

Genomics and Parentage Verification

While the principal purpose of genomics is to get a better insight into the genetic makeup of an animal and from this, be able to better predict the animal's genetic merit for key profit traits, there is also the added benefit of parentage verification.

To date, over 300,000 animals have been genotyped as part of the Beef Data & Genomics Programme. Several thousand animals subsequently returned with a sire error where the animal's DNA did not match that of the sire which the animal was registered to. Approximately half of these animals have subsequently had a sire identified where a DNA match was made with another sire in the database.

Letters were recently sent to all farmers informing them of any parentage updates on their animals. This parentage verification is one of the many positives of the BDGP. It has meant that the Euro-Star figures on a large number of animals have been corrected and any potential inbreeding can also now be avoided with correct parentage.

Sire Errors

Assigning sires to calves, while generally straightforward, can sometimes see mistakes made. Where AI is being used, an incorrect straw may have been used or an incorrect AI code recorded at registration. In the case of stock bulls, some larger suckler herds may have multiple stock bulls of the same breed running concurrently with the same group of cows, making it almost impossible to accurately identify the correct sires of calves.

Even where stock bulls of different breeds have been used and/or where cows have been grouped with a specific stock bull for the entire breeding season, some mistakes have come to light. The simple fact is that, even with the best of intentions, mistakes can still be made. The BDGP recognises this fact as it will not penalise farmers for sire errors and where sires have to be removed or changed, farmers are being notified of the changes by letter.

Importance of recording sires

The majority of suckler calves born each year (approximately 80%) have a sire recorded since the inception of the Suckler Cow Welfare Scheme (SCWS) in 2008. Sire recording has remained a key requirement in subsequent suckler schemes as it is such a vital piece of data for any animal.

Approximately 20% of the suckler cows which calve every year are first beef crosses from the dairy herd. Only 35% of these beef x dairy cows that calved in 2015 had a recorded sire. Contrast this to beef x beef suckler cows calved in 2015 where 60% of sires were known. Sire recording on beef calves from the dairy herd was at 44% in 2015.

As a significant number of these animals will potentially be future suckler cows, the problem is likely to continue. In the majority of cases, these missing sires are known, but not recorded and all farmers, both beef and dairy, are urged to record all sires where known.

Record sires at registration

Genomics will identify a lot of these missing sires, but it is still better to record them at birth. This allows for accurate Euro-Star indexes to be generated on a calf from birth which will allow farmers to make more informed breeding/purchasing decisions. Farmers are encouraged to record sires of calves at the time of registration.

Sires can be recorded when registering calves online through www.agfood.ie, through a farm software provider or through the animal events (white) book for those still using postal registration. For farmers who are still using the white cards which come with the tags to register calves, they are encouraged to change over to animals events registration, either online or postal, to allow for more comprehensive birth data recording. For more information on sire errors or animal events recording please contact ICBF on 1850-625 626 or query@icbf.com.



John Belton, Richfort, Ardagh, Co. Longford with some of his suckler cows and calves in the background. John recently received a sire error letter helping him to avoid potential inbreeding between one of his stock bulls and a number of his replacement heifers.

Q&A

Q. I received a parentage error letter and the sires could not be identified. What does this mean?

For such animals, the DNA profile of the sire is not currently in the ICBF database. As more animals are genotyped throughout the lifetime of the BDGP, a sire may eventually be found. Even for animals where sires cannot be found, genomics will generate a Euro-Star index.

Q. I have animals in my herd which I bought in and they do not have a recorded sire. Is there anything I can do to identify the correct sire?

When these animals are genotyped, a sire may be found if that sire has himself been genotyped. Some farmers have successfully contacted the farmers who bred the animals and got tag numbers or AI codes of sires. Sires can be added through the "Record Missing Sires" screen on www.icbf.com.

FARMER FOCUS: JOHN BELTON, ARDAGH, CO. LONGFORD

Inbreeding information is a big positive

Name: John Belton, Richfort, Ardagh, Co. Longford

Farming System: Suckler to weanling

4 and 5 Star Females:

Cows: 15

Heifers: 10

Stock Bull or AI: Mostly stock bull. Starting to use some AI.

Replacement Strategy: Breed all my own.

John Belton runs a 50 cow suckler herd outside of Ardagh, Co. Longford. John was one of several thousand farmers participating in the BDGP who received sire error letters in the last number of weeks. We ask John about his experience of the BDGP so far and how the sire error letter helped him.

What is the breeding strategy for your herd?

I like to try to breed a good quality weanling that will command a good price in the autumn time. I have a terminal Charolais bull for this. I have two Angus bulls one which I use on heifers as he is easy calving and the other is only used on cows as he is a little hard calving for heifers. I breed all of my own replacements as well.

How did the sire error letter that you received help you?

I received a letter in early May. I was about to leave heifers off with the easier calving Angus bull as I had thought that they were sired by the older Angus bull. As it turned out they were actually sired by the bull that I was about to leave the heifers in with. My first thought was that maybe I had tagged the wrong heifers but having checked them, the tissue tags matched their ID tags. I was



John Belton.

relieved to know this as it has potentially saved me hassle down the line that could have been caused due to inbreeding. I'm a firm believer that knowledge is power and having this information available to farmers is a big positive in my opinion.

So far, what has been your experience of the BDGP?

To be honest, I was a little sceptical initially of the programme and the Euro-Star system. I couldn't understand how my best looking cows had low star ratings. Having completed the BDGP training course, however, I now have a much better understanding of the Euro-Stars and what the BDGP is trying to achieve. The course was very informative and helped me greatly. I'm already ok for the 2018 requirement and with a few small changes to my breeding strategy I shouldn't have a problem meeting the 2020 requirement as well.

DATES FOR THE DIARY

➔ 5th July 2016 - Beef 2016 - Teagasc Grange, Dunsany, Co. Meath. For more information go to <http://www.teagasc.ie/events/2016/20160705.asp>