

BORDERS MONITOR FARM Tightening Calving Period Through Improved Fertility

THE CHALLENGE

Whitriggs are a spring calving herd of around 160 cows, with a mixture of Aberdeen Angus cross and Shorthorn Cross cows, bulled to Shorthorn, Angus and Simmental sires which are bought in. It is a self-replacing herd with calves finished on farm and sold through the local auction mart.

When looking at the options to market steers, the Mitchell family looked at the growth rates for each breed it showed that although the Simmental calves were heavier, it didn't take into account issues with calving or higher birthweight.



A second review was done on the weights in August, (at around 15 months old) and, this showed that those born in the first cycle had put on most weight and those born later had not caught up with the early born calves.

Calf Weights by Cycle, Weighed in Mid-August

Cycle	August weight
1st	509kg
2nd	474kg
3rd	419kg

From a rough estimate, those born in the 2nd & 3rd periods weighed less than '21 days' worth of growth' at 1.45 kg per day and had not performed as well as expected. Although there may be issues with the cow condition and other reasons for better conception, the Mitchells felt that it important to shorten the calving period. This would help to produce more even batch for sale, particularly if they were to be sold as stores. Therefore a 6-week calving block would be preferable, with bulls with the cows for a maximum of six and a half weeks.

Fertility Issues

The calving Percentage in first 3 weeks at Whitriggs is 59% of the cows in the shed (not cows to the bull). In 2017, 150 cows went to the bull, with 7 cows and 2 heifers barren.

- Main causes of calving dates slipping – sub-fertile bulls and cows not cycling
- First heats after calving 45 days but many beef cows may not come back in heat until day 60-70 post calving. Energy requirement pre and post calving is key. Remember first eggs released after calving are grown in last few weeks of pregnancy – make sure cows are looked after during late pregnancy to ensure good egg production.

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- Body Condition Scoring at calving is key to ensuring this
- Suckling young calves inhibits cows from cycling, in the US temporary weaning is used – calves shut away from mothers for 24hrs.
- Hard to move from extended to compact calving without taking the pain
- All Whitriggs all bulls were checked – Results all good – Ideally this should be done 1 month before they go out.
- Bulls need to achieve 60% conception rate. Bull to cow ratios should be mature bulls 30-40 – young bulls 20

Around half of the community group had seen a fertility test on a bull before, however only 20% carried these out annually on all bulls.

WHAT WE DID ON FARM

- The first and most straightforward change is reducing the age at first calving from 3 yrs to 2yrs. This is something the Mitchells had planned before the project.
- To simply move from a 9 week to a 6 week calving block may have resulted in the need to cull cows which could not get in calf within that period. It was felt that an interim step would be to use synchronisation and AI to “pull” the later calving cows forward. 22 cows and 11 heifers were ‘AI’d’ and then ran with a bull.
- AI bulls were selected for fertility traits and could give a higher genetic quality than could be bought live bulls.
- Heifer calf selection was reviewed and a plan put in place to select based on more figures and suitability of mother rather than a visual assessment.
- Alongside this, cows were condition scored to check for any underlying issues with nutrition and health.
- Bulls were all visually assessed and fertility tested before working.
- In the second year there was a return to natural service for cows.



Costs of AI.

- Drugs – £25/head
- 2 X vet visits
- AI Cost £8/cow
- Semen Cost £7- £20/Straw
- 60% conception rate
- Cost Range from £50 -£80 per calf born
- Bull cost estimated at £50-£60 per calf born

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Currently only 10% of Beef Cows are AI'd in the UK

Pros

- Sexed Semen – (available in AA shorthorn and Limousin)
- Heifer Replacements
- Access to best Genetics
- 60% calves born in first 10 days - Early on the ground more Kg of beef produced
- Tightens calving pattern

Cons

- Cost, are the figures showing the complete costs?
- Extra Handling
- Programme needs done at second steading.
- Bulls still needed to sweep

Heifer Selection

Calculation carried out on the ideal weight for heifers to be served

Stage	% of mature weight	Example weight for Whitriggs
Bulling	60-65%	420-455kg
1 st Calving	85%	595kg
2 nd Calving	95%	665kg
3 rd Calving	100%	700kg



Heifer selection criteria now introduced at Whitriggs is described below.

1. Visual assessment, are there any problems, feet etc.
2. Weight and age, has it grown well, is she too heavy? How heavy will she be when mature?
3. Look at the mother, is she long lasting and rearing strong calves, what weaknesses does she have?
4. Any other on farm information, siblings, docility etc.
5. Sire information, look at sire EBVs in particular calving ease figures. The best calf is worth nothing if it is dead!

Bull Fertility Checks

Colin Penny from Zoetis carried out a practical demonstration of pre-mating checks on a bull, including scrotal measurements and a semen text. Surveys have shown that around 20% of UK stock bulls are sub fertile (less than 40% conception rate. As the Mitchells are looking to reduce calving to a 6 week block, excellent bull fertility will be needed, as well as cow fertility. Below is a pre-mating checklist for bulls:

- ✓ Body Condition Scoring – Should be 3-4 before working
- ✓ Exercise before use, particularly if kept in pens.

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- ✓ Disease Status, if bought from high health herd, may be naive to endemic diseases e.g BVD, IBR. New bulls should be isolated and tested/vaccinated
- ✓ Lameness/feet, if required trimming should be carried out 2 months before mating
- ✓ Pre Breeding Examination, carried out by a vet, including, semen collection, physical examination and test mating.
- ✓ Observation during mating period, record matings, should see less than 50% returning
- ✓ Appropriate bull ratios, young bulls 15-20 cows each, mature fit bulls 35-40 cows each.

THE RESULTS

Of those that have held to the AI, 5 have come forward 2 weeks, 2 by 3 weeks, 1 by 4 weeks and 3 have come forward by 6 weeks, proving it is possible to tighten a calving pattern in this way and reduce the need to cull cows. The empty cows were the cows which had been later calving not in ideal condition and they tended to be older cows in the herd.

	Total No	In calf AI	In calf Bull	Empty
Heifers	9	4	5 (1 in second sweep)	0
Cows	22	11	8	3

In the second year, bulls ran with cows for 6.5 weeks, along with the AI, with 87% in calf overall after 6 weeks with bull. In the current year, bulls ran with the cows again for 6.5 weeks with a recent scan showing 89% (with twins rises to 94%), The target for a 6 week calving herd is 84%.

WHAT HAS CHANGED ON FARM

Whitriggs now use a 5 point plan to select heifers to retain. These heifers are then AI'd to have them calving early in the block as well as using the best genetics available and ensuring easy calving sires are used.

All bulls are fertility tested and are inspected prior to mating. They then run with the cows for 6.5 weeks, with any heifers not holding to AI having the chance of the bull.

With changes to the farming policy freeing up grassland the Mitchells are planning to increase cow numbers, but ensuring they have good fertility and management practices as well as the ability to select and retain replacements they have confidence to do this without the need to buy in stock.

These improvements to the cattle herd fertility at Whitriggs have been achieved through the

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input from Industry experts. These include Andrew Robinson & Catherine Gayle from Hawick vets, Colin Penny from Zoetis and Basil Lowman from SAC consulting all fed in information and practical demonstrations. The guidance and experience of the community group also supported the development of plans and procedures. The Mitchells themselves were very open to the ideas and happy to implement on a trial basis before adopting into their accepted procedures.

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