

Impact of calving date and cow type in a seasonal Alpine low-input dairy system



Marco Horn¹, Andreas Steinwidder², Walter Starz² and Werner Zollitsch¹

¹ University of Natural Resources and Life Sciences, Vienna, Austria, marco.horn@boku.ac.at

² Agricultural Research and Education Centre Raumberg-Gumpenstein, Irdning, Austria

Aim

Investigating the impact of calving date (CD) on ration composition, productivity and body weight for two different Alpine dairy cow types (CT).

Conclusions

- The effect of calving date was more pronounced for BS than for HFL.
- Longer barn feeding supported BS to express its higher genetic merit for milk production, but did not reduce body tissue mobilisation.
- HFL seems more suitable to exploit the full economic and ecological advantage of spring calving, while autumn calving increased productivity of BS.

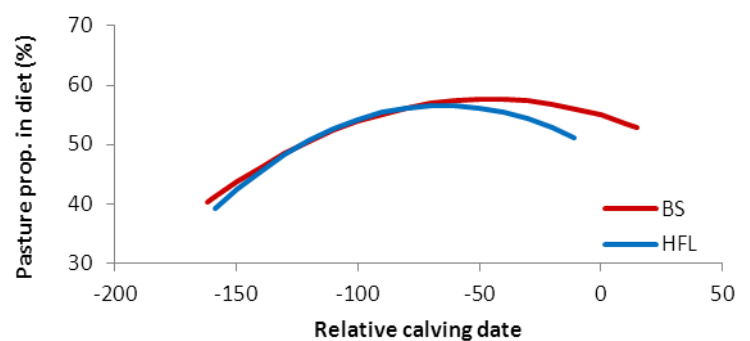
Background

Pasture-based milk production systems ideally include block-calving. This emphasizes the specific importance of optimum CD in Alpine regions with their particularly short vegetation period. When deciding on the suitability of different genotypes for pasture-based systems, the response to shifts in CD is therefore of high relevance.

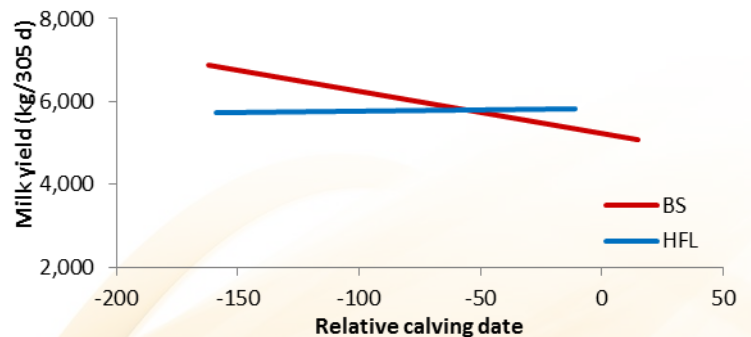


Results

Spring calving increased pasture proportion in diet to 60 %.



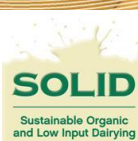
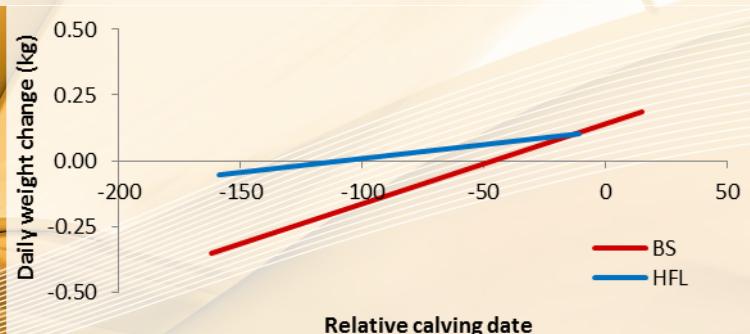
Significant interaction of CT × CD for milk yield ($P=0.008$).



Animals, material and methods

- Cow types
 - Conventional Brown Swiss (BS), primarily selected for high milk yield
 - Specific strain of Holstein Friesian (HFL), primarily selected for lifetime performance and fitness
- n = 73 lactations (BS=34; HFL=37), 4 years
- Calvings Nov.-Mar., Grazing Apr.-Oct.
- CD relative to turn out to pasture was included as a co-variable into a mixed model (SAS 9.2).

Sig. interact. of CT × CD for daily weight change ($P=0.003$).



The authors gratefully acknowledge funding from the European Community financial participation under the Seventh Framework Programme FP7-KBBE.2010.1.2-02, for the Collaborative Project SOLID (Sustainable Organic Low-Input Dairying; grant agreement no. 266367).