THREE RIVERS VETERINARY GROUP

FARM ANIMAL PRACTICE

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CATTLE PRACTICE

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We've hopefully avoided another Beast from the East, so with turnout fast approaching have you planned your strategies for hypomagnesaemia, mineral supplementation, Leptospirosis, BVD, IBR, Clostridial disease, lungworm, gutworm and fluke?

Calving Pattern

As promised, following on from January's newsletter, a further look at beef fertility and some of the ways we can have a positive impact thereon.

How many times have you read in the farming press that the way to a profitable suckler herd is to get as many cows pregnant in the shortest time possible? We looked at the realities for many farms in the previous newsletter, mainly focusing on the losses associated with the breeding period to weaning a calf from fertility issues to calf losses. The other main driving factor of profitability and efficiency is the calving pattern or spread. It has often been said that it takes one year to extend the calving period from 9 weeks to much longer, due to poor bull fertility or cow associated issues etc. and that it then takes a number of years to reclaim this lost time. Indeed many beef herds still have a voluntary extended breeding period. How about a plan to change that in a single breeding season, with minimal culling, by overcoming the often extended post-partum anoestrus of suckler cows?

In herds calving a significant percentage of the herd after the first 6 weeks of the calving period this can lead to a high barren rate as late calved cows that have extended post-partum (pp) anoestrus may have limited, or no opportunity to be bred before the bulls are removed. It is not unusual for beef cows to have pp anoestrus periods of 50-60 days or longer so cows calving close to, or after the start of the subsequent breeding period may not cycle until the last few weeks of a 9-10 week mating period if at all. To move a late calved cow forward in the subsequent calving period she must conceive less than 80 days pp to achieve a shortened calving interval and therefore extended pp anoestrus must be minimised or overcome. Calf suckling and body condition score (BCS) are the main determinants of the pp anoestrus period in beef cows. Temporary weaning or restricted suckling have been used effectively to reduce the pp anovulatory anoestrus period in beef cows in some countries but has not been adopted as management tool in the UK or Ireland presumably due to the difficulties in practical implementation. Treatment with progesterone releasing intravaginal implants with or without equine chorionic gonadotrophin (eCG) injection at removal has been shown to overcome anovulatory anoestrus in the majority of cows and can lead to normal fertility when bred at the induced ovulation/ oestrus. By selecting a group of late-calved cows for progesterone synchronisation and Timed Artificial Insemination (TAI) it may be possible to shorten the calving-conception interval of the treated cows by inducing fertile ovulations from 45 days pp or earlier and thus improve the chances of conception in a limited mating period either to AI or sweeper bull. A group working with Colin Penny demonstrated this application on two commercial beef units that used this approach to shorten their calving spread and reported the results at BCVA Congress and in Cattle Practice.

Herd 1 comprised of around 120 spring/summer calving, mixed breed beef suckler cows in Caithness. In 2016 the calving period extended for around 15 weeks (103 days) from 19th May-29th August. In 2016 a decision was made to restrict the bulling period to 9 weeks starting on 1st August 2016. The herd was split into 3 groups based on calving date and bred in the following way:

Natural Service Only Group (80 cows) - All of those cows who calved during the first 6 weeks of the calving period were bred to the bulls for 9 weeks, 1st August - 3rd October. Those who calved later were batched into groups and kept away from bulls, examined for any ongoing reproductive tract problems and synchronised using a protocol involving progesterone devices and other

reproductive hormones prior to fixed-time AI with a voluntary waiting period of 45 days.
Synchro Group 1 (19 cows) - calved weeks 7-9 of calving block. Examine and start synchronisation for AI date of Mon 5th Sept then run with sweeper bull for one full cycle until end of mating period. Synchro Group 2 (12 cows) - Calved weeks 10-12 of calving block. Examine and start synchronisation for AI on 25th Sept. This group were not run with a sweeper bull. 9 cows calved in last block of calving from week 13 onwards were not re-bred and voluntarily culled.
Herd 2 130 cow Shorthorn cross and Angus cross spring calving herd in Scottish Borders. Farmer keen to shorten existing calving period of 12-13 weeks in 2017 (11 week mating period) by adopting a 6-7 week mating period in 2017. Majority of the herd went to bulls for 45 days (15th July – 30th August) in 2017 and the last 22 cows to calve were held back from bulls and synchronised for TAI on 3rd August in an attempt to bring them forward in the calving pattern for 2018. The AI cow group were then run with bulls for the remainder of mating period (4 weeks) allowing one opportunity for return to service.
In both herds cows were scanned to establish pregnancy rates to AI and bulls. Calving block analysis was calculated by adding 285 days to the start of mating date to calculate theoretical start of calving date in subsequent year. Three week blocks were calculated forward from this date and any cow calving prior to the official start of calving date were included in the weeks 1-3 total. Economic value of improving the calving pattern was expressed as extra weaning weight value and calculated using the following assumptions : calves weaned on a fixed date 240 days after start of calving ; daily LWG birth to weaning 1.15kg; median age reduction at weaning for calving date slipping 1 block = 21 days; sale value £2.25/kg/LW.
RESULTS
Herd 1 Conception rate to TAI in group 1 was 63% (12/19) and group 2 was 33% (4/12) giving overall CR of 52%. Overall calving period length was reduced from 102 days in 2016 to 64 days in 2017. Percentage cows calved in first 6 weeks of calving period increased from 67% to 79%. Economic gain of calving pattern shift from 2016 to 2017 distribution was calculated as £1956 due to extra Kg weaned calf sale weight for 120 cows calved or £16 per cow.
Herd 2 Conception rate to TAI was 50% (11/22). Overall calving period length was reduced from 85 days in 2017 to 70 days in 2018 (NB in this herd the heifers started mating 2 weeks ahead of the cows in both years). Percentage cows calved in first 6 weeks of calving period increased from 93% to 96%. Economic gain of calving pattern shift from 2017 to 2018 distribution was calculated as £1060 due to extra Kg weaned calf sale weight for 130 cows calved or £8 per cow.
The results from these 2 herds shows that various strategies can be utilised to shorten existing calving periods other than simply removing bulls earlier than the norm. Both herds achieved an economic advantage by shortening the breeding window, even herd 2 that had a relatively compact window to start with. Herd 2 also achieved this reduction without increasing culling rate due to barren cows.
The other economic advantage that was not taken into consideration was enhanced weaning weights due to superior genetics in AI sired calves. For example, a beef calf sired by an AI bull with 200d weight EBV of +40kg would be expected to be at least 20kg heavier at weaning than "average" calves of similar breed herd sires. An AI calf born in the first block of calving could therefore have a weaning weight advantage of 24kg (21 days @ 1.15kg) + 20kg (EBV +40kg) = 41kg (worth £92) over a calf born to an "average" herd sire in the 2nd 3 week block.
The next step… To further improve herd calving patterns by improving % cows calved in the first 3 week block then synchronisation should be targeted at blocks of cows that have calved in the first 6 weeks of calving to ensure large groups of cows are bred on day 1 of the mating period. This breeding strategy can consistently create a superior calving pattern to natural service bulls as it is impossible even in herds where BCS management is excellent to ensure all cows are mated on day 1 as they take at least 21 days to all get their 1st service opportunity. Utilising AI sires with good maternal traits or using female sexed semen will also allow quality replacement heifers to be selected from the calves born in the first block of calving ensuring they easily reach target mating weights for 24 month calving. Large beef herds utilising single synchronisation and TAI followed by sweeper bulls can consistently calve 65- 70% or more of cows in the first 3 weeks of calving generating economic gain from higher weaning weights as a result of extra age and superior genetics.

Drug Shortages

This is becoming a little too frequent. There is still a shortage of **Lepto** vaccine. We are hoping to have some soon, but the quantity isn't yet confirmed. Please let us know, if you haven't already, your requirements.
There is also a **local anaesthetic** shortage. Again supplies should be arriving but the date is not confirmed. In line with the recommendations from the BCVA, we are trying not to carry out any routine procedures requiring local anaesthetic, castrating etc. at the moment to allow supplies to be reserved for unavoidanble use, ie caesareans, LDA ops etc. Thank you for your understanding, we'll update you as soon as possible.

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