TRANSITION COW *management*

iFeed
INTELLIGENT FEEDING by Dugdale Nutrition

Dugdale Nutrition

Overview

The transition period is one of the most crucial times in our cattle's year and will have an affect on future fertility and milk production as well as health. We often don't pay it the attention it deserves leading to reoccurring production diseases so this tech brief provides guidance to help you establish where your main bottlenecks may arise.

Contents

The Importance of Transition - Introduction

The transition period is an extremely important and sensitive time period which influences future health, milk production and reproductive success.

The next lactation should be seen as when the cow goes dry, not when she starts milking, as factors in transition have an affect on how she milks. Cows should be dried off at approximately 60 days pre calving and the very minimum 45 days pre calving. The last three weeks of pregnancy and first three weeks of lactation are the most important times for cows because many physiological changes occur. The cow is most at risk from metabolic diseases, body condition changes and the reproductive tract needs to recover from calving and prepare for the next pregnancy.

Goals for Transition

- **Maximise dry matter intake**
- **Control body condition**
- **Repair and rejuvenate the rumen wall**
- **Achieve maximum peak milk yield**
- **Management of liver function**
- **Prevent immuno-suppression**
- **Avoid metabolic and infectious diseases**

Aims for the Dry Period

- **Prepare the liver for the stress of calving**
- **Repair and prepare the udder**
- **Repair and prepare the rumen**

The 10 Transition Commandments

1. Manage the Body Condition Score
2. Manage the Rumen Fill
3. Provide Good Water Access
4. Decide Your Overall Dietary Strategy
5. Pay Attention to Minerals – Prevent Milk Fever
6. Good Housing – Provide Space and Comfort
7. Target Lameness
8. Take Care of Group Management
9. Minimise Stress at Calving
10. Provide for the Fresh Cows

Key Points

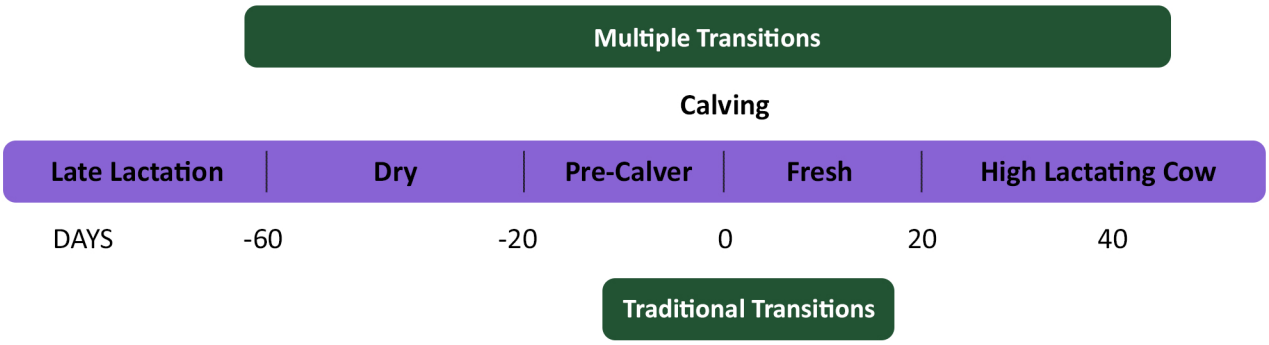
Be prepared and organised! • Calculate the required spaces for your dry cows and never overstock! • Ideally aim for 90% stocking rate • Have a grouping strategy - Encourage intakes and appropriate diet to the stage of gestation • Only change groups once a week to minimise stress and minimise changes as much as possible • Have a system with as little stress as possible to make it easier for the cow and team • Provide training for the team to assist a calving

7 Comfort Elements

This Tech Brief will cover the 7 key elements required for the health of the cow. These are:

The Transition Periods

The cow undergoes many transition periods in the 100 days around calving...



The period between around two months before, to one month after calving is crucial to the whole lactation.

Body Condition Score - Considerations

The target body condition of dry cows is BCS 3. If there are too many cows with body condition score of greater than 3 at drying off and in late lactation this is likely to be an indication of poor fertility. Is this because transition was poor last time or did something else affect fertility? If not careful this can become a vicious circle as fat dry cows are at higher risk of metabolic issues around calving and this increases the risk of fertility issues which will then extend lactation and increases the risk of the cow being fat again when drying off next time, this is if she even survives to get to this point.

Cows with greater body condition score tend to drop dry matter intake sooner and so by calving their intakes will be more challenged and increase the risk of ketosis occurring as intakes take longer to recover. Thin cows tend to keep DMI up closer to calving but drop off more suddenly and this can increase the risk for milk fever and other metabolic issues.


BCS 1

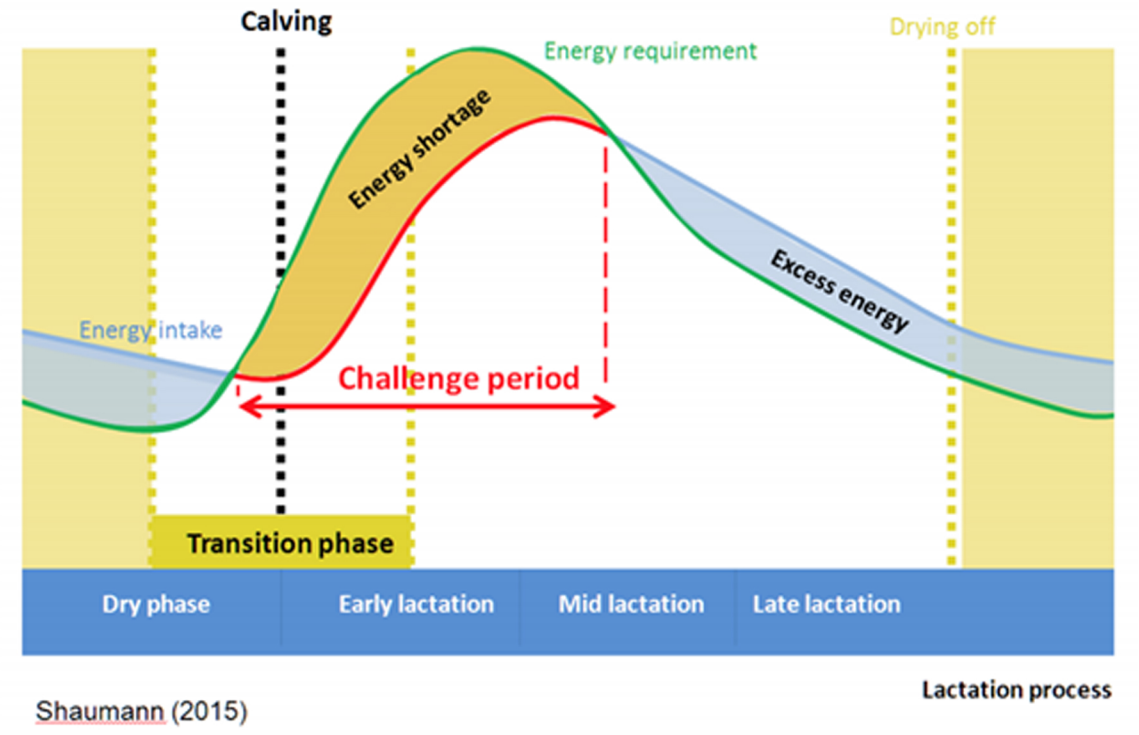

BCS 3


BCS 5


BCS 2


BCS 4

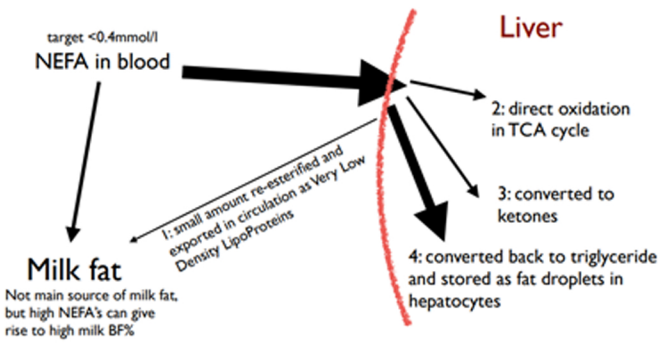
The 'Energy Gap'



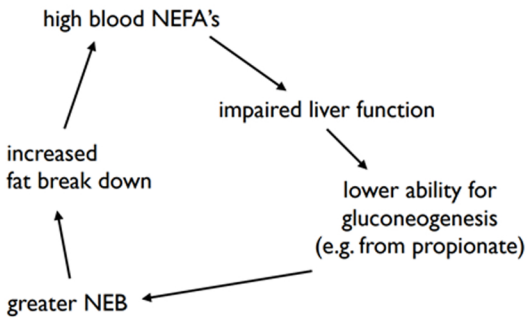
Shaumann (2015)

Fatty Liver

Energy demands rise in early lactation. Negative energy balance occurs, which is exacerbated by a low dry matter intake. Adipose (fat) tissue is metabolised, this process is growth hormone dependent. NEFAs are released into the blood and are metabolised by the liver in four ways.



It is a vicious cycle:



Fatty Liver Continued...

Insulin is involved in NEFA to adipose metabolism and vice versa. When there is not enough insulin, or insulin resistance:

1. Fat cells undergo hydrolysis and blood NEFAs rise
2. Glucose uptake by the muscle tissue falls
3. Glucose storage in the liver falls
4. Blood glucose rises

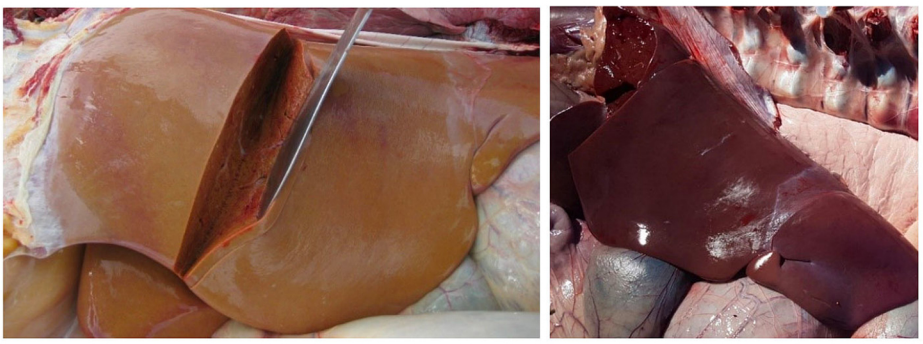
Insulin resistance persists into early lactation due to the effects of the Growth Hormone. Higher yielding cows produce more Growth Hormone, we have bred this with genetics to drive more milk production. Growth Hormone also reduces insulin secretion which means less insulin and greater insulin resistance.

Type II Ketosis is ketosis related to fat mobilisation in early lactation. With fatty liver we see:

- Reduced dry matter intake
- Greater negative energy balance
- Decreased oocyte quality and cyclicity
- Immune suppression
- Oxidative stress – more free radicals, more tissue damage, more disease (equivalent to smoking 40 cigarettes a day)
- Over feeding energy in the far off period makes this worse as it decreases the ability of insulin to suppress fat synthesis. Fat mobilisation post calving is then increased. Visceral fat is also increased and this can't be seen

We need to:

- Avoid fat dry cows
- Avoid over-feeding in dry period. The early dry period affects metabolism in later dry period so is critical
- Have a WHOLE dry period strategy, not just close-up period.



Post-mortem diagnosis of a fatty liver (left) and a healthy liver (right).
Source; Biomin.net

Milk Fever

The onset of milk production demands a large amount of calcium. Milk fever occurs at or around the point of calving. The cow is unable to meet this calcium demand, due to ration imbalance.

The signs of milk fever are:

- Staggering
- Downer cow
- Muscular weakness
- "S-bend" neck

Other problems which occur due to milk fever are:

- Calving difficulty due to muscular weakness
- Increased chance of uterine prolapse
- Increased chance of retained placenta
- Decreased milk production

Retained Placenta

Retained placentas are common but with the correct management the occurrence can be less than 10% of the herd. These are a few ways to minimize the occurrence of retained placentas:

- Feed a balanced dry cow ration 45-60 days before calving
- Correct BCS– target 3
- Daily exercise
- Clean, dry and comfortable calving area

Ketosis

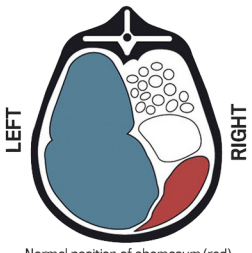
A metabolic disease which occurs in early lactation due to cows being too fat in the dry period.

The signs of ketosis include:

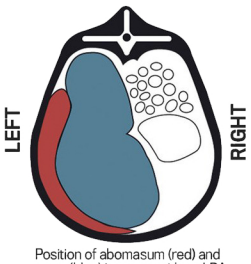
- Off-feed
- Reduced milk production
- Weight loss
- Listlessness
- Breath smells of pear drops

Displaced Abomasum

This is when the abomasum becomes filled with gas and/or liquid and moves to an abnormal position. Most displaced abomasum occur within two weeks after calving. High concentrate diet in the dry period and early lactation increases the occurrence of displaced abomasum.



Normal position of abomasum (red) and rumen (blue)



Position of abomasum (red) and rumen (blue) in a cow with an LDA

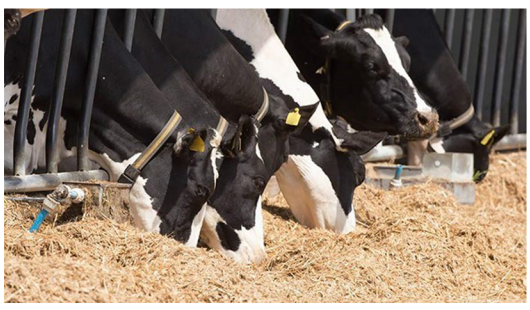
Housing Considerations

The 3 Main Considerations for Housing Are:

- **Adequate Feed Access**
- **Comfort**
- **Absence of Social Stressors**

Key Features

• 30 inches (0.75m) of feed space 21 days before calving to ensure that all cows can eat at the same time
• Use of headlocks in the pre calving pen (ensure ample training for heifers)
• Deep loose bedded pens or deep bedded, ideally sand, dry cow cubicles, which are sized to accommodate the size of the cows
• At least one stall per cow or at least 100 square feet (10 square meters) of bedded area per cow, stock at 90% stocking rate
• Minimise regrouping stress within the critical period 2-7 days before calving
• Ideally move into calving pen when feet are seen, i.e. at point of calving, definitely don't move 48 hours before. If need to move sooner then ideally 10 days before calving
• A quiet place to calve, with limited disturbance from humans and other cows to ensure as natural a birth as possible with a lowered risk for dystocia and stillbirth
• In an ideal world, calve in individual pens on Kraiburg rubber matting, cleaned and disinfected between calvings
• Feed and feeding to meet the cows requirements
• More than one watering point as a dominant cow can bully other cows away
• Space is a large limiting factor in dry cow sheds. Cows need plenty of space to move around to exercise which is to allow the cow to build muscle strength
• Neck rails can restrict the DMI so they should be smooth and positioned at the correct height to avoid rubbing of the necks



Cubicle Design

Stock cubicle sheds at 80-90% of the full capacity as over stocking will lead to social, nutrition and disease issues. Remember that these cows are at the largest physical size in the production cycle. Resting behaviour is impacted by:

- Stall comfort
- Lameness
- Heat stress
- Time in the pen
- Overstocking

Pre-calving cows need cubicles that are designed for their size, wider cubicles have been shown to increase resting times and reduce lameness. Look out for:

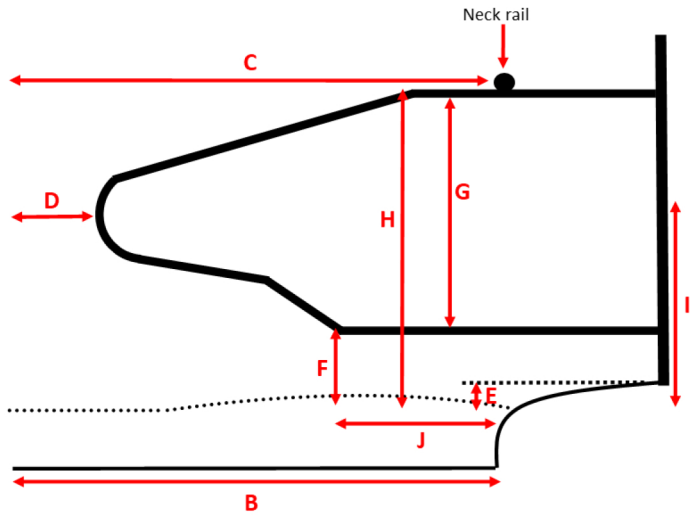
- Cows not lying in for at least 12 hours a day
- Cows lying half in or half out of the cubicle
- Cows not able to comfortably lie down

Deep sand cubicle beds result in longer lying times than mattresses. Research shows a cow will lie down for one extra hour when on sand compared to mattresses and up to two extra hours when compared to water beds. Sand is also better for hygiene, comfort and grip.

% incidence	Mattress	Sand
Lame	17.4	11.4
Severe hock	29.4	4.7
Severe knee	8.3	5.3

Very significant reductions in physical injuries are achievable with sand bedded cubicles. (Cook et al., 2016)

Key points are to provide an adequate cushion, traction and support while rising and lying. Lunge space is also important to allow the cow to exhibit her natural behaviour and maintain confidence in entering the cubicle.



Light and Air Flow

Comfort is key for transition cows and light and air are fundamental factors to comfort. Getting comfort wrong will increase the incidents of metabolic issues. Dry cows often come second to the milking cows, this is seen on farm when the dry cows are put into a poorly ventilated or dark shed due to space issues. In straw bedded pens, when the ventilation is poor, it is an ideal breeding ground for bacteria which is not an ideal environment for a calf to be born into and will increase mastitis cases.

To improve the environment:

- Open up the side inlets and the roof ridges
- Where little changes to the structure can be made and air flow is limited, install fans
- Increasing light will increase dry matter intakes and therefore ensure optimum rumen fill during transition. Aim for 200 lux for 16 hours a day

Heat Stress

Cows which are incredibly susceptible to heat stress are close to calving cows and new calved cows. Cows will stand more when they are too hot to allow air to circulate around their bodies. This negatively affects rumination and can lead to increased lameness.

In hot conditions, cows will have the same number of lying bouts, but the duration of these bouts will decrease. A 6 day period of heat stress can result in 3-4 hours less lying time, which indicates that the cow is expressing a stressed response to her environment.

Mechanical ventilation needs to be designed correctly. Air speed and reach need to be calculated. The cone of air leaving the fan should reach all the area of cubical especially in head to head rows.

Heat stressed cows often drool excessively, resulting in an excessive loss of sodium and bicarbonate. The cow can go into a state of metabolic acidosis that interferes with glucose, protein, hormones and minerals in the body fluids.

DMI will also reduce, especially if the water supply is inadequate or poorly situated.

Innate or acquired immune responses are negatively impacted by heat stress.

Source; Biomin.net

Stocking Density Recommendations

Dry cows should have a minimum of one cubicle per cow or 1m2 per 1000 litres of milk produced as herd average on a bedded yard area. However, to improve the health and production of the cows, stocking density should be between 80 and 90%.

Lying Time

Overstocking leads to less lying time, as shown in the table below, and impacts the foot health of the cow.

Stocking density	Lying time (hours/day)	Cow displacements/ 5 hours
100	12.9	0.7
109	12.1	0.9
120	12.0	1.6
133	11.5	2.1
150	11.2	1.9

(Fregonesi et al., 2007)

Dry Matter Intake

Overstocking also reduces the bunk space which impacts the DMI negatively. A reduced DMI leads to an increased chance of metabolic diseases such as ketosis, metritis and displaced abomasum.

Building Design

Quite often buildings have 3 rows of cubicles and only 1 row of feed space. The transition cow area is the one that should definitely not be compromised. A better design would be 2 rows of cubicles and 2 rows of feed spaces allowing the stocking density at the feed rail to be the equivalent to the cubicles.

Grouping

Keep group changes to a minimum as the hierarchy has to be established each time. Research suggests that it takes 4 days for cows to return to their normal social behaviour after regrouping.

Moving cows can reduce DMI and lying time as they adjust to a new social group. DMI can be as much as 9% lower. Research shows that these effects can be reduced if low stocking densities are maintained in the housing.

Cows should be moved in pairs or more as one cow on its own will get bullied. One suggestion would be to have many straw bedded pens and move in groups out of the far offs into a straw bed pen. Repeat this each week but keep cows in the same groups.

3 weeks	**2 weeks**	**1 weeks**	**Calving**

Heifers

Where possible heifers and first lactation cows should be separate to cows as the cows are often more dominant and stronger and outcompete the younger cows for lying space and feed. Often it is not possible to separate cows and heifers due to facilities, in which case the stocking density should be reduced to reduce competition.

Consider what happens to the heifers after calving, if they have a separate milking group they should definitely be kept separate through transition period. If mixing with cows once milking then they are better mixing with the cows in transition period but must join the cows at least 3 weeks pre-calving, ideally 4-6 weeks

Designing a Transition Cow Facility

Transition Pen Size

Determine total cows in the herd (milking + dry)
Average calvings per day

$$\frac{\text{Total Cows} \times 1.1}{365}$$

1.1 usually freshen 10% more cows than the average herd size

Size transition pens to 1.2– 1.5 times the average rate of calving x target duration of stay

- Use 1.2 for pen stays > 30 days
- Use 1.3 for pen stays >21 days
- Use 1.4 for pen stays 2-21 days
- Use 1.5 for maternity pen stays ≤ 2 days

Example

Pre-fresh pen for 400 total cows with a 21 day pen stay
Average calvings per day

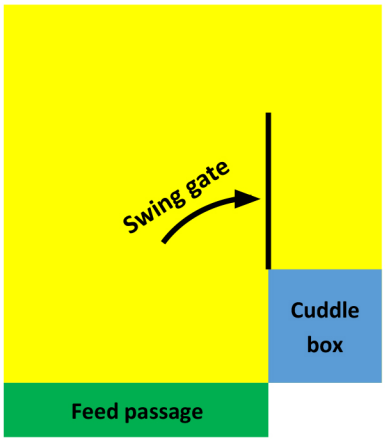
$$\frac{400 \times 1.1}{365} = 1.2$$

For a 21 day stay, use 1.4 x rate of calving per day

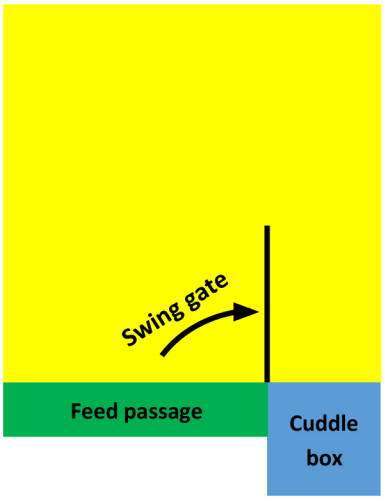
21 x 1.2 x 1.4 = 35 cows in a 21 day prefresh pen

Cuddle Box

Below are two examples of cuddle boxes. The cuddle box is a box in the feed passage area where the cow can lick the calf and the calf is safe. A border around the box protects it from cold winds. The calf should be fed 2 litres of colostrum as soon as the calf will take it. By putting the calf in the cuddle box and feeding with colostrum, the quantity and quality of the colostrum is known. By placing the calf on hay or silage, it encourages the cow to eat.



Cuddle Box in the Calving Pen



Cuddle Box Outside the Calving Pen

Maternity Pen Management

Just in Time Calving

Where cows are moved to the maternity pen (the pen in which the cow calves) within hours of birth.

Main Points of Just in Time Calving:

• Risk of stillbirth is reduced by moving cows with waterbag or feet showing to maternity pen vs. cows with only mucus showing (Carrier et al., 2006)

• This requires around the clock supervision of the pre fresh group 24/7
• Larger, 3X milking dairy herds
• Problem: workers are always going to want to move the cow too early to avoid mistakes

Individual calving pens are more suited to this system. They should be at least 3.7m x 3.7m, have water and new clean straw or ideally, using Kraiburg rubber surface, easily cleaned and good grip for the cow. If possible, and without compromising ventilation, they should have some shielding from other groups of cows to provide a quiet, undisturbed environment to avoid stress while in the process of giving birth.

Short Stay Maternity Pen

Where cows are moved to the maternity less than 2 days before they calve. Avoid moving cows 7-2 days pre calving as the stress can increase reduce DMI leading to more transition disease. Cows moved 2 days or less before calving are less concerned with their social group as they are physiologically in the process of giving birth.

Main Points of Short Stay Pens:

• Cows within 2 days of calving avoid social contact and do not appear to be as affected by regrouping stress as cows 2-7 days before calving
• The success of this approach depends on the ability of workers to predict calving 2 days prior to the event
• This approach is more applicable to smaller herds, typically less than 250 cows, where dry cow groups are small and social stresses less than in larger herds
• The elements critical to the success of short stay maternity pens are
• Excellent stockmanship and timing of calving
• A group maternity pen to avoid prolonged isolation of individual cows

The Fresh Cow

Immediately Post Calving

During calving the cows intake of feed and water is reduced so as soon as she has calved it is crucial to provide feed and water to keep the rumen full and functioning. Offer the cow aired water and a fresh cow powder can be added. Also offer the cow some of the fresh milking cow diet but do not overload the cow with concentrates.

Monitor for metabolic diseases such as milk fever or ketosis. Ensure the cow has cleansed.

First Few Days Post Calving

At the start of lactation the cows are in a negative energy balance as they are using their energy to produce milk and the DMI is not great enough to provide enough energy. Monitor cows to make sure they are eating and monitor rumen fill. Look for sorting in the diet. Monitor the manure as manure tells you a lot about the rumen function and digestion:

- Bubbling in the manure suggests acidosis
- Wash the manure through a sieve—foaming suggests an acid load
- If there are clay balls in the washed manure then it is a sign of poor rumen function
- Look for undigested matter which suggests the rumen isn't functioning correctly

Put the new calved cows into a clean environment to reduce the chance of mastitis.

Recordings

- Milk fever
- Retained placenta (12 hours post calving)
- Metritis
- Sub clinical ketosis
- Left displaced abomasum (LDA)
- Mastitis
- Yields
- Intakes
- Temperatures

Diet Parameters

- Far off eat 12-14kg dry matter
- Close to eat 11-13 kg dry matter
- Some starch is required to acclimatise and grow rumen papillae
- 1200g MP (metabolisable protein) to give good colostrum quality
- Not too much protein (increases energy loss)
- Enough fibre from forage to give rumen fill (6kg dry matter)
- 100-106 MJ ME per day

Feed

The diet is a key part of ensuring that the transition from dry cow to fresh cow is as smooth as possible. Remember, it takes 3 weeks for the rumen bugs to adapt to diets. It is very important to ensure cows can eat sufficient dry matter (DM). Aim for a diet with a DM of 40-45%.

Cows need to eat the formulated diet in the correct quantity in order to receive the nutrients they need. Aim for a DMI of 12-14kg because the more they eat in the dry period, the greater the intake initially after calving resulting in more milk in lactation. To achieve the best DMI possible, the feed should be consistent, well presented, palatable and fresh. Even under ideal conditions individual DMI can vary by as much as 2.5kg DM from the group average. For a group consuming as average 12.3kg DM daily, 15% of the cows have been found to be consuming less than 10kg DM. these cows will not receive sufficient energy, protein, physically effective fibre or minerals and vitamins resulting in these cows being more susceptible to transition diseases.

Starch is required to repair and develop the rumen papillae so a small amount in the dry period is important, especially in the last 3 weeks prior to calving. In this period the starch will stimulate the papillae and also start to enable the rumen microflora population to start to adjust ready for the lactation diet.

The Dry cow diet may be separated into 2 periods, 8weeks - 3weeks and then 3weeks - calving. The far off period from 8 weeks to 3 weeks pre-calving will be the time to optimise rumen capacity whilst maintaining body condition and limiting the fat laid down in the liver. This requires a low energy dense diet, 8.8-9.2 M/D with high fibre, chopped short, to drive intakes. High quality minerals are crucial to replenish stores. Diet protein level should be targeted at 12-14% CP, ensuring 1200g MP.

For the last 3 weeks prior to calving the same base diet should be used as with the far-off period but add in 2-3 kgs concentrate ideally based on wheat and bypass protein to drive the transition and preparation for lactation.

If dry cows are at grass, ensure they are on a bare paddock and that the diet is grass based all the way through from dry cow to fresh cow. Do not change a cow from a grass diet, to a straw-based forage diet and then to a fresh calved diet!

Diet

Intakes

Cows that get full quickly will potentially spend less time stood on their feet. This will reduce the incidence of sole ulcers in early lactation. Less aggressive behaviour at the feed barrier will also reduce physical trauma to the feet such as white line disease

Head locking barriers have been shown to reduce displacements at the barrier during feeding. This is due to the extra space per cow they create and the difficulty bully cows have in knocking a neighbouring cow away from feed. It can be useful to have an open barrier if heifers or cows are not used to locking barriers so that dry matter intakes are not reduced.

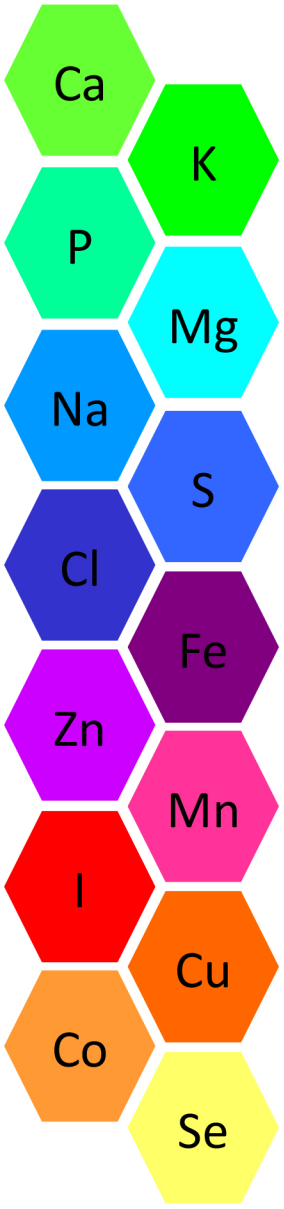
Water

Water is often a forgotten part of the diet but is so important for health and production. Water should be clean, if you would not drink it yourself then why would your cows want to drink it!

- Clean out water troughs on a regular basis, at least weekly
- Allow 10cm2 per cow
- Think about where the water troughs are positioned
- On the deep beds can cause wet beds
- Easy access and allow two troughs to reduce the risk of bullying
- Hydrated cows have an improved feed intake which is vital for late gestation and fresh cows. In warmer months it is also essential to keep cows hydrated

Minerals

Watch out for mineral deficiencies such as selenium and iodine as well as vitamin E. Dry cow diets to control milk fever compromise of high magnesium minerals or DCAB minerals plus restricted potassium. Alternatively a calcium binder can be used pre calving, then a calcium supplement used directly after calving. See our mineral tech brief for more detailed information.



Calcium

Balancing calcium levels around calving is one of the challenges most farmers experience.

In the dry period the calcium levels should be low to minimize the incidence of milk fever. Once the cow calves, the requirement for calcium is high so the milking diet need to provide the calcium or alternatively calcium boluses can be used.

Oral / sub-cutaneous supply - only small amount absorbed
DCAB - Dietary Cation Anion Balance = mEq (Na + K) - (Cl + S) / kg DM

- Dry period DCAB < - 50 mEq/kg DM
- Lactation DCAB > 200 mEq/kg DM
- Low DCAB in dry period acidify the blood
- Mobilising of calcium is the main acid-base buffer of blood pH
- Low DCAB increase blood calcium
- Preventative effect is very variable

Low calcium rations
- Ca supply should be lower than 20 gram/ day
- Stimulates natural homeostatic mechanisms
- Prepares the cow for maximum Ca absorption
- Preventative close to 100%
- Difficult to formulate rations sufficiently low in Ca
- Using a binder helps this scenario

Magnesium

Magnesium is a key major mineral to control milk fever. Magnesium is necessary for the metabolism and absorption of calcium within the cow

Minerals

Copper

Copper must be balanced. Copper is important for immunity to reduce metritis, mastitis and retained placentas. However, too much copper will lead to copper toxicity or death.

Selenium

Selenium works with vitamin E and these are important for the cow and calf immune function.

Potassium

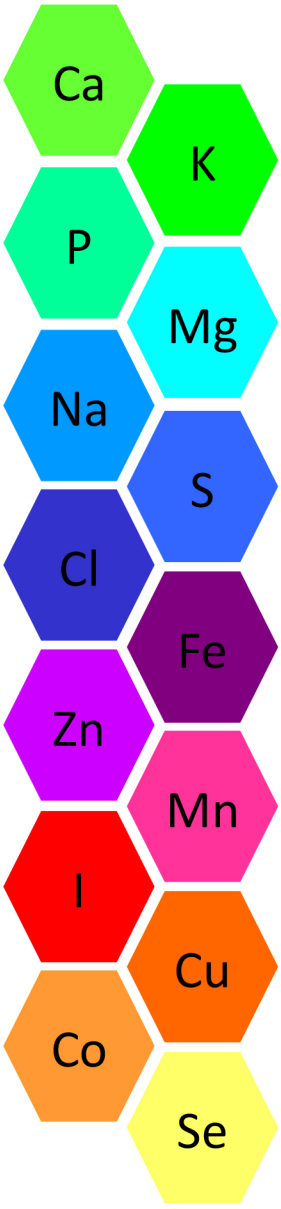
Grass silage typically has a higher content of potassium than a dry cow requires. Potassium interacts with magnesium in the rumen by locking it up leading to a slower metabolism and absorption of calcium.

Iodine

Low levels of iodine lead to small weak calves or stillborn calves. Low iodine also lowers the immune function and fertility is negatively affected.

Zinc

Zinc helps with skin and foot health, as well as udder health.



DN Dry Cow Products

Compounds

iPrepare Rolls – A high energy, 18% protein roll and contains Lift. Quality protein sources with a high bypass level to drive colostrum and milk production. Energy sources include wheat and barley to stimulate the rumen post calving. High magnesium to help reduce issues with milk fever. Ideal for suckler cows and dairy cows.

Replenisher 321 Nuts – A high energy, 24% protein nut which contains Lift, Actisaf yeast, Magnesium Chloride and Availa minerals. Contains high levels of bypass protein to produce colostrum and milk, wheat to provide energy to stimulate the rumen for intake post calving. High spec dry cow nut for dairy cows to support health, transition and colostrum production.

DC X-zel Complete – A 6mm, fully mineralised nut made from quality protein sources and contains a high level of bypass protein to help produce good quality colostrum. These nuts contain the calcium binder, X-zelit , to reduce the risk of clinical and sub-clinical milk fever. Particularly useful to dry cows which are grazing, fed on a high grass silage diet or fed a high potassium silage.

DC X-zel 3.0 – A 6mm nut with a high bypass protein for preparation for colostrum and milk production. Z-zelit is included to reduce the risk of milk fever and the magnesium level is to help the calcium balance at calving. This nut is designed for cows which are grazing, fed a high grass silage diet or high potassium silage. This nut requires a separate dry cow mineral to be fed alongside to provide trace minerals and vitamins.

Lift - Natural product to boost liver function

Actisaf Yeast - Yeast culture to improve rumen function and ease transition of diet changes

Magnesium Chloride - Makes the product partially DCAD to help balance calcium excess

Availa Minerals - These are minerals which are more accessible to the cow

Calcium Binder - Reduces the chance of milk fever by stimulating the cow to mobilise her calcium reserves

Minerals

Essential Dry Cow is a high magnesium mineral for all classes of dry cows.

Progressive Dry Cow is targeted more towards higher yielding cows or for cows with more susceptibility to immune pressure and stress and contains Availa mineral.

Xzelit is a calcium binder is induce a negative calcium balance pre-calving to stimulate the mobilisation of calcium. X-zelit should be fed to cows 14 days before calving. X-zelit is used to reduce the risk of milk fever but it has also shown to improve milk production and Somatic Cell Counts due to better post-calving DMI and less immune stress. If including Xzelit in a dry cow mix, concentrate and minerals will need to also be incorporated.

Check List

1. Are the transition cow facilities adequate?

• Calving pattern – you need to calculate the maximum number of calvings per 3-week period

2. Here is how to calculate the calvings per day and pen size

• Take cows in the herd and add 10%
• Divide by the calving interval, or if it is a seasonal calving herd by the length of the calving period
• If the pens are designed for three week stays or longer multiply the calvings per day bythe length of the stay and then multiply by 1.3
• If the pens are designed for stays less than three weeks multiply the calvings per day bythe length of the stay and then multiply by 1.4

3. Are the cows re-grouped or moved to different pens during the last three weeks before calving?

• The transition cows need to be housed in a system where they do not need to be moved during the last three weeks prior to calving (Range 17-25 days pre- calving)
• Adopt weekly drying off and pen move protocols

4. Is there adequate lying space in the close-up pen?

• Transition cows need 1m^2 per 1000 litres milk produced or at least 1 stall per cow

5. Check that there are enough maternity pens based on the calvings per day you calculated for question 2.

6. Are cows moved to the maternity pen more than 2 days prior to calving?

• Cows should be moved to the maternity pen less than 2 days prior to calving
• Moving cows just in time is advantageous
• Leaving the cows to calve in a straw bedded close-up pen is also acceptable as long as they moved into this space more than 10 days before calving

7. Check the pattern of transition diseases on the dairy

• Is it seasonal – Could be related to heatstress or calving pattern?
• Peaks and troughs in transition diseasescould be related to stocking rate in thetransition cow facilities

8. If there are no reliable transition disease records, 4 week standardised milk production, peak milk production or conception rate and days to first service can be useful indicators of transitional health.

9. Are there more than 15% cows too fat (BCS>3.25) or too thin (BCS<=2.75) in the dry group?

10. Are there more than 0% lame cows in the dry pen?

Dugdale Nutrition

For further information regarding any of the information within this Transition Cow Management Guide, please contact your local DN Sales Specialist or alternatively, you can get in touch using the information below.

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