

### The Need To Breed....

On paper, getting a cow in calf is a simple three step process; bulling (estrus), service and conception. In practice, a multitude of factors commonly result in a frustrating barren cow. A multitude of strategies can be used to maximize the chance of a pregnancy ranging from simple paper exercises (such as breeding calendars) to more advanced techniques. There is no right or wrong; a suitable approach is based on farm-specific requirements. Many of you will be familiar with a strategy or have established protocols on farm already, however a recap of the basics through to the more advanced options will hopefully be a helpful review.

#### Breeding programme benefits




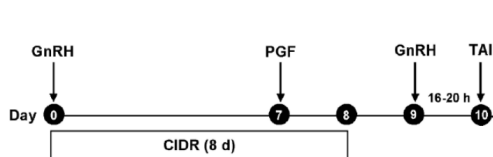
- Reduce cumulative costs of days open: *With average costs estimated between £2-3/cow/day for lost days open, utilising breeding programmes to ensure efficient fertility on farm should be a priority*
- Practicality: *eliminate need for heat detection*
- Genetic benefits: *targeted breeding with controlled services*
- Tight calving: *front-loading blocks improves calving management, calf health and avoids late fertility culls*
- Heifers vs. Cows: *targeted strategies for heifers, such as 5 day variations of synch programmes*
- Advanced opportunities: *embryo transfer and flushing offers possibilities for problem repeat breeder cows or for maximising genetic merit and profitability from high value animals*
- Treat problem cows: *quiet bulls, cystic ovaries*

#### The drugs and what they do

- Prostaglandin (Estrumate/Prosolvlin/Cyclix) - breaks down the *corpus leuteum (CL)* that naturally prevents bulling or estrus during pregnancy and between heats
- GnRH (Acegon/receptal) - causes follicles (if large enough) on an ovary to ovulate ready for insemination, also used to treat cystic ovaries
- Progesterone (PRID/CIDR) - mimics the CL to a) allow estrus synchronization, by controlling the removal of progesterone b) ensure there is a greater chance a good quality egg ovulates at estrus



**Common breeding strategies<sup>2</sup>** - The following are common breeding protocols that focus on synchronizing a group of animals to serve either at heat or more commonly a set time point.

Protocol	Advantages	Disadvantages
<p>Double prostaglandin</p> 	<p>Serve to natural heat or fixed AI</p> <p>Minimal drug costs &amp; simple</p> <p>More efficacious in heifers—conception rates of up to 48% +</p>	<p>Poor control of ovulation timing</p> <p>Two AIs for optimal efficacy, increasing costs and handling</p> <p>Overall lower conception rates</p>
<p>Ov-synch (*multiple variations)</p> 	<p>Conception rates: 33-47% +</p> <p>Better synchronisation of ovulation than prostaglandin alone</p> <p>Good option for NIC cows that are</p>	<p>Not recommended for heifers</p> <p>More involved handling and drug admin</p>
<p>Co-synch</p> 	<p>Less animal handling than Ov-synch and simpler drug admin</p> <p>5-6 day variation is more effective in heifers: 47% +</p>	<p>Lower conception rates in cows ~ 30%</p>
<p>CIDR/PRID-Synch</p> 	<p>Synch ovulation very effectively</p> <p>Treats fertility issues (cystic/quiet cows)</p> <p>High conception rates: 45% + in cows, up to 65% in heifers on a 5</p>	<p>Extra expense of progesterone device</p> <p>Extra handling for removal of insert</p>

<sup>1</sup>[https://www2.zoetisus.com/content/\\_assets/docs/cdr-00013\\_cidr-how-to-sel-sheet\\_final.pdf](https://www2.zoetisus.com/content/_assets/docs/cdr-00013_cidr-how-to-sel-sheet_final.pdf)

<sup>2</sup>Lindley, G., Willshire, J. and Martin, A. (2021), Controlled breeding in dairy cows. Part 1: bovine oestrus cycle and synchronisation. In Practice, 43: 445-456

### Animal selection

Before embarking on any form of breeding programme it is vital to make sure the animal(s) in question is likely to respond well.

A checklist should include:

- Body condition score: underconditioned cows consistently have poorer preg rates to AI, while over-conditioned cows often produce poorer quality follicles. It is important to remember an ovulating follicle starts developing 60 days before it is released; pre-calving management is crucial!
- Vet check: checking for cysts/inactive ovaries can help target the selection of a programme as well as identify other issues (e.g. an endometritis) that may need addressing to avoid wasting money and time.
- Heifers: whilst synchronisation offers a very efficient way to optimize time of service in groups of heifers they should be well grown; cycling well and at least 55% of adult bodyweight.

### Embryo transfer

Embryo transfer is a well established, viable technique for establishing pregnancy in cattle. It is carried out in much the same way as traditional AI is only the embryos are implanted into a non-bulling cow at a set time-period post-bulling. Broadly speaking, it can fall into two utilities

- 1) *Treatment of problematic repeat breeder cattle*—many repeat breeder cattle fail to establish pregnancies due to early losses (also known as early embryonic loss); therefore, implanting an embryo at a later stage alongside careful management to ensure correct ovarian status can help to overcome these issues and increase preg rates in these animals. The schematic below outlines a typical plan, donor embryos can be stored indefinitely as per AI semen or implanted fresh.

Donor



Recipient



- 2) For genetic gain—embryos from high genetic value animals can be implanted into lower genetic value cows to improve their productivity without having spend the time to breed higher genetic value replacements.

In both cases, flushing offers the ability to create a store of embryos that allow the flexibility to utilize this option where such circumstances arise. We are currently developing our ET services for repeat breeders and are aiming to offer a flushing service in the near future, please get in touch if you have any further questions or interest.

### Upcoming courses:

#### Beef Medicine Handling course:

Monday 17th January , 41a (new building)

#### Foot trimming course:

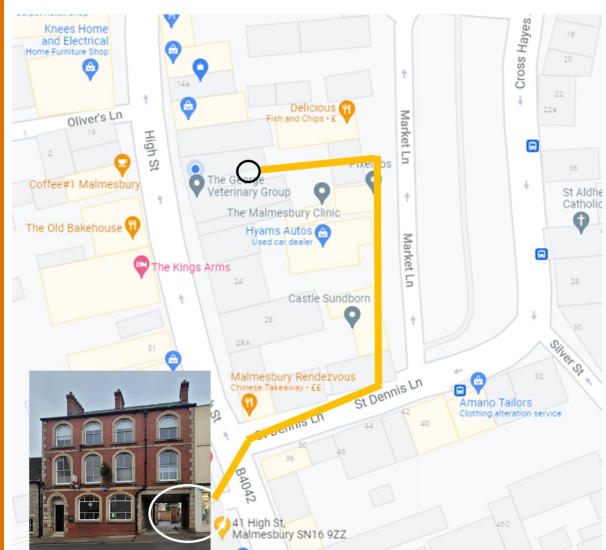
26th-27th Jan—Chippenham

#### AI course - 2 sets of dates:

2-5th March, 30th march-1st April

**If you wish to attend a course, please contact the farm office on 01666 823035**

## OUR NEW DISPENSARY IS NOW OPEN



**WE LOOK FORWARD TO SEEING YOU AT 41a HIGH STREET**



- a 2 minute walk



For those collecting from our dispensary in Malmesbury, please continue to park on the High Street or in the Cross Hayes car park and then head down the High Street to 41a.

Our dispensary is located through the archway and then through the white gates to the collection point at the far door.



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