

Springer and transition cow management

Technical Note N11

The transition period is the last three weeks of pregnancy (close-up dry period) and the first two weeks of lactation (early fresh period). It is the critical period in the cow's preparation for lactation. Minimising the incidence of metabolic/health disorders at this time will help the cow achieve maximum milk production.

Important elements of an effective transition period

Maximise dry matter (DM) intake in readiness for peak production.

Adapt rumen microbes by feeding similar feed sources to the milkers' diet.

Avoid feeding high levels of calcium and buffers (containing sodium and potassium) in the close-up diet before calving, but reintroduce them in the early fresh ration.

Introduce grain-based concentrates slowly (increase by 1 kg every two days until target intake levels reached) to reduce the risk of acidosis.

Feeding close-up dry cows (three weeks before calving)

Lead feed with grain-based concentrates (1–3 kg/cow/day) three weeks before calving for adult cows and four weeks before calving for first calf heifers. Lead feeding will help to:

- Maximise dry matter intake.
- Prepare the rumen for higher concentrate levels in the milking diet.
- Prevent metabolic disorders such as milk fever, ketosis and grass tetany.

Feed close-up dry cows similar feed types (concentrates and forages) to the milkers' diet to adapt the rumen microbes to the lactating diet and improve DM intake at calving.

Dry matter intake declines rapidly 1–2 days before calving until 2–3 days after calving. Energy intake at this time may be reduced by 35% (Figure 1). Providing a diet that encourages intake during this period will minimise the loss of body condition, help prevent ketosis and maximise peak milk yield.

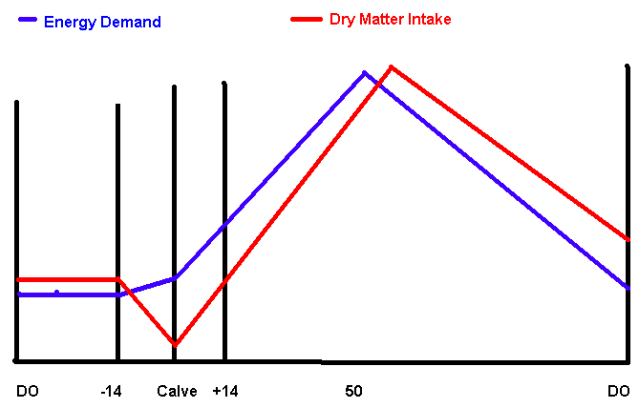


Figure 1. Dry matter intake declines just prior to calving and does not meet energy demands until after peak lactation, where intake is then in excess of energy requirements.

Feed anionic salts as part of the lead feeding program if milk fever and retained placentas are a problem.

- Anionic salts provide anions (chloride and sulphate) to counteract the cations (potassium and sodium) in the diet. The correct balance will lower body pH, stimulate calcium release from the bones and calcium absorption from the gut, and help prevent milk fever and retained placenta at calving.
- Anionic salts are quite unpalatable and may further depress DM and energy intake.
- To determine whether anionic salts are working, test the urine with pH test strips. Target a urine pH of <6.5 in Holstein Friesians and <6 in Jersey cows. If pH is higher than the target, consult a nutritionist to

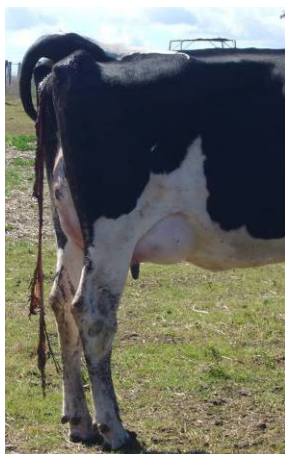
formulate the springer diet and anionic salt mix to suit your herd.

Avoid or minimise feeds in the diet that have a high sodium (buffers: sodium bicarbonate), potassium (molasses, sorghum, ryegrass) or calcium (lucerne) content, as they increase the risk of milk fever and retained placenta's. Balance the diet for a low calcium content to increase the mobilisation of calcium from the bones and reduce the risk of milk fever and retained placenta.

Ensure adequate mineral and vitamin levels in the diet:

- Calcium—0.50 to 0.60% of the diet DM.
- Phosphorous—0.30% of the diet DM. Low P intake can increase the risk of milk fever, downer cow syndrome, retained placentas and anoestrus after calving.
- Magnesium—0.40% of the diet DM.
- Potassium—0.65% but <1.3% of the diet DM.
- Sodium—0.10% of the diet DM or limit salt intake to 30 g/cow/day to minimise oedema (build-up of fluid) in the naval and udder area.
- Selenium—0.3 ppm in the total diet to reduce the incidence of retained placenta's (Photo 1).
- Vitamin E—1500 IU/day. Deficiency of vitamin E can lead to reduced disease resistance, increased calving disorders and potential vitamin deficiency for the newborn calf in the colostrum.
- Feeding 3–12 grams of niacin (vitamin B3) per day may reduce the risk of ketosis at calving.

Cows dried off in high body condition (>6 on a 1–8 scale) have a higher risk of displaced abomasums and ketosis, so avoid a lower dry matter intake for these cows at calving.



A freshly calved cow with a retained placenta.

Feeding early-fresh cows (cows up to two weeks after calving)

In this early fresh period, cows go into negative energy balance as their energy intake is lower than energy required. Their natural tendency is to produce milk from their body reserves, until intake catches up to energy demand. So calve cows in adequate body condition (5.0–5.5 out of 8) and do not allow the cows to utilise more than 0.75 of a condition score up to peak lactation.

Provide a balanced diet to achieve maximum DM intake as soon as possible after calving. This will help reduce the loss in body condition.

Increase the amount of concentrate gradually (increase by 1 kg every two days) up to its highest level, to reduce the risk of acidosis. Ensure fresh cows are chewing their cud when resting, which is a sign of a healthy rumen.

As each fresh cow enters the herd, be alert for signs of potential metabolic diseases such as milk fever, acidosis, and ketosis. Late detection can result in long-term production effects and even death.

Include buffers such as sodium bicarbonate to help prevent acidosis.

Balance the diet according to the target diet specifications outlined in Technical Note N06: Balancing the diet.

Further information

Contact the DAFF Customer Service Centre by Phone 13 25 23, or Email callweb@daff.qld.gov.au

More technical notes can be found at: www.dairyinfo.biz

The project is funded and supported by the Department of Agriculture, Fisheries and Forestry and Dairy Australia.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this report.

© The State of Queensland, DAFF 2013