



Troubleshooting ovarian cysts

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Ovarian cysts are becoming an increasing and costly issue among a growing number of high yielding Holstein herds. Independent veterinary nutrition consultant Richard Vecqueray, working with Dugdale Nutrition, discusses their potential causes and implications and urges producers to adopt M³, the company's Management for More than Milk programme. M³ offers an holistic approach to high genetic merit herds and provides solutions to preventing cysts and ultimately contributes towards improving overall herd performance and profitability.

'A massive 61% of high genetic merit (HGM) Holsteins experienced ovarian dysfunction after calving compared to only 30% of average genetic merit cows in a recent MDC trial. That figure is partially attributable to cysts and partially to the related phenomena of persistent corpora lutea (CLs), a fact readily backed up by the practising vets I work with on farm. I'm also finding myself answering an ever-increasing number of queries about herds failing to show strong heat signs.

Last month I was invited to visit a herd where 80% of the cows calving in the early winter housing period had been diagnosed with cystic ovaries. The farmer, understandably, was nearing the end of his tether; he was facing the destruction of his tight calving pattern and the subsequent loss of critical seasonality payments. I have my theories as to the root cause of his problem, the proof of which will be whether I can stop it happening again this year. I'm taking the opportunity in this article to discuss some of the potential causes and implications of these outbreaks and offer solutions.

Cysts occur when the egg developing on the ovary doesn't get released while the cow is bulling. To stimulate release of the growing egg (see diagram 1), there is an intricately orchestrated cascade of hormones signalling back and forth between the brain and the ovary. Rapid weight loss and stress, from whatever source, affect the brain's signalling. Similarly, infection and inflammation in the womb affect the ovaries signalling. If these signals are disrupted, then the final pulse that releases the egg is prevented. The egg then continues to grow in the ovary, secreting more and more hormones that go on to dominate the signalling and make the cow either nymphomaniac or silent.

A cow with a cyst on her ovary is a disaster. In fact there are few conditions that have the potential to affect her future fertility so profoundly. Basically, she stops cycling or commences an erratic heat pattern. A farm survey concluded that cysts, even treated ones, extend the calving to pregnancy period by over two months.

And the cost? Introduce £3 per cow per empty day before replacement/culling costs and figures to make you wince soon add up.

At the University of Nottingham's annual fertility conference last year, Mexican fertility specialist Dr Carlos Gutierrez reviewed the metabolic challenge of milk production and its influence on fertility and he posed the question 'Is the dairy cow of the 21st century different to those bred 20 years ago?' The unanimous conclusion was yes! Today's HGM Holstein is genetically programmed through her hormonal profiles to mobilise her body's energy reserves more efficiently for milk production compared to her less well bred herd mates and this may well be to the detriment of her fertility. Melissa Royal, formerly of the University of Nottingham, made a comparison of 1970's cows with 1990's cows and backed this up with an increasing incidence of ovarian vagary from 32% to 44%.

So what's the practical, on farm solution to prevent the problem? Firstly it's a case of understanding the causes and these are, as ever, multiple and complex. I have summarised them as follows

Cysts – predisposing factors for high incidence

- rapid weight loss
- fatter cows at calving
- family history (her genetics)
- higher milk yield
- older cows
- stressed cows;
 - lameness
 - housing
 - mixing
 - heat
 - cubicle comfort
- calving problems
- held cleansings
- dirty cows (vulval discharge/endometritis)
- oestrogenic mycotoxins
- mineral deficiencies
 - Manganese

If ovarian cysts have been diagnosed among the herd, then they're unlikely to have been caused by just one of the factors listed above but as a consequence of a number of them interacting. Some of the factors are obviously beyond your control and are fixed on farm. However, cysts tend to come in batches and I think this trend implicates the major variables on farm, namely management and nutrition – see below.

Management and nutrition for ovarian health

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| 1. minimise calving problems | held cleansings, whites, milk fever |
| 2. avoid calving fat cows | diet fat far off dry cows, not close up ones though! |
| 3. formulate diets carefully | low protein, high starch, rumen friendly |
| 4. maximise intakes | trough space, cow comfort, forage quality and type |

If you are attempting a 'diagnosis', then remember the egg that has gone cystic two months into lactation began its development in the dry period and has therefore been influenced by numerous events, for example, today's outbreak of cysts may relate to dry cow diets fed eight weeks ago.

Solutions.....

When you sit down to plan winter diets and management regimes, then ask the following questions, each of which is designed to supply answers which will contribute towards preventing ovarian cysts.

1. If we're to maintain a healthy rumen, where is the effective fibre coming from? Do we have access to cereal whole crop, alkalage, hay or chopped straw in sufficient quantities?
2. How are we going to supply a high starch ration without causing acidosis? Do we have maize silage or alkalage or access to some slower digested starch concentrate sources such as crimp or maize? If not, how are we going to get the required level of concentrate for high milk yields into the cows safely?
3. Are we able to provide housing for a straw yarded group three weeks pre and post calving?
4. Have we addressed last winter's digital dermatitis problem, a real cause of stress, while the cows are cleaner at grass?

To conclude, Dugdale Nutrition's M³ programme uniquely ensures the successful implementation of the above regimes by regular and in depth strategic reviews. This means we can maintain our clients' level of herd fertility of 20 years ago with their 21st century HGM Holstein cows. We can ensure herd energy requirements are met safely and the optimum management regimes are in place to maximize ovarian health. Today's UK Holsteins are magnificent and a true phenomenon of what is possible metabolically. However, think of them as thoroughbreds and leave no room for error - the consequences are horrible, as most of us are aware, when these cows start to fall apart. With careful strategic planning that accounts for different weather dependent scenarios, you can be confident such situations can be avoided.'

Further information about M³ can be obtained from Dugdale Nutrition, Bellman Mill, Salthill, Clitheroe, Lancashire BB7 1QW or call 01200 420200.