IBERS Research on the Forage Protein Project

Effect of feeding red clover silage v. ryegrass silage as the main fibre source to growing beef steers grazing kale over the winter period

Getting Started – What you need to know about grazing kale

- Brassicas provide an alternative option to increase the amount of grazed forage available.
- Grazing brassicas such as kale (Brassica oleracea), have low dry matter content and intake should be limited to 70% of the total, otherwise there is a risk of reduced intakes.
- The remainder of the diet should be a high-fibre source (such as hay, straw or silage) to maintain rumen function.
- Feeding ensiled red clover compared to ryegrass has been shown to improve the performance of ruminants due to its high protein content and high voluntary intakes.

IBERS Research

In this experiment, we compared feeding red clover silage with ryegrass silage as a fibre source, whilst outwintering cattle on kale.

Kale Establishment and Management

- Kale (Maris Kestrel) sown mid June after 1st cut silage.
- Sward treated with glyphosate and kale direct drilled at 6.9kg/ha.
- pH 6.9 Soil Index P=4 K=3 Mg=3.
- 119kg N/ha applied.
- Insecticide applied to control flea beetle and caterpillar damage.
- Field fenced into 6 x 0.5ha plots with grass lie-back areas.

What we compared

36 Angus x steers allocated to two diets:
- Kale & Ryegrass Silage
- Kale & Red Clover Silage

Intake & DLWG monitored over 8 weeks, Oct-Dec.

Kale yield = 8.7 t DM/ha
Kale DM = 12.3%
Kale CP = 13.2%

<table>
<thead>
<tr>
<th>Silage Composition</th>
<th>Ryegrass Silage</th>
<th>Red Clover Silage</th>
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<tbody>
<tr>
<td>Dry Matter (%)</td>
<td>51.4</td>
<td>43.4</td>
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<tr>
<td>Crude Protein (%)</td>
<td>9.2</td>
<td>16.0</td>
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Results

Key Findings

- 80% kale utilisation achieved through good management.
- Roughage should be provided at 30% of total DM intake.
- Live weight gains of > 0.9kg were achieved feeding kale with both ryegrass and red clover silage.