BDGP
Beef Data & Genomics Programme

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Fertility

The focus of last week's article was weight recording and the importance of measuring the milking ability of suckler cows.

As well as a cow being able to produce enough milk to wean a heavy calf, it is important that she has the ability to produce a calf at the same time, or as close as possible to the same time, every year. Unfortunately, the average Irish suckler cow is falling well short of this target.

Table 1 details fertility targets as well as averages for the national herd and the top 15% of herds

Calving interval

The target is for a cow to calve, on average, every 365 days. At 407 days, the average cow is losing 42 days (six weeks) per year. A cow with a 407-day calving interval that calved for the first time in early January 2015 will not calve until mid-February 2016 and will slip to late March/early April by 2017 and so on.

Applying an average daily gain (ADG) of 1.25kg to the calf and assuming a set weaning date, this loss of 42 days equates to >50kg less weaning weight per year as a result of a prolonged calving interval.

Calves per cow per year

The target is to have each cow in the herd producing a calf per year. This can be difficult to achieve as even with the best genetics and management there is always the possibility of abortions, stillbirths, calf mortality, etc. An achievable target is 0.95 calves/cow/year. This means that a 20-cow suckler herd should be aiming to wean 19 calves.

Percentage of heifers calved at 22-26 months

Less than one in five suckler heifers (18%) calves for the first time between 22 and 26 months. Even in the top 15% of herds this figure is as low as 42%. In the dairy herd, the figure stands at 56%.

Calving beef heifers between 22 and 26 months is an achievable target. To achieve this, you must ensure that heifers are heavy enough to breed at 15 months (60% of target mature weight) and that you use a proven, easy-calving bull(s). Using test AI bulls or young unproven stock bulls on heifers is not advised.

Replacement Index and fertility

Fertility traits such as age of first calving, calving interval and survival make up 23% of the €uro-Star Replacement Index. Recent analysis carried out by ICBF, which looked at the performance of suckler cows born in 2008 on key fertility traits, showed significantly better fertility from the high Replacement Index, five-star group over the low Replacement Index one-star group (see table 2 below).

The five-star animals calved for the first time at a younger age, have a better average calving interval, have produced more calves and have survived longer in herds. By breeding more high Replacement Index females, you are much more likely to achieve the fertility targets outlined earlier.

Table 1: Fertility targets and performance of the national suckler herd (2015).

	Target	National average	Top 15% of herds
Calving Interval	365	407	363
Calves/Cow/Year	>0.95	0.82	1
% Heifers Calved 22-26 Months	100%	18%	42%

Table 2: Analysis of fertility performance of 5 star v 1 star suckler cows born in 2008.

	Avg. Rep Index	Age 1st calving (days)	Avg. calving interval (days)	No. of calvings	Still alive in 2015 (%)
5 Star	€124	971	399	4.33	72%
1 Star	€8	1022	420	3.46	52%
Difference	€116	-51 Days	-21 Days	+0.87	+20%

Ramona Farrelly

One of Ger's first calved heifers. She calved down unassisted at 23 months to an easy calving bull (3.5% calving difficulty). She is a LM x SI heifer and has a Replacement Index €174. She is sired by the Limousin AI bull Ozeus (OZS) and her heifer calf is sired by the Saler bull Ublo (S619).

Q&A

Q. Can you improve fertility through breeding?

Yes you can. Of course, environmental effects such as nutrition, body condition, heat detection etc. have a massive impact on fertility. Once these effects are removed, however, improvements can be achieved by using breeding animals with a higher genetic merit for fertility. The impact of the fertility element of the dairy EBI is testament to this.

Q. If I am looking for bulls to specifically imrove fertility what should I look for in the €uro-Star Index?

The Replacement Index gives an overview of the suitability of a bull to breed replacements. It is the daughter calving interval trait which deals specifically with fertility. This figure is expressed as days of calving interval. You should aim for a negative figure here as you will be looking to take days off of your average calving interval. The more negative the figure is the better e.g. -3.2 is better than -1.9.

FARMER FOCUS: GER DINEEN

Weight and easy calving bulls are key to calving at 24 months

Name: Ger Dineen, Cill na Martra, Co. Cork
Farming System: Suckler to beef
4 and 5 Star Females: Cows: 40; **Heifers:** 29.
Stock Bull or AI: 100% AI
Replacement Strategy: Breed my own.
Why did you join the BDGP? I'm recording a lot of data in my herd such as weaning weights and insemination data and it's interesting to see how it influences the reliability figures on my cows. I'm interested to see what the impact of genomics will be and how I can use it as a tool for selecting future replacement females.

Ger Dineen

Tell me about the fertility performance of your herd? Going by my 2015 HerdPlus calving report I am fairly pleased. My average calving interval figure is at 376 days and calves/cow/year is at 1.01. I had two sets of twins this past Spring and didn't have any losses so that is why my calves/cow/year figure is over one. I started calving on the 19th Jan and finished on the 6th April which was an eleven week spread. Going by my 2015 AI dates, I hope to reduce this by two weeks in Spring 2016.

How do you achieve such high fertility performance and tight calving spread? My breeding strategy is based around 100% AI. A common problem with suckler cows is to get them back in heat after calving. About 2 weeks before the start of the breeding season (10th April) I separate my cows and calves and only allow access to suckle morning and evening. This breaks the maternal bond and I have found that it brings cows into heat very quickly. I run my heifers with the cow herd to increase the mounting activity. I use scratch cards as a heat detection aid and I am very happy with them. The breeding season finishes by the last week of June and anything not in calf after this is culled.

What is your approach to calving heifers at 24 months?
There are two key things when it comes to calving heifers at 24 months; weight and easy calving bulls. Heifers have to be heavy enough for breeding at 15 months. I would aim to have all heifers well in excess of 400kg. You then have to ensure that you use easy calving bulls. AI gives me a lot of choice so I only use proven easy calving bulls on my heifers. I aim for less than 5% calving difficulty at over 90% reliability.

NEXT WEEK GENOMICS UPDATE