyer, and heifers should be ready to breed at around 15 months old,” adds Fraser.

Keen to keep up to date, the Nicholson’s have invested time and money into a system and infrastructure that supports calf health and welfare during the past two and a half years.

“We’ve got a system that puts the calves first, particularly newborns and young calves”

“There were no gaping holes, and we had no real disease issues, but we needed to update the buildings and system. As the dairy herd has expanded over the years, and we had more youngstock on the ground, the calf pens had come under pressure. We felt that if we didn’t invest in this area we would have problems further down the road.”

In 2021, two new purpose-built sheds fitted with ventilation pipes and fans were added. An improved layout also helped to minimise stress to young calves and maximise their welfare. “We’ve got a system that puts the calves first, particularly newborns and young calves, with minimum travel time in those early days particularly. Calves move through the building as they get older – a bit like rooms in a children’s nursery – and are weaned at 70 days old.”

Individual pens are cleaned out and disinfected every time a calf leaves, and pens are pressure washed as the group



Investment in calf facilities - two new sheds in 2021 - centre left



Katie Barnes with Fraser Nicholson – calf growth and weight gain is measured regularly

moves on. Fresh bedding is a must to keep calves dry and as disease-free as possible. All calves are BVD tested, despite the herd being totally negative, and the vaccinate for IBR and salmonella as routine, but calves are not vaccinated for anything.

“We don’t need to use medicines unnecessarily,” adds Fraser. “We monitor and measure calf performance, as part of the Arla matrix scheme and we’re in the top 10% for calf rearing performance among Arla Morrison suppliers,” he adds.

Stillbirths at Newhouse Farm are less than 1% and mortality from birth to 28 days averages 2.2% – well below their supplier-group average. They have very few cases of scour, but any incidences are referred to their vet and treated with an antibiotic. Cases of pneumonia are also minimal. “We’ve got a good system that works, and we’re pleased with the results from our investments,” says Fraser. “And when it comes to calf milk, you get what you pay for. The advanced formulations that support growth rates and health are adding value here.”

“We’ve always viewed our youngstock as our future investment and worked hard to prevent health issues and growth setbacks. Since revising the diet and updating the system we’ve seen small but valuable improvements with an extra 1kg on growth rate, fewer cases of scours and reduced calf mortality; all factors that support health and welfare, and the sustainability of our business.”

A HEALTHY HERD STARTS WITH CALF CARE SOLUTIONS



DIAGNOSE

Speed® V-Diar 4

Simple, rapid and accurate identification of the main causes of neonatal calf scours.



PREVENT

Bovigen® Scour

Protects against rotavirus, coronavirus and E. coli F5 (K99).



Kriptazen®

Provides effective control against cryptosporidiosis.



SUPPORT

Multimin®

Boosts trace minerals during high demand periods, to help improve calf immunity and reduce instances of diarrhoea and pneumonia.¹



Enerlyte® Plus

Containing probiotics, lactose, vitamins, minerals and electrolytes, this palatable formula aids in the rapid and complete recuperation of calves with diarrhoea.



Ask your vet how Calf Care Solutions from Virbac can help your herd.

1. Teixeira A.G.V. et al. Effect of an injectable Trace Mineral supplement containing Selenium, Copper, Zinc and Manganese Immunity, Health, Growth of Dairy Calves. *J Dairy Sci* (2014).

Kriptazen 0.5 mg/ml oral solution for calves contains halofuginone. Bovigen Scour emulsion for injection for cattle contains inactivated antigens: Bovine rotavirus strain TM-91, serotype G6P1, Bovine coronavirus strain C-19, *Escherichia coli* strain EC/17 (F5 / K99 antigens).

Multimin solution for injection for cattle contains, Zinc, Copper, Manganese and Selenium.

Always seek advice from the medicine prescriber.

Further information is available from the product SPCs or from: Virbac Ltd, Woolpit Business Park, Windmill Avenue, Woolpit, Bury St Edmunds, Suffolk IP30 9UP. Tel: +44 (0) 1359 243243 UK: E: enquiries@virbac.co.uk W: <https://uk.virbac.com> IE: E: enquiries@virbac.ie W: www.virbac.ie

Kriptazen and Multimin, UK [POM-V] IE [POM] Bovigen Scour, UK [POM-VPS] IE [POM]

Use medicines responsibly. www.noah.co.uk/responsible www.apha.ie

The science behind better calf rearing

Numerous improvements have been made over recent years to update calf rearing and youngstock facilities at the University of Nottingham's dairy unit. **Mike Green** reports on the benefits observed.

Major investment at the University of Nottingham's dairy unit have seen improved calf health and reduced mortality rates which has led to a cut in antibiotic use and contributed in efforts to cut the unit's carbon footprint. The initiative has included expenditure on a new calf shed and youngstock handling facilities which will both contribute to reduce the age at first calving to a target 23 months.

The University's Centre for Dairy Science Innovation (CDSI) studies all aspects of dairy cow production including nutrition, health and welfare. The dairy herd number 370 cows – 321 milkers averaging over 12,000 litres – and 347 youngstock.

"Calf rearing is known to be an important determinant of lifetime health and productivity," explains Nigel Armstrong, farm manager at CDSI. "Getting a good start in life sets an animal up for life. Many factors can influence this, including nutrition, passing on passive immunity through colostrum, mixing with other animals and the disease challenges they face early in life.

"The facility is designed to explore how such factors impact on lifetime performance of dairy cows. Calves and heifers can be followed through the youngstock facility to the CDSI milking herd to assess the impact of different factors on performance. Such research informs the updating of advice on best practice in the rearing of dairy youngstock."

Nigel visited various calf units around the UK and incorporated ideas gleaned from this into the shed which was built in autumn 2020. The priority was good ventilation and to maintain a constant temperature.

"Calves were reared in outside hutches but this was not ideal in winter, when it was wet and cold, for either the calves or staff," he says. "So we decided to build a new calf shed to give us more control of the management of the calves and provide them with a consistent environment.

"We wanted to make the calf pens easy to bed up and clean and have access from the front and back to help make



"The facility is designed to explore how such factors impact on lifetime performance of dairy cows"

the management and movement of calves easier. The overall aim was to provide a clean, controlled and consistent environment for the calves."

The calf shed has 36 pens in total and is split in two by a storage area and office to give 18 pens in each calf house. These have nine pens on each side with a central feeding passage and access passages at the rear of each row of pens.

Each pen is designed to accommodate two calves to meet the requirements of the farm's Arla Tesco milk contract. This gives the new shed a capacity for a total of 72 calves.

The calf house has an insulated roof with a pitch of 30 degrees and a protected ridge. Each shed has an extractor fan in the centre of the ridge but air flow has proved good and the fans are rarely

used. Outside air enters the base of the shed next to the service areas, flows over the pens and exits via the roof ridge. Automated temperature controlled curtains on each side of the shed open in warmer weather to try to keep the temperature at a minimum 20 deg C.

"The shed was originally designed for bucket feeding calves but has now been modified to suit automated feeding to facilitate feeding trials," says Nigel. "In hindsight we would have made the central feed passage wider to accommodate this. However, we immediately saw a decrease in calf mortality and reduction in the amount of antibiotics used. So overall we are very pleased with the calf house."

The overall mortality rate in 2019 was recorded at 8.9% with 28 calves reported dying from 313 births. The target mortality rate is below 5%. This was cut to 3% for the period March 2001 to February 2022 with 13 deaths from 421 birth when the new calf shed was in use.

Youngstock manager, and newly appointed assistant farm manager, Emma Gayner is also pleased with the new calf house – for both the calves and staff. "The shed has a concrete floor and the design of the pens makes them easy to dismantle, clean and disinfect after each batch of calves."

Pens are 330 x 150 x 135 cm and divided by solid Paneltim panels. "The



New youngstock handling and weighing facilities have just been installed

size of pens can be flexible and they can be made bigger as the calves grow or introduce other calves.”

Cows calve in a yard which is bedded with fresh straw every day. Calves are taken to the calf shed as soon as they are born. “We believe it is less stressful to the calf and mother if they do not form a bond. This makes the animals easier to manage and we can get the calf into a clean and healthy environment as soon as they are born,” explains Emma.

Calves immediately get four litres of tested, quality colostrum which has been harvested, pasteurised and frozen from suitable newly-calved cows.

“This is tubed because it is the most efficient way to ensure the colostrum reached the stomach quickly. The aim is to provide 10% of the calf’s body weight in colostrum at the first feed,” says Emma.

The next five feeds are fresh or frozen pasteurised transition milk fed from a bucket with a teat. Most then take to automated feeding with a few remaining on bucket feeding until they are trained to use the machines.

“We pair calves from birth. It is important for the calves to have company and they learn from each other. This encourages better feeding behaviour, particularly when using automated calf feeders – it generates some healthy competition.”

Calves have access to water from day one, which is provided fresh every day in buckets. They also have chopped straw and concentrates available to get them used to the smell and availability of these feeds from an early age.

After three weeks the calves are moved into weaning sheds and housed in maximum groups of 14. The automated calf feeders provide 10 litres of milk per day for five weeks and then this is reduced over the following three weeks to wean the calves at 10 weeks of age. Concentrate is available ad-lib with intakes reaching two to three kg by weaning.

The calves are then moved to rearing sheds from 12 weeks of age with ad-lib straw and concentrates which are gradually restricted to 1kg per head and forage introduced into the ration. “All calves and youngstock are fed the same proprietary 18% crude protein nut which makes feeding simple, easier and cheaper,” notes Emma.

“The calves are fed the milking cows TMR refusals initially because we can give them a high energy ration for high growth rates without fear of the youngstock getting fat.”

Depending on space the youngstock are grouped in batches of 10 according to size and fed mature/lower quality silage with minerals with no concentrates. This maintains target growth rates without the stock becoming over fat.

Heifers are served from 13 months of age with a target of calving from 23 months at 80% of mature body weight of around 530kg to 550kg.

To help monitor and meet youngstock growth targets the unit has just invested in new weighing and handling facilities. Stock will be weighed regularly at key points from weaning to first service. “This will tie in with management procedures and when we move



The pen design makes them easy to dismantle and clean says Emma Gaynor

youngstock between sheds. I am really pleased with these facilities which will make handling much easier. This will also keep us on track for calving at 23 months and help cut our carbon footprint.”

The calf shed has been utilised for various trials. “Current research includes looking at calf behaviour, space and movement. Previous studies on the importance of temperature for calves has led to a move away from calf jackets and the installation of heat lamps in the youngest calf pens.”

For the future Emma would like to replace or refurbish the weaning sheds to improve the ventilation and drainage. Emma took on the role of youngstock manager two years ago and is hoping her replacement will also come in with some new ideas for improvements.

“As assistant manager I will be more involved with the dairy herd so it will be nice to see the first calves I reared coming through into the robotic milking unit,” she adds.



HJ Lea Oakes

Independent British Millers

CALF FEED + OREGO-STIM

Inclusion of Orego-Stim in our Weaning and Rearing Feeds have shown to:

- Improve palatability and feed intakes
- Improve growth and feed conversion ratio
- Reduce stress - Help maintain a healthy immune system



www.hjlea.com | 01270 782222

Benefits of CMR on calf performance

On-farm trials have indicated that adding calf milk replacer (CMR) to whole milk can boost growth rates in calves up to weaning and could provide a strategic tool to improve long term performance. **Mike Green** reports.



Andy King

Organic milk producer Andy King of the Barrington Organic Partnership in Somerset, is a firm believer that getting calves off to a good start in life has benefits on lifetime performance and profitability.

“My wife Rosemary keeps meticulous calf health records. If a heifer or cow does not perform as expected in the herd we can look back at it’s records and often find it had problems as a calf,” he says. “So I am a firm believer in getting calves off to the best possible start in life.”

During the short trial calves fed fresh whole milk mixed with additional milk powder for a four week period gained an extra 6.7kg. “This may not sound much but at this critical stage of the rearing period it is significant,” he maintains.

Working with organic feed specialist Rob Daykin from the Daykin Partnership and the farm’s Harper Adams placement student Amber Broadway, who was doing a college project on calf feeding, they devised the trial using 45 calves in March to June 2021. These were a mix of both male and female dairy and beef-bred calves. They were housed in a well ventilated, draught free shed in well bedded and drained pens.

At seven days of age they were split into a control group fed just whole milk or a CMR group fed whole milk mixed with additional calf milk replacer to increase dry matter intakes to over 800g/day (see table). This was added just before feeding and a whisk used to ensure it was mixed properly.

Calves were weighed with electronic scales at the start and end of the trial feeding period – at seven days of age and 35 days. The control group had a start weight of 42.8kg final weight of 57.97kg. The CMR group started at 44.6kg and finished at 64.7kg – 6.7 kg heavier than the control group.

Further analysis showed that the liveweight gains achieved in the treatment and control groups were similar irrespective of breed or sex of calf. There was no significant difference in the health of the calves. “I prefer to call the results on-farm observations rather than a trial,” says Andy. “I would have



Calves on the trial benefited from additional milk powder in the diet

“I am a firm believer in getting calves off to the best possible start in life”

liked to have fed the milk replacer for longer to see if the benefits continued until weaning at 12 weeks.”

Andy says farmers need to look at their own calf performance and consider the use of the feeding regime strategically – on both organic and conventional farms. “Additional milk powder can be used strategically to help calf performance at challenging times of the year,” he suggests. “It is not too

complicated to implement and is something all producers could consider.”

Andy has continued to feed some of his calves with additional milk powder. “It helps improve the consistency of the milk and performance of the calves,” he maintains. As for the cost the figures show that if the calves gain an extra five to six kg liveweight valued at over £3.00/kg then the benefit is £20. The amount of organic milk powder to achieve this is 8.8kg costing £39.00. “The increased weight gain of the calf may not be cost effective initially. But I am convinced that if the subsequent performance of the animal is followed through there will be significant financial benefits. This would be due to a combination of better rearing performance leading to calving at an earlier age. I routinely see that heifers grown well in the rearing stage have fewer health and fertility problems as milking cows and go on to produce higher lifetime milk yields,” concludes Andy.

Table: Feed regime for control and CMR fed calves

Age (days)	Type of milk	Amount per feed (litres) 2x daily	DM of whole milk (g/day) (Control group)	Added CMR (g/day) (Treatment group)	Total DM intake (g/day) (Treatment group)
1-2	Colostrum	3	1,100	0	1,100
2-7	Fresh/whole milk	2.5	600	0	600
7-14	Whole milk	3	720	90	810
14-35	Whole milk	3	720	180	900

**“LifeStart accredited
milk replacers are
formulated to give you
confidence for feeding
at higher levels.”**

Georgina Thomas

Young Animal Feed Ruminant Manager
Trouw Nutrition GB



LIFESTART®
SETS LIFE PERFORMANCE

For more details
about LifeStart visit
trouwnutrition.co.uk/lifestart

 **trouw nutrition**
a Nutreco company

Action plan for management of a calf scour outbreak

Vet **Dr John Henderson** highlights how to keep calf losses to a minimum

Infectious scour is the most common cause of death of calves under 14 days old. Current figures suggest that around 3% of all calves born in the UK are lost to scour annually. If we assume that calf scour is fatal in maybe a quarter of cases of significant scour, we can suggest that probably around 10 – 12% of calves born will develop a scour in the neonatal period.

While we should of course be aiming to reduce our scour losses to zero, using these figures as a benchmark may help signal when it is time to really look at our on-farm scour prevention strategy. A progressively higher incidence of scour on-farm can quite quickly become a full-scale outbreak as the environment becomes contaminated and more and more new-borns are infected.

If we break down our action plan into 3 stages:

1. Look for the Pathogens

The causes of calf scour are well known. The most common agents identified are: Cryptosporidium, Rotavirus, Coronavirus, E. coli, Salmonella. As these organisms include a single-celled parasite (Crypto), two viruses and two bacteria, it is clearly important to know which are the problem bugs on your farm as the management and control strategies for each will differ, not least in whether or not a vaccine is available. Sampling should commence at the first sign of an increased incidence of scour as it may take several samples to identify the cause. Many scour samples (around 50%) will come back as negative, this is not because of any failure at the lab, but due to the often intermittent shedding of the pathogen in the scour of the affected calf. Sample fresh cases of scour, (from the rectum, not the floor) as soon as they are identified – these are more likely to be successful. Cases where the calf has been scouring for 3 days are much less likely to give good diagnostic information.

2. Eliminate Source of Pathogens

The ultimate source for all pathogens is the adult cow. Cows carry small numbers of them all in their gut without any



Calf presenting with a Rotavirus scour

“The ultimate source for all pathogens is the adult cow. Cows carry small numbers of them all in their gut without any ill-effects.”

ill-effects. The adult's immune system keeps these bugs in check but may never eradicate them completely. It is when they make their way into the gut of the naïve new-born calf that they can multiply to massive levels. Very small numbers of these pathogens can cause disease. As few as 10 Rotavirus particles can cause a scour infection. For Crypto

the infectious dose could be 100 eggs. These numbers mean that fractions of a gram of ingested cow dung could cause a scour. Once inside the calf millions of virus particles or Crypto eggs develop in the infected cells of the gut lining and pour out of the calf along with the watery faeces. The scouring calf and the heavily contaminated environment then become the main source of infection.

To reduce the fresh calf's chances of being infected we can do the following
I. Snatch calf at birth – minimize contact with cow and calving pen

II. Try to provide uncontaminated calf housing, put clean hutches indoors, make bale pens, temporary polytunnel.

III. Tend to these calves before going near the infected ones, attention to clothing, boots, buckets. Remember how little dung could bring the pathogen into these healthy calves. Assign someone to manage these calves and not the others.

IV. Once original calf house is empty, strip down, remove all dung, steam clean and disinfect, then leave to dry completely. These scour bugs are quite



resistant to most common disinfectants and the surfaces need to be free from all dung for the chemicals to have a chance. High temperature cleaning followed by complete drying is very successful.

3. Maximise Calf Immune Strength

Scour pathogens are present on all dairy farms but only some farms have serious scour issues. This happens when the sheer number of bugs increases to a point which overwhelms the calf's immune protection. As well as trying to minimise the pathogen challenge in a scour outbreak, we need to try to maximise the calf's immune protection against scour:

I. Excellent Colostrum management – this is the single most important factor in providing protection against scour.

“A well fed, warm and happy calf will have a more robust immune system.”

II. Investigate dry cow nutrition, correct any problems or deficiencies which may affect either colostrum quality or calf viability (e.g., Iodine deficiency)

III. Consider vaccination regime.

While there is no vaccination possible against Crypto, many severe scour outbreaks involve more than one bug, and

vaccination against e.g. Rotavirus can greatly reduce the severity of a combined Rota/Crypto scour problem.

IV. Good calf management and nutrition. A well fed, warm and happy calf will have a more robust immune system.

V. Consider use of a bovine concentrated lactoserum (Locatim®). This is a prescription medicine available from your veterinary surgeon, it is not an antibiotic. A 60 ml oral dose contains a protective amount of antibodies against the causes of calf scour. When given to a new-born calf immediately after birth it boosts the specific immune protection against scour. The normal cow's colostrum feed is given afterwards. This will protect the new-born calves in the face of an outbreak while the control measures outlined above take effect.

Calf scour outbreak causing problems despite your best efforts?

This means your calves need more antibody protection against scour.



Cut out the losses, ask your vet for LOCATIM® today!

Locatim is a highly concentrated sterile solution of specific antibodies against calf scour pathogens proven to protect newborn calves against scour*. Locatim is the only prescription medicine providing guaranteed levels of oral antibodies against calf scour.



Genomic testing options for dairy breeders

Independent breeding consultant **Kevin Lane** looks at genomic testing of heifers.

In the past, selecting dairy heifers for breeding replacements using £PLI has involved using a parent average (PA) calculation – broadly speaking the bull £PLI plus the cow £PLI which is divided by two. So a £600 bull mated to a cow with a value of £200 will give a calf a PA of £400 £PLI, but only with a reliability of about 30%.

Science has now taken this to another level using DNA to produce an estimate of an animal's genetic merit. It can be used for Holsteins, Jerseys, Friesians, Guernseys and Ayrshires. The reliability of this test is more than double that of parent average and not only does the test give a £PLI value but a breakdown of individual traits, which helps the user select for the most important traits for their breeding plan on an animal by animal basis.

There are a number of different companies offering genetic testing and the following broadly outlines their services. The information requested were based around sampling method, testing company, turnaround time, reporting options and pricing options.

Semex

Semex offers an ear punch TSU (Tissue Sampling Unit) and an app, and there is no paperwork involved; the process is all cloud based. The samples are tested through Neogen/Semex and the turnaround time for the Canadian/US figures is usually five weeks, with figures published weekly on Tuesdays. UK figures can take two months as they are only published monthly.

The results are delivered via an app and email, and are on the Semex solutions suite to enable breeding decisions to be taken. Each farm has their own online portal to access results and see certain trends. The results are fed back to Holstein UK, NMR Herd Companion and CIS. Pricing options are from £26 - £34. £26 gets a UK and Canadian result and £34 gets a US result on top of those.

All results include Cow and Calf Immunity, A2A2, milk proteins, haplotypes and in April the new Methane Efficiency Index which is ground-breaking and exclusive to the test, as are the Immunity indexes. Parentage check is



Cogent - establish the genomic potential of a heifer from ear punch samples

“Science has now taken this to another level using DNA to produce an estimate of an animal's genetic merit”

offered as standard and farms on the highest tier (US results) receive a genomic and future genomic inbreeding figure.

Mastergen

Mastergen prefer to use an ear tag punch and tests are done at Labogena in France through Synetics. Turnaround time is around four weeks depending on sample time. They use their own software that shows the results in a proof sheet and they email a spreadsheet to farmers. They also offer a hands-on service to explain the results in more detail. Their prices vary between £26 and £42 depending on level selected.

There is an option to include RPTP, which will indicate the level of resistance to Paratuberculosis (Johne's disease) which is unique to Labogena. The price for having the results in PLI format or ISU format would also differ. The service also includes parentage check and genomic inbreeding levels.

Genus ABS

Genus ABS offers an all-encompassing genomic testing-based service known as GENEadvance. Their approach is to provide a programme to accelerate genetic improvement and GENEadvance combines the latest in genomic technology, genetics and genetic consultancy and includes a customised breeding plan based on customer's goals and replacement targets for their herd.

GENEadvance includes regular genetic reviews for the customer with reports which demonstrate the genetic progress achieved from following their breeding plan and making breeding decisions based on genomic testing data from their herd. The sampling is a tissue sample or tag test from the ear, and the testing is done in partner labs in the UK, Europe and the US with a turnaround of six to eight weeks.

Genomic testing data and reports are available for customers in an interactive

report, through the Genus ABS app and on an online portal. Pricing is on a per-cow basis and includes genomic tests, genetics (semen), data and genetic consultancy, so packages are varied and bespoke. Genomic testing results from GENEadvance include all publicly available traits, comprehensive information on genetic defects, haplotypes, colour variations, and parentage corrections which are shared with AHDB, NMR and CIS. GENEadvance genomic testing can be based on a full national evaluation or a custom index evaluation.

Cogent

Cogent sampling is done via an ear punch but they also accept hair samples for an extra fee. Based on how many animals need to be tested, they send out a kit that includes an applicator, a guide to tissue sampling, the required number of TSUs and a return sticker to be placed on the box that the kit arrived in. The testing is done in the UK by a Cogent member of staff and samples are then sent off for genotyping in the US at their own lab, Genetic Visions.

The average turnaround time is eight weeks, however this is dependent on samples meeting the AHDB deadlines for their monthly evaluations. They also offer weekly US evaluations (the turnaround is four weeks), which comes with a monthly Canadian evaluation free of charge. Reporting options have a degree of flexibility, linking with the customer's milk records and/or farm management software.

Going forward, Cogent expect to expand their integration with HerdLync, Dairy Comp, Uniform-Agri and Lely Horizon. For added flexibility, their Tag'n'Test product offers customers a completely integrated approach with zero data submission required, the vials simply need to be posted out. Pricing varies depending on whether a customer is exclusively using Cogent product and on the herd size with a range from £15 for large herds to £26 for non-Cogent customers. US results are available for an extra £8.

Alongside a full suite of genetic markers Cogent offer an Ecofeed score and a comprehensive parentage check. Customers can view all their UK results, including genetic markers, milk proteins and Ecofeed on their interactive portal, PrecisionDNA.

Holstein UK

Holstein UK are also offering testing. They can use hair or tissue and testing is done through the NBDC with a six to eight weeks turnaround. They offer genomic portal software for group comparison on HUK and each animal has



A genetic approach to improved fertility is adopted by Alta Genetics

an individual web factsheet. Prices start at £23 + VAT with discount for bulk sampling. The parentage is checked if the parent has a genomic profile and an AHDB genomic inbreeding value is published for females.

CRV

CRV use an eartag punch and the samples are tested at the VHL lab, Wageningen in Holland, offering a turnaround of four to six weeks. The results are entered into the CRV SireMatch programme for mating purposes, and there is also a PDF and Excel sheet with all the breeding values for each genotyped animal. The price range is between £15 and £27.50 depending on the number of animals tested and semen purchased. There is a parentage check included along with genetic defects and the CRV traits of Feed Efficiency, Hoof Health, Ketosis and Robot breeding value.

Alta

Alta genomics tests are taken by tissue sample and results are available about six weeks from submission. They provide official data results for the UK & USA from AHDB & CDBC and all genetic conditions are included in the results. The data results are integrated using Dairy Comp (Alta's software program) and the findings are used to build a custom index using the farms specific breeding / economic goals.

For herds that are milk recording they are also able to offer a customised in-herd female index based on parent averages. This information will enable farmers to rank females according to breeding goals and maybe more suitable in some cases than a genomic test. This service is free of charge.

UK Sires

UK Sires have three options: Igenity Basic, Igenity Essential and Igenity Select. Testing is done through Neogen.

The Basic profile scores range from a low of 1 to a high of 10 for each economically important trait analysed. Data is represented as estimated breeding values, which reflect the animal's own performance. Essential analyses 15 key traits and offers sire confirmation as an add-on, all using a new 65K chip.

The Select option gives a full genomic profile and a parentage check, and the figures, on a UK base, are evaluated through AHDB. Pricing is from £24.57 to £28.52 per sample and results can be sent via Excel spreadsheet or PDF to the user's farm management software and is available online via the dashboard.

National Milk Records

NMR offer both GeneEze and Clarifide Plus. GeneEze is a lower cost option offering genomic data that is consistent and highly reliable. It gives quick results for production, health, fertility, conformation and all AHDB indexes. The TSU allows breeders to take a tiny ear notch from any animal of any age, using either a standalone TSU or as part of the official tag pair. The genotype is generated by DNA extraction and processing; it is then submitted to AHDB Dairy and Egenes, who generate individual genomic evaluation data focussed on health, production, fertility, PLI and type.

NMR also offer Clarifide Plus, as do World Wide Sires. This is a more comprehensive service with parentage confirmation, full AHDB evaluation and the Zoetis Dairy Wellness Profit index (DWP) as well as many other features. The results are updated throughout the lifetime of the animal and consultancy to analyse the results is included.

The TSU's can be hair, semen or blood and they are tested by Zoetis with a three to five week turnaround. Reporting is done via an online portal called SearchPoint and it offers analytic tools including being able to benchmark specific traits against the national average, monitor your herd's genetic trend across various traits and indexes as well as trait comparison and correlation. SearchPoint also automatically shares AHDB evaluations with Herd Companion.

Pricing options for Clarifide Plus: £38.75 with a new user offer available of buy three tests, get one free. This is for the first submissions of up to 100 animals. Further discounts are available through the Committed Volume Scheme. Prices start from £35.

For more information and a comprehensive list of services, please contact individual companies.

The value of an early warning system

Successful farming businesses strive for outstanding performance. The good news is that it can be achieved through established and accurate work practices, says **Sarah Bolt**, Kingshay's Technical Knowledge Exchange Manager.

Protocols are a powerful tool in the management toolbox that can make all the difference between success and failure. They will provide clear direction for routine farm tasks, to improve consistency and set the standard for delivery of that task.

Whilst most farmers and their staff will know and understand the importance of good colostrum management, many do not have protocols in place to make sure calves are given the best possible start. Indeed, Laura Palczynski's research, Perceptions of colostrum management on dairy farms in England, highlighted that many farmers would usually only implement a colostrum protocol as a solution, once a problem had already presented itself on farm.

However, this was not the case on one Wiltshire farm, run by Lucy and Robert Noad. "At Woodhouse Farm, all our calves are important to us, we not only breed replacements for our 140-cow dairy herd, but we also rear all our beef calves through to fattening", says Lucy, "so having a colostrum protocol in place means that all our calves should get off to the right start in life".

Youngstock at Woodhouse Farm is housed in a purpose-made calf shed with automatic milk feeders. Constructed in 2019, with a capacity for 130 calves to suit their autumn block calving system, Lucy explained that it was built with the aim to maintain the highest standards of health and welfare for their cattle. The pens are even equipped with calf brushes for enrichment.

Despite the excellent facilities and regardless of a colostrum protocol, "the 'wheels could well have fallen off', if we didn't focus our attention towards monitoring performance", says Lucy.

The term 'key performance indicator' as a way of monitoring performance, is well used across the industry. Fundamentally, KPIs are not all about benchmarking and giving yourself a gold star or a pat on the back, because you are doing something well. Vitally, they can act like a gauge on a car dashboard, designed to give you an early



"We not only breed replacements for our 140-cow dairy herd, but we also rear all our beef calves through to fattening"

warning that something is not performing as expected. It is this type of KPI that provides an opportunity for resolving an issue before it gets out of hand, (averting potential disaster, just like your temperature gauge on your car dashboard).

A good colostrum programme is the single most important management factor in determining calf health and survival. Can you be confident, during a busy calving period, that every single calf receives adequate colostrum? With this in mind, monitoring the performance of their colostrum management is therefore seen as essential at Woodhouse Farm.

The success of colostrum management can be carried out in several different ways on calves aged 2 to 7 days old. For a ZST (zinc sulphate turbidity)

test, your vet will take a blood sample for laboratory analysis.

Alternatively, your vet may measure serum total protein (STP), using a refractometer, this provides a very cheap and reliable estimate of IgG. Many farmers are now used to using a Brix refractometer for measuring colostrum quality. Working with your vet you could learn how to take a blood sample and test it on your own Brix refractometer. (For more information see 'Uses for a Brix Refractometer' available online at www.kingshay.com)

Test	Level for successful passive transfer of immunity
ZST	>10 g/L serum IgG
STP	>5.2 g/dl
Brix	>8.4%

Indeed, it was monitoring passive transfer on farm via the Brix method that provided Robert and Lucy with their own metaphorical warning light. "Observing our calves blood serum IgG concentration heading below 10 g/L enabled decisions to be made based on the results we saw, rather than waiting for a disease outbreak in our calves", says Lucy, "being proactive will have potentially saved calves' lives, ongoing poor 'doers' and ultimately kept more money in the bank".

The early warning system highlighted that there was a need to review their colostrum protocols. The written



Far left: The sheds are built with the aim to maintain the highest standards of health and welfare, including good space for play behaviour.

protocols were indeed suitable; every calf was to be provided with 3 litres of colostrum via a teat bottle feeder within 6 hours of birth, followed by another 3 litres within 12 hours. Any calf not sucking was to be tube fed. In this instance, as in many on-farm situations, the system fell in the implementation phase of the protocol. Decisions were being made not to bottle feed strong calves that were seen sucking. This highlighted the need for refresher training to explain to the team why the protocol is to be carried out.

How can you make use of early warning systems for your business? The amount of data being generated on farm is immense, make use of it for management decisions, rather than relying on 'gut' feelings.

“Being proactive will have potentially saved calves’ lives, ongoing poor ‘doers’ and ultimately kept more money in the bank”



Top Right: Each pen is even equipped with a calf brush.
Left: Lucy Noad

Transformula

THE ESSENTIAL FEED AFTER YOUR COLOSTRUM

Transformula the best Formula to Transform your calf rearing



Transition milk is the next best thing to colostrum and Transformula is the only transition milk replacer for baby calves



Freephone 0808 178 1017
www.bonanzacalf.ie



To find your local stockist:



New toolkit paves the way for healthier calves

A new study has identified the key areas where farmers can get the best out of their calves during the crucial first few months of life.

Information on the current approaches to calf rearing was captured and analysed from 60 dairy farms across GB by Dr Robert Hyde who undertook the work as part of his AHDB funded PhD at the University of Nottingham's Vet School. Data such as daily live weight gain, calf mortality and incidence of disease were taken from each farm. Sophisticated machine learning techniques were then applied to identify the common practices that influenced calf survival, health and growth.

Dr Hyde incorporated these success factors into a Calf Health Plan before trialling it with the 60 farms involved in the initial study. Half followed the new plan, while the remainder were given no specific advice on how to improve and continued to monitor their calf KPIs.

After a six-month monitoring period, Dr Hyde found that "the calves on the farms which completed the most intervention in the Calf Health Plan achieved higher average daily gains, improved survival and less scour than calves on the control farms."

Colostrum hygiene is key

The study highlights the importance of good hygiene during colostrum collection. Calves failing to get good immune transfer from colostrum are 1.5 times more likely to get scour, 1.8 times more likely to get pneumonia and twice as likely to die.

Colostrum can easily be contaminated with bacteria and do calves more harm than good. Using scalding hot water when washing equipment, instead of cold water, had a drastic impact on keeping bacterial levels low.

Bacteria levels were lowest on the 15% of farms using Hypochlorite or Peracetic acid as part of their cleaning routine. Pasteurisation can be a very effective way to keep bacterial levels low without affecting quality but not a very popular option with only 3% of farm doing so.

More information about how to optimise calf performance, rear healthy calves and keep mortality to a minimum can be found in AHDB's calf management guide.



Key factors for calf rearing success

- Provide 3-4 litres of colostrum within 6 hours of birth – ensure it's clean to keep bacteria levels as low as possible
- Feed 6-8 litres of milk per day - whole milk results in less scour than milk replacer
- Clean calf pens every 30 days
- Clean calving pens every 21 days
- Ensure calves are warm enough e.g. nesting in deep straw to conserve heat effectively

Temperature

To understand the impact temperature has on calf survival, Dr Hyde undertook an extensive analysis of the British Cattle Movement Database and Met Office temperature data from 2010 to 2019.

The effect of temperature and month of birth play an important role in calf survival with the number of calves dying spiking during winter months. And when the temperature falls below 9.6°C, the risk of dairy-beef calves dying is greater.

Dr Hyde said, "If calf housing was able to replicate optimal environmental

conditions for young calves all year round, there would be more calves surviving."

Low environmental temperatures are associated with higher calf deaths and reduced growth rates. Since pre-weaned calves are susceptible to heat loss, Dr Hyde also designed a study to evaluate the impact of calf jackets and supplementary heat source.

He used a 1kW patio heater and evaluated its impact on growth rates. The randomised clinical control trial showed that jackets had no effect but the heat lamp added an extra 90g per day in weight gain over winter.

Calf Health Toolkit

Dr Hyde's findings can be found in a new toolkit along with the Calf Health Plan. It also gives access to a handy set of tools and calculators to help farmers and their advisors to improve calf survival and productivity, including:

- Calf weight gain calculator
- Colostrum bacteria estimate and solution tool
- Passive transfer calculator
- Mortality benchmark and forecast tools

You can access the toolkit at: www.nottingham.ac.uk/herdhealthtoolkit



Mole Valley
FARMERS

Feed Solutions

Let's talk feeding heifers...

- Reduce heifer rearing costs by 20%.
- Reduce heifer rearing system carbon footprint by 20%.
- Generate extra £2,000 milk value per heifer.

Figures based on reducing age at first calving to 24 months.

Challenge us to increase the productivity, profitability and sustainability of your herd by improving heifer nutrition.

FEEDING YOUR FARM'S FUTURE

01566 780261
molevalleyfeedsolutions.com

 **Committed to**
UK AGRICULTURE

Synergy Farm Health provide insightful on-farm feedback

Some say youngstock rearing is the most difficult job on the farm, says **Charlotte Debbaut**, Veterinary Surgeon at Synergy Farm Health. A common issue we encounter on our rounds is scouring calves.

Scours can occur for varying reasons. We have seen that some simple management changes, tweaking of protocols and attention to detail can make all the difference. Below members of our youngstock vet team discuss a few scenarios where this proved to be the key to success, without the need for a new super drug.

Ellen Taylor:

I recently investigated a scour outbreak in neonatal calves. Issues with colostrum management are often at the root of the problem. This farmer was measuring colostrum quality with a brix refractometer, meeting targets of >22%. Despite this, when measuring total protein in the blood of the calves (indicating how efficiently antibodies are absorbed), we were not meeting targets.

We did a walkthrough of colostrum from cow to calf. We talked through colostrum harvesting, storage and how and when it was fed. In this case hygiene and storage were key contributors to the problem. We took a colostrum sample that was stored in a dump bucket at room temperature. The total bacterial count was well above our threshold for hygiene.



“A common pitfall I see on farm is that scouring calves don’t receive enough fluids to stay hydrated”

Bacterial contamination reduces antibody absorption by the calf massively. We then updated hygiene protocols for collecting and feeding equipment. This includes a hot wash and detergent to break down fatty milk residue, before going in with a disinfectant. Many farms forget to use a detergent first, making it very hard for the disinfectant to get to all the bugs.

Charlotte Debbaut:

A common pitfall I see on farm is that scouring calves don’t receive enough fluids to stay hydrated. Only last week I saw scouring calves that really looked down in the dumps, despite receiving an anti-inflammatory and electrolytes in the milk. People will often forget about the ‘extra fluids’ needed. Giving electrolytes alone is not enough.

A calf with watery scours needs to take in about 10 litres of fluids per day. Most farms feed 6 litres of milk daily, but we can’t rely on the calf to drink 4 litres of cold water from the trough. This extra water needs to be bottle or tube fed with electrolytes over 2 extra feeds. Start at the first signs of scouring, rather than wait until the calf is depressed. Having robust treatment protocols and ensuring all the staff is updated is vital for success.

Martijn ‘t Hoen:

I recently visited a farm at feeding time, as calves struggled with bloat and nutritional scours. Joining the calf rearers during milk mixing and feeding can be very enlightening. ‘How’ you feed is just as important as ‘what’ you feed, even more so where several people feed, convinced they all do exactly the same.

Milk concentration and temperature can vary a lot depending on who feeds. Simply starting milk distribution at the other end of the shed than usual is already highly frustrating for calves. Remember, the milk feed is the highlight of their day.

Another problem I often see during these visits is milk stealing, where some calves finish their milk in less than a minute and happily steal from the next calf, without the rearer noticing. The





Ellen Taylor



Charlotte Debbaut



Martijn 't Hoen

first overfeeds (and is at risk of bloat) the latter has reduced growth rates.

Charlotte Debbaut:

Last summer I saw a group of 6-month-old heifers, a few weeks after turn-out to grass and adding them to an older group. The younger animals didn't thrive, with some scouring. The farmer's first thought was gut worms, but we performed a mob faecal egg-count and this showed coccidiosis was the problem. This surprised the farmer as the calves had been fed an in-feed coccidiostat for the first few months of life.

Coccidiosis prevention is based on a balance between protection and gradual exposure to the parasite, so the calf learns to build up immunity. In this case the calves only had limited

“Coccidiosis prevention is based on a balance between protection and gradual exposure to the parasite, so the calf learns to build up immunity”



exposure when housed. Introducing them to a field that was heavily contaminated by the older calves overwhelmed their beginning immunity.

Advice mostly focussed on a plan for next year: avoid mixing of age groups straight after turn-out and monitor closely by performing faecal egg counts and regular weighing to ensure continued growth.

Reduce calf pneumonia treatment by up to 75% with positive pressure tube ventilation*



Improved calf welfare and reduced disease risk



Designed by ventilation specialists



Fresh, clean air equally distributed at calf level

*Dairyland Initiative

VentTube Fresh is custom-designed to provide a calculated supply of fresh, equally dispersed air to remove moisture, gases, airborne pathogens, and excess heat from livestock environments.

For more information contact Galebreaker on 01531 637900 or email marketsupport@galebreaker.com

Galebreaker®

Your Guard Against the Elements
www.galebreaker.com

Milk replacer boosts gut development

Transformula has become key component in calf rearing protocols at Irish dairy farm



Christine, Noel, Donie Ryan

Using a transition milk-based replacer to aid an important stage in a calf's gut development has been helping a County Kerry dairy farmer avoid major heifer growth and health checks over the last four years. Heifers are easily achieving average daily liveweight gains of 0.90kg in their first year.

Selecting a milk replacer made from transition milk is key to encouraging the production of acid and enzymes in the calf's digestive system and aiding the full closure of the gut wall. Its use is now an important part of Donie and Breda Ryan's calf rearing protocols.

The Ryans farms near Milltown, Co. Kerry where they run a herd of Holstein-Friesian cows, hoping to have all heifer calves born in the first six weeks of calving during January and February.

Sexed semen is used on heifers, achieving an in-calf to first conception rate of 80%, all of which were offered Transition milk replacer.

"In the week before calving, cows are moved into a straw-bedded group pen with individual calving pens alongside this," Donie Ryan explains. "During this week a key element is increasing concentrates to a similar rate as post-calving; we have used this approach for the last four or so years, and it is effective for us."

Cows and heifers carrying heifer calves are calved in individual pens; these cows are identified at scanning. Heifers and bulls each receive three litres of colostrum immediately after birth and are then penned individually.

"We keep them in these pens for a few days, according to their strength, health and ability to drink milk, before they are moved into a small group pen. We are aiming to minimise stress and optimise calf wellbeing," Ryan adds.

When they are deemed ready, they are relocated to a large group pen.

In the first four weeks of 2023, 70 Holstein-Friesian heifers were born and so some calves had to be introduced to the automatic feeder sooner than he might otherwise have done.

But this was a decision Donie was happy to make as the calf milk replacer in the feeder was Transformula, manufactured by Bonanza Calf Nutrition and



Using a transition milk-based replacer has improved calf gut development

has been developed to focus on the specific gastrointestinal needs of the young calf – development.

Dr Christine Cummins, of Bonanza Calf Nutrition says: "A calf needs energy and Transformula provides it, but what sets both it and transition milk apart from regular milk replacers and cow milk, is its focus on microbial and physical development of the gastrointestinal tract.

"The gut has no function in the foetus and only really develops in the last month of gestation and in the weeks after birth," Dr Cummins explains. "This development is both physical and microbial."

Prior to birth, the calf's digestive system has a microbial community, known as a microbiome, ready to become active after birth.

"The ingestion of colostrum and transition milk is key to the health of this microbiome and to the health and development of the calf," says Dr Cummins.

"The microbiome is influenced from the very beginning and prebiotics in colostrum help kickstart the calf's digestive and immune system, followed by transition milk," she says.

"The gut at birth is also very porous, which allows colostrum antibodies to be absorbed whole, but it is also a site for bad bugs to enter the calf's system," she adds.

As it takes several days for the gut to become much less porous, it means that the calf is highly vulnerable to pathogens for quite some time.

"Feeding transition milk - milk produced by the cow after colostrum - is key to encouraging the production of acid and enzymes in the calf and the full closure of the gut wall," advises Dr Cummins.

After their colostrum feed, Ryan offers his calves three litres of Transformula morning and evening for three or more weeks. After this period they are typically moved onto an automatic feeder.

The Ryans say Transformula eases the workload as calves are healthier than they have ever been and no treatments for scours have been needed since moving over.

"This system reduces the risk of disease and labour needs as I can choose to feed the heifer calves before or after milking; it provides a better routine," he says.

"It's also much easier to use Transformula than have to collect and sort all the transition milk, not to mention transporting it to the calves," he says.

The approach used now, also leaves the farm with a greater pool of transition milk for bull and beef calves, promoting their health and development too and reducing health risks across all calves.

REAR HEALTHY CALVES

**Shearwell
Data**

Livestock Systems



Heatwave[®] Milk Warmer

Heats cold milk to be
fed on demand.

Each Heatwave[®] can
feed 30 calves in a
group or individually.



Scan the
QR code to
read more!



CONTACT THE TEAM 01643 841611     www.shearwell.co.uk

Calves will drink more than you think

A lack of confidence in feeding more milk to calves combined with long-held misconceptions is holding calves back, meaning their full genetic potential remains unlocked.



Laura Tennant

Feeding more milk is scientifically proven to give a clear and sustainable return through more robust, resilient and higher performing cows,” stresses Dr Laura Tennant, Young Animal Feed Technical Advisor with Trouw Nutrition GB.

“To unlock the genetic potential of calves it is essential to ensure their requirements are met in early life. It is now widely recognised that investing in early life nutrition with calves plays a fundamental role in achieving this, leading to superior growth rates and organ development which translates into a more productive cow. Every 100g of average daily gain in first two months of life, results in approximately 225kg of extra milk in the first lactation.

“Fundamental to achieving these benefits is feeding higher volumes of milk replacer, yet new research shows many producers are still missing out on this opportunity.”

Feed more milk

New research commissioned by Trouw Nutrition shows that 65% of dairy farmers still only feed six litres or less milk replacer per calf per day yet there is potential to feed far more than this safely. Feeding lower levels of milk replacer may mean that we are not fulfilling the energy and protein requirements for maintenance, let alone growth, thermoregulation and other processes.

Dr Tennant emphasises that calves will drink more than you think, commenting that young calves are driven to consume milk and that ensuring higher intakes of milk replacer in early life can have significant benefits. She believes common misconceptions are contributing to a lack of confidence among farmers to feed more milk, but new research suggests these have now been disproved. She says it is still common practice to limit meal sizes to two litres per feed which immediately limits total daily intakes. The reason for this is the assumption that the abomasum can be overloaded, resulting in milk replacer getting into the rumen.



“To unlock the genetic potential of calves it is essential to ensure their requirements are met in early life.”

“Calves are essentially born monogastric. As the rumen develops it becomes less desirable for the lactose-rich milk to enter as it can change the pH and microbiota, which can cause digestive problems and reduce growth, hence the thinking that smaller milk feeds are better for rumen development. However, the abomasum is able to significantly increase capacity. We now know that three week old calves will voluntarily consume up to 6.8 litres of warm milk in one meal without milk entering the rumen or any indications of abdominal pain or discomfort. So traditional beliefs about restricting the volume fed per meal to prevent the possibility of ruminal overflow are not correct and we can actually feed them significantly more per meal, helping increase total daily intakes with the benefits this brings.”

Dr Tennant says a second misconception is that feeding too much milk will lead to insulin resistance. “It is widely

thought that feeding calves more milk makes them insulin resistant and unable to control their own blood sugar levels. We now know calves fed higher amounts of milk from birth were able to control glucose concentration. Studies show that calves are able to slow down the rate of abomasal emptying to control blood glucose.”

Finally, she says it had been thought that heifers fed higher levels of milk lay down fat in the udder which can compromise future performance. She stresses that all the evidence from the LifeStart Programme contradicts this, showing that calves fed higher levels of milk replacer produce more milk in the first lactation and lay down milk secretory cells in the udder and not fat.

Careful management

“Based on the science, dairy farmers should be confident that feeding more milk will be beneficial to the calf, accelerating cost-effective growth and development, allowing heifers to enter the herd sooner and perform better when they do.

“Moving to higher milk volumes has clear benefits, but the process needs careful management. It is essential to feed a milk replacer specifically formulated for feeding at elevated rates and then to follow a managed feeding curve to increase intakes. Then, as importantly, it is important to follow s planned, stepped down weaning strategy, managing length of weaning and the rate of milk removal to ensure concentrate intakes are adequate at weaning.”

Pushing performance on grass

With a declining milk price and increasing purchased feed costs, more dairy farmers will be looking to rear their heifers outdoors this season to try and help reduce farm expenditure. To get the best performance from youngstock and hit that key 24 month first calving target, don't overlook the importance of consistent supplementary feeding.



Ann Combes

As a comparatively cheap, nutritious feed source, maximising the utilisation of grazed grass will be key to helping mitigate increasing farm costs this year.

However, while grazed grass is a readily available, cost-effective feed source on many dairy farms, grass alone won't provide the long-term, sustained energy that heifers require to maintain strong growth and performance.

"I've talked to producers who've historically kept bulling heifers indoors and used AI but are now looking to turn heifers out to grass and run them with a bull," explains ForFarmers' Youngstock Manager, Ann Combes. "Others who are turning out heifers at six months of age, whereas before they would only turn them out only after they'd been served. The driving motivation behind these adaptations is a need to cut costs.

"And while rearing heifers outdoors is a cost-effective option, I would urge some caution. While lots of producers do a fantastic job of successfully rearing youngstock outside, what these producers do well is not over-rely on grass. They are conscious of the nutritional limitations of grass and therefore buffer feed throughout the grazing season."

To achieve a 24 month first calving target, heifers need to achieve a consistent, average 0.8kg daily liveweight gain (DLWG) from birth to calving, as a minimum. And this is where farmers need to be realistic about what can be achieved from grass intakes alone.

"If we took a six-month-old heifer as an example, with a DLWG target of 0.85kg, she would need to be hitting 4.1kg DMI each day," continues Ann. "With grass at 20% DM she would need to consume around 21kg fresh weight each day, and this would increase to 26kg fresh weight if the grasses' DM was only 16%. That is an unrealistic amount of grazed grass we'd be expecting a young animal to consume.

"And then there's the issue of grass quality. The grass consumed would consistently need to achieve a minimum of 12.7MJ/kg to adequately fuel heifer performance, but there are usually only a few weeks during a growing



Farmers are being urged not to be over-reliant on grass when rearing youngstock

season when these high energy levels can be achieved. When you look at the figures, it quickly becomes clear that relying on grazed grass alone won't be enough to support strong growth rates - buffer feeding is a must."

The importance of buffer feeding has also been highlighted in data recently acquired through a ForFarmers DLWG assessment of over 800 heifers at grass.

"Half of these animals were supplemented with ForFarmers' VITA Heifer 16% rolls and the other half were on grass alone," continues Ann. "In the non-supplemented group, average DLWG was around 0.44kg, with daily weight gains ranging from -0.13kg to 0.67kg.

"In the concentrate fed group, with feeding rates of between 0.5kg and 1.5kg/per day, average DLWG were over double that of the non-buffer fed group, at 0.96kg."

Cost effective feeding

While it's clear that buffer feeding is needed to keep heifer performance on track during the grazing season, it can still be delivered in a way that complements grass utilisation and is cost effective.

"While purchasing buffer feeds is a cost, if it's fed consistently and at the right levels, we can help reduce overall feed expenditure while also maintaining heifer performance at grass at grass," says Ann. "The key thing is to feed little but often."

Farmers should utilise a low, 16% concentrate when feeding youngstock

outdoors, and feed this out at a lower rate, throughout the whole grazing season.

"Some producers feed 2kg per head/per day at the start and end of the growing season," explains Ann. "If this is a three-month window in total, each animal would be fed around 180kg of concentrate, at a total cost of £77 per heifer - based on a 16% concentrate at £426 per tonne [at time of writing].

"However, if producers feed only 0.5kg per head/per day throughout the whole six months of a grazing season, total concentrate use would only be 90kg, at a cost of around £38 per heifer. While this is a significant cost saving, we'd also expect more consistent growth rates from this group."

And just as good buffer feeding is the key to success in any outdoor heifer rearing system, so too is regularly weighing livestock.

"We'd recommend weighing animals at least twice through the grazing season, so that any poorer performers can be spotted quickly," says Ann. "These animals can then be provided with extra supplementary feed before weight gains fall too far behind and they risk missing service and first calving weight targets."

"You also need to know how much grass will be available for heifers and how nutritious this grass is, so regular plate metering and fresh grass sampling is a good idea," continues Ann. "Water troughs need to be within easy walking distance of animals and there needs to be plenty of them."

"When feeding out concentrate, farmers will be working in amongst young, excitable livestock. So, they should put temporary fencing or gates in place so that they're protected during feed out and can quickly get away from youngstock, if needed."

"Even though extra management and buffer feeding are required to maintain heifer performance of grass, it still represents a good, cost-effective way of raising youngstock. The important things are not to expect too much from grass, keep on monitoring heifer performance and remember the importance of that 24 month first calving target. That's the key goal and we don't want anything to get in the way of achieving it," concludes Ann.

Optimise calf performance through improvements to housing

Livestock ventilation and weatherproofing specialists, Galebreaker, explain how improving the ventilation in existing cattle housing could help lay the foundations for healthier and happier cows.

In the current economic climate, it's vital to maximise calf health and avoid any limiting factors that can impact performance, like illness caused by disease or infection or poor feed intake. Ensuring adequate ventilation in calf sheds can support growth rates and produce healthier cows.

While building new calf housing allows you to fully incorporate ventilation and comfort, the cost is prohibitive for many farmers, but there are steps to take to improve the sheds you already have.

In the UK, bovine respiratory disease (BRD) is estimated to cost the cattle industry £80m annually. The National Youngstock Survey found that 68% of farmers had calves that suffered from BRD on their farms and 48% had experienced calf mortality due to BRD. What's more, it's not just the initial impact of the disease as the effects of calfhood BRD are long-lasting. It is reported that heifers who have had BRD are half as likely to calve before 25 months, have reduced AI conception rates as maiden heifers and can have a reduced milk yield in their first lactation of up to 525kg.

BRD isn't the only disease spread by poor ventilation in cattle housing. Pneumonia in particular is associated with poor ventilation as it spreads primarily through the air, rather than by physical contact. Pneumonia is the most common cause of death and poor performance in young cattle and causes 14.5% of dairy heifers to fail to make their first lactation.

Optimal ventilation

While keeping relative humidity between 40 and 70% reduces survival rates of airborne bacteria, even dead bacteria can irritate the respiratory tract. Therefore, ensuring adequate ventilation within housed environments is critical to help minimise the effects of detrimental microorganisms on calf health.

Without good ventilation, calves will inhale the same air multiple times and are at an increased risk of pathogens like bacteria or viruses entering their lungs. Poor ventilation is the main environmental factor in predisposing calves



VentTube can help create a draft-free, well ventilated building

to respiratory diseases. "In a well-ventilated shed, clean air should come in from the outside, circulate once around the building and then be pushed out by a continuous flow of incoming air. Each calf should have the same amount of fresh air, without being exposed to draughts," explains Matt Sellers, southern sales manager for Galebreaker.

However, he adds that over-ventilation in sheds can also cause problems. "Cold environments lead to calves using more energy to maintain their temperature. To maintain consistent growth rates, the calves will need more feed and if this is not provided, growth rates will decline and immunity will be compromised. "The ideal ventilation rate in calf housing (the amount of air replaced within the building in a given time) is 10 times per hour, rising to 60 times per hour on hot summer days."

Sellers explains that there are steps you can take to improve the airflow through existing calf housing. "Whether you're converting a building to use for calf rearing, or improving the shed you've used for years, the principles behind creating a comfortable environment for calves are the same. It's crucial to understand what you're working with. Cobwebs, condensation drips, wet bedding and stale smelling air are all signs of poor ventilation in calf housing.

"Setting off a smoke bomb can be a visual representation of the ventilation inside the shed. Ideally, smoke should clear within two to three minutes with

pockets of poor airflow showing up in an accumulation of smoke. If you feel unsure, you can work with your vet or the Galebreaker team to undertake these assessments."

Overcoming ventilation problems

Keeping calf housing as open as possible while still providing protection against wind chill and rain is a good place to start when looking to promote natural ventilation. However, for sheds or buildings where natural airflow in and out is inadequate, Sellers recommends looking at mechanical ventilation options.

"A fan system can effectively bring air into a calf shed, but fans alone will not achieve an even distribution of air. This can result in calves bunching together close to the fans, while the air further away from the fans becomes warm, damp and stale," he says.

"Tube systems, such as VentTube Fresh, can effectively ventilate an entire calf shed. To achieve optimal ventilation, they should be designed specifically for the shed they are to be fitted in, considering shed dimensions, expected stocking density and age of calves. Investment in creating an ideal environment for calves can pay dividends over time. Providing optimal ventilation within calf sheds can help prevent disease and promote good growth rates and performance. All calves need an environment which is warm and dry with good ventilation and sufficient space to reach their full potential."



AHV Calf Rearing Programme

#PowerToTheFarmer

SUPPORT YOUR FUTURE HERD BY
GIVING THEM THE BEST START.

HEALTHY CALVES BECOME
HEALTHY COWS.



Reco Paste



Calf Start



Calf Tablet



Calf Booster



Respi



Aspi Liquid



Prolife-S



Animal Health Vision UK Ltd // +44 (0) 1769 772070
uk@ahvint.com // www.ahvint.com

Scan me!





ARK ANIMAL CARE - CHARVOVET GEL

Charcovet Gel contains 30 grams of high-quality activated charcoal in an easy-to-use syringe. Activated Charcoal has immense powers of absorption which in calf diarrhoea helps bind the faeces, forming a more normal stool. Toxic substances in the gut will also be trapped by the charcoal and eliminated in the dung.

www.arkanimalcare.co.uk

SHEARWELL – HEATWAVE MILK WARMER

Feeding calves has never been easier! Our versatile HEATWAVE MILK WARMER allows calves to feed ad-lib, as they would on a cow. Our simple set up heats the milk on demand using heat exchange technology. One unit can feed 30 calves, individually or in a group.

Tel: 01643 841611
www.shearwell.co.uk



REASHURE-XC

ReaShure-XC delivers the most evidence-based rumen-protected choline product on the market today, protecting against Fatty Liver Disease and Ketosis, whilst significantly increasing milk yields. Choline is essential for growth and is required for the liver to process and metabolise fat therefore ensuring a healthy transition.

Tel: +44 (0) 7395 248963



FORFARMERS - NEW LIN REARER 18

New LIN REARER 18 from ForFarmers helps increase conception rates in heifers and reduces rearing costs by increasing heifer growth rates. This high energy, high-performance heifer rearing product contains Lintec, proven to improve fertility, and is suitable to feed with straw or silage.

www.forfarmers.co.uk



TROUW NUTRITION – OSMOFIT

WATER AND ELECTROLYTES: THE UNSUNG HEROES

OsmoFit is a highly palatable oral rehydration solution for use alongside continued feeding of milk or milk replacer. A hypotonic solution containing carefully formulated levels of sodium and glucose, it helps stabilise the water and electrolyte balance. Rehydrating while still feeding milk ensures calves get the fluids they need as well as the energy needed for an efficient immune system.

www.trouwnutrition.co.uk



VIRBAC - KRIPTAZEN

Treat or prevent Crypto with one pump application*

No need to calculate dosage or risk toxicity issues with Kriptazen. The non-antibiotic halofuginone medicine, with its unique applicator allows you to dial the dose from 20kg to 60kg and easily deliver the dose to your calves in just one pump and in one hand.

*Ask your vet about Kriptazen.

vet-uk.virbac.com/home/species/farm-animals.html

BOEHRINGER - FENCOCVIS

Fencovis is a new inactivated calf scour vaccine licensed to prevent scour caused by rotavirus and E. coli K99. Fencovis is administered to the dam in the dry period, as a single injection, boosting colostral immunity. The vaccine is only available from vets (POM-V) and is distinct from others on the market as it comes with an oil-free adjuvant.



www.calfmatters.co.uk

GALEBREAKER – VENTTUBE FRESH

The VentTube provides fresh, equally dispersed air at livestock level, removing moisture, airborne pathogens and excess heat from barns and other livestock environments. Thus, improving air quality and reducing risk of disease.

Supplied as a complete kit ready for installation, with guarantees on both the fan and tube material.

Tel: 01531 637 900
Email: marketsupport@galebreaker.com





BONANZA CALF NUTRITION

Bonanza Calf Nutrition was established to offer farmers a range of superior milk replacers all the milk replacer ingredients are dried using low heat and homogenisation technology.

The range of – Shine, Transformula, Ewe-reka and Milky Way – are used successfully on farms throughout Europe and are undisputed brand leaders.

There is also a team of calf advisors who provide on-farm support to customers to improve their calf rearing, while also assisting them to reduce labour and other costs and to utilise existing farm buildings.

Tel: 0808 178 1017
www.bonanzacalf.ie

AHV – RECO PASTE

AHV Reco Paste has been developed to support the intestinal health of the calf. The unique blend of bioactive components positively influences gut flora and provide a calming and protective effect on the intestines. Applying AHV Reco Paste makes animals feel better and restores activity levels - resulting in maintained growth rates and provides stable manure consistency.

Tel: +44 (0) 1769 772070
uk@ahvint.com
www.ahvint.com



NETTEX – ROTO CORONA

Roto Corona Plus provides newborn and transported calves with highly concentrated digestible energy and bovine proteins to help get them off to a great start. Ideal for administering at times of stress such as transport.

Roto Corona plus can help support natural defences to the challenges of life.

Tel: 01282 524222
Email: sales@net-tex.co.uk
www.net-tex.co.uk



NETTEX – HYDRA POWER

Hydra-Power is ideal for calves at risk of, during periods of and recovering from digestive disturbance (diarrhoea). A 4 in 1 oral hydration formula, providing essential electrolytes, energy, an alkalising agent, and a natural antioxidant. Highly effective, economically viable and easy to administer on farm.

Tel: 01282 524222
Email: sales@net-tex.co.uk
www.net-tex.co.uk



PRODUCT HIGHLIGHT - WELLCALF

Reducing antibiotic use and boosting calf growth with WellCalf at Godminster Farm



Godminster Farm has implemented a new technology to monitor the health of their calves with the goal of rearing healthy heifers and minimising the use of antibiotics. Godminster won the Best of Organic Farms 2021 award and is based in Somerset, England. Smartbell have developed the technology called WellCalf, a smart health monitoring system in the form of a smart eartag that can remotely detect a fever, pneumonia, and other diseases early on. The system lets the farm track temperature and activity on their calves. Any unusual activity triggers notifications to farm staff's mobiles that allow for quicker interventions for any calf that needs it.

Godminster Farm used the WellCalf system to monitor their heifer calves and record treatment and weight records within the app. With a focus on minimising antibiotic usage, the additional behaviour information available through the app helped to detect pneumonia cases earlier and determine the appropriate treatment. The weight graphs within the app made it much easier for them to see the growth rates of calves and pick out those which are underperforming. A full animal history is available on the app, building an understanding of the causes of slower growth rates and driving future decision-making.

The benefits of using the WellCalf system were significant for Godminster Farm. They were able to intervene earlier in cases of pneumonia, reducing the viral load within the environment and minimising the spread of disease within a group. They could track the recovery of the animal to understand if further intervention was required. The weight graphs within the app helped to identify underperforming calves, allowing for prompt intervention and improving overall herd health. "All our heifers which had no setback had grown at a far higher growth rate than any animals that had a slight setback", says Peter Cheek, Farm Manager at Godminster Farm.

The immediate cost per case of pneumonia is at least £43, with long term financial impact estimated as high as £1000 due to lung damage causing poor growth rates and long-term effects on fertility, milk yield and longevity. Early detection and intervention is critical to avoid such losses. In order to reduce the impact of diseases, it is important for farmers to take a proactive approach to animal health. The WellCalf system is an effective way for dairy farmers to monitor the health of their calves and improve disease detection. Godminster Farm has seen significant improvements in their heifer calves' health and growth rates, making the WellCalf system a valuable addition to their farm management practices. By implementing this technology, farmers can ensure the long-term health and productivity of their herd while minimising the use of antibiotics.

For more information, visit www.welcalf.com

Focus on heifer nutrition to improve profitability and sustainability

Dairy farmers are being encouraged to treat heifers like cows and improve rationing to achieve target weights for 24-month calving.

We should be spending much more time rationing heifers, as well as focussing on the cows,” advises Mole Valley Senior Nutritionist Dr Robin Hawkey.

“We are using the best genetics on heifers but are we really maximising the genetic potential of those heifers coming through, especially with the increased rate of genetic gain through genomics? We must test the forage being fed to these heifers, and, as we would with cows, ration heifers accordingly.”

Dr Hawkey suggests on some farms, nutrition may be the forgotten part of the jigsaw to achieve that all-important target of 24-month calving with appropriate size and maturity.

Benefits of two-year calving

Increasing the weight of heifers to achieve 65% of mature body weight (compared to the standard 55%) at service at 14 months has been found to improve conception rates, research shows. Furthermore, increasing weight at calving increases milk production by up to 900 litres in the first lactation.

Additionally, heavier heifers are more likely to be in the herd after the third lactation. There is a clear correlation between age at first calving and lifetime yield, with yield decreasing as the age at first calving increases.

As well as that heifer paying back her rearing costs quicker, calving a stronger heifer at two helps to improve cow longevity which means you need fewer replacements. Combined, these efficiencies help lower a farm's carbon footprint, says Dr Hawkey.

Are you meeting targets?

For a 680kg Holstein to be big enough to serve by 14 months, she must grow at 1kg daily up to bulling. Often, this is not achieved, suggests Dr Hawkey.

Heifers should be weighed monthly to every six weeks to ensure they are on the right track.

“The height of the animal is a good correlation for weight and growth rates. One farmer paints lines on the wall of the shed and casts his eye over heifers periodically when he feeds them. It doesn't have



to be done with electronic weigh scales or data loggers. An estimate of heifer growth rates is better than nothing,” adds Dr Hawkey.

If a large proportion of heifers are not meeting targets, it is worth re-assessing the ration for the whole group. But where there are only one or two outliers, it might be worth moving these animals down a group to give them more time to catch up.

Nutrition – key ingredients

Dr Hawkey says protein, energy and mineral supplementation are all vital ingredients for an effective heifer ration. He advises farmers to ensure they are supplying enough protein for good growth. “Protein should be balanced with the supply heifers are getting from forage, so a forage analysis should be carried out to match this,” he adds.

Meanwhile, energy should be balanced with metabolisable protein (MP) to ensure growth, rather than fat, is being laid down. Research by Silva (2018) recommended 9g of MP per megajoule of energy.

Mole Valley-funded research at Nottingham University found feeding heifers higher levels of digestible undegradable protein (DUP) significantly

increased growth rates (1.2kg versus 1kg for heifers fed lower DUP) and stature.

“This observation was highly statistically significant, suggesting very reliable and reproducible results,” says Dr Hawkey. “On the back of the research, Mole Valley has developed a high DUP 24% compound and blend,” he adds.

“Pivotal to improved nutrition to support enhanced growth rates is the accurate provision of minerals and vitamins, especially given the recent publication of the National Academies of Science, Engineering, and Medicine (NASEM) 2021 nutritional recommendations.”

Biotin, to promote foot health, should be provided at 20mg a head a day. Da Silva (2010) reported a 57% improvement in claw horn growth in yearlings, with improvements in resistance to wearing. Calcium and phosphorus are key for skeletal growth and development, too. Equally as important are ration presentation and palatability to drive intakes.

“Where we have heifers being fed a total mixed ration (TMR), it is important the ration is palatable. I have seen several rations that are so dry (around 70%) rumen performance must be impaired. If the ration is above 50-55% we really need to add water to improve the digestibility of that ration.”

Tips for maintaining youngstock performance

- Develop a specific ration based on forage analyses (including minerals)
- Ensure mineral and vitamin supplementation adhere to the latest NASEM guidelines
- Feed high-quality, palatable feeds
- Monitor heifer weights regularly to allow adjustments to be made.

Be a part of the leading Dairy Industry celebration

The Cream Awards 2023 – London – Grosvenor House Hotel

7TH SEPTEMBER FROM 6PM - AWARDS DINNER CELEBRATION - BLACK TIE



THE CREAM AWARDS
DAIRY INDUSTRY TRADE AWARDS 2023
10 Year Anniversary



The Cream Awards dinner moves to London for its 10 year anniversary. The annual Dairy Industry Awards recognise innovation, hard work and successes in the UK dairy industry through 12 separate award categories supported by market-leading industry sponsors. Our winners become ambassadors for change, leaders in their field that can inspire a new generation.



British Dairying are the organisers of the event, and we know that highlighting examples of good dairy farm husbandry and best practice, and the people that bring new innovations to the industry, is one of the best ways to help our industry thrive.



So plan your attendance at the Cream Awards, as a sponsor, or taking guests to the Event.



BOOK A TABLE OF 10 AND CELEBRATE WITH YOUR CUSTOMERS



Table of 10 guests £2,150 plus vat, includes drinks reception, 3-course dinner and entertainment, 5 bottles of wine on your table. Single places at £250 plus vat per place.



CALL US NOW TO SECURE YOUR BOOKING!

THURS 7TH SEPT 2023

LONDON – GROSVENOR HOUSE HOTEL

Email: caroline@calderwood.cc today to book your table at the awards or to discuss sponsorship opportunities. T: 01892 231604 M: 07786 993797



www.creamawards.UK www.britishdairying.co.uk #creamawards @britishdairying see us on Instagram

04:53

AM

AND
YOU'RE
ALL IN



Come day or night, rain or shine, the well-being of your herd is what drives you, and you put everything into keeping them healthy and productive. METACAM® is proud to partner with cattle farmers to provide proven and trusted anti-inflammatory pain relief for mastitis management,* respiratory infections,* diarrhoea in young calves† and pain relief following dehorning and disbudding. You're all in, and we are too.

To learn more about METACAM®, speak to your veterinarian.



*With appropriate antibiotic therapy.

†In calves over one week of age in combination with oral rehydration therapy.

Supporting cattle well-being

Metacam® 20 mg/ml solution for injection for cattle, pigs and horses and Metacam® 40 mg/ml solution for injection for cattle and horses contain meloxicam. UK: **[POM-V]**. Advice should be sought from the prescriber. Further information available in the SPCs or from Boehringer Ingelheim Animal Health UK Ltd., RG12 8YS, UK. UK Tel: 01344 746957. Email: vetenquiries@boehringer-ingelheim.com. Metacam® is a registered trademark of Boehringer Ingelheim Vetmedica GmbH, used under licence. ©2021 Boehringer Ingelheim Animal Health UK Ltd. All rights reserved.

Date of preparation: Dec 2021. BOV-0201-2021 Use Medicines Responsibly 384200