

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

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Seasonal, pasture-based milk production systems might be of crucial importance for the future of Alpine dairy farming. In contrast to typical pasture-based milk production regions, the harsher climatic conditions of the Alps require a longer barn feeding period and the commonly used dairy cow types (CT) have not been selected under low-input conditions. Therefore the objective of the present study was to investigate the impact of calving date (CD) on ration composition, productivity and body weight for two Alpine dairy CT. 73 lactations were compared for two contrasting CT, conventional Brown Swiss (BS) and a special strain of Holstein Friesian, selected for lifetime performance (HFL), in a seasonal, low-input system. Calvings were intended to take place between November and March and grazing season lasted from April until October. For statistical analysis, CD was expressed relatively to the date of turn out to pasture and was included as a co-variable in a mixed model. In comparison to autumn calving, spring calving significantly increased the contribution of pasture to the annual diet (43 and 56 %, resp.) and reduced concentrate consumption (630 and 270 kg, resp.). A significant interaction of CT and CD was found for ECM yield, which decreased for BS when comparing autumn and spring calving (6,450 and 5,281, resp.), while it remained relatively stable for HFL (5,383 and 5,284, resp.). However, the larger quantities of concentrates fed to cows calving in autumn, did not reduce mobilisation of body tissues of BS. These results indicate that BS lost its genetic advantage for milk production under spring calving conditions. The fact that season of calving did not affect productivity of HFL, suggests that HFL is more suitable to exploit the full economic and ecological advantage of spring calving, while autumn calving might be beneficial for BS.

NOTE: *The abstract printed in the proceedings represents an earlier stage of this work and does therefore differ from the present paper.*