Teagasc/Irish Farmers Journal/ICBF
Live Cattle Demonstration

Demonstration Start Times

Improving AI Use
11.30am
12.30pm

Calving heifers at 24 Months
1.30pm
2.30pm

Heifer Selection
1. Genetic Gain
   - Past focus on terminal traits => decline in maternal traits & no gain in replacement index
   - Introduction of genomics & BDGP (from 2014), Replacement index has turned around

2. Maternal Traits
   - Major gains in calves/cow/year
     - +50k suckler calves/year
     - Need to focus on 2 year calving

3. Terminal Traits
   - Major gains in carcass weight and efficiency

4. Summary
   - €uro-Stars & BDGP are moving industry in right direction
Currently only 24% of calves born to beef cows are AI bred

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

Successful AI depends on;
- Good heat detection
- Good infrastructure/Handling Facilities
- Good Management
  - Nutrition (Body condition)
  - Health
Using AI in Sucker Herd

Aids to Improved Heat Detection

- Tail paint
- Oestrus patches
- Teaser bulls with harness
- Electronic collars for bull or cows

Other techniques

- Sychronisation regimes/Fixed time AI
- Restricted Suckling

<table>
<thead>
<tr>
<th>Teaser Bull Costs</th>
<th>Grange Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Price</td>
<td>€850</td>
</tr>
<tr>
<td>Working Life</td>
<td>2 Seasons</td>
</tr>
<tr>
<td>Carcass weight (at grass)</td>
<td>437kg</td>
</tr>
<tr>
<td>Carcase Grade</td>
<td>O- 3-</td>
</tr>
<tr>
<td>Carcase Value</td>
<td>€1310</td>
</tr>
</tbody>
</table>
Replacement Females
The future of your herd

Key Questions

1. Breed your own or purchase?
   - Depends on production system
   - Pros and cons to both

2. Are current breeding stock of high enough genetic merit?
   - Avg. Replacement Index of your cows and bulls?
   - Are animals genotyped?

3. Is AI an option?
   - Select best cows and mate to high Rep Index AI sires
   - Access to elite genetics
   - Option to use multiple sires → minimizing risk
Euro-Star Indexes
Applying to your herd in 3 steps

1. Know what you’re trying to produce
   - Many different systems on Irish suckler farms
   - Focus on traits of importance to your system
   - Calving difficulty and docility applicable to all

Example Herd - Breeding replacements and males for slaughter

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Cows</th>
<th>Index Value (€)</th>
<th>Across Breed</th>
<th>Carcass Weight (Kg)</th>
<th>Daught Milk (Kg)</th>
<th>Daught Calving Interval (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows Total</td>
<td>28</td>
<td>€82</td>
<td>★★★★</td>
<td>+27</td>
<td>+2.1</td>
<td>+2.17</td>
</tr>
<tr>
<td>Missing Stars</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Identify where your cow herd is weak
   - Use HerdPlus Euro-Star report
   - Overall Replacement Index of herd
   - Individual traits e.g. carcass, milk, calving interval, etc.

Example Herd - Breeding replacements and males for slaughter

3. Use sires to improve your cow herd
   - Sires should be genetically superior to cows
   - Maternal & Beef Traits →Replacement Index
   - Beef traits only → Terminal Index
   - AI ‘Active Bull List’
   - Stock bull finder

**Actions for this herd**
- Carcass Weight
- Replacement Index & Milk
- Calving Interval (fertility)
Replacement Selection
Using all tools available

6 potential replacement females – How do we narrow selection to 2?

1. **Visual Assessment** – Are females docile and functional?
2. **Weight Gain** – Are females meeting weight targets?
3. **Genotyping** – Do animals have genomic indexes?
4. **Euro-Star Indexes** – Do females have high, balanced Replacement Indexes?

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### Euro-Star Index Details

<table>
<thead>
<tr>
<th>Tag</th>
<th>Heifer</th>
<th>Sire</th>
<th>Breed</th>
<th>Genotyped</th>
<th>Replacement Index</th>
<th>Carcass Weight (kg)</th>
<th>Milk (kg)</th>
<th>Calving Interval (days)</th>
<th>Breed or Beef?</th>
</tr>
</thead>
<tbody>
<tr>
<td>230</td>
<td>1</td>
<td>SEV</td>
<td>SI x CH</td>
<td>Yes</td>
<td>€144</td>
<td>34</td>
<td>12.3</td>
<td>0.8</td>
<td>Breed</td>
</tr>
<tr>
<td>474</td>
<td>2</td>
<td>ZCH</td>
<td>LM x CH</td>
<td>Yes</td>
<td>€73</td>
<td>28</td>
<td>1.6</td>
<td>1.7</td>
<td>Beef</td>
</tr>
<tr>
<td>626</td>
<td>3</td>
<td>KJG</td>
<td>SI x LM</td>
<td>Yes</td>
<td>€140</td>
<td>24</td>
<td>5.2</td>
<td>-0.5</td>
<td>Breed</td>
</tr>
<tr>
<td>826</td>
<td>4</td>
<td>ZCH</td>
<td>LM x SA</td>
<td>Yes</td>
<td>€68</td>
<td>25</td>
<td>1.9</td>
<td>0.2</td>
<td>Beef</td>
</tr>
<tr>
<td>968</td>
<td>5</td>
<td>MBP</td>
<td>LM x SI</td>
<td>Yes</td>
<td>€80</td>
<td>17</td>
<td>-0.7</td>
<td>-0.2</td>
<td>Beef</td>
</tr>
<tr>
<td>1217</td>
<td>6</td>
<td>KYA</td>
<td>AA x LM</td>
<td>Yes</td>
<td>€136</td>
<td>7</td>
<td>4.8</td>
<td>-5.8</td>
<td>Beef</td>
</tr>
</tbody>
</table>
Achieving 2 year old calving

- Currently only 24% of heifers calving at 22-26 months
- Extra cost to the system where calving is delayed
- Reduces breeding efficiency
- Achievable if you work towards performance targets
- Sire selection critical on maiden heifers

### Performance Targets

<table>
<thead>
<tr>
<th>Stage</th>
<th>Target ADG kg/Day</th>
<th>Target Liveweight kg</th>
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</thead>
<tbody>
<tr>
<td>Birth to weaning</td>
<td>1.1</td>
<td>275</td>
</tr>
<tr>
<td>1st Winter to Turnout</td>
<td>0.6</td>
<td>365</td>
</tr>
<tr>
<td>Turnout to Bulling</td>
<td>1.0</td>
<td>425</td>
</tr>
<tr>
<td>Bulling to Calving</td>
<td>0.8</td>
<td>570</td>
</tr>
</tbody>
</table>
### Maiden Heifers

<table>
<thead>
<tr>
<th>Heifer no.</th>
<th>DOB</th>
<th>Replacement Index</th>
<th>Weaning Weight (kg)</th>
<th>Turnout Weight (kg)</th>
<th>Current Weight (kg)</th>
<th>Date Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>341</td>
<td>16/02/2017</td>
<td>€141</td>
<td>375 (1.36)</td>
<td>464</td>
<td>524</td>
<td>11/06/2018</td>
</tr>
<tr>
<td>646</td>
<td>04/03/2017</td>
<td>€116</td>
<td>300 (1.29)</td>
<td>444</td>
<td>466</td>
<td>02/05/2018</td>
</tr>
</tbody>
</table>

### 1st Calver

<table>
<thead>
<tr>
<th>Cow no.</th>
<th>DOB</th>
<th>Replacement Index</th>
<th>Weaning Weight (kg)</th>
<th>Current Weight (kg)</th>
<th>Date Calved</th>
<th>Calf Weight (kg)</th>
<th>Date Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>888 (ONI)</td>
<td>11/02/2016</td>
<td>€124</td>
<td>369 (1.23)</td>
<td>650kg</td>
<td>27/02/2018 Sire RMK BirthWeight 49kg</td>
<td>157 Rosemead Karona</td>
<td>13/05/2018</td>
</tr>
</tbody>
</table>
# Achieving 2 year old calving

## Mature Cows

<table>
<thead>
<tr>
<th>Cow no.</th>
<th>DOB</th>
<th>Replacement Index</th>
<th>Weaning Weight (kg)</th>
<th>Current Weight (kg)</th>
<th>Date 1&lt;sup&gt;st&lt;/sup&gt; Calved</th>
<th>Calving Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>699 (GZP)</td>
<td>16/02/2012</td>
<td>€134</td>
<td>285 (1.1)</td>
<td>732</td>
<td>05/02/2014</td>
<td>373 days</td>
</tr>
</tbody>
</table>

**Calf 3696**
- 7<sup>th</sup> March 2018 by FTY (Lennon Frosty), Birth Weight **50kg**, Current Weight **167kg**

<table>
<thead>
<tr>
<th>Cow no.</th>
<th>DOB</th>
<th>Replacement Index</th>
<th>Weaning Weight (kg)</th>
<th>Current Weight (kg)</th>
<th>Date 1&lt;sup&gt;st&lt;/sup&gt; Calved</th>
<th>Calving Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>716 (CQA)</td>
<td>12/03/2017</td>
<td>€175</td>
<td>295kg (1.25)</td>
<td>742kg</td>
<td>14/02/2014</td>
<td>372 days</td>
</tr>
</tbody>
</table>

**Calf 3704**
- 13<sup>th</sup> March 2018 by FSZ (Fiston), Calf Birth Weight **51kg**, Current Weight **190kg**