

Beef Feed Efficiency Programme

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Beef feed efficiency programme expands across GB

Reducing feed costs can make a big difference to the bottom line of all beef businesses. Offering farmers the ability to do that without affecting performance is what the beef feed efficiency programme is working to deliver. Already the programme has collected feed intake records from 1200 cattle that will be used to identify the genetic differences between the sires of those cattle in terms of how efficiently they convert feed to liveweight gain.

Preliminary results from this major industry project being led by AHDB and SRUC and funded by Defra and AHDB is showing that differences in daily feed intake can vary considerably between sires whilst growing at the same rate.

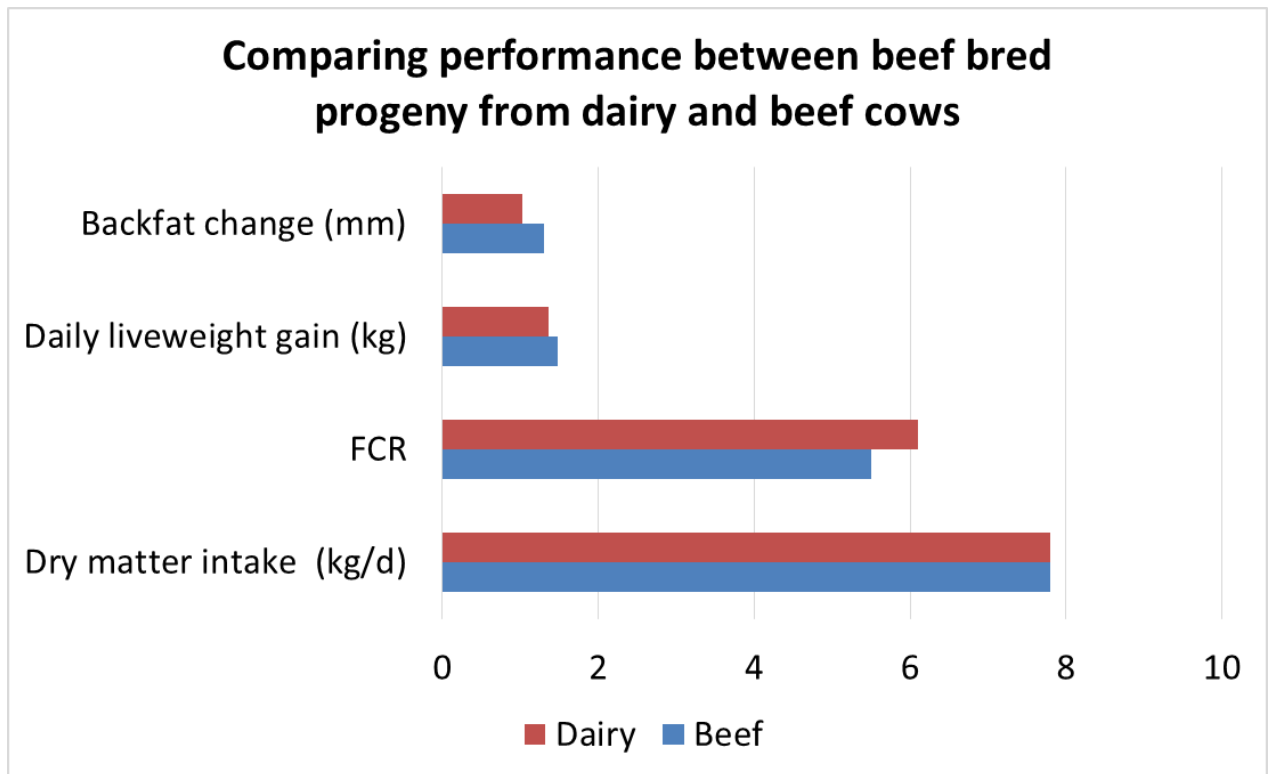
Much has been learned about conducting this sort of performance recording on commercial farms. Investment in equipment that accurately measures feed intake, along with electronic identification of the cattle mean that the measurement of individual daily intake is now feasible with a high level of accuracy. Feeds are regularly oven dried to determine dry matter content of the ration over the test period. Cattle are weighed weekly and are ultrasound scanned at the start and end of the test period.

An ultrasound scan uses high-frequency sound waves to create images of the inside of the body. Images taken over the loin area provide measurements of the layer of subcutaneous fat in that area. This enables composition of the liveweight gain to be incorporated into the model for recording feed efficiency, as the feed requirement for laying down lean tissue is different to that required for fat deposition.

Recent developments have also seen the geographical spread of the programme extend to Scotland and Wales. Additional funding from the Scottish Government with industry input from the ABP Food Group has enabled the establishment of a recording farm in Scotland. Together with a new unit in North Wales, the programme now has much greater flexibility in terms of finding suitable cattle and has increased capacity to record greater numbers of cattle.

Despite insufficient data being collected to work on the genetic analysis at this stage, the preliminary performance data is showing some interesting trends.

Both Limousin sired cattle from the beef herd and the dairy herd are being recorded and an initial comparison of their performance across 400 cattle shows some interesting trends. Limousin cross cattle from the dairy herd had a lighter weight for age at the start of the recording period but had very similar levels of daily dry matter intake. This was a consequence of their greater intake as a proportion of body weight. Growth rates of the suckler bred calves in this sub-set of data have so far been around 8% faster than those from the dairy herd, with an associated reduction in feed conversion ratio.



As expected we are also seeing considerable differences in intake between different sires.

One suckler producer that has supplied calves to the project is Mark Needham of Old Henley Farm, Dorset. Mark runs 180 continental cross suckler cows, half put to a Charolais bull and half to a Limousin. The cows are spread over two units, which are both spring calving. One herd has the advantage of being outwintered on chalkland. All progeny are sold as stores in Frome Market in the autumn. No concentrate is fed to the cows, however the calves are offered creep from mid-June onwards. Across the two herds there are 5 stock bulls. Bulls are purchased only after having checked their estimated breeding values (EBVs). Both herds are routinely health tested.



To date Mr Needham has supplied the project with 25 calves sired by two different Limousin bulls, and more calves are planned for involvement in the project. The objective is to collect feed intake and performance data from no less than 8 calves per sire from over 200 Limousin bulls used across GB.

Calves from Old Henley Farm have performed well whilst on test, with daily liveweight gains averaging 1.68 kg/day and average dry matter intake averaging around 8.5 kg per day. Compared to the average weight of the cattle in the group, both sire groups were among the heaviest at the start and finish of test, with growth rates in the top 5%.

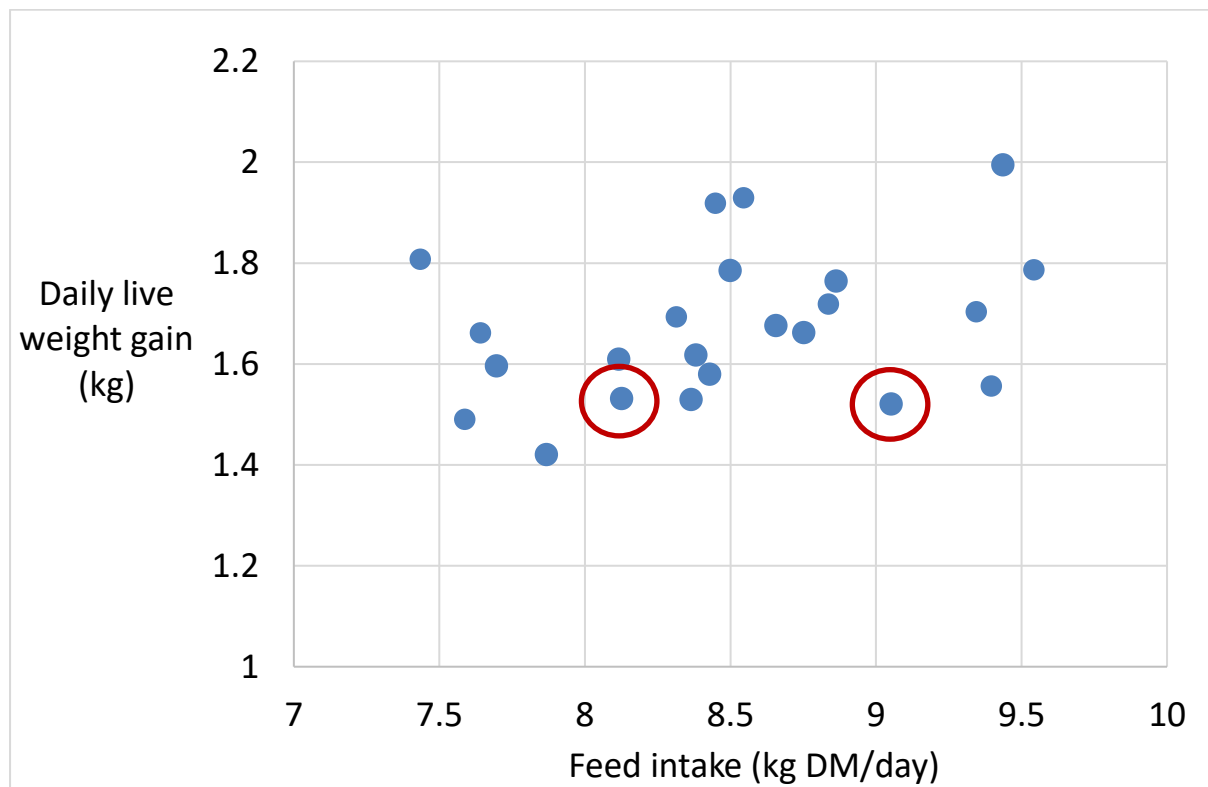
The ration is based on grass silage, barley and a protein blend to be typical of the majority of commercial beef rations.

The graph below shows the average growth rate and feed intake of the calves submitted by Mr Needham. Cattle with relatively lower feed intake for the same level of performance are the most feed efficient.

The circled dots illustrate the performance of two animals which grew at the same growth rate during the recording period (1.5 kg/day) but had a dry matter intake that differed by 11% or 0.9 kg of feed dry matter per day. During a 100 day finishing period this type of response could deliver a feed cost saving worth approximately £20 per head, a reduction in feed cost per kg liveweight gain of £0.16.

Identifying those sires and dams with the genetics that will consistently achieve this in their progeny is what this project is all about. The aim is to collect sufficient records to generate breeding values for one breed to demonstrate the approach using commercial growing cattle recorded for feed intake on commercial farms, with the data linked back to the pedigree herd.

The funded project has also established industry standards for recording of feed intake and will determine an agreed measure of feed efficiency to be included in selection indices. At the end of the funded project, the programme will continue through the ongoing availability of the feed recording facilities, which will be available to breed societies and breeders who wish to generate breeding values for their breed.



Feed intake and performance of cattle sired by two bulls from the same herd

The programme is continually looking for suitable cattle that can be purchased or retained on a B&B arrangement. Feedback on cattle performance is available. Any producers with Limousin sired cattle aged 8 months or less who are interested in understanding how their cattle could participate should contact Natalie Cormack on 07866 934563 / 01890 781006 or email natalie.cormack@ahdb.org.uk.