

# The High Fertility Cycle - Old concepts revisited



December 25

As we enter a period of bleak winter milk prices, undoubtedly 'passengers' in any system will be under scrutiny and refining system efficiencies at the forefront of minds. In this newsletter I will cover the 'high fertility cycle' concept; an increasingly well researched phenomenon that encompasses old ideas many experienced dairy farmers will be familiar with in formats outside of this title. In summary, it describes a situation where a 'timely pregnancy' one lactation fulfils a prophecy of future pregnancies, health and productivity as cows manage themselves from one lactation to the next – whilst the alternative situation depicts a herd in an uphill struggle. The cycle is underpinned by body condition as a sentinel for fertility success or fertility car-crash; outlining where the focus should be for fertility blips or trends on farm beyond chasing KPIs alone. The principles apply for any system, chosen fertility protocols, VWPs or lactation profiles; timely cows within this cycle become efficient, sustainable cows forming the base of profitable systems.

#### Early pregnancies drive future body condition

Cows in calf early enter the dry period at a BCS within the parameters of the 'high fertility cycle' reducing late lactation condition gain or incorrect calving BCS.

FAT COWS FAIL: Primed for condition (appetite) loss

BCS 3 at dry: 30% lose condition pre/post- calving

BCS 3.5 at dry: 90% lose condition pre/post-calving

Calving to pregnancy interval < 130DIM – 75% less chance of losing BCS next lactation

Timely pregnancies reduce BCS gain



#### BCS loss 3 weeks pre/post calving impacts..

Future embryo viability (~ 40-80 days ahead) **reduced by up to 40%** vs cows that maintain or gain BCS.

Resumption of cyclicity = ready for service (VWP!) **33 days vs. 47d at return** for cows losing vs gaining BCS.

Pregnancy per AI at first service vs. cows that maintain or gain BCS

– up to 60% reductions

Health events – **60% of cows** that loose condition in this period are more likely to experience 1 of mastitis, metritis, ketosis, lameness or respiratory disease.



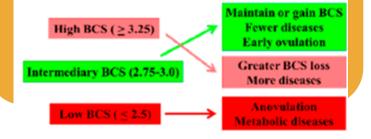
### Cows within a high fertility cycle...

Improved return to cyclicity – heat detection rate %

Improved first service success – conception rate %

Reduced pregnancy losses – 8% greater risk of **32 – 60d losses in cows that loose body condition in early lactation** 

Over-conditioned cows loose condition quicker whilst underconditioned cows struggle from the start



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#### **Pre-calving BCS management**

Feed space and feed quality: aiming for target energy, protein and fresh palatable feed spaced at 100cm/cow (or equivalent in grazing/outdoor systems) on a daily basis promotes correct that avoids BCS loss, a compromised lactation and a barren cow in 6 months time.











## Early pregnancy establishment

As discussed, cows within a high fertility cycle are more likely to express early heats and conceive < 130DIM. Those that aren't need identifying early to keep as much of the herd on the correct track;

Pre-breeding checks – identify cows that aren't cycling, cystic or have developed uterine disease post-calving; these cows are at risk of delayed heats and delayed conception, increased BCS and future underperformance.

Key performance indicators to monitor the % of the herd falling into the self-sustaining fertility cycle:

# AYR herds

- $\cdot$  > 80% of the herd in calf at 150 DIM
- · Avoid late lactation services > 200 DIM
- · Calving interval target 12-13 months (365-390 days) cows with previous long calving intervals (previous lactation) are at significantly greater risk of BCS loss in this lactation.

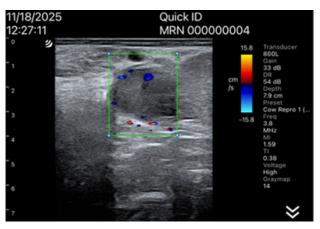
#### **Block calving herds**

· Cows/heifers calved in 6 weeks – 80% + · 6 week in-calf rate – 70% +

Cows with good intakes pre-calving achieve better intakes and BCS stability post-calving...but only if they are provided with the correct diet to eat! Often fresh and late cows are single grouped; in these cases, catering for fresh cow requirements is a central tenet to keeping cows within the high fertility cycle. Pre and post-calving bloods can identify shortfalls in both areas whilst routine BCS assessments in this cohort are a good signal for

monitoring success or pinchpoints for improvement.

Fresh cow management



Pre-breeding check at 40 DIM in a cow calved at condition score 3.5 identifying a non-functional corpus luteum, indicating an acyclic cow with future return to cyclicity and pregnancy significantly reduced compared to her herdmates calving in at 3 with minimal early lactation BCS changes.



Wishing you all a

VERY MERRY
CHRISTMAS!

