

## MANURE CONNOISSEUR (British Dairying, March 2002)

The output of a dairy cow that immediately springs to mind is milk. But when milk falls or does not reach target levels an output of a different kind often helps to identify the problem.

An excellent way to assess what the cow is telling us - and to sort out potential problems before it is too late - is to study the stuff which most of us try to avoid and become a manure connoisseur!

Manure consistency is best judged on a scoring system on a scale of 1 to 5.

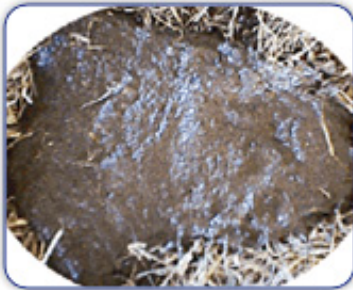
- Score 1 - Thin, fluid, arcs, sometimes green
- Score 2 - Loose, splatters, very little form
- Score 3 - Stacks up to 1-1.5 inches, dimples, 2 to 4 concentric rings, depression in the middle, sticks to boots
- Score 4 - Stacks up to 2 to 3 inches, dry
- Score 5 - Stacks up over 3 inches

In an ideal world the manure from all cows in all groups would be in score 3 as this is the optimum consistency for a healthy and productive animal. As we are in the real world, this is not the case and I list below the sort of cows that tend to be in each scoring group.

### Score1:

Sick cows; cows off their feed; cows on spring grass. This is the one to beware of when walking behind! The slurry from this cow can reach from 6 inches to 2 feet or more!

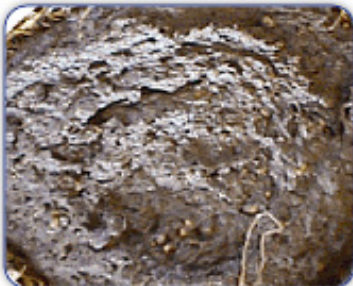
### Score2:



Cows on spring grass and receiving some concentrates and/or a forage buffer. Cows which commonly have this score but shouldn't be fresh calvers. This is due to the high concentrate to forage ratio diet these cows consume. If you have plenty of cows like this you should review your pre-calving and post-calving management to increase forage dry matter intakes. Cows on wet forages can also have this score as they have lower forage dry matter intakes and this causes looseness. It is not a result of wet forages having poorer fermentation or being more acidic.

### Score 3:

Ideal.



### Score 4:

Far off dry cows; cows on low protein diets; cows on high fibre diets; cows lacking in energy. A classic mistake here is to assume this manure consistency is the result of a lack of rumen degradable protein (RDP). It may be. But if it is an energy problem, then increasing the RDP can exacerbate the energy situation.



### Score 5:

(Resembles horse manure). Cows on an all forage diet; sick cows; cows lacking in energy. Lactating cows with this score could possibly have clinical ketosis. Far off dries on bare pasture and straw will have manure scores of 4-5 and will undoubtedly be short of RDP. (They will also be losing weight and have reduced intakes - but more about that some other time!). Water deprivation will result in a manure score of 4-5.

When assessing manure do not evaluate faeces that cannot be attributed to a particular cow. This is important if cows at all stages of lactation are in one group. If the manure cannot be associated with a particular cow, it could be from an early or a late lactation animal. You need to see the cow defecating and know the stage of lactation, milk yield and details of any recent health problems. What is the

manure score of your pre calving cows? If it is above 3 then your nutrition is wrong!

**OPTIMUM MANURE SCORES FOR STAGE OF LACTATION**

Taking a realistic view, you should aim for these scores:

- Far off dry cow 3.0
- Pre Calver cow 2.5 - 3.0
- Fresh calved cow 2.5 - 3.0
- Cows at peak 3.0
- Late lactation cows 3.5

If the manure from your cows differs from the above action should be taken to alter it.

Factor	Stiffer			Looser	
Excess degradable protein					*
Shortage of degradable protein		*			
Excess total protein				*	
High proportions of forage/fibre		*			
Excessive starch/grain				*	
High proportions of processed grain					*
Lack of effective NDF				*	
Excess minerals				*	
Lack of energy		*			
Severe lack of energy	*				
Water deprivation	*				

**Assessing deposits in the manure**

It is common to see a noticeable amount of maize grain and/or cereal grain in the manure. Upon inspection it is usually the husk of the grain with no starch visible and the cow has captured the nutrient. I find it best to use a penknife to pick out the grain!

If the grain is whole, then it is the processing of the grain that is at fault, not the cow. Similarly, if there are forage particles visible of ¼ inch to ½ inch then it is again the fault of the conservation or processing system.

If the grain is cracked or broken, however, and there is some starch inside then it is due to a combination of the processing and the rumen flushing out too quickly.

**Heath effects**

Not all manure consistency deviations have nutritional causes. Disease also has a marked effect. If there are scours and it is an infection, cows will fall prey to it over a 2 -3 week period. A nutritional problem, however, will affect all the cows together. Scours can be caused by a number of factors: feeding mouldy or fungal feeds and forages; significant and sudden changes in feed; excess soil in forage.

Go and look at what your cows are producing, evaluate the evidence and you will find that you are well on the way to becoming a manure connoisseur!

Note: Thanks to David A Whitaker, MRCVS of The Dairy Herd Health and Productivity Service for his help with the health aspects of this article.