A. Steinwidder, W. Starz, L. Podstatzky, J. Gasteiner, R. Pfister, H. Rohrer and M. Gallnböck (2011): **Effects of time of calving on pasture-based dairy systems in mountainous regions** (in German). Züchtungskunde, 83, (3), 203-215.

Summary
Dairy productions of pastoral systems aim to implement a location-adjusted low-cost strategy.
The season and distribution of calving (e.g. autumn, winter, spring) have major effects on pastoral milk production systems (herd management, feed demand, milk yield etc.). An experiment with dairy cattle was conducted to compare the effects of calving season on components of pasture-based systems in a mountainous region of Austria. On an organic dairy farm three groups of cows with a mean calving date of 17 November (group 1), 25 December (group 2) and 20 February (group 3) were compared. During winter period the cows were kept in a stable and fed with grass silage, hay and a restrictive amount of concentrate. In the years 2008 and 2009 the cows grazed pasture for 202 or 203 days respectively from beginning of April to end of October (177 day and night grazing days in both years). The pasture area was grazed continuously at an average sword height of 4.7 cm (RPM), the energy and crude protein content of pasture was 6.4 (± 0.33) MJ NEL and 22 (± 0.3) %CP per kg DM. Delayed calving date at the beginning of the vegetation period depressed lactation length and milk fat yield significantly and a tendency in decreased energy-corrected-milk yield was found. The average milk yields (kg) were: 6300, 5974 and 5449 (ECM), 261, 245 and 217 (fat) 200, 189 and 178 (protein) for groups 1, 2 and 3 respectively. From group 1 to 3 the amount of concentrate fed per cow decreased from 669 to 373 kg DM and the grazed pasture proportion increased from 43 to 50% of total feeding ration per year. At the beginning of the lactation period cows in group 3 lost higher amounts of live weight and body condition than in groups 1 and 2. The calving date had no effects on reproductive performance and treatments. However, at the beginning of the grazing season live weight and body condition loss and the contents of beta-hydroxy-butyric acid, free fatty acids and aspartate transaminase were highest in blood samples of group 3.

Keywords: Grazing, dairy cows, seasonal production, calving season, organic farming

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