



## Using integrated solutions to achieve high levels of performance recording in beef herds

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### **Abstract**

In 2007, the number of calves registered from beef herds in Ireland with sire details was 168,000. In 2008, it was 741,000. This represents an increase of over 440%. Having an integrated approach to performance recording whereby all data recorded for statutory and non-statutory purposes are utilised in a central cattle breeding database has had a major impact on Ireland's ability to provide genetic evaluations to farmers.

Using a common infrastructure for recording official birth registrations and cattle breeding data has greatly simplified the practical difficulties of obtaining phenotypic performance data on beef cattle. Integrating the capture of the key cattle breeding data into a Suckler Cow Welfare initiative in 2008 has had a dramatic effect on the numbers of animals with genetic evaluations. Many of the key performance measures (e.g. ease of birth, weaning weights, slaughter weights, carcass weight & grade, age at first calving, ease of calving, calving interval, and maternal weaning weight) that are required to carry out effective genetic evaluations using data from commercial beef cattle are already being captured in various systems. The key is to ensure that the sire of the animal is captured at birth so that any performance data subsequently collected on the animal can be used in genetic evaluations.

*Keywords: Performance recording, ICBF, Animal events.*

### **1.0 Background**

The purpose of this paper is to describe the key factors that have contributed to ICBF's ability to deliver dramatic increases in beef performance recording.

In the period leading up to 2002 the infrastructure supporting performance recording in beef herds was on a very small scale, focused only on pedigree animals, and was significantly lacking in integration. The challenge was to (a) achieve the integration and (b) achieve high levels of uptake among beef farmers.

The core elements of the increase in beef performance recording over the past 10 years are:

- A centralised cattle breeding database.
- Department of Agriculture (DAFF) animal registration and movement systems.
- Animal Events recording.
- Animal Welfare, Recording, and Breeding Scheme (AWRBS).
- A culture of sharing and cooperation.

The effective combination of the above elements has allowed Irish beef breeding the opportunity to significantly increase its profitability from breeding through increased genetic gain

## 2.0 A centralised cattle breeding database

Prior to the set-up of ICBF in 1998, and the establishment of its central cattle breeding database, Irish cattle breeding data was spread across some 40 different systems. The establishment of the database began a removal of duplication across the industry and allowed the breeding industry to establish a database of a scale that would allow exponential growth. Web based technology has been employed to provide service providers and herd-owners with direct access to the database to both record data and retrieve information.

## 3.0 Dept of Agriculture Registration and Movement Systems

The 1996 implementation of the EU Directive on the identification of cattle in Ireland preceded the setting up of the ICBF database by some 6 years, but was a critical element in the feasibility of the efficient establishment of that database. In Ireland, we were fortunate that DAFF and its agents were very effective in implementing the new registration and movement systems. DAFF and its agents have been very cooperative in sharing the registration and movement data.

The single biggest impediment to effective integration of data across systems with performance data on beef cattle was the lack of a common identifier for that animal. As part of the migration of data to the cattle breeding database, many different forms of identification had to be managed, with a given animal often having a different identifier in each system in which that animal existed.

The advent of the single lifetime identifier (the official tag) for an animal, which preceded the establishment of the ICBF database, played a key role in helping remove duplication in farm level recording. It also meant that data gathered from marts and slaughter factories was readily usable, as they were using the official tag number to identify all animals.

## 4.0 Animal events recording

Prior to the launch of Animal Events recording in 2002, pedigree breeders were required to record the same data multiple times for different purposes (DAFF calf registration, herd-book registration, calving surveys, etc). The launch of Animal Events recording put in place a robust, easy to use solution, that removed duplication of effort on the part of the farmers, and reduced errors in cattle breeding activities due to inconsistencies arising between systems (e.g. different birth dates on the calf passport to the pedigree certificate).

The critical aspect of Animal Events from a commercial beef herd perspective was that there was now a mechanism by which the sire of a calf could be recorded as a matter of course when completing calf registration activities. In Ireland, the number of sires recorded on beef cattle has risen from 80,000 in 2001 to over 900,000 (90% of the total beef calves born) in 2009.

## 5.0 Animal Welfare, Recording and Breeding Scheme (AWRBS)

While beef cattle breeding in Ireland had an excellent infrastructure with which to work, the number of herds fully engaged with the system was still only 20%-25% of what it potentially could be. In 2008, a visionary initiative by DAFF, and supported by farm representative organisations, was launched. The core aim of the scheme was to improve animal welfare and breeding practices on beef farms.

The key elements of the scheme were:

- a. the recording of the sire and calving ease for each calving in the herd;
- b. the recording of meal feeding at least four weeks prior to weaning, as well as any disbudding or castration information relating to the calf, and
- c. the recording of weaning dates, as well as a calf quality and calf docility score at weaning. Farmers receive a €40/cow annual payment to cover the extra costs associated with compliance with the scheme conditions.

From a cattle breeding perspective, it had two dramatic impacts. Firstly, it got almost all beef breeding herds of significance engaged with the cattle breeding database. Secondly, it resulted in a 100% plus increase in the number of beef calves with recorded sires, and it did so in a manner that could be

sustained over time, via the Animal Events system. This was a critical element to increasing the number of commercial beef cows for which ICBF could generate genetic evaluations.

Once farmers have engaged with the scheme, it is intended that they will see the benefits of the activities associated with the scheme (from a health/welfare and breeding perspective) and will continue to carry out the measures even if a supplementary payment is not forthcoming from the government.

## 6.0 A culture of sharing and cooperation

A first class infrastructure of systems and data bases will struggle to achieve its potential if it is not supported by a culture of sharing of data. This is primarily because the key to effective performance recording is to collect the data once (perhaps to fulfil statutory or regulatory requirements), and then use that data for multiple purposes. Of course, this has to be done with the full consent of those who own the data (DAFF, farmers, slaughter factories, marts, etc). Much of the data is commercially sensitive, so it is critical that it is used appropriately.

In ICBF, as a non-commercial entity, this culture has been core to the organisation, and it has been supported fully by DAFF, farmers, and other cooperatives throughout the Irish agriculture industry. As a result, ICBF has been able to achieve high levels of beef performance recording, which can be used to help maximise the profit from genetic gain for the benefit of Irish beef farmers and the wider industry.

## 7.0 References

ICBF Annual Report 2009. [http://www.icbf.com/publications/files/Annual\\_Report\\_for\\_2009.pdf](http://www.icbf.com/publications/files/Annual_Report_for_2009.pdf)

Animal Welfare, Recording and Breeding Scheme <http://www.icbf.com/services/suckler/index.php>

ICBF Website. [www.icbf.com](http://www.icbf.com) – go to “bull search” and enter “CF52” to access detailed information.