

- Straw must be chopped to 2 – 3” (50 – 75 mm, or muzzle width) and mixed through the diet to make the cows eat it. In almost all cases, this means a TMR system to get the diet mixed properly.
- Prechopping the straw before it is put in the mixer wagon (as opposed to chopping in the mixer wagon) is preferable to ensure reliable results.
- Fresh highly palatable ration in front of the cows 24 hours a day is key. Feed fresh diet each day, ensure sufficient trough space, troughs must always contain ration etc.
- Straw offered separately in a ring feeder will always result in lower intakes than expected. The same is true if cows are expected to “fill up” on straw bedding.
- Starting high straw diets in the “close up” period from 3 weeks precalving. The rumen takes 7 – 10 days to adapt to high straw diets, and so only starting the ration at this late stage will depress intakes markedly.
- Overfeeding in “far off” dry period, especially if these cows get milking cow refusals or lots of grass.

Common pitfalls of high straw dry cow diets

- Dry cow diet not adequately balanced, especially in terms of energy and/or ERDP. Lack of protein is often an issue with high maize and/or wholecrop levels, and will need specific ERDP supplementation. Rations can also be very dry in such circumstances which may reduce total intakes.
- Unchopped / poorly chopped straw. If there is a lot of straw left in the trough next day, then it is too long!
- If feeding outside, grazing must be kept tight to keep fresh grass intakes low. “Billiard table smooth” is the aim.
- Poor feed management which means that the cows are not able to eat to their potential.
- Variations in this approach include feeding a single “high straw” dry cow ration to all the dry cows, but then top-dressing dry cow rolls on top for the “close up” dry cows in the last 3 weeks precalving.

“If feeding management is limiting, high-straw diets may not be the answer – and in fact may be a disaster!”

Professor Jim Drackley, 2007, Nottingham Feed Conference.

If you would like more information contact our office or visit our website.



**Royal (Dick) School of Veterinary Studies
Easter Bush Veterinary Centre
Roslin, Midlothian, EH25 9RG**

Tel 0131 651 7474 DHHPS@ed.ac.uk www.ed.ac.uk/vet/dhhps

DRY COW MANAGEMENT CHECKLIST



Late lactation - Last 2-3 months of lactation

- Manage cows so that they go dry at body condition score 2.5 – 3.0. This may mean a more careful look at feeding in late lactation. Aim to maintain condition score at 2.5 – 3.0 until calving.

Early or “far-off” dry period

- From drying off until 4 weeks precalving

- Stop milking abruptly at drying off. Follow dry cow therapy instructions.
- If cows are giving a lot of milk, considering confining on a high forage diet/straw for the last 3-4 days of lactation to reduce milk yield prior to drying off.
- Consider use of teat seals as well as dry cow antibiotic tubes (especially if environmental mastitis infections in the dry period are an issue on the farm).
- Overfat cows at drying off (BCS 4 and over) can be slimmed down with free access to straw and a rumen degradable protein (ERDP) source for 1-2 weeks after drying off. Slimming down like this should be done by reducing forage quality not quantity. Such an approach **MUST** be stopped at least 6 weeks precalving.
- Those in the right condition at drying off can be maintained on forage alone during the “far off” period. Avoid over-feeding energy at this stage which can result in the development of fatty liver problems.
- Cows should be monitored in case they start to put on too much condition (easily done at grass). In such circumstances, the quality rather than the quantity of the forage available should be reduced. If “far off” dry cows are at grass, consider stocking them more tightly with a bale of straw available in a ring feeder.
- Provide free access general purpose dairy cow minerals in the early weeks of the dry period, or mix minerals with the conserved forage on offer if practical.

Close to calving stage or “close-up” dry period

- Last 4 weeks of pregnancy

- ***This is a unique opportunity to maintain body resources and get the cow ready for the coming lactation.***
- ***Provide cows with the best nutrition and environment on the farm.***
- ***Challenge cows to eat 12-15 kg Dry Matter per day. The more they eat before calving, the more they eat and more quickly in early lactation.***
- Provide 24 hour access to fresh high quality forage of the types cows are going to receive in early lactation. This means spoiled food removed from the troughs, fresh food fed daily and ration always in front of the cows.
- Give the cows as much room and space as possible. Current recommendations are 1.25 m² lying area per 1,000 litres of milk (ie. 10 m² for an 8,000 litre cow). Allow 3 foot (90 cm) trough space per “close up” dry cow.
- Limit social movement of cows as far as possible. No changes of group or pen within 2 weeks of calving.
- ***If on a high straw diet at this stage (over 1 kg straw), they need to have also been on a high straw diet in the far-off dry period.***
- Provide 2-3 kg of good quality concentrates per day. Not only will this increase the energy density of the diet, but it will prepare the rumen environment for efficient use of production rations, stimulate an increase in the surface area of the lining of the rumen making it better able to handle production rations efficiently in early lactation.
- Ensure that adequate ERDP is supplied for good rumen function. This can be an issue if maize or wholecrop cereal silages are fed, particularly so on a high straw diet.
- Make sure that either the concentrates or the forages contain adequate dry cow minerals.

- Do not forget about the calving boxes! Provide fresh concentrates, forage and water with easy access.
- Include pregnant heifers in the close to calving group, for at least the last four weeks of pregnancy.
- Feeding concentrates for the last month of pregnancy **only** will **not** put condition on cows, as DM intakes fall at this stage. Overfatness comes from over-feeding in late lactation and/or the far off dry period.

Calving difficulties due to outsize calves come from:

- 1) Choice of sire.
 - 2) Over-feeding in the 7-8th month of pregnancy (not the last month).
 - 3) The potential size of the dam.
 - 4) Extended pregnancy length (a sire effect).
- If milk fevers are a problem, review the mineral content of the “close-up” diet especially the contribution from forages such as grazing and grass silage. See Milk Fever Handout for further details.

HIGH STRAW DRY COW DIETS

If you are feeding more than 1 kg of straw in your “close up” dry cow ration, then please read on.....

Potential benefits of a high straw dry cow diet

- Studies from Professor Jim Drackley in Illinois showed that over-feeding cows during the “far off” dry period can be just as harmful as under-feeding cows during the “close up” dry period, as it leads to the development of fatty liver in late pregnancy.
- The aim is therefore to feed cows to their energy requirements during the dry period, not over and above.
- This will help prevent the development of fatty liver in late pregnancy, with benefits for cow health.
- Provided feed intakes are good, high straw diets will maintain rumen fill and DM intakes precalving.
- Diluting down the ration with straw will help milk fever control due to lower DCAB/calcium levels.
- One dry cow ration and group will simplify dry cow management, especially if two groups are a problem.

Basis of high straw dry cow diets

- High straw diets must be fed throughout the entire dry period, ie. fed during both the “far-off” and “close-up” periods.
- Diets formulated for 9MJ of ME/kg DM.
- This usually means feeding up to 5 kg fresh weight straw.
- 13% crude protein content (possibly higher if heifers are in the group).
- Aim for average DM intakes of 12 – 15 kg per day.
- This will give target energy intakes of around 100 MJ per cow per day.
- Correct vitamin and mineral requirements (as per normal dry cow recommendations).

Management of high straw dry cow diets:

ATTENTION TO DETAIL IS CRITICAL

- Ensuring good DM intakes are critical to the success (or otherwise) of high straw dry cow diets.
- Use good quality straw – clean, dry and bright with no mould contamination. Wheat straw appears to chop better than barley straw. Straw needs to be viewed as a key feed ingredient, not a waste “filler”.