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Bull Vasectomies- a cost effective way to improve fertility figures?

We are all striving for better fertility figures during a time when there seems to be a continual decline in reproductive performance. The major factors influencing reproductive efficiency are heat detection rates (hence submission rates) and conception rates.

Reproductive efficiency = Heat detection rate x Conception rate.

It is difficult to influence conception rates easily with the National average being in the region of 35-37%.

Where we can make a significant difference is the improvement on Heat Detection Rates. The National average for heat detection rate remains at about 55% and has done for the past 15-20 years. It has become more difficult to spot cows bulling due to time constraints, larger herd sizes and due to breed/yield cows display signs of oestrus for a much shorter period.

There are many aids to heat detection. These include the use of heat mount detectors, tail paint, pedometers, closed circuit television, vaginal probes to assess electrical resistance, and milk progesterone assays. While they are all effective, their uptake is not universal due to problems associated with their use.

One comment that has been made to me on at least two occasions over the last three months is that when the bull has been turned out with the cows that they appear to come bulling more strongly. With this in mind I have read several articles where young bulls have been vasectomised to help with heat detection and they also appear to “stir” the cows up a bit. I have performed bull vasectomies in the last practice I worked in. There were a number of small holdings and the farmers had another job to supplement income so couldn't spend enough time during the day to watch the cows for signs of oestrus.

The use of a **vasectomised bull** offers the advantage of improved heat detection while maintaining control over breeding.

Bull Selection

Due to size and relative ease of handling it has been suggested that an Angus or Hereford cross makes a good candidate for vasectomy.

The bulls would be vasectomised at around the age of puberty (9-10months) and they would be put to use once of a reasonable stature.

The bulls would be fitted with a chin-ball marker which needs to be topped up with paint on a regular basis (usually weekly).

The following guidelines have been suggested re the number of bulls required and the length of time that they should be run for...

Herd size	Calving pattern	Bull use
Up to 200 cows	All year round	Single bull, intermittent use. 4 weeks on 2 weeks off
Up to 200 cows	Block calving	Single bull use from 6 weeks into the breeding season
More than 200 cows	All year round	Two bulls, swap over every 2 weeks
More than 200 cows	Block calving	Single bull use from 6 weeks into the breeding season

I would always be tempted to have at least two bulls vasectomised just to have a back-up plan for unforeseen illness and lameness issues or low libido.

So Is It Cost Effective?

In one study, written up for the M.D.C. by Mr Paddy Gordon of the Shepton Veterinary Group, Somerset, proved that the use of a vasectomised bull proved to be very cost effective. Vasectomised bulls were used on 6 farms in that area and different parameters were used to measure the degree of success.

1. Submission rates

The most significant improvement was seen in the increase in submission rates which overall improved by 10% (from 64% to 74%). On many of the farms this increase was as high as 15% but the overall figure was compromised by a bull which had a very low libido.

2. Calving to 1st serve interval

The presence of the bull resulted in a reduction of calving to 1st service interval but this varied depending whether the herds were seasonal calving or all year round (in the latter case the reduction was 5.4days).

3. Conception rates

There was no significant difference in conception rates during this trial.

In conclusion the data from this trial was compared to the National Averages

Parameter	U.K. average value	Vasectomised Bull Figure	Vasectomised bull effect
Calving – 1 st service			Minus 5.4 days
Submission rates	55%	65%	Plus 10%
Conception rates	38%	38%	None
Reproductive efficiency	20.9	24.7	Plus 3.8

The overall conclusion from the trial work done was that there was a definite cost benefit. Once all the figures were entered with respect to cost of vasectomy, feeding cost, equipment costs (chin ball marker and paint) and that was then balanced with the financial gains such as a reduction in calving interval, reduction in culling for fertility and final sales cost of bull there was a 500% return on the initial investment.

If you have any questions re the use of Vasectomised Bulls please phone the surgery and speak to one of the farm team.

Ian Patton