

MORAY MONITOR FARM Pelvic Measuring of Heifers to Reduce Calving Difficulty

THE CHALLENGE

Difficult calvings are a significant economic loss for beef farmers through increasing labour and vet costs, delays in calving recovery, interruption of cow fertility cycle and in severe cases, cow/calf mortality.

The Morayshire Monitor Farm management group decided to investigate heifer pelvic measuring in more detail. The idea was to pelvic measure a batch of commercial heifers before being put to the bull and follow the information through to calving to ascertain if there was any correlation in pelvic size and calving ease.



Pelvic size in cattle is a highly heritable trait and by selecting heifers that have a larger pelvic area will rapidly increase the calving ease within the herd. It is thought that by selecting replacement females and breeding bulls for larger pelvic size, that a herd of large pelvic area cows could be created.

To add to the challenge, it was also highlighted as part of the Monitor Farm programme that selecting heifers with a larger pelvic area, will not guarantee an easier calving. Pelvic measuring is a heifer selection tool, but the following will also need to be included and managed:

- Body condition score of cow at calving;
- Birth weight of the calf;
- Breed/sex of the calf;
- Calf presentation at birth

WHAT WE DID ON FARM

Along with Mark Pearson (vet) from Moray Coast Vets, Iain and Laura Green pelvic measured a batch of heifers. The tool that was used is called a 'Rice Pelvimeter', as photographed above. The internal pelvic area of the heifer is determined by multiplying the vertical (height) measurement by the horizontal (width) measurement, detailed as cm^2 .

One thing that was noted was that to compare measurements between batches/years etc. is that the pelvic measurer should be the same person each time. This is due to the amount of pressure applied by each person may be slightly different which can have an effect on the measurements, however by having the same person completing the measuring for all heifers means that comparisons can then be made between individual cattle.

THEME REPORT



In the trial a batch of 31 heifers (all put to the same bull) were pelvic measured by Mark Pearson approximately 2 months before bulling, at 15-18 months of age. The measurements were noted and no heifers were removed from the batch based on their pelvic measurements. The animals had been selected for bulling using information such as weight, confirmation, growth rates, etc. At calving, the cattleman was not aware of the pelvic measurements so did not have any pre-concieved ideas of whether the heifer would be more/less difficult to calf. The cattleman noted the calving ease score and calf size score for all animals at calving. The table of results are on the next page.

A scoring system was used by the cattleman to demonstrate the calving ease and calf size. The scoring used was as follows:

Calving Ease Score:

- 1 = Easy (no assistance),
- 2 = Big Push (No assistance),
- 3 = Assistance/Help Required,
- 4 = Cesarean.

Calf Size Score:

- 1 = Normal, 2 = Good Big Calf, 3 = Very Big Calf.

RESULTS

The results from the batch of 31 heifers which were pelvic measured are as follows:

Mgmt. Tag	Breed	Pelvic Measurement Height (cm)	Pelvic Measurement Width (cm)	Pelvic Area (cm ²)	Calving Ease Score	Calf Size Score
556	SMX	16	20	320	2	3
543	SMX	16	19	304	2	3
562	SMX	15	19	285	2	3
533	BSHX	14.5	19	275.5	2	3
534	SMX	16	17	272	3	3 (dead calf)
569	BSHX	15	18	270	2	1
561	BSHX	15	18	270	1	2
548	SMX	15	18	270	1	2
536	SMX	15	18	270	1	2
579	SMX	14	19	266	2	1

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550	SMX	14	19	266	1	3
580	BSHX	15	17.5	262.5	1	2
538	BSHX	14.5	18	261	2	3
539	BSHX	14.5	18	261	2	3
558	BSHX	14	18.5	259	1	3
564	BSHX	15	17	255	2	1
542	SMX	15	17	255	2	3
581	SMX	14	18	252	1	2
571	SMX	14	18	252	1	2
555	SMX	14	18	252	1	2
554	SMX	14	18	252	4	3
552	SMX	14	18	252	1	3
570	SMX	14.5	17	246.5	1	2
567	SMX	14.5	17	246.5	2	1
547	SMX	14.5	17	246.5	2	2
557	SMX	13.5	18	243	1	3
573	SMX	14	17	238	3	2
568	BSHX	14	17	238	3	2
540	SMX	14	17	238	1	2
545	SMX	13.5	17	229.5	1	2
575	BSHX	13	15	195	4	2

The main points to draw from the results include:

- Only 5 of the first-time calvers required assistance at calving;
- Two of those 5, required a caesarean, including the heifer with the smallest pelvic area (kept as lain liked the look of her), and also another due to a very big calf.
- Some of the heifers with a smaller pelvic area managed to calf with no assistance.
- Pelvic measuring does not always ensure an easy calving, but can detect potential problem cows which should not be kept as herd replacements.
- Pelvic measuring can be a useful selection tool alongside other selection factors.

THEME REPORT



It was felt that more work was needed on pelvic measuring vs calving ease and results from the latest batch of heifers, which will calf Spring/Summer 2019, will be announced at the mid-October meeting

WHAT HAS CHANGED ON FARM

The trial proved successful at Corskie with Iain and the team having now taken up pelvic measuring for all replacement heifers. Laura (Iain's eldest daughter) now carries out all the pelvic measuring on the heifers which have been selected as potential herd replacements. It is felt that it is a useful tool to eliminate heifers which are more likely to have problems at calving time. A decision was made that all heifers with small pelvic measurements will be fattened on-farm, instead of joining the breeding herd. Over the years it is hoped that this will decrease the instances of difficult calving within the herd and particularly in first-time calvers.

It should be highlighted that pelvic measuring is just one tool in the toolbox, there are a lot of other factors which affect calving ease including body condition of the heifer, nutrition, stockmanship, age and genetics. Overall, pelvic measuring is a relatively simple process that can be used to improve breeding practices on-farm.

FACILITATOR CONTACT DETAILS

Derek Hanton, SAC Consulting, Alcaig Farm, Conon Bridge, IV7 8HS
Tel: 01463 233 266 Email: derek.hanton@sac.co.uk

Samantha Stewart, SAC Consulting, 15 Hay Street, Elgin, IV30 1NQ
Tel: 01343 548 787 Email: samantha.stewart@sac.co.uk

