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# Calf Signals and the 5C's

***A calf is an investment in genetics and tomorrow's income. Management of stress events, health, and nutritional challenges in the early months of a calf's life can result in significant long-term benefits (Bach & Ahedo 2008).***

## Giving your calves a healthy start

NWF Agriculture Technical Manager, Abbi England, explains how implementing the correct calf rearing programme can give dairy farmers the key to unlocking the full potential of their calves, leading to significant increases in herd productivity. Heifer rearing is the second-highest cost of dairy farming. NWF have found great success in implementing the LifeStart programme alongside the 5 Critical Control Points (5C's) developed by Trouw Nutrition.

*"LifeStart has been identified as a proven approach for rearing healthy calves by quantifying and promoting calf rearing best practice. Easily followed protocols and advice meaning farmers can help calves grow and develop into productive cows faster, with improved first lactation milk yields leading to improved profitability and efficiency", says NWF Technical Manager, Abbi England.*

## Colostrum

Following colostrum management protocols based on the 4 Q's below will help get calves off to the best possible start. **Quality:** good quality colostrum should contain at least 50g of IgG per litre and have minimal bacterial contamination (<100,000cfu/ml). **Quantity:** best practice recommendations are to supply 10% of calf bodyweight which equates to around 4 litres of colostrum for the average Holstein Friesian calf. **Quickly:** calves have a short-lived ability to absorb immunoglobulins, to optimize antibody absorption colostrum should be fed as soon as possible after birth, at the latest within 6 hours. **Quietly:** to reduce stress on the calf, colostrum should

be given in a quiet manner. Continuing to feed colostrum for the first 3-4 days before moving to calf milk replacer (CMR) or whole milk offers additional benefits.

## Calories

A workable and sometimes delicate balance must be struck between the economic realities of the farm and the need for a predictable and successful path from calf to a cow. Whole milk and CMR exist in a number of forms, each with a different impact on health, performance and convenience. It is important to understand the specifications of products on offer, raw material digestibility, nutrient specification and balance are all aspects that contribute to the overall quality of a CMR. Rearing objectives must be set in order to decide which liquid feed solution will be easiest to manage whilst meeting the calf's full nutritional needs for optimal growth.

The LifeStart Programme includes a new unique approach to the formulation of CMR. Based on comprehensive research, all LifeStart endorsed CMR has a specific nutrient profile to optimise the growth potential of a calf. Research has shown that an elevated plane of nutrition in the critical first eight to ten weeks leads to increased pre-weaning average daily gain which can have a significant impact on lifetime productivity. *"NWF has both Whey based and Skimmed milk-based LifeStart accredited CMR available. LifeStart aims to deliver an optimised first lactation milk yield due to enhanced mammary development which is essential for the future productivity of the cow"* says Abbi England.

The amount of CMR required will depend on calf bodyweight, desired daily live weight gain, environmental temperature and nutritional composition. Improvements to the nutritional regime of the calf can decrease mortality and disease susceptibility and increase the rate of body weight gain. Aiming for a minimum target of double the calf's body weight from birth to weaning will ensure the calf is optimising growth rates which will support calf health and overall performance.

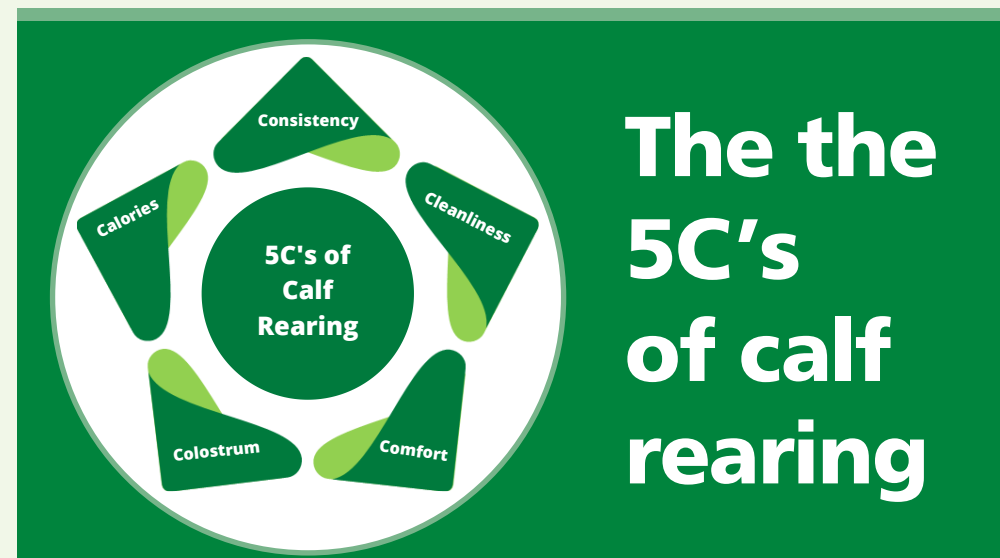
## Comfort and Cleanliness

The growth potential of a calf cannot be optimised with a nutrition programme alone, farmers need to simultaneously consider management practices that impact on calf performance too. Calves can spend between 17 to 19 hours a day lying down, so it is essential that their environment is kept comfortable with adequate lying space, air space and ventilation. Calves are born with no immunity against disease and are highly susceptible to bacterial, viral and parasitic challenges. Calf health and survival is a balancing act; maximising immunity with excellent nutrition while minimising the risk of infection by implementing structured and consistent hygiene protocols on farm.

## Consistency

Consistency is an important but often overlooked aspect of calf rearing which may help improve calf performance for little or no added cost. In simple terms, calf management should be as consistent as possible. Daily nutrient variations through things like inconsistent mixing of CMR are more challenging for the calf to manage which can induce stress on calves, leading to detrimental effects on health and performance. Research has shown that daily variation in CMR intake can lead to reduced average daily gain when compared to calves fed a consistent daily amount. Calves thrive on routine; so implement simple and clear protocols that ensure calves are treated consistently on a day to day basis, even when different people are left in charge of calf management. *"Only the correct combination of appropriate management and quality nutrition will optimise calf performance. Therefore, all aspects of calf rearing must be considered, with consistency and feeding to a schedule being a key component of the programme"* adds Abbi England.

**For more information contact your local NWF Sales Specialist or the NWF Youngstock team.**



# The the 5C's of calf rearing





# NWF Milk Replacer

The NWF calf milk replacer range is formulated to provide outstanding nutrition using high quality, traceable ingredients to ensure digestibility and palatability.

- Carefully selected milk solids with maximum nutritional value.
- A balanced blend of oils homogenised and emulsified for maximum digestibility and normal gut function.
- Full supplement of vitamins, minerals and trace elements.
- Selected additives to help meet growth rates and support the health status of calves.
- NWF milk replacers are easy-mixing and suitable for most automated and manual feeding systems.
- All NWF milk replacers are fixed formulation, to supply a consistent product.

## NWF Ultra Life Skim

**24% Protein, 20% Oil**  
A Life Start accredited highly digestible skim-based milk replacer containing the full additive pak. It is suitable for accelerated heifer rearing programmes.

## NWF Ultra Milk Yellow

**22% Protein, 18% Oil**  
A top quality, 100% dairy protein skimmed milk replacer also containing the full additive pak. It is ideal for many systems, particularly those wanting something special from their youngstock.

## NWF Ultra Milk Green

**22% Protein, 18% Oil**  
A skimmed milk based replacer, ideal to promote early bloom and a healthy-looking calf.

## NWF Ultra Life Whey

**24% Protein, 20% Oil**  
This is a Life Start accredited whey-based milk replacer. It is suitable for accelerated heifer rearing programmes. This replacer contains the full additive pak.

## NWF Ultra Hi-Pro Heifer

**26% Protein, 17% Oil**  
This high protein, whey-based milk replacer is suitable for accelerated heifer rearing programmes. This replacer contains the full additive pak.

## NWF Ultra Milk Blue

**22% Protein, 19% Oil**  
NWF's most popular milk replacer. High specification formulation on a whey powder base. A generally good all-rounder calf milk replacer.

## NWF Ultra Milk Purple

**21.5% Protein, 14.5% Oil**  
The cost-effective whey-based milk general-purpose replacer helps to support good digestive health and dry feed consumption so weaned animals continue to thrive.



# NWF Feed for Youngstock



**A comprehensive selection of feeds to suit any age of Youngstock are available from our range. Formulated using quality raw materials the diets support growth from an early age.**

## NWF Calf Pellets

A high quality starter pellet which is suitable from birth until weaning. Calf Pellets contains NWF Progress Plus, a comprehensive mineral and additive package.

## NWF Super Rearer Nuts

A specialist rearer diet for dairy heifers up to 2-year calving. The diet will compliment a straw or silage-based diet. Available in a 18% or 16%.

## NWF Deluxe Rearer Nuts

A specialist rearer diet for dairy heifers up to 2- year calving. Designed with elevated protein to complement a straw based diet.

## NWF Vital Rearer Nuts

A cost effective rearing nut to compliment a straw or silage-based diet. Available in a variety of protein percentages.

**The NWF range of high-quality coarse calf blends are formulated using premium raw materials to maximise the growth potential of your calves.**

All NWF calf blends are well molassed and highly palatable to encourage early consumption, even for timid feeders, which is vital for rumen development.

Ingredients are chosen that are highly digestible for young calves & include micronized flaked maize, peas & beans.



Top quality protein sources including Hipro soya are used in NWF Coarse Calf blends to provide the optimum amino acid profile to meet the needs of the growing calf.

High levels of minerals, trace elements & vitamins are added to sustain the immune system and support strong growth.

**The NWF Coarse Calf Blend range includes:**

## NWF Sweetstarch plus Lucerne

Premium 18% protein starter mix with Lucerne, locust beans & linseed lozenges included. Excellent for promoting early intake, rumen development and growth in pre-weaning calves.

## NWF Coarse Calf 16 & 18 Blend

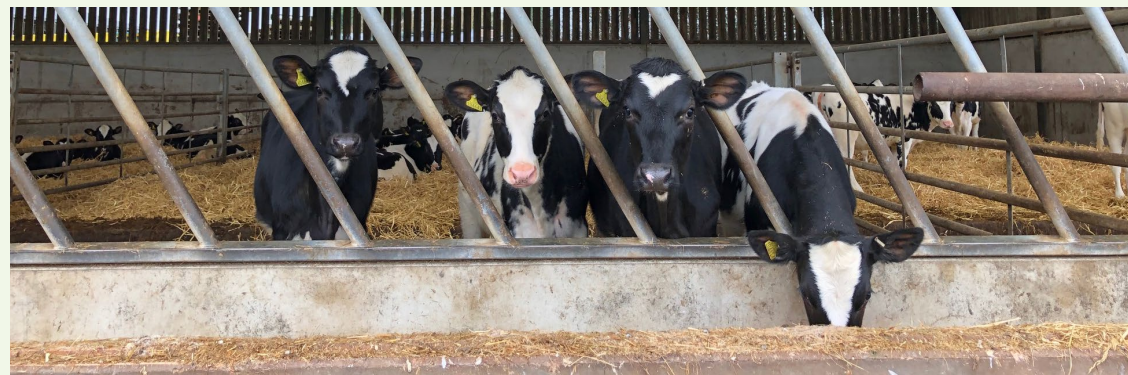
A high-quality calf starter ration available as a 16 or 18% protein mix. Contains high levels of hipro soya, sugar beet pulp & micronized flakes.

## NWF Heifer Max 18 Blend

An excellent second stage 18% protein follow on diet from Sweet starch or Coarse Calf diets. Formulated to ensure weaned calves maintain excellent growth rates through to calving.

## NWF Progress Plus

In addition to the essential vitamins and minerals, Progress Plus has high binding properties which work to limit the colonization of harmful bacteria in the intestine. At the same time as supporting the microflora by favouring the development of beneficial microbes. This helps maintain feed utilization and growth performance when the calf's health is challenged.





## Collecting Youngstock Data

### Collecting data?

Data collection is essential in order to monitor performance and make decisions regarding heifer rearing effectively. Daily liveweight gain is one of the most important indicators of efficiency and can have a huge impact on the future productivity and longevity of heifers joining the herd, and therefore the future profitability of the farm business.

Regularly monitoring body weights using scales or weigh tapes, alongside recording disease incidences can indicate potential issues in the system that need addressing before they become very detrimental to the future productivity of the business.

### Rules of thumb:

- Ensure that calves receive sufficient amounts of good quality colostrum, follow the 5C's and the 4 Q's of colostrum management (Quality, Quantity, Quickly and Quietly).
- Calves should have access to fresh water, forage and starter feed at all times.
- Daily liveweight gain should be a minimum of 0.85kg.
- Calves should be a minimum of double birthweight at weaning and triple their birthweight at three months.
- Hygiene and cleanliness are crucial for the health and performance of the calf and business.
- Calf mortality target should be under 5%.
- Incidences of pneumonia should be less than 15%.
- Incidences of scours should be less than 10%.

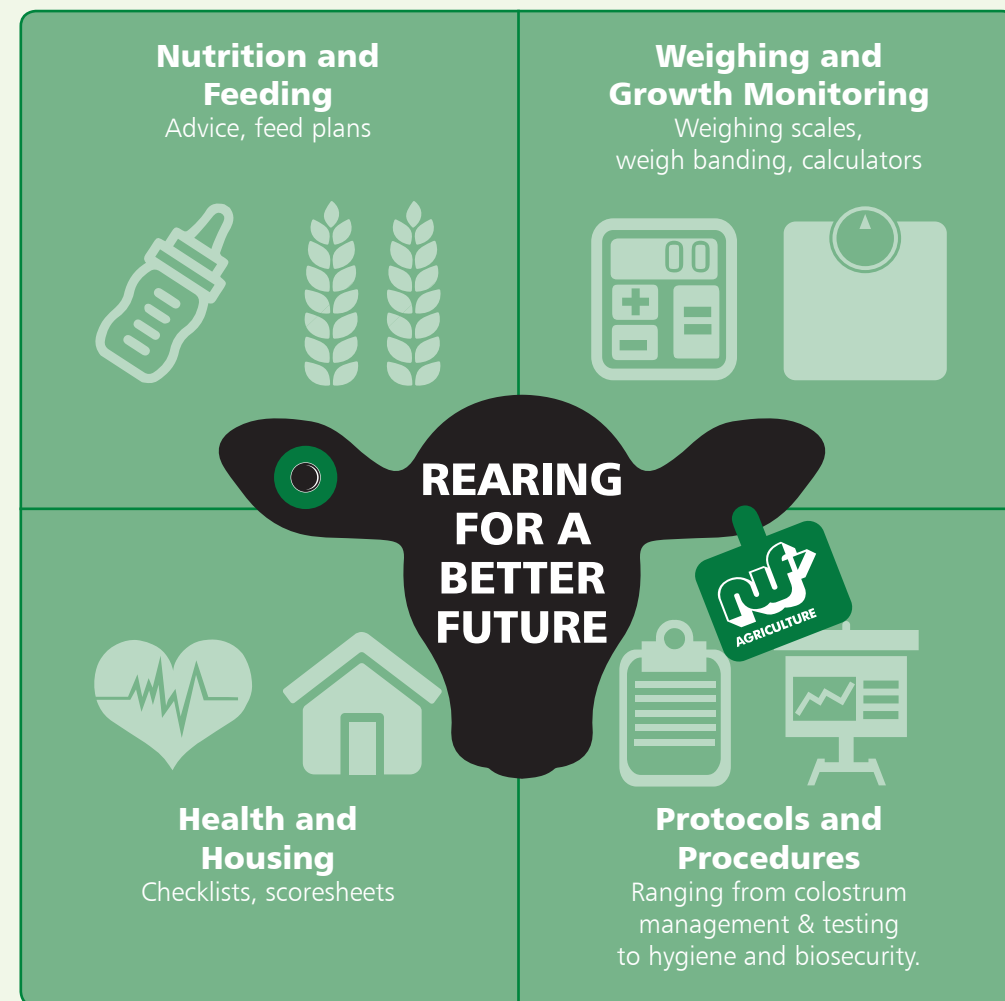
\*Source AHDB

# NWF Youngstock Service

NWF Agriculture have developed a Youngstock Team consisting of 5 specialists (Abbi England, Erin Wray, Beth Howells, Emily Jones and Elysha Chell), currently covering the central regions and areas of North Wales. The team has been developed to help improve the health and performance of calf rearing units and businesses. The NWF Youngstock team can provide advice and services ranging from testing colostrum and monitoring growth to devising protocols and staff training.

### Services

The dedicated NWF Youngstock Team offer a comprehensive range of services and advice to support the rearing of youngstock. Contact the team on **0800 756 2787** or email **technical@nwfagriculture.co.uk**





# Meet the NWF Youngstock Team



Left to right: Erin Wray, Beth Howells, Emily Jones, Abbi England, Elysha Chell

## Abbi England BSc (Hons)

### Technical Manager

Alongside her other roles as a Ruminant Nutritionist, Abbi has developed the NWF Youngstock Team. Prior to joining NWF Abbi grew up on her parents dairy, beef and sheep farm in Lancashire before completing a BSc (Hons) in Biomedical Science and a Masters module in Ruminant Nutrition. Over the years Abbi has gained an extensive understanding of the industry and takes a particular interest in efficient early life nutrition and overall calf management incorporating Calf Signals. As a Cow Signals®, Master trainer Abbi will be available to host Staff training on your farm as part of the Youngstock service.

**Call:** 07595 566 251

**Email:** [abbigail.england@nwfagriculture.co.uk](mailto:abbigail.england@nwfagriculture.co.uk)

## Erin Wray

### Technical Co-Ordinator

Erin grew up on a beef and sheep farm in Donegal, Ireland before completing an MSci in Veterinary Bioscience at the University of Glasgow. Erin has a vast and in-depth knowledge about the industry. Erin has a passion for achieving animal productivity and longevity, therefore recognising the importance of early life management in achieving this.

**Call:** 07525 239405

**Email:** [erin.wray@nwfagriculture.co.uk](mailto:erin.wray@nwfagriculture.co.uk)

## Beth Howells

### Technical Development Co-ordinator

As part of her Agri-Business degree from Harper Adams, Beth did her placement year at NWF working with calf milk replacers and has recently returned after graduating as Technical Development Co-Ordinator. Although not from a farming background, Beth has worked on various farms around mid-Wales and was actively part of her local young farmers where she has developed a passion for the industry and has a keen interest in all things livestock.

**Call:** 07763 877 442

**Email:** [beth.howells@nwfagriculture.co.uk](mailto:beth.howells@nwfagriculture.co.uk)

## Emily Jones

### Youngstock Specialist

Emily began milking on a local dairy farm before going to Harper Adams to study BSc Animal Behaviour and Welfare, where she completed her placement year on a dairy farm where her passion for youngstock began. After graduating, Emily was the youngstock manager for a large New Zealand type system with both autumn and spring block calving farms. Emily joined NWF in September to be on the first cohort of the Academy to develop key skills and knowledge for a career within the ruminant nutrition and agricultural industry. Throughout her time with the academy, her passion and knowledge of calf health and welfare has grown with a desire to assist farmers in achieving the best health and growth rates.

**Call:** 07936 367624

**Email:** [emily.jones@nwfagriculture.co.uk](mailto:emily.jones@nwfagriculture.co.uk)

## Elysha Chell

### Youngstock Specialist

Before NWF, Elysha was highly involved within the equine surface industry after studying equine science at Reaseheath College. Elysha has always had an interest in animal feeds and comfort which drew her to join the NWF blends desk enroll as one of the first cohorts of the NWF Academy. Elysha enjoys working with calves, ensuring they are clean and comfortable to facilitate efficient calf rearing through using her calf signals training.

**Call:** 07923 230948

**Email:** [elysha.chell@nwfagriculture.co.uk](mailto:elysha.chell@nwfagriculture.co.uk)

# Calf Renova

**Calf Renova is an easy-to-use capsule containing a source of natural ingredients. The bolus includes a botanical extract, naturally occurring microorganisms (DFMs), and yeast fermentation products. Calf Renova provides intestinal support through beneficial bacteria and plant extracts as an effective intervention for scours.**



## Features and Benefits

- Contains a specifically selected hind gut DFMS (probiotic)
- Essential Oil as a natural antioxidant
- Offers a natural antimicrobial effect



## When to use

- At first sign of scouring/diarrhoea as a preventative
- Upon receipt of incoming calves
- To help ease the transition from colostrum to whole milk or milk replacer
- During periods of digestive problems or immediately after



*Administer 1 bolus capsule per calf from 3 days of age. Repeat if needed after 24 hours.*

Enquiries: **0800 756 2787** | Orders: **0800 262397**  
E Mail: **nbteam@nwfagriculture.co.uk**



**www.nwfagriculture.co.uk**

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