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# Fattening heifers on continuous pasture in mountainous regions – implications for productivity and meat quality

M. Velik, I. Gangnat, R. Kitzer, E. Finotti, A. Steinwidder

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Economical and ecological issues as well as consumer demand for sustainably produced agricultural food rise the trends to fatten beef cattle on pasture during the grazing season. However, particularly for mountainous regions, implications of turning beef cattle on pasture remain unclear concerning animal performance and product quality. Therefore, the present study was conducted to compare short grass grazing with a semi-intensive indoor fattening system in the Alps. Charolais × Simmental heifers of about 300 kg live weight were either fattened on continuous pasture (3-6 mm sward height) and finished in barn (Pasture group) or solely raised in barn on a grass silage-based diet with 2 kg concentrates (Indoor group). Animals were slaughtered at 550 kg live weight. Results showed that continuous pasture with a finishing period in barn allowed as good growth and carcass performance as fattening in barn. Over the whole experiment, average daily gain was 993 g/day in the Pasture group and 1026 g/day in the Indoor group. During the growing period, daily gain was numerically lower in the Pasture group than in the Indoor group (767 g and 936 g, respectively). Carcass fatness of pasture fed animals was lower but within the desirable threshold. Water holding capacity, meat colour, and shear force, an indicator for beef tenderness, were unaffected by feeding practices, but fat colour was more yellow in the Pasture group. Furthermore, meat from animals fattened on pasture had lower intramuscular fat contents and enhanced proportions of nutritionally valuable omega-3 fatty acids and conjugated linoleic acids.

### **Keywords:**

beef cattle; Alpine pasture; daily gain; product quality; fatty acid

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