

NWF Youngstock Brochure



Edition 2

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NWF Agriculture is a national manufacturer of high-quality dairy, beef and sheep feeds, supplying over 5,000 farms from Scotland to Cornwall, with strategically located UFAS-approved production sites. All NWF compound feeds, blends, moist feeds and straights are supported by our extensive technical services to ensure livestock perform to their potential.

Whatever your farming system we can meet your needs for compound feeds, blends, straights and associated products.

All our feeds are backed by our extensive technical services to ensure livestock perform to their potential. Our sales team provide expert advice and solutions to help farm businesses.

For further information, feeding advice and prices, please speak to your local NWF sales specialist or call our dedicated trading team on 0800 756 2787.



**Find your local NWF
Sales Specialist online:
www.nwfagriculture.co.uk/sales-area**



to view your local NWF Sales Specialist

NWF Agriculture manufactures a comprehensive range of dairy, beef and sheep feeds, all specifically formulated to support rumen function, animal health and efficient performance across all production systems.

NWF Agriculture compound feeds and blends are formulated to deliver accurate, precise and well-balanced nutrition, comprised of high-quality energy, protein, fibre, mineral and vitamin raw material sources to meet the demands at each stage of the production cycle.

Working closely with your NWF sales specialist, our comprehensive range of feeds are tailored to work alongside your homegrown forages and production systems to ensure livestock receive optimal levels of protein and energy.

NWF Fusion Feed Range

The NWF Fusion feed range does not contain soya, soya hulls or palm kernel and instead is formulated using **Ultra Pro-R**, NWF's branded Rapeseed Meal product which has undergone a unique process to rumen-protect the protein, thereby ensuring nutritionally robust feeds which deliver on performance. NWF Agriculture can offer Triple S and RTRS Mass Balance certified soya should milk buyers/retailers require.

Fusion
Sustain for a better future



1.

Colostrum

- Timing – Fed within the first six hours.
- Quantity – 10% of the calves' bodyweight, for example a 40kg calf would require 4 litres.
- Quality – At least 50g IgG per 1 litre, the daily requirement is 200g. A refractometer can be used to measure this.
- Cleanliness - Clean calf pen, udder and colostrum equipment must be used at all times.
- Calves are not born with acquired immunity, newborn calves must acquire passive immunity through the consumption of colostrum IgG.

2.

Calories

- Use a high quality, highly digestible milk replacer.
- Appropriate level of milk solids is key.
- Take advantage of a calf's superior feed conversion ratio.

3.

Comfort

- Calves spend 17-19 hours a day lying down.
- Environment should be calm and quiet.
- Calves should have adequate space, air space and ventilation.
- Bedding should be dry and clean.
- Thermo neutral zone (typically 10-20°C).



4.

Colostrum

- Clear hygiene protocols must be in place.
- Clean calving pens.
- Buckets and utensils should be cleaned in-between feeding.
- Fresh water, forage, milk replacer and starter pellets should be given daily.
- House calves away from adult animals.
- Always work from youngest to oldest.

5.

Consistency

Consistency of newborn calf

- Calving protocol.
- Colostrum management.
- Calf identification.

Consistency of daily management routines

- Feeds.
- Temperature.
- Timing.
- Person.

Stressed calves can lead to sick calves!

Choosing the right calf milk replacer

When selecting calf milk replacer, careful consideration should be taken to product type, overall digestibility of the protein and energy and the appropriate feeding scheme on farm.

The balance between digestible energy and high-quality protein sources provides the nutrients required for calves to grow, develop, and achieve performance targets. When reviewing calf milk replacer specification and feed curves it is important to consider nutrient intake.

Introducing KPI's to monitor performance

Monitoring and managing key performance indicators (KPI's) is essential and understanding current performance allows for changes that may offer opportunities for efficiencies.

Daily liveweight gain (DLWG) continues to be an important metric when assessing KPI's set for the calf rearing period. When set alongside other indicators related to performance it allows each unit to reach new levels of calf rearing. Set objectives for optimal development, resilience to disease and longevity. This provides insight into the next generation of productive replacements coming through into the herd whilst ensuring short term cost savings are not prioritised at the expense of calf health and performance. All calf rearing units are unique therefore make informed decisions so that the overall objectives of the unit are met.

Nutrition and Feeding

The starting point for any successful rearing unit is a high-quality calf milk replacer (CMR), which in the first 10 weeks of life will be the primary source of energy for growing calves. Growth rates at this stage are important as they influence body weight at breeding (55-60% mature weight) and can impact the heifer's age at first calving. This has a huge economic impact as heifers calving down at 24 months will typically have a payback at the second lactation. However, calving at 30 months can delay the return on investment by an entire year. In addition, preweaning growth rates influence how much milk is produced in the first lactation; getting this growth stage correct is essential to the productivity of a mature cow.

Ensuring the starter feed is formulated to meet nutrient requirements using high quality, palatable raw materials is fundamental to health and performance. Eating solid feed is a learned response, and how it is presented will have a big influence on how quickly the calf will sample it. Buying a palatable formulation is just the first step, it has to be offered fresh every day, in clean, easy to reach troughs/buckets to encourage intakes early. From day one, calves should be exposed to starter feed, even if it is a small amount in a shallow bowl. Before weaning, calves should eat at least 2.5kg of starter per day (and over 6 weeks of age).

Developing the rumen is more than just CMR and starter feeds. The addition of straw has proven to be beneficial for several reasons: acts as a bulking agent, stretches the rumen, and also helps prevent parakeratosis (which is a hardening layer of keratin cells and presents a physical barrier along the papillae). For maximum intakes, straw should be chopped 1-2 inches in size and just like the starter feed it should be provided fresh each day. It is important forage is provided in racks off the ground to not encourage calves to eat dirty bedding.



Weighing and Growth Monitoring

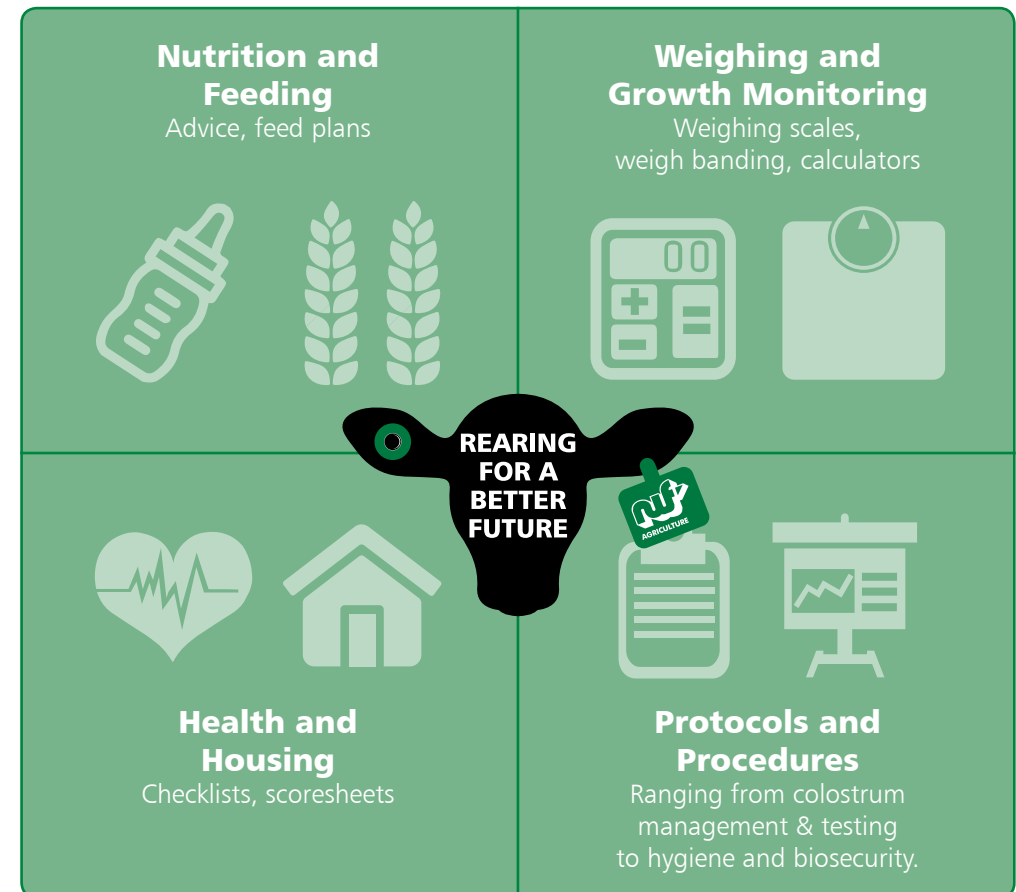
The NWF Youngstock team understand the importance of regular weighing for calf health and growth. That's why NWF Agriculture offer a free monthly weighing service. Our experienced team will track each calf's progress, providing detailed reports and personalised recommendations for optimising their care, and suggestions on how to increase their daily liveweight gain.

Weighing equipment is calibrated to ensure accurate and reliable measurements, providing precise data and a monthly report to assist with decision-making. Regularly monitoring body weight and growth can indicate potential issues in your system, and through their technical and youngstock training, the team can offer appropriate advice.

Protocols and Procedures

The NWF Youngstock team can provide advice and services ranging from testing colostrum and monitoring growth to devising protocols and staff training.

NWF Youngstock Team On-Farm Services



The environment where calves are housed is key to rearing healthy and productive calves. Location, wind speed, ventilation and moisture are all key components for calf housing, where calves must have sufficient space to express normal behaviour; to stretch and groom, stand up, eat, sleep and play. While there are various housing options for calves, all must be tailored to the needs of the animal, with the goal of maximising performance, optimising health and adhering to welfare standards.

The NWF Youngstock team provide advice on a range of housing elements, including airflow and lying space. Conducting simple tests such as nesting scores is a great way to assist and improve calf housing.

Temperature

Regardless of the housing system, a newborn calf will feel cold when the temperature drops below 10–15°C. The temperature felt by a calf is a combination of the ambient air temperature, airspeed and relative humidity.

When calves feel cold, they will spend more time lying down, which reduces the external body area exposed to the atmosphere, so it is important to consider lying space and bedding when designing your calf shed.

Stagnant air can be contaminated with dust, moisture, ammonia and viruses, which can cause pneumonia. Cobwebs in buildings and condensation on the underside of roofing are signs of poor ventilation. Many buildings used to accommodate calves can be improved by modifying the sidewall cladding or inlet ventilation to improve the natural airflow.



The youngstock enterprise is the future of the herd, and the way it is managed has a direct impact on the future success of the overall herd.

Key questions to improve your youngstock system:

1. What will be the maximum number of calves on milk at any one time?

- Check your calving records.
- Include a two-week post-weaning period.
- Consider the need for empty pens for effective cleaning.
- Allow for flexibility in the event that movements are restricted (e.g. adverse weather or tuberculosis restrictions).

2. What are your future plans for the business?

- Is this a stop-gap or a 10-year investment?
- Will your cow numbers increase?
- Might the system need to adapt, e.g. to different calving systems?

3. What is the preferred feeding system?

- Individual buckets, trough feeders, automatic calf feeder etc?

4. What is the likely pen size?

- Your pen size should fit your preferred feeding system and be dictated by your calf group size.



1. Calves should only be fed up to 2 litres per meal

As the calf's rumen develops it becomes less desirable for the milk to enter as it can change the pH and microbiota, causing digestive problems and potentially reducing growth. Many farmers assume the capacity of the abomasum is around 2 litres and that feeding more risks abomasal overload with liquid feed entering the rumen. However, science does not back this up; higher feeding rates can be achieved even if only feeding twice a day.

Data from Ellingsen et al. (2016) showed three-week-old calves will voluntarily consume up to 6.8 litres in one meal without milk entering the rumen or any indications of abdominal pain or discomfort.

Other data confirms that the abomasum can accommodate more than 2 litres of fluid. Calves slow down the rate of abomasal emptying to control blood glucose, so exaggerated rises in blood glucose and associations with insulin resistance are not a problem when feeding larger meals.

2. Feeding more milk solids costs more

Feeding more milk solids costs more than starter feeds, but the return on investment needs to be considered when evaluating overall cost-effectiveness.

Feed conversion efficiency is much higher during the first weeks of life than at any other point in the growth cycle. This economic benefit is largely due to the link between improved growth and the associated benefits of reproductive and lactation performance.

Professor Àlex Bach showed that every 100g of average daily gain in the first two months of life, gives approximately 250kg of extra milk in the first lactation. Reproductive performance improves as faster maturing heifers can be bred earlier. Increased longevity means cows produce more milk and are more resilient to disease, staying in the herd longer and reducing your cull rate.

3. Cow's metabolism cannot be permanently changed

Variations in metabolism mean some cows produce more milk whilst others are more prone to disease, but it is a misconception that these variations are only determined by genetics.

Metabolic programming means external factors can alter gene expression over time without affecting the gene sequence. This underpins the LifeStart heifer rearing approach, which optimises calf nutrition in the first 60 days to maximise genetic capacity later in life and achieve greater performance.

The first two months of life is the optimal time to programme the metabolism. Research shows a high plane of nutrition improves calf growth rates and organ development and has a long-term influence on many of the metabolic pathways that underlie productive processes as well as the development of the immune system and the gut microbiome.

4. Elevated planes of nutrition have no effect on health post-weaning

It seems logical that if you feed calves more, they will grow more. But what is the effect on their health?

Nutrition can influence the development of the gastrointestinal tract and its immunity, both vital for short term health and longer-term resilience to disease. In one study Holstein calves fed a higher plane of nutrition of milk solids had better hydration and faecal score improvement following *Cryptosporidium parvum* challenge at three days of life. (Ollivett et al., 2012).

Another study looking at effects on post-weaning health; cows previously fed a low plane of nutrition pre-weaning had a decreased ability to kill *E.coli* a month after weaning, compared to those fed a high plane (Ballou, 2012). Similarly, Ballou et al (2015) showed that calves fed higher levels of milk solids before weaning had improved resistance when challenged with *Salmonella* one month after weaning.

The data suggest that feeding a high plane of nutrition pre-weaning can improve immune development and the health of calves before and after weaning if implemented correctly.

5. Feeding elevated planes of nutrition gives calves scour

Many farmers are reluctant to feed a higher plane of nutrition believing that the increased milk solids cause scouring.

However, studies show that loose faeces when feeding more milk solids do not usually mean a calf has a disease. Liang et al. (2016) showed although calves fed a higher plane of nutrition had higher faecal scores than those fed a restricted diet, there was no difference in the faecal dry matter content. There was no difference in energy digestion and protein digestion and retention were higher in those calves fed more milk solids.

The benefits of a high plane of nutrition for average growth, development, resilience to disease and lactation performance are well documented. Nutritional diarrhoea may occur if certain nutrients like lactose are oversupplied so it is vital to focus on the quality and formulation of the milk replacer to ensure it is suitable to feed at high levels.



Youngstock Feeds

NWF Agriculture manufactures a comprehensive range of high-quality youngstock compounds and blends, specifically formulated to improve calf growth rates and calf health. All NWF feeds are manufactured at our UFAS approved production sites located in Cheshire, Cumbria and Devon, with feeds delivered direct to farm or available for collection.

NWF Calf Starter Pellets	A high-quality starter pellet that is suitable from birth until weaning. A high energy, palatable feed formulated to promote early intakes and rumen development.
NWF Vital Rearer	A specialist diet to complement a grass silage-based diet. Available in a range of proteins.
NWF Super Rearer	A specialist diet to complement a grass silage-based diet. Available in a range of proteins.
NWF Deluxe Rearer	A specialist diet with elevated protein levels to suit straw systems.
NWF Fusion Rearer	A specialist rearer diet to complement grass silage and grass-based diets. As part of NWF's Fusion range, Fusion Rearer is soya and palm kernel free.

Available in a range of proteins



Youngstock Blends

The use of blends in youngstock systems can offer significant benefits when looking to feed calves a nutritionally balanced, cost-effective diet, whilst reducing overall feed costs. NWF Agriculture manufacture a range of standard and bespoke blends, using a wide range of high-quality raw materials.

NWF Sweetstart	A premium starter mix, excellent for promoting early intake.
NWF Coarse Calf	A high-quality calf starter ration available as a 16% or 18% protein mix. Contains high levels of hipro soya, sugar beet pulp and micronized flakes.
NWF Heifer Max	An excellent second stage 18% protein follow on diet from Sweetstart 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 limit the colonisation 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 utilisation and growth performance when the calf's health is challenged.

Speak to your NWF Youngstock specialist about our comprehensive range of compounds and blends for youngstock, dairy and beef.



Milk Replacers

The NWF calf milk replacer range is formulated to provide options for every calf rearing system and budget.

SKIMMED	
NWF ULTRA MILK PLATINUM 23% Protein, 25% Oil A superior quality skim-based calf milk replacer with elevated levels of energy and protein. Containing 50% skim and 100% dairy protein, it provides highly digestible milk proteins to support rapid early growth, strong body development, and improved performance.	
NWF ULTRA MILK EMERALD 21.5% Protein, 18% Oil A skimmed milk-based replacer, containing Greenguard package ensuring that early bloom and healthy calves is promoted.	
NWF ULTRA MILK GOLD 22% Protein, 19% Oil A superior quality, highly digestible 50% skim calf milk replacer containing high levels of dairy protein to support strong early growth, development, and feed efficiency. Designed to deliver consistent, reliable performance through the critical early stages, Ultra Milk Gold includes the Greenguard package for enhanced calf health and gut support.	
NWF ULTRA MILK YELLOW 22% Protein, 18% Oil A top quality, 100% milk 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 LIFE - SKIM  24% Protein, 20% Oil A LifeStart accredited skim-based milk replacer containing the full additive pak. It is suitable for accelerated heifer rearing programmes.	
MILKIVIT ENERGIZER CALF MILK REPLACER  22.5% Protein, 25% Oil A LifeStart accredited skimmed milk replacer to support optimal development, resilience to disease and longevity of calves.	
NWF ULTRA MILK DIAMOND 23% Protein, 20% Oil A superior quality, 50% skim-based calf milk replacer, with elevated levels of oil and milk protein to promote accelerated growth and development at this critical stage of life.	
WHEY	
NWF MILK VIT ONE 23% Protein, 27% Oil  Milkvit ONE is a next-generation, LifeStart-accredited calf milk replacer designed to closely emulate whole milk using a unique, patent-pending fatty acid technology — LactoFat Pro. With 50% skim, 100% dairy protein and a 27% fat content, it delivers superior digestibility, gentle nutrient release, and a balanced fatty acid profile that closely mirrors bovine milk.	
NWF ULTRA MILK BLUE 22% Protein, 19% Oil NWF's most popular milk replacer. A high specification formulation on a whey powder base. A generally good all-rounder calf milk replacer.	
NWF ULTRA MILK SAPPHIRE 22.5% Protein, 18% Oil A high-quality whey-based milk replacer, a good all-rounder replacer which has the addition of Greenguard to support digestive health and performance.	
NWF ULTRA MILK RUBY 24% Protein, 20% Oil A superior quality, whey-based calf milk replacer, with elevated levels of oil and milk protein to promote accelerated growth and development at this critical stage of life. This milk replacer contains the Greenguard package.	
NWF ULTRA LIFE - WHEY  24% Protein, 20% Oil A LifeStart accredited whey-based milk replacer suitable for accelerated heifer rearing programmes. This milk replacer contains the full additive pak.	
<i>"We've been using NWF Ultra Life Skim milk powder for over 8 + years now and have always been impressed with its consistent quality and performance. It mixes easily, is highly digestible, and provides a well-balanced nutritional profile that supports strong, healthy growth. With its high skim content and carefully formulated blend of proteins, fats, vitamins and minerals, it's a product we've come to rely on for rearing calves efficiently and confidently.</i> Overall, it's a dependable milk powder that delivers excellent results time and time again."	

Minerals and Supplements

Minerals and vitamins are essential components of all livestock diets. The NWF Youngstock team can review current feed rations and analyse forage to match appropriate minerals.

NWF Ultramin Youngstock	A robust youngstock mineral, specifically designed to support growing cattle.
NWF Cattle GP	General purpose mineral bucket specifically designed for dairy cows, suckler cows, youngstock and store cattle. Available in 20kg or 80kg buckets.
Hydro-Lite	Hydro-Lite is a highly bioavailable electrolyte and energy supplement designed to restore fluids, sodium, potassium and energy lost during stress, illness, heat, transport or digestive upset. It provides fast-acting rehydration support for calves and lambs, helping to correct dehydration, stabilise body salts and support recovery when feed intake is reduced.
Hydroforce	Hydroforce is a highly soluble effervescent rehydration tablet designed to restore fluids, electrolytes and energy in dehydrated calves and lambs. Once dissolved in water, it provides an isotonic oral solution that supports electrolyte balance, stabilises digestion and helps animals recover quickly during periods of stress, illness, heat or reduced feed intake.
Prebioforce	Prebioforce is a complementary feed designed for young ruminants, formulated from yeast derivatives and natural plant-derived extracts. Through its specialised production process, Prebioforce delivers both prebiotics and postbiotics, helping prepare and support the immune system during periods of stress, transition or health challenge. By promoting beneficial gut bacteria, reducing pathogenic load and supporting early immune development,
NWF Rumen Paks	NWF Rumen Paks provide targeted support for optimal rumen function in cattle of all ages, including calves and youngstock. Combining proven ingredients such as Yea Sacc®, they help promote beneficial rumen bacteria, improve fibre digestion and maximise nutrient utilisation from an early stage. Formulated to stabilise rumen pH and support a consistent rumen environment, the range encourages intakes, supports healthy rumen development in young animals and drives performance through to adulthood. Options within the range can also include buffering and mycotoxin support, helping reduce the risk of SARA and maintain efficient, productive systems.



NWF Agriculture is a national manufacturer of high quality dairy, beef and sheep feeds to UK farmers. All compound feeds, blends straights and associated products are supported by expert advice and solutions from sales and technical teams.

For further information and prices
call your NWF Sales Specialist or call

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