Optimum age first calving dairy heifers (22-26months)

Susan Moriarty
Objective

- The purpose of this project was to access the association between AFC on milk production and survival.
- Evaluate statistics on 4 categories of Age First Calving (AFC):

1. Optimum 22-26 months
2. 27-32 months
3. >32 months
Edits

• Year of calving 2014.
• AFC <20month and >40month removed.
• Over 90% of herd calved between January – June.
• 305d milk used.
• Animals with consecutive 305d records retained.
### Distribution of afc_m

- **Mean:** 28
- **Minimum:** 21
- **Maximum:** 39

### AFC Category | Number of records (animals)
- Under 22M | 950
- Optimum 22-26M | 118,861
- 27-32M | 19,840
- Over 32M | 21,043

**Total:** 160,334
National Survival Statistics

Survival (%)

Survive to parity 2 | Survive to parity 3 | Survive to parity 4 | Survive to parity 5 | Survive to parity 6
---|---|---|---|---
22-26 | 27-32 | >32

ICBF.com
In a 100-cow herd:

<table>
<thead>
<tr>
<th>AFC</th>
<th>Survive to par 2</th>
<th>Survive to par 3</th>
<th>Survive to par 4</th>
<th>Survive to par 5</th>
<th>Survive to par 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-26</td>
<td>75.8</td>
<td>45.9</td>
<td>24.0</td>
<td>9.7</td>
<td>2.9</td>
</tr>
<tr>
<td>27-32</td>
<td>71.5</td>
<td>39.6</td>
<td>16.7</td>
<td>4.6</td>
<td>0.5</td>
</tr>
<tr>
<td>&gt;32</td>
<td>69.9</td>
<td>37.3</td>
<td>16.0</td>
<td>4.6</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Cost of replacing heifers

<table>
<thead>
<tr>
<th>AFC</th>
<th>Survive to par 2</th>
<th>Survive to par 3</th>
<th>Survive to par 4</th>
<th>Survive to par 5</th>
<th>Survive to par 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-26</td>
<td>€38,475</td>
<td>€143,344</td>
<td>€154,166</td>
<td>€154,166</td>
<td>€154,166</td>
</tr>
<tr>
<td>27-32</td>
<td>€53,073</td>
<td>€177,570</td>
<td>€185,250</td>
<td>€185,250</td>
<td>€185,250</td>
</tr>
<tr>
<td>32+</td>
<td>€64,253</td>
<td>€203,879</td>
<td>€212,245</td>
<td>€212,245</td>
<td>€212,245</td>
</tr>
</tbody>
</table>

Difference of €25,778!
Production differences between AFC 22-26M and 32M+ when survival incorporated into milk:

Par 1 (32M vs 22-26):
- 240 kg more milk
- 3 kg more fat
- 6 kg more protein

Par 4 (32M vs 22-26):
- 862 kg less milk
- 38 kg less fat
- 33 kg less protein

In a 100-cow herd: €30,700 loss
Put into perspective: Optimal 22-26 group producing 15% more milk over lifetime!
Conclusion

- The study highlights the importance of AFC for survival of heifers and calving at optimum 22-26 months for increased lifetime yield.
- Increases a cow’s lifetime profitability.
- Sustainability element: Cows lasting longer in the herd and reducing the replacement rate. Calving heifers at an older age group results in additional unwanted methane produced.