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BETTER breeding: increased output and efficiency

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Summary

- Key aspects of running an efficient suckler beef system include good breeding management and herd fertility.
- Poor herd fertility will have a negative impact on farm output and income.
- Cow condition score, bull fertility, the incidence of difficult calving and herd health are some of the main factors that affect fertility in the herd.
- Having a defined compact calving period and setting out clear objectives for targeting a 365 day calving interval, a 12 week calving spread, less than 2.5% mortality at birth and less than 5% mortality by 28 days of age, are very important.
- A simple action plan with achievable targets over a 3 year period is the starting point on any farm. It has worked very well on the BETTER farms.
- A disciplined approach to breeding can make real progress at farm level which in turn will have a positive effect on farm output and profitability.

Why improve breeding and fertility?

Beef output/ha is low on many cattle farms across the country. By focusing on breeding efficiency it will be possible to increase kg liveweight/ha, kg liveweight/livestock unit, calves/cow/year, etc. This can contribute to reducing costs and labour per unit beef sold, and to increasing profit. The key areas we need to focus on are the number of calves produced, the weight of calf weaned and the quality of calf. In 2013, the average national calving interval was 395 days (ICBF, 2013). This means that the average suckler cow had a calf every 13 months. In comparison, the BETTER farm average calving interval was 378 days in 2013.

A prolonged calving interval and calving period drives up production costs, reduces farm output and increases labour demand. Regardless of when the calving season starts, your key focus should be to keep the calving spread to a maximum of 12 weeks. A tight calving pattern allows for easier management of stock. All calves will be around the same age and, therefore, can be managed as one group and grassland management is much easier. As shown in Table 1, a calf born between 1-22 February will, on average, result in a weaning weight of 310 kg versus a calf in the herd born from 26 April – 17 May weighing 217kg. There is 93 kg difference between the two calves, and at a value of €2.35/kg this is worth €218.

Table 1 – Effects of time of calving

Calving date	Age at weaning (days)	Weight at weaning (kh)
1 Feb – 22 Feb	245	310
22 Feb – 15 Mar	224	287
15 Mar – 5 April	203	263
5 April – 26 April	182	240
26 April – 17 May	161	217

Factors affecting fertility in the herd

Numerous research studies indicate that body condition score at calving is one of the most significant factors affecting reproductive performance. A body condition score of 2.5 in mature cows and 3.0 in heifers at calving is required to minimise calving difficulty and reduce the calving-to-conception interval.

Herd health is crucial aspect to maximising fertility. A proactive approach to herd health is essential. Diseases such as bovine viral diarrhoea (BVD) and leptospirosis in herds can have a devastating effect on fertility by increasing the calving interval in the herd, delaying the calving patterns and increasing costs to the farmer. It is recommended to get veterinary advice at the first signs of a problem. A herd health plan that includes bio-security, vaccinations and the culling of carrier animals, drawn up in consultation with your veterinary surgeon, is the best way to address disease problems.

The bull also plays a very important role in the herd to achieve the 365 day calving interval. It is estimated that up to 5% of bulls are completely infertile and a further 15-20% will be partially or periodically infertile. Therefore, by failing to properly inseminate these cows while in heat, the calving interval will be extended. Bulls need to be in good physical condition, but not fat.

It is important to avoid difficult calvings in the herd. Conception rates decrease as calving difficulty increases. Therefore it is important to choose sires that suit the cow – prevent difficult calvings by using bulls with a high reliability of low calving difficulty. Farmers breeding replacements for their own farm should use maternal bulls to increase milk production. Reproductive and maternal traits of the dam should be considered when breeding replacements. Replacements should be kept from the top performing cows in the herd. This will ensure a functional replacement heifer calving every 365 days, with good temperament, longevity, a high milk yield, and good calving ease and calf quality.

Case study

Billy Gilmore farms a mixed sheep and suckler-to-weanling enterprise in Cortoon just outside Tuam in Co. Galway. He has an autumn calving herd of 42 sucker cows. The cows are mainly Limousin crossbred, Charolais crossbred and Simmental crossbred cows calving during August-October. Mostly Belgian Blue bulls are used, with Billy caring out all his own AI. Good heat detection is crucial for 100% AI to succeed. Billy sources mainly Limousin crossbred weanling heifers in the mart. From these he selects the top performing heifers to breed from. Billy observes cows in heat numerous times a day when they are housed, in particular during early morning and late evening. Since joining the BETTER Farm programme in 2009, considerable breeding efficiency changes have been made on the farm.

The number of calves produced per cow has increased by 0.25 since 2010 (Table 2). This is an increase in output of €169/cow or €7098 extra from the herd. Calving interval on the farm has reduced since 2010 from 382 days to 370 days in 2013. Recent data from ICBF indicate that each 1 day reduction in calving interval is worth €7.50 and that would amount to €90 per cow. On Billy's farm this results in a saving of €3780. Billy has tightened his calving spread from calving in both spring and

autumn to a compact 10 week period during August-October. Billy has succeeded in doing this by culling late calvers and setting clear dates for the start and end of the breeding season. The weanlings are evenly matched at sale time for size, weight and age. Grassland management on the farm is much easier with fewer groups of animals. Mortality on the farm is low (2.3% at birth and 258 days).

Table 2 – Increase in calves/cow/year

	2010	2013
Average on the farm	0.75*	1.00*
Average weaning weight	300	300
Price (€)/kg liveweight	2.25	2.25
Output (€)/cow €	506	675

The above article was reproduced courtesy of Teagasc.

Footnote comment from Simon Marsh, Principal Lecturer – Beef Cattle Specialist, Harper Adams University

You will note in the above article that Teagasc state that the average national calving interval in Ireland was 395 days. According to BCMS data, Mary Vickers of EBLEX has calculated that the average calving interval in Great Britain is 440 days. If the typical herd weans 88.3 calves per cow put to 100 cows put to the bull (EBLEX Stocktake data) this equates to only 72.9 calves produced per 100 cows per calendar year. There is therefore a lot of scope to improve output and efficiency on many suckler herds!