Alternative Finishing Strategies for Dairy Steers

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Introduction

- ~27% of Irish male dairy calves were exported in 2014 (AIM, 2015)

- Dairy steers finished at pasture were more profitable than steers finished indoors over the winter period (Ashfield et al., 2014)

- Grazed grass is the cheapest feed available to Irish farmers (Finneran et al., 2010)

- Potential to reduce input costs and increase the proportion of grazed grass in the diet of dairy steers
What are the key questions?

1. Can dairy steers be finished at a younger age at the end of the second season at pasture?
2. Will extending the finishing period at pasture improve animal performance?
Materials and Methods

- 45 Spring born Holstein-Friesian calves
- Pasture grazed for the 1st season
- Housed over the winter
- Returned to pasture for a 2nd season on 19 March

At pasture supplemented with 5 kg DM of concentrate for 110 days (21L)

At pasture supplemented with 5 kg DM of concentrate for 60 days (21S)

Indoors on grass silage plus 5 kg DM of concentrate over the winter period (24MO)
Materials and Methods

- Rotationally grazed during the 2\textsuperscript{nd} season at pasture
  - 21L = 118 days
  - 21S = 173 days
  - 24MO = 235 days

- 21S and 21L were adapted to 5 kg DM of concentrates at pasture over a 10 day period

- 24MO were adapted to a grass silage and concentrate diet over a 10 day period

- Cattle weighed fortnightly

- Statistical analysis
  - Fixed effect: Finishing strategy
  - Tukey adjustment included in the model
Results
Live weight at the start of finishing (kg)

- July 21L = 432a
- Sept 21S = 483b
- Nov 24MO = 538c

Significance: P<0.001
Live weight at slaughter (kg)

- 21L = 535a
- 21S = 537a
- 24MO = 612b

P<0.001

kg
Average daily gain – Finishing (kg/day)

- 21L = 0.99
- 21S = 0.90
- 24MO = 0.91

P = 0.3708

The Irish Agriculture and Food Development Authority
Average daily gain – Lifetime (kg/day)

- 21L = 0.79 kg
- 21S = 0.80 kg
- 24MO = 0.80 kg

P = 0.8534
Total concentrate DMI

- 21L: 542 kg DM per head
- 21S: 283 kg DM per head
- 24MO: 436 kg DM per head

P < 0.001
## Carcass performance

<table>
<thead>
<tr>
<th></th>
<th>Finishing strategies</th>
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<th>SEM</th>
<th>P-value</th>
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<tbody>
<tr>
<td></td>
<td>21L</td>
<td>21S</td>
<td>24MO</td>
<td></td>
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<tr>
<td>Carcass weight (kg)</td>
<td>276&lt;sup&gt;a&lt;/sup&gt;</td>
<td>275&lt;sup&gt;a&lt;/sup&gt;</td>
<td>308&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.0</td>
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<tr>
<td>Kill out proportion (g/kg)</td>
<td>514&lt;sup&gt;a&lt;/sup&gt;</td>
<td>513&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>502&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.8</td>
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Conclusion

- Extending the finishing period for dairy steers at pasture did not enhance animal or carcass performance
  - +48% (259 kg DM) Concentrate DMI

- 24MO consumed 35% more concentrate than 21S
  - +11% (33 kg) carcass weight
  - +33% (‘3=’ vs. ‘2=’) carcass fat score
Thank you for your attention

Questions?