Is the behaviour of grazing cattle influenced by the presence of a hedge in the pasture?

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Context and question

Hedges and woody strips are promoted in Wallonia agricultural landscapes thanks to European agri-environmental measures.

Methodology and results

- Heifers browsed the woody forage during the whole season on pasture
- Browsing varied along the season (P<0.0001; Figure 1)
- Grazing, resting and rumination were influenced by the presence of the hedge during each period (P<0.05) (Figure 2)
- Total ingestion (grazing and browsing) was different between the 2 meadows (P=0.0231) and the 3 seasons (P<0.0001). Heifers with an access to the hedge spent more time ingesting (53.2% vs 49.6%) and the ingestion was more important for both groups in September (56.6% in September, 50.0% in July and 47.5% in May).

Table 1. Woody species of the hedge

<table>
<thead>
<tr>
<th>Woody species</th>
<th>Percentage</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crataegus monogyna Jacq.</td>
<td>10%</td>
<td>Experimental</td>
</tr>
<tr>
<td>Carpinus betulus L.</td>
<td>20%</td>
<td>Control</td>
</tr>
<tr>
<td>Fraxinus excelsior L</td>
<td>15%</td>
<td>Experimental</td>
</tr>
<tr>
<td>Acer campestre L</td>
<td>10%</td>
<td>Control</td>
</tr>
<tr>
<td>Sambucus nigra L</td>
<td>5%</td>
<td>Experimental</td>
</tr>
<tr>
<td>Populus nigra L</td>
<td>5%</td>
<td>Control</td>
</tr>
</tbody>
</table>

Figure 1: Evolution of browsing activity (%total time) according the period

Figure 2: Duration of grazing, total ingestion, resting and rumination (%total time) according the group of heifers and the period (M, May; J, July; S, September)

Conclusion

Yes, under the grazing conditions of Wallonia, browsing can be considered as a complementary feeding activity for cattle in pasture with hedges or woody strips. Feeding strategies should consider this fact as woody species have a wide range of plant secondary compounds potentially influencing parasitism and rumen fermentation.

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