



Springtime and early summer brings with it the arrival of the calves that we've been waiting all winter for. The fruit of all the work that was put into getting the herd pregnant and then feeding the cows through the winter comes to fruition. With it also brings an evaluation of your herd bull or AI (artificial insemination) sires that were used the previous year and how their influence has affected the new calf crop. It's not too long after the calves are born that we need to decide which bull(s) to use for this year's breeding program. In this article I will discuss the pros and cons of AI, as well as options for implementing AI in your herd.

Artificial insemination (AI) is certainly a viable option for Dexter owners, especially those who prefer not to purchase a breeding bull. Currently, the ADCA website (http://www.dextercattle.org/adca/adca_ai_bulls.html) has 36 Dexter bulls advertised as potential AI sires for your herd, offering a wide variety of options. One of the great benefits of AI is that you can bring new genetics into your herd via the mail and an AI technician. For those of us with small herds and one breeding bull- using AI enables you to keep your herd bull longer, while breeding his daughters to an AI sire. It also offers a variety of options such as using numerous sires in one season, a new sire every year, or whatever combination is desired. Another benefit is the obvious fact that you don't have to purchase and keep a bull around. The downside of not having a bull is that you are completely reliant on your AI to get your cows pregnant. With that comes the necessity of storing frozen semen via a liquid-nitrogen tank, as well as scheduling an AI technician to be there when the breeding needs to be done (some techs will store semen for you). A head-gate is also a necessity if you are considering AI. In addition, you need to be able to detect the heifers or cows in "standing heat".

Standing heat (SH) is a term used to describe when the heifer/cow is receptive to a bull. Thankfully, other cattle besides a bull (cows/steers) aid in this process, as they will jump and "ride" the animal that is in heat. If she stays standing and doesn't walk away it is considered a standing heat. Ideally, AI should take place about 12 hours after the first sign of SH to maximize your conception rate. The challenge is to be around your cattle enough to be able to time your breeding for optimal results. The reason for the 12 hour delay is that AI places the semen directly into the uterus rather than vaginally as a bull does, therefore less time is needed to get the sperm and ova together at the perfect moment.

In regards to implementing AI in your herd there are two main options, those being natural heat breeding and synchronized heat breeding. Breeding natural heats is what was just mentioned above: you watch for heat and breed accordingly or call your AI technician when you first see the standing heat. If you miss the heat, she

AI Breeding Heifers and Cows

should cycle again in about 21 days. Synchronizing heats involves using some injections and/or inserts to “reset” the cow’s already cycling ovaries in order to breed them at a certain time. This has the added benefit of scheduling an AI technician, but requires catching the cattle more often to administer shots. In addition, conception rates are not as high for synchronized breeding due to the fact that not every animal will synchronize as desired. The industry average for synchronized conception rates on beef cattle usually ranges from 55-65%, while natural breeding conception rates range from 75-85%. Heifers also tend to have better conception rates than cows.

The injections and inserts used for synchronization are indeed hormones, but despite the negative connotation that the media has given our industry for using hormones on our animals, these are the same type of hormones that a cow naturally releases at different points of her estrus cycle. They have no effect on the growth or milk production of the animal, nor do they affect anything other than the reproductive system. The 3 hormones used are progesterone (**CIDR** inserts: controlled internal drug release; **MGA**: melengestrol acetate- feed additive), prostaglandin (**PGF**; brand names *Lutalyse, Estrumate*, etc), and Gonadotropin-releasing hormone (**GnRH**; brand names *Cystorelin, Fertagyl*, etc). There are many options to synchronize heifers and cows and the following website offers an annually updated chart that provides details on the various options:

<http://beefrepro.unl.edu/pdfs/Protocols%20for%20Sire%20Directories%202015.pdf>

The standard simple protocol that has stood the test of time is called Ovsynch (or Co-synch). It involves a **GnRH** shot, followed 7 days later with a **PGF**, and then 72 hours later with another **GnRH** and **AI**. This basic protocol can be modified in many ways to help increase the synchronization rate and therefore the conception rate. For example, adding a **CIDR** from day1 to day7 will help improve the synchronization percentage. In addition, giving the second **GnRH** 56hours after the **PGF**, followed by **AI** 16 hours after the second **GnRH** will also improve conception rate. As you will see on the charts online- there are many different options. Your veterinarian, AI technician, or experienced neighbor may be the best resource for you if you are considering synchronizing heifers or cows for AI breeding. Hope you all have a great calving season and a successful breeding season!