

## ANGUS MONITOR FARM Campylobacter – The Unseen Reason for Poor Suckler Herd Fertility

### THE CHALLENGE

The Stodarts have been disappointed with the decline in fertility of their suckler herd over the past few years. In 2016, there was a particularly high barren rate of approximately 40 of 130 cows who were not pregnant at the end of the breeding season (69% percentage pregnant).

This was identified by the family and the community group as an area which required significant investment in time and effort to help improve the financial performance of the suckler herd enterprise on the farm, which was losing money.

### WHAT WE DID ON FARM

Tim Geraghty, SRUC vet along with the farm vet John Kidd were consulted. Their recommendation was to review the breeding records for the past few years to identify any patterns in poor fertility or if there was a trigger point where the issue started to occur.

The farm breeding records were good and included the following:

- Date bull went in with cows
- Scanning/PD records
- Calving dates and results

From these records it was identified that there had been a steady decline in fertility performance over the past few years (83% to 69% percentage pregnant from 2012 to 2016). There were also several distinct periods during the breeding season with very poor fertility performance in 2012 and 2013. This could have been due to a number of factors including (but not limited to); bulls becoming infertile, bulls not working, infectious disease outbreaks and nutritional stresses.

The slow decline in fertility was masked by having Spring and Autumn calving herds and a high carry over rate between the two herds. Bulls had also been hired in the past with little known about their health status.

A biosecurity assessment was carried out and it was identified that the herd was at very high risk of venereal infectious disease. This was due was due to the farm's replacement policy of

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buying cows (of varying ages) with calves at foot and pregnant heifers from multiple, diverse sources. This policy also presented high risk of other potential infectious causes of infertility.

Herd history and testing confirmed moderate to high prevalence of both Johnes disease and IBR. There was also some evidence of low selenium and iodine levels in bloods.

Before Spring breeding 2017, all bulls were fertility tested for semen quality and for Campylobacter. Any abortions were also submitted to the SRUC laboratory for further investigation.

Through rigorous testing involving sheath washing the bulls and culturing the bacteria and from bacteria found from an aborted foetus, it was identified that the suckler herd was endemically infected with Campylobacter fetus. This is a sexually transmitted disease which can be carried by both the cows and the bulls and once infected will remain so (to some extent) for the rest of their lives. It is most likely that this was brought into the herd by a mature breeding bull which has then infected the rest of the herd. The disease can cause; failure to conceive in cows - with cows returning to service, early embryonic death – with delayed return to service and abortions usually around month 4-5 of pregnancy.

This is most likely to have been a significant contributing factor to the reduced performance of the herd. With a disease such as Campylobacter, no matter how good the rationing, stockmanship, husbandry and management, there are significant cow-health and economic impacts.

The next step was to set some targets (or KPI's) for where the herd fertility should be in the future. It was decided that a target should be

**">90% percentage pregnant after 12 weeks of breeding be achieved for the 2019 (2020 born calves) breeding season"**

This was thought to be achievable as any changes made would take a few breeding seasons to make an impact on the herd and would have a significant economic impact on the herd.

A plan was drawn up to eradicate the disease from the herd but also trying to minimise the financial impact to the business. The plan was as follows:

1. To introduce a new "clean" (Campylobacter free) herd (cows and bulls) to the farm of high health status.
2. To remove the "dirty" (Campylobacter infected) herd from the farm.
3. To investigate the use of a bespoke vaccine to help reduce the clinical signs of the disease.

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This may sound simple but with the scale and layout of the farm keeping two herds out of direct contact with each other to mitigate the risk of infection required some rationalisation of the farm's enterprises.

## RESULTS

The Stodarts took the decision that trying to keep a "dirty" spring calving and autumn calving herd along with a "clean" spring calving herd was too many groups for the farm. It was therefore decided to cull out and move the remaining autumn herd into the spring herd and run a "dirty" and "clean" herd. This had the added benefit of freeing up farm labour in the busy harvest period.

In consultation with the community group it was decided that when starting a new herd the breed of cow should also be changed from mainly Limousin to Aberdeen Angus. This was to bring some more maternal traits into the herd and help to reduce the workload in the spring through less intervention at calving. This also allows for the business to become a closed herd and retain its own heifers with known health status.

To try to reduce the investment required in a new bull and to have a better genetic pool to select from it was decided to trial AI on the first batch of heifers to go into the "clean" herd. These were a mixture of home bred and purchased maiden heifers. This trial had mixed results as can be seen in the [December 2017 meeting 4 report](#). It resulted in only a small proportion of the heifers being in calf but the quality of the calves on the ground were good. Some of these heifers were sold with calves at foot to help cashflow with the remainder starting the "clean" herd.

The farm now runs a "clean" herd which is gradually building in numbers and a "dirty" herd which is phasing out. This has resulted in an improvement in percentage pregnant in 2018 breeding season but there have still been clinical signs of cows returning to service and abortion in mid to late pregnancy in the "dirty" herd.

For the 2019 and 2020 breeding season 'Vibrin' vaccine for campylobacter has been imported from America at a cost of approximately £5 per head. This will not clear the herd of campylobacter but should help to reduce the instance of abortion and low fertility in the "dirty" herd.

Initial indications are that this has helped increase the rate of conception in cows and reduce the rate of abortion. Once the 2020 breeding season is complete and cows have been scanned a full analysis of the data will be completed and this report will be updated.

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## WHAT HAS CHANGED ON FARM

Much has changed to tackle this disease and improve the performance of the herd. The main changes are listed below:

1. Herd split into “dirty” and “clean” herds to save cross contamination
2. “Dirty” herd being phased out and “clean” herd being phased in.
3. Autumn calvers culled/moved to spring calving to reduce management groups
4. Breeding policy changed to more maternal type to simplify system and allow for closed herd in the future.
5. Maiden heifers purchased from herds of known high health status, to reduce the risk of introducing venereal diseases.
6. Virgin bulls purchased to reduce the risk of introducing venereal diseases.
7. Vaccination programme introduced to “dirty” herd to improve percentage pregnant
8. Reduction in the mixing of livestock with a preference to purchase larger groups from one or two farms.

Once the breeding data is available this report will be updated to show the difference these changes have made to the overall herd performance.

### FACILITATOR CONTACT DETAILS

David Ross  
SAC Consulting  
Arduathie Business Centre,  
Kirkton Road,  
Stonehaven,  
AB39 2NQ  
Tel: 01569 762305  
Email: [fbsstonehaven@sac.co.uk](mailto:fbsstonehaven@sac.co.uk)

Zach Reilly  
SAC Consulting  
77 North Street,  
Forfar,  
DD8 3BL  
Tel: 01307 464033  
Email: [fbsforfar@sac.co.uk](mailto:fbsforfar@sac.co.uk)

