Breeding the dairy herd in 2019
George Ramsbottom, Teagasc Oak Park

Summary

1. Minimise the number of heifers that fail to calve at two years of age to reduce the number of dairy breed calves that are required on your farm.
2. Carefully select the best cows and your maiden heifers to breed the next generation of replacements for your herd.
3. Use the Dairy Beef Index to select suitable beef AI bulls for the rest of the dairy herd.

Introduction

The breeding season gets underway over the coming weeks. Many farmers experienced at first hand a challenging market for dairy calves this spring which will influence their breeding decisions during the upcoming breeding season. Being able to sell calves quickly and easily is an important consideration with compactly calved growing dairy herds. Certainly minimising the number of dairy breed calves will help in this regard. The questions that farmers are asking at the moment are as follows:

How many heifers do you really need?
This depends on whether your herd size is static or growing, how fertile the herd is and how good you are at calving heifers at two years of age. More than one third of dairy heifer calves born fail to calve at 2 years of age? Around half of these never calve and the remainder calve at around 3 years of age. Many farmers need to up their game. Have a look at your January 2019 Co-op performance report from AHI to see how you got on last season. Calving over 90% of maiden heifer calves born alive s at 2 years of age is achievable. Doing so will minimise the number of heifers calves required on your farm and the proportion of your herd that are available for breeding to non-dairy bulls.
Choose the dams of the next generation of replacements carefully

Maiden heifers are ideal candidates to select when breeding the next generation of replacement heifer calves. They usually have the highest EBI and can be manipulated to mostly calve in the first two weeks of the calving season. As a result the calves born are high EBI, early born and compactly calved. The choice of suitable AI sires for replacement heifers has increased over the last number of years without compromising on EBI. Select then from within the dairy cow herd for cows that are early calving, high EBI and performing well. In compactly calved herds that are not increasing in size this means that a proportion of the mature cows can be bred to beef AI from the start of the breeding season.

Use the Dairy Beef Index (DBI) to select beef AI bulls

The DBI is a breeding goal to promote high quality beef cattle bred from the dairy herd with minimal consequences on the calving difficulty or gestation of the dairy cow. The DBI ranks beef bulls, for use in the dairy herd, according to their genetic merit for calving and carcass performance traits:

- Expressed in euros (€), each €1 increase in DBI can be interpreted as a €1 expected increase in profit for that bull’s progeny;
- E.g., bull A has a DBI of €100 and bull B has DBI of €20. The progeny born to bull A are expected to generate €80 more profit compared to progeny sired by bull B.

Calving traits account for 64% of the average DBI value. The DBI selects for shorter gestation, easier calving and less calf mortality:

- On the recommended bull file, lower values for all calving traits are more desirable;
- If a bull’s calving difficulty figure is 4% then 4% of his calves are likely to require considerable assistance at birth. Increasing calving difficulty indicates that more calves will require considerable assistance at birth.

Beef traits account for 36% of the average DBI value. The DBI selects for higher carcass weight and conformation, and more animals that meet minimum factory specifications (280 kg, O=). The DBI also recognises that some breeds are paid a premium slaughter price and the DBI selects for reduced feed intake, as well as quieter and polled cattle.

- On the recommended bull file, higher values for carcass weight and conformation are more desirable.

When selecting beef AI sires using the DBI it is important to consider what components are contributing to an individual sire’s DBI value. For example the DBI, calving and beef sub-indexes of two similar DBI beef sires listed on the March 21st 2019 bull list are presented in Table 1.
**Table 1.** DBI values, calving and beef values and reliabilities for similar DBI value beef AI sires listed on the current Active DBI bull list.

<table>
<thead>
<tr>
<th></th>
<th>DBI</th>
<th>DBI Rel</th>
<th>Calving Value</th>
<th>Calving Value Rel</th>
<th>Beef Value</th>
<th>Beef Value Rel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sire A</td>
<td>€84</td>
<td>97%</td>
<td>€69</td>
<td>99%</td>
<td>€15</td>
<td>94%</td>
</tr>
<tr>
<td>Sire B</td>
<td>€83</td>
<td>72%</td>
<td>€49</td>
<td>93%</td>
<td>€34</td>
<td>50%</td>
</tr>
</tbody>
</table>

Both sires have similar DBI values (€84 and €83 respectively). However the calving value of Sire A is €69 while that of the Sire B is €49 reflecting his slightly more difficult calving figures. Sire A is more suited for use on dairy heifers while Sire B will be best used on cows with a proven track record of easy calving where he will sire calves of superior beefing merit. Sire B however will produce calves that themselves have potentially more beef value. He can be safely used on dairy cows without compromising on the risk of increased calving difficulty.

*Teagasc is collating lists of suitable sexed semen and well proven high DBI AI beef bulls for use on dairy cows and heifers this year. Contact your local dairy adviser for further information.*