parklands VETERINARY GROUP
Large Animal Services

vetPartners

Farm Newsletter

January 2026

Does late pregnancy feeding affect calving difficulty?

One of the questions that we are often asked is whether increasing the energy supply of a [dairy or beef] cows' diet in the last month prior to calving results in bigger calves and more calving difficulties. Answering this question is more complicated than it seems!

Some research studies have provided evidence to show a positive linear relationship between **energy intake** in late pregnancy and calf birthweight. Gao and others (Journal of Dairy Science 2012, 95; 4510-4518) fed three groups of ten Holstein cows a high energy, medium energy and low energy diet for the last **21 days** prior to calving. The average calf birthweights were 43.90 kg on the high energy, 42.05 kg on the medium energy, and 39.15 kg on the low energy diet. Whilst this difference was statistically different, the biological significance of any difference is likely to be minimal, ie the cows should have been well able to calve any of the calves at those weights. Waldon and others (Journal of Animal Science 2023, 101, 1-6) recently reviewed the existing literature regarding energy and protein restriction in beef cows in late pregnancy, highlighting the contradictory data on this subject. One recent example is Chen and others (Scientific Reports 2022, 22, 12(1); 4828) who fed three groups of 30 Aberdeen Angus cows diets that supplied 110%, 100% and 90% of their **energy requirements** for the last **45 days** of pregnancy. Calf birthweights were 39.62kg, 37.17 kg and 33.68kg respectively, due to differences in the **bull calf birthweights** (heifer calves showed **no** difference in birthweights). Again, these differences in calf birthweights would be unlikely to be biologically significant. Indeed none of these calf birth weights are extreme, even after six weeks of over-feeding energy in beef cows!

However, there are no studies (as far as we are aware) that show any link between increased energy and protein supply in late pregnancy and more difficult calvings. Admittedly, some of this is because most of the studies did **not look at calving difficulty**, mainly as there were not enough animals to see any statistical differences! Either way, any differences in calf birthweight due to late pregnancy nutrition are minimal. Indeed, it is not possible to feed a cow enough in late pregnancy to increase birthweight beyond the calf's genetic potential.

Whilst calf size influences calving difficulty, there are likely to be more important risk factors involved, such as calf sex (male calves), twins, genetics and gestation length.

There is also evidence that under-feeding cows in late pregnancy will lead to potentially harmful effects on both the cow and calf. Prolonged under-feeding of first calving heifers will reduce their bodyweight at calving, and therefore actually increase the risk of calving difficulty. "Foetal programming" is the process whereby maternal stress during critical stages of pregnancy can have **long-term harmful effects on offspring health and development after they are born**. Although yet to be fully researched in cattle, there are papers indicating that under-feeding cows in late pregnancy may result in reduced calf immunity and reduced supply of nutrients to the calf via the placenta and colostrum.

There are of course plenty of other reasons to feed both dairy and beef cows to their nutrient requirements in late pregnancy. This will ensure that cows do not lose excessive amounts of body condition around calving, which may affect milk production, cow health and future fertility. The message is clear: under-feeding cows in late pregnancy will not reduce calving difficulty, and will likely cause more harm than good!

Parklands Veterinary Group—Practice details

2 Caledon Road, Aughnacloy, BT69 6AL
Tel: 028 855 57811
Dungannon@parklandsvets.co.uk

81 Molesworth Road, Cookstown, BT80 8NU
Tel: 028 867 65765
Cookstown@parklandsvets.co.uk

66a Glenshane Road, Londonderry, BT47 3SF
Tel: 028 71876140
Drumahoe@parklandsvets.co.uk

5 Old Moy Road, Dungannon BT71 6PS
Tel: 028 877 52299
Dungannon@parklandsvets.co.uk

26 Townhill Road, Portglenone BT44 8AD
Tel: 028 258 21239
Portglenone@parklandsvets.co.uk

Website: **Parklandsvets.com**

Key Factors for Transition Cows

1) **Feeding space and trough management**. "Sufficient space at the feeding fence for **all transition cows to eat simultaneously** appears to be the most important determinant of transition cow performance in our current industry". A **minimum 76 cm** trough space (based on US headlock width), but **ideally 90cm** trough space per transition cow is recommended from Canadian studies. The other common recommendation is to have a maximum of eight transition cows per 10 head yokes.

2) **Minimise social stress, by reducing movements of cows between groups** and pens. Because cows are social animals with well developed hierarchies, when cows are moved into new groups, the stress caused by the change in environment and social order will result in a decrease in feeding time and bullying away from the feed trough. Therefore any steps to reduce movement and social upsets will improve transition cow performance. Try not to dry cows off individually, instead try to dry of more than one and introduce them to the dry cow groupd together. In larger units, an "all-in" stable social group can be formed for the "close up" dry cows at **3 weeks** prior to their predicted calving date, with no subsequent additions to the group. Even if this is not possible, do not move cows between groups within 10 days of their predicted calving date. The over-riding principle should be the less movement of cows between groups, the better.

3) **Increasing cow comfort by avoiding hard surfaces**. "Any deep, loose surface will be an improvement over a hard surface". Deep clean straw bedding, or deep sand-bedded cubicles would be considered the ideal in this regard.

4**) Ample space for "close up" transition dry cows**. If the precalvers are housed on straw yards, then a minimum of 10 m² per cow bedding area is required. This figure is similar to that of 1.25 m² per cow per 1,000 litres of lactation quoted by the AHDB Mastitis Control Plan (10m² for an 8,000 litre cow). If housing pre-calvers in cubicles and moving them at calving, then the cubicles need to be big enough for heavily pregnant cows. The other factor to take into account is predicted calvings, and coping with peaks in numbers calving. If you base figures on predicted calvings per month, then by definition such pens will be over-stocked for 50% of the time. The Wisconsin recommendations are to size "close up" dry cow and fresh cow pens for 140% of the average number of calvings per month, which will mean that they are only over-stocked for 10% of the time.

5) **Effective monitoring program for quick identification of problem cows**. Quickly and easily screening cows for problems is key, and this is a combination of cow management and facilities. An assessment of appetite is one area to focus on (does the cow readily come forward to eat, what is her rumen fill like?). More formal assessments such as rectal temperature, vaginal discharge, ketosis testing etc. can help, but must not interfere excessively with lying or feeding time for the cow. Ideally perform any cow checks whilst they are feeding in head yokes.

6) **Target lameness** Have a zero tolerance on lameness before calving. Make sure all feet are checked prior to drying off or immediately after drying off. Treat visible lesions, using foot blocks and NSAIDs for claw horn lesions (bruising, sole ulcer, white line disease) and individual topical treatments for digital dermatitis. Continue to monitor closely for new lame cows and treat immediately.

Just-in-time calving. Moving cows into a calving pen 12–24 hours before calving, which is common practice in the UK, might not be the best thing to do, both for the cow and calf. Some key issues of moving the cow at this point include:

- Reduces her feed intakes at a crucial time when good intakes are needed the most
- Carries a high risk of delaying the birth, which
- Increases the odds of calving difficulties and a retained placenta, which means- The cow will be harder to get back in-calf again- Calf viability is likely to be reduced. However leaving it to the last minute requires 24 hour calving supervision OR moving cows 1 week before calving.