We often put up many reasons as to why not to calve heifers at 24 months such as if they calve at 2 years they will not calve again at 3 years. The table above doesn't really support this notion. Heifers that calved at 23-26 months had as good a calving interval and calved down again as a second calver as heifers calving down in the older age categories.

Another reason is that they are harder to calf at a younger age. The figures do show that younger heifers do have slightly higher calf mortality. On the same token heifers irrespective of age will be more difficult to calve and as the figures show will need a high level of assistance at calving.

Perhaps this could be reduced if we were more selective in the sires we put on heifers. Even the younger calving heifers are being mated with sires with an average calving difficulty of 4.7%.

Interestingly our dairy counterparts try and mate their heifers calving down at two years with sires with a calving difficulty of 2% or less. We may never drop that low on the beef side but should we aim for 4% calving difficulty or less on heifers.

Heifers that calved for the 1st time at 23-26 month had greater survivability in herds with almost 40% reaching 5th parity compared to only 4% of those that calved for the 1st time at 31-35 months.

KEY POINTS

- Heifers that are to calf down at two years of age will:
  - Come from the best cows in the herd and be sired by bulls with strong maternal traits.
  - Be born early in the calving season to allow them to be heavier at bulling
  - Need to achieve a daily liveweight gain of 1.1-1.3kg/day up to weaning.
  - Have to be fed to achieve 60-80kg liveweight over the first winter so they will need good quality silage plus 1-2 kg of concentrates.
  - Be turned out early in spring to grass to achieve good weight gain in the run up to bulling
  - Have reached 60% of their mature weight by bulling.
  - Be bred to a known easy calving sire (ideally < 4% calving difficulty)
  - Have achieved 80% of their mature weight at calving.

<table>
<thead>
<tr>
<th>MATURE COW WEIGHT</th>
<th>WEANING WT</th>
<th>BULLING WT</th>
<th>CAL VING WT</th>
<th>TARGET % OF MATURE WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>600KG</td>
<td>260-280kg</td>
<td>360kg</td>
<td>480kg</td>
<td>60%</td>
</tr>
<tr>
<td>700KG</td>
<td>300-320kg</td>
<td>420kg</td>
<td>560kg</td>
<td>80%</td>
</tr>
</tbody>
</table>

USING AI IN THE SUCKLER HERD

Figures from ICBF show that 24% of beef calves in 2017 were sired by AI sires this compares to around 60% in dairy herds.

Even though there are pro’s and con’s to being able to use AI in the beef herd it is something that needs to get further consideration when our average herd size is only 17 cows. This ranges from 13 cows in western counties such as Donegal & Leitrim to an average of 28 cows in Waterford. With such small herds it is hard to justify a large investment in a stock bull. This potentially limits the bull choice available to smaller herds and their ability to continually make genetic progress if they are confined to using a stock bull.

COST OF THE STOCK BULL

ICBF figures have shown that the average stock bull sires 80 calves over its 4 year working life, so approximately 20 calves/year. Based on this and taking account of the salvage value of the bull and annual feed costs, a bull costing €2000 will have a breeding cost of €32.50 per calf. This rises to €57.50 per calf if the purchase price is €4000.

<table>
<thead>
<tr>
<th>Purchase Price €</th>
<th>Cost/Calf €</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>€32.50</td>
</tr>
<tr>
<td>3000</td>
<td>€45.00</td>
</tr>
<tr>
<td>4000</td>
<td>€57.50</td>
</tr>
</tbody>
</table>

Looking at these costs AI becomes attractive given the number of bulls available across a number of breeds and the fact that you have a choice of bulls with high reliability which gives you great peace of mind if you are selecting for a trait such as calving ease.

If the correlation between bull genetic merit and purchase price improves over time then surely smaller herds not using AI run the risk of falling further behind if they cannot justify the cost of the top stock bulls.

ADVANTAGES OF AI

- Potential to access top genetics across all breeds (Replacement & Terminal)
- More cost effective for smaller herds
- Higher reliability if team of sires selected
- Reduces the safety risk of having a stock bull
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**SUCCESSFUL AI DEPENDS ON:**

- Good heat detection
- Good infrastructure/Handling Facilities
- Good Management
- Nutrition (Body condition)
- Health

All the Research and Demonstration Suckler herds in Teagasc (Derrypatrick, Maternal & Newford herds) have gone to 100% AI with excellent results in terms of submission rates and pregnancy rates (circa. 90%) in a 13-week breeding season. All herds are using a number of aids to improve a key component of successful AI; Heat Detection.

Apart from regular visual observations for heat detection, the research and demonstration herds are using a Vasectomised 'Teaser' bull with a chin ball harness and tail paint.

**OTHER AIDS**

- Heat Signal devices such as scratch cards/pad/light indicators
- Electronic indicators have also come onto the market that either fit on a teaser bull or on the cow/heifer that monitor behaviour and will indicate on your phone if an animal is showing signs of heat. This potentially opens up AI for many herds and the technology will only improve.
- Cows and heifers can be put onto various synchronisation programmes to trigger the onset of heat and animals can then be fix time AI’d.
- Restricted suckling from 30 days post calving

At the end of the day a combination of aids can be used to improve heat detection for AI. There is certainly scope to increase AI usage in suckler herds and if we are serious about attaining the same level of genetic gain in the beef herd as our dairy counterparts then a concerted effort to use AI will have to be made.