

## LESS CAN BE MORE

Cow numbers have crept up on many farms to keep the milk revenue high enough to cope with increasing costs. Keeping too many cows for your system and housing could be costing more than you think. Overcrowding increases cow's stress by restricting natural behaviour. This in turn means lower production, mainly from the less dominant cows and heifers.

### Overcrowding at the feed barrier

A cow is about 75cm wide, so we need at least this per cow at the feed barrier. "They do not all eat at the same time" is a common farmer response. But they would prefer to, especially when the food is delivered fresh. More space at the barrier means they will be more relaxed, eat more often and consume smaller meals. This means greater dry matter intakes. If feeding space is limited, the dominant cows push to the front and the timid wait at the back. This timid group includes heifers, small cows, recently calved, lame or ill. The high-ranking cows will be virtually unaffected. The lower ranking group has more problems. When they get to the barrier the feed is usually pushed away, making it more difficult to reach - especially for a heifer. The mix may be less dense as the greedy group has sorted most of the concentrates. It will have a covering of saliva and mucous which cows find particularly unpleasant. Data from the Milner Institute in America reports that with plenty of space the difference between older and younger cows is 3 litres/day. When overstocked, the difference climbs to 7 litres/day. Lame cows suffer more and the reduction is a massive 12 litres/day.

### Water

Very few farms have abundant, adequate water troughs. The rule of thumb is one large trough for 20 cows and 1 small trough for 10 cows. Have you increased the number of troughs in line with the number of extra cows? Minor restrictions in water availability can reduce milk yield by 11%.

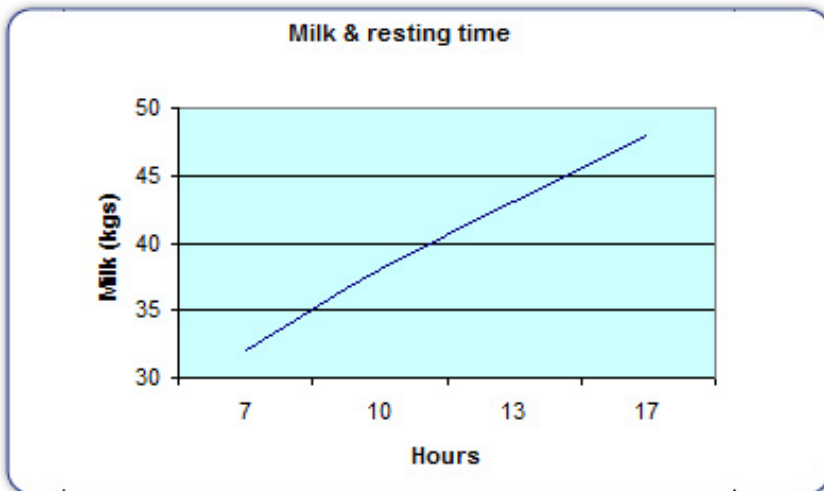
### Cubicles

The Assured Dairy Farm standards state that there must be at least 1 cubicle per animal. In my opinion this is not enough. I reckon a 5% surplus is about right. If you then take into account the farms that do not have 1 cubicle per cow, it is even worse. Surely those places would not pass the inspection, I hear you say. In some cases, from what I am told, the question is asked and if the figures add up the box is ticked without physically checking. I am sure the auditors are thorough and this is just hearsay. Some cows do not like to lie next to certain cows, such as the more aggressive and dominant members of the herd. Certain cubicles are not preferred. They could be poorly ventilated, less comfortable, open to inclement weather or in an area of high traffic, such as near a water trough or Out Of Parlour Feeders. Trials (Grant 2004) have shown increased milk of 1-1.5 litres each extra hour of lying time. There is also less lameness and better rumination.

### Loose housing

More cows equals more straw or dirty beds. If the beds are dirty more mastitis is the common outcome.

Chart 1: Milk yield related to resting time.



### Lameness

Extra cows mean extra slurry. If your system means cows are standing in more slurry and for longer, then lameness will increase. The normal hoof contains approximately 15% moisture, but this may double if the feet are in continually wet conditions. These are the ideal conditions for digital dermatitis.

### Reduced air quality and increased humidity

Over crowding can cause a damp environment, increasing bacteria on the beds. This results in more mastitis and respiratory problems.

### Collecting yard and milking

Unless they are grouped, extra cows increase the length of time spent waiting in the collecting yard. Milking also takes longer. Both mean more time spent standing without food or water. Overcrowding in the collecting yard is particularly stressful when the weather is hot and humid. Watch to see if your cows are holding their heads up, looking for air.

### Fertility

Less space reduces bullying activity, as they are nervous to show signs.

**Conserved forages**

I do not see many farms where there is spare clamp space. The usual practice is to buy in any extra needed. The problem is that if it is not well planned, you end up scratching around at the end of the winter when the only stuff available is poor quality and expensive. Milk yield and fertility invariably suffer.

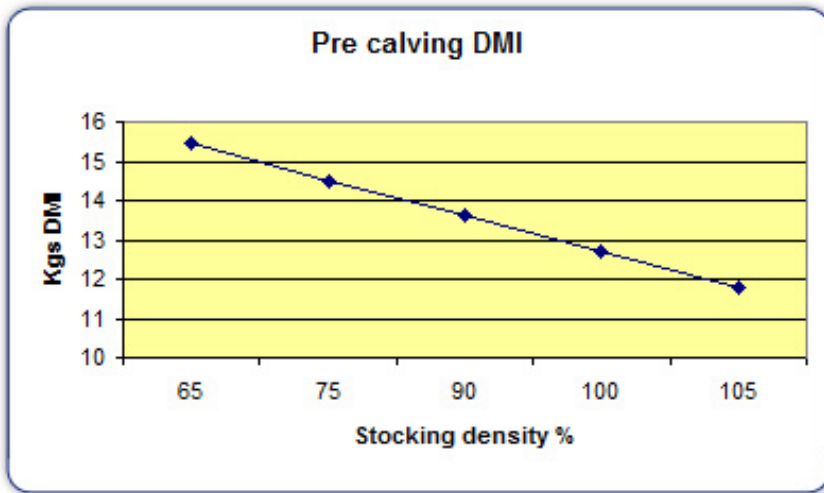
**Grazing**

No problem at grazing, you're thinking- there is lots of space here. Well there is, but there are other considerations. If the area is not increased the grazing will run out sooner. We could be back to buying dodgy silage. Even if you have extra grazing, the cows will have to walk farther to graze. Extra water points are needed, as they all want to drink together when returning for milking.

**Pre calving cows**

The effect of overcrowding is even greater in this group. The University of Wisconsin reported that if the stocking density was greater than 80% in the pre calving heifer group, for every 10% above 80% there was a 0.73 litre reduction in daily milk yield. So if you are stocked at 120% you are sacrificing 3 litres/cow/day. A separate trial in New Mexico reported a dry matter intake reduction of 2-3kgs/day when the stocking rate went from 62% to 138%. Remember, you need at least 75cm feed space per cow, as they all like to eat fresh food together.

Chart 2: Dry matter intake related to stocking density



**Fresh cows**

This group suffers most from overcrowding. Fresh calved cows do not want to fight to eat or drink. Reduced intakes here are a recipe for ketosis and displaced abomasums. If displaced abomasums are a problem, look at what you are doing here instead of throwing lots of straw into the pre calvers ration. Work on a maximum of 80% stocking density. Even lower is better.

**Labour**

Extra cows need looking after. I doubt you have increased your labour force and you are working harder and longer. This leaves less time for heat detection, cleaning feed and water troughs, business planning and plenty of other jobs waiting to be done.

**Final comment**

Increasing cow numbers makes sense if you have the capacity and labour. If not, there is probably nothing to be gained and you could be worse off. If your unit would function better with fewer cows, why not sell while the price is high and use that money to finance other sections of your business? For those of you mature enough to remember back to when quotas came in, there was a panic to offload cows rather than pay a levy. Many farmers reduced their herd by 10%. Guess what happened? In most cases the total milk sold went up instead of down.

Available feed space has more effect on intakes than total area per cow. The minimum requirement is 75cm for mature cows and 60cm for heifers. For the pre calvers and fresh cows work on 20-33% more - that is 90-100cm for mature cows and 72-80cm for heifers. The recommended area per cow from DEFRA and Assured Dairy Farm standards conflict each other and neither party distinguish between milking, dry, pre calver or fresh cows. Below are the standards from both sources.

Loose housing area per cow

Average weight of cow (kgs)	Size of bedded area (M2)		Size of passageway (M2)		Total area needed per cow (M2)	
	DEFRA	ADF	DEFRA	ADF	DEFRA	ADF
500	6.0	4.25	2.5	1.6	8.5	5.85
600	6.5	5.0	2.5	1.8	9.0	6.80
700	7.0	5.75	3.0	2.0	10.0	7.75
700	8.0	6.50	3.0	2.20	11.0	8.70

Using the more sensible DEFRA recommendations, we need to calculate space needed based on feed space. For 10 pre calving or fresh cows and using 90cm feed space, our barrier should be 9 metres long. Assuming an 800 kgs cow we need 87M<sup>2</sup>. 87 divide by 9 = 9.66M deep. The pen should be 9M x 9.66M. When calculating, bear in mind that many pre calvers weigh well over 700kgs! If your pen is long with a narrower feed area, then it will be restricting intakes even if your total area is adequate.

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