



 **UnitedFeeds**

**Accelerated Heifer
Rearing Programme**

Growing your future...



The United Feeds Accelerated Heifer Rearing Programme is intended to follow on from the United Feeds Pre-Calver Programme. The aims of our Heifer Rearing Programme are to grow the heifer at an average of 0.8 kg/day to achieve a well-developed heifer ready for calving at 24 months.

THE COST OF HEIFER REARING

Heifer rearing represents a significant financial investment on the dairy farm. The age of a heifer at first calving has a major impact on the overall cost of heifer rearing. On average, every month over two years of age at calving adds £60 to the cost of rearing when loss of milk production is accounted for (Promar International, 2012).

A 24 month rearing period has proven to have significant financial benefits provided all nutritional and health targets are met. The sooner heifers enter the herd the quicker they start repaying the investment in rearing costs and start contributing to profits.

With successful 24 month calving, savings of 1ppl on overall milk production can be achieved.

BENEFITS OF 24-MONTH CALVING

- Lower stock numbers: Calving at 24 months rather than 36 months results in 50% less replacements on farm in a 100 cow herd with 30 replacements each year.
 - ◇ Reduced feed, forage & labour costs
 - ◇ Less land & housing required - more available for cows or other stock
- A tighter calving pattern in the overall herd
- Quicker genetic progress - heifers have the best genetics on the farm
- Improved subsequent fertility
- Greater proportion of lifetime spent in milk production

AIMS

- Calf down at:
- 24 months
 - 580-600kg
 - BCS 2.75-3.0
 - Wither height of 140cm

THE KEY TO HEIFER
REARING IS
REGULAR GROWTH
MONITORING AND
MEETING THE TARGETS

As wither height is closely correlated to bodyweight, United Feeds have developed a board to assist in monitoring the targets below.



TARGETS

Age (Months)	% of mature bodyweight*	Bodyweight (kg)	Wither height (cm)
2	15	95	87
6	30	195	104
13-15 (service)	55-60	360-390	128
24 (pre-calving)	90	585	140

* Assuming a mature BW of around 650kg

(Adapted from Penn State University & DairyCo, 2012)





BIRTH – DAY 4

The United Feeds Pre-Calver Management Programme endeavours to ensure the birth of a strong healthy calf and a cow with high quality colostrum. It is vital that the calf gets off to the best start and good husbandry can pay dividends later in life.

The principles of calf management are known as the **5 Cs**:

- 1 Colostrum**
- 2 Calories**
- 3 Consistency**
- 4 Cleanliness**
- 5 Comfort**

The first step is to ensure adequate colostrum intake as the newborn calf has no active immunity and is therefore vulnerable to infection. Colostrum is a rich source of antibodies, but as well as providing immunity, it kick-starts the digestive system and provides energy for heat and growth.

ARE YOUR CALVES GETTING ENOUGH?

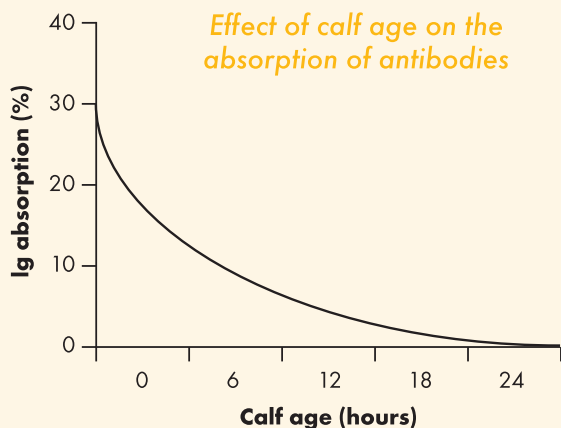
40% of calves left to suckle on their own do not ingest enough colostrum which can lead to lower liveweight gain, poorer milk production and increased mortality rates. To ensure adequate intakes follow the **3 Qs**:

- 1 Quality** - Be aware it varies enormously from cow to cow and can be tested using a colostrometer or refractometer
 - 2 Quantity** - 10% of the calf's bodyweight (depending on quality) i.e. 4.5 litres for a 45kg calf
 - 3 Quickly** - First feed within the first 6 hours after birth, and a second feed within 12 hours of birth
- Where possible, calves should be fed colostrum for three days as it will help protect against infections in the gut
 - It is preferable for colostrum to be sucked from a teat (cow or bottle) as this by-passes the rumen for a more rapid absorption. Calves need to suckle for at least 20-30 minutes continuously to drink 4 litres of colostrum.
 - Colostrum from cows that are known or suspected carriers of disease e.g. Johne's should not be fed to calves.



Once a cow calves normal milk production begins, diluting colostrum quality in the udder. Milking the cow as soon as possible after calving will ensure the best colostrum.

More importantly, the ability of the calf's gut to absorb antibodies declines gradually until 24 hours of age when it closes. The biggest decrease is seen from birth to 6 hours as shown in the graph, hence the need to feed quickly.



- While the gut is open to absorb antibodies it is also open to bacteria thus making hygiene in the first 24 hours particularly important.



ADVANCE **CALF STARTER PELLETS**

...GROWING YOUR FUTURE

A high-energy calf pellet designed to be fed from day 3 as part of the United Feeds Accelerated Heifer Rearing Programme. The ingredients have been chosen for their ability to aid rumen development and get the calf off to the best possible start.

FEATURES

High Cereal Content

Provides an energy dense diet to help aid daily liveweight gain and promote early development of the rumen.

High Quality Protein

Provides optimum levels of protein for young calf growth and skeletal development.

Bio-Mos®

Stimulate the immune system and target bacterial challenges by binding to and helping remove pathogens such as E.coli and Salmonella. This improves gastrointestinal health, maintaining maximum nutrient absorption for optimal growth.

Perform

Increases the number of ruminal bacteria leading to greater rumen fermentation activity and development. Calf starter intake is increased to allow earlier weaning and higher growth rates.

Greenline Calf Supplement

Included to promote natural immunity and gut health. Our Calf Starter Pellets have a "mother" smell which encourages dry feed intake to stimulate development of the digestive system. Contains all the vitamins and minerals required to support the growth and development of healthy calves.

Linseed

A high quality source of protein and a rich source of Omega 3 which improves calf health and gives a better 'bloom'. It can also aid in reducing inflammation.



Intended to be fed as part of the United Feeds Accelerated Heifer Rearing Programme. Also available in blend form to satisfy a range of feeding requirements.

A high inclusion rate of cereals provides energy for young animals to utilise, which helps to ensure that targeted growth rates are attained.

Inclusion of a range of quality proteins in this ration encourages frame development. This is essential in order to reap the financial benefits of calving down at 24 months of age.

Increases the number of ruminal bacteria leading to greater rumen fermentation activity. Improves fibre digestion, releasing more energy from forages leading to improved growth rates.

Stimulate the immune system and target bacterial challenges by binding to and helping remove pathogens such as E.coli and Salmonella. This improves gastrointestinal health, maintaining maximum nutrient absorption for optimal growth.

Helps to maximise rumen function. Aids fibre digestion and improves dry matter intakes leading to efficient weight gain.

Contains all the vitamins and minerals required to support the growth and development of healthy heifers.

FEATURES

High Energy

Protein Source

Perform

Bio-Mos®

Yea-Sacc®

Calf Supplement

DAY 4 – WEANING



During this period calves convert feed twice as efficiently as young heifers

For the first few weeks of life milk replacer is the main source of nutrients to the calf and so a consistent feeding regime is key. As calves aren't capable of producing large numbers of antibodies until 4 weeks of age, good hygiene and housing are essential.

MILK REPLACER TIPS

To avoid digestive upsets:

- Gradually introduce milk replacer to the calf over a period of 3 to 4 days
- Calves should be stepped up to consume 600-900g of milk replacer powder/day (see table below)
- Always feed at the correct temperature, at a consistent concentration and ensure it is thoroughly mixed before feeding

EXAMPLE FEED RATES

(120g of powder made up to 1 litre of milk)

Age (Days)	Litres		
	AM	PM	Total
Colostrum			
0-3	1.5 – 2	1.5 - 2	3–4
Milk Replacer			
4-7	1.5	1.5	3
8-10	2	2	4
11 - weaning	2.5	2.5	5

- Feeding adlib **Advance Calf Starter Pellets** from day 4 is vital for rumen development
- Clean, fresh water must be made available at all times
- Access to clean straw - 50 g/head/day (clean bedding straw is sufficient)





CALF MILK REPLACERS

- **Optimises growth rate**
- **High in digestible energy and amino acids**
- **Stimulates gut wall development and immunity**
- **Minimise incidence of intestinal disorders**
- **Encourages feeding and aids digestion**
- **Flavour linked to United Feeds Advance Calf Starter Pellets**
- **Designed for easy mixing**





6 weeks
- milk only



12 weeks
- milk & hay



6 weeks - milk &
concentrate
(Source: Penn State
University)

RUMEN DEVELOPMENT

Developing a functional rumen is fundamental to an efficient and economic heifer rearing programme. Getting the calf onto lower cost dry feeds and forages as quickly as possible should be the aim. In order to do this, the focus should be on early rumen development, of which there are two aspects; an increase in physical size and an elongation and thickening of the rumen wall.

As illustrated by the photographs on the left, feeding only milk up to 6 weeks of age results in both minimal growth of rumen papillae and physical size.

Even at 12 weeks of age, there is little development of the rumen wall in the case of calves fed milk and hay from day 3.

However, it is clear to see the difference in rumen development at 6 weeks in calves fed concentrates. The increased growth of papillae and physical size will improve the calf's ability to absorb nutrients, reducing nutritional stress at weaning and enhancing efficiency and feed intakes throughout the duration of its life.



Calves require concentrates and water rather than just forage and milk to stimulate early rumen development.

WEANING – WEEK 12

- Calves should only be weaned when;
 - ◊ Eating a minimum of 1 kg of concentrates per day, for 2-3 days consecutively
 - ◊ It is at least 6 weeks of age
- Continue to feed ad lib starter feed with straw up to the end of this period

3 – 10 MONTHS

It is preferable to maintain growth rates at 0.8kg per day.

- During this period the heifer has the potential to grow at 1.1 kg per day however, it has been shown that excessive growth rates could result in an increase of fat deposition within the udder and therefore, reduce development of milk secretory tissue.
- The optimum growth rate should be sustained via grazed grass or silage supplemented by 1-3 kg of **Advance Heifer Nuts** depending on forage quality OR
- Straw plus 3-5kg **Advance Heifer Nuts**
- Calves should be 6 months of age before turned out to grass.

10 – 15 MONTHS

- Monitor growth rates during this period and supplement the diet with concentrates depending on forage quality, to ensure growth rates are sustained and targets are achieved.
- Supplementing the diet with 1-3kg of **Advance Heifer Nuts** will boost energy levels to aid conception.

16 MONTHS – 1 MONTH PRE-CALVING

- Monitor growth rates and Body Condition Score (BCS), aiming for BCS 2.75–3.0 at the end of this period. Feed accordingly, depending on forage quality.

1 MONTH PRE-CALVING – CALVING

- From one month pre-calving, heifers should begin the United Feeds Pre-Calver Programme. This will help to maintain body condition, ensure that they receive the required balance of vitamins and minerals, and prepare them for joining the milking herd.

For further information on dry cow management please see the United Feeds Pre-Calver booklet.





For further information contact your local
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