

Springers: repro ready

Feed a balanced transition diet to cows and heifers for 21 days before calving.

Getting nutrition right in the three weeks leading up to calving will get more cows in calf, sooner. It is also the key to fewer cow health problems at calving and a highly productive lactation. Cows that don't transition well from springer to fresh milker lose more body weight, have lower milk production and are less fertile.

The three weeks before calving is the time to get springers ready for lactation and mating. It's when cows and heifers go through dramatic changes and need a diet that prepares the rumen for a milker's ration, meets the demands of the developing calf and udder, and prevents diseases such as milk fever.

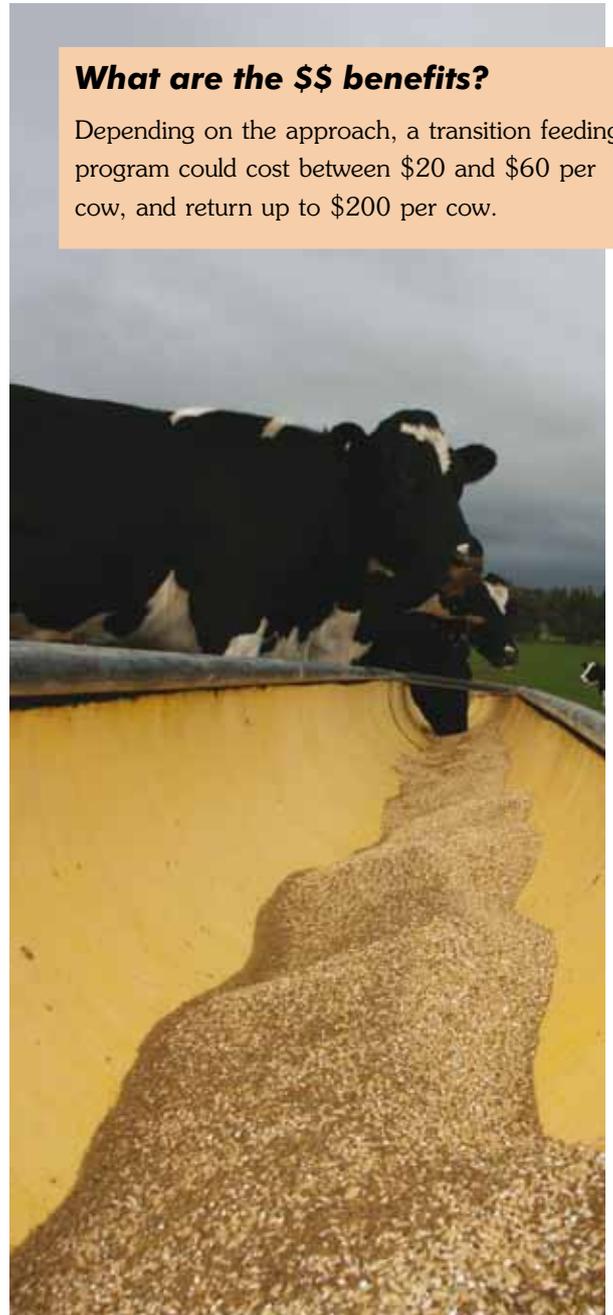
Benefits

A successful transition feeding program helps:

- prevent milk fever;
- reduce RFMs, assisted calvings and vaginal discharge;
- reduce acidosis, ketosis and lameness;
- save time and money spent on treating sick and downer cows;
- increase in-calf rates;
- increase milk production over the entire lactation.

What are the \$\$ benefits?

Depending on the approach, a transition feeding program could cost between \$20 and \$60 per cow, and return up to \$200 per cow.



What to do for a good transition

Have a balanced transition diet

A balanced transition diet must have the right amount of energy, protein, fibre, calcium, magnesium, phosphorus and trace elements, and the correct DCAD level.

All feed sources (including pasture) contain different amounts of these components. Work with a nutritionist to get the balance right for your herd.



DCAD is the **D**ifference between the **C**ations (sodium and potassium) and **A**nions (chloride and sulfur) in the **D**iet.

What to feed springers

The transition diet before calving should satisfy the nutritional needs of the cow, calf and developing udder.

Springing cows require 100-120 MJ ME per day. To achieve this, the feed needs to contain about 11 MJ ME/kg DM and 14-16% protein.

Poor-quality hay or forages definitely will not provide this. Remember to include fibre in the diet to help keep acidosis under control. A good-quality cereal hay low in DCAD is a good source of energy and fibre.

As a rule of thumb, feed half the *amount* of grain or concentrate you feed the milkers and in the same form (e.g. pellets or loose feed). Don't feed the springers the milker ration or feed that contains sodium bicarbonate. This feed is unsuitable for springers and will increase milk fever risk.

Anionic salts are used to manage DCAD levels. Examples of anionic salts are magnesium chloride, magnesium sulphate and commercial products such as Anipro®, SoyChlor® or BioChlor®. They can be dispensed in water troughs, sprayed on pasture or added to supplementary feeds. They can also be an additive in commercial transition supplements (lead feed).



A **lead feed** is often used as part of a transition diet. It is a grain-based supplement fed to cows before calving. It may contain anionic salts, rumen modifiers, vitamins, trace elements, protein meals or other additives.

Plan ahead

Timing is important! Aim to feed a transition diet for 21 days before calving. The best way to achieve this is to do early pregnancy testing to get accurate dry-off lists and calving dates. Use these dates to time when to start feeding the transition diet.

Plan your fodder purchases in advance. Before bulk buying, feed test the ingredients, such as hay, to make sure it's suitable in a transition diet. This is the time to talk to your nutritionist.

Cows in transition may drip milk or develop a swollen udder (udder oedema) before calving, increasing the risk of mastitis. Manage the risk by using teat sealants at dry off, milking the cows and heifers, keeping calving conditions clean, spraying teats if springers are fed in the dairy and having a balanced springer diet that is low in DCAD.

Allocate who will be responsible for buying the transition diet ingredients and arranging the testing and feeding out of the transition diet. Ensure they know exactly what to do.

Feeding out

Decide if the cows and heifers will be fed the transition diet in the paddocks, on the feed pad or in the dairy.

Make sure the cows are eating their feed and have enough space to eat (about 0.75 metres per cow). If palatability is an issue check salt levels and feed quality.

Feed the transition diet to your heifers too. It helps establish them in the herd's social order and adapts them to the milkers' diet.

How a good transition helps

Preventing milk fever

Treating cows with milk fever (hypocalcaemia – low blood calcium), or downer cows, can be costly and time consuming. Cows with low blood calcium may also need assistance with calving and have retained foetal membranes, higher mastitis levels and more vaginal discharge. For each clinical case of milk fever you see, up to eight other cows may be affected in some way. All these conditions affect the fertility of your cows and reduce the herd's reproductive performance.

In addition to managing DCAD levels, controlling calcium, magnesium and phosphorus levels in the diet will control milk fever and its flow on effects. Aim for low potassium, calcium and phosphorus and high magnesium levels in pre-calving diets.

Milk fever risk level for feeds commonly used in pre-calving transition diets

Low	Medium	High
Grain or concentrates	Cereal hay	Pasture treated with effluent
Protein meals	Maize silage	High potassium molasses
Brewers grains	Whole cotton seed	Legume pastures
Most grain by-products		Sodium bicarbonate



Getting the rumen ready

If you are feeding the cows more than 3 kg/day of grain or concentrates after calving, you should be feeding grain or concentrates before calving too. This helps prevent acidosis or grain poisoning by giving the rumen time to adjust to grain in the diet. It takes seven days for the rumen bugs to adapt to the higher starch diet fed after calving and at least three weeks for the rumen lining to properly develop to absorb the nutrients.

Adding rumen modifiers such as monensin, tylosin and virginiamycin will benefit rumen transition. If using a rumen modifier in the milker diet use the same one in the pre-calving transition diet. Discuss this with your nutritionist or vet.

Body condition, energy and protein

Cows should not be too fat or too thin at calving. The ideal body condition score (BCS) at calving is between 4.5 and 5.5 (on an 8-point scale). As cows approach calving, their feed intake can drop dramatically. They can lose weight if their diet isn't high enough in protein and energy.

Cows have much higher in-calf rates if they calve with a BCS between 4.5 and 5.5 and lose less than one condition score between calving and joining. Feeding an effective transition diet helps cows to return to full appetite sooner after calving. This reduces the time and depth of negative energy and protein balance after calving. The result is less weight loss, and higher fertility at joining.



Knowing the level in all components of the pre-calving diet of calcium, magnesium, phosphorus and DCAD is the only way to accurately assess milk fever risk.

Is your transition program working?

It is important to check whether the transition feeding program is working and to know what to aim for. You can do this by keeping track of the number of cows that have health problems around calving. Here's what you can achieve with a good transition program. Seek help from a nutritionist or vet if the levels in your herd are higher.

Health problem	Aim for (% of herd)
Milk fever	1%, 2% for cows >8 years
RFMs	<4%
Assisted calvings	<2%
Vaginal discharge	<3%
Acidosis	0
Ketosis	<1%
Mastitis	<5 cases per 100 cows in first 30 days
Grass tetany	0
Lameness	<2% with score 2 of 5



Cows that lose more than one BCS between calving and joining have significantly lower in-calf rates. If you see any of the following signs, the herd may be losing too much body condition after calving, lowering the herd fertility.

Early warning of nutritional problems that may lead to too much body condition loss

Feed in the bail	Uneaten concentrate feed is found in the bail after each milking.
Butter fat percentage	Butter fat test of the herd is less than 3.2% or there is more than 0.2% change in butter fat per cent each pickup. The butter fat percentage is lower than the protein percentage.
Chewing cud	When you visit the paddock two hours after milking less than 30% of the herd is chewing cud.
Manure consistency	Manure in the yard or paddock is liquid to pasty consistency with some bubbling.

More information:

For more fertility recommendations, go to InCalf at www.dairyaustralia.com.au/InCalf

For more feeding recommendations, go to Grains2Milk, www.dairyaustralia.com.au/Farm/Feeding-Cows

For more about controlling mastitis, go to the Countdown Downunder Farm Guidelines at www.dairyaustralia.com.au/Farm/Mastitis-and-Milk-Quality

For more about clarifying job tasks, go to The People in Dairy website, www.thepeopleindairy.org.au

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