

A. Steinwigger, W. Starz, H. Rohrer, R. Pfister, J. Häusler, G. Huber and C. Fasching (2020): **Effects of sward height on milk yield per cow or per pasture area of continuously stocked dairy cows** (in German). Züchtungskunde, 92, (3), 172-191.

Summary

With increasing stocking rate a decline in individual animal performance but an increase in productivity per pasture area unit was found in grazing experiments. In a continuously grazed pasture system, the measurement of the sward surface height (AWH) is an important management tool. In two experiments, each lasting 12 weeks, the effects of sward surface height on milk yield per cow and milk yield per hectare were investigated in a continuously grazed pasture system at the beginning of the grazing season. For this purpose, two independent grazing experiments were set up in 2018 and 2019 on an organically managed experimental site. In experiment 1 (2018) the AWH groups "kurz" and "mittel" and in experiment 2 (2019) the AWH groups "mittel" and "lang" were tested with 18 and 15 dairy cows respectively. The AWH were measured with a rising plate pasture meter. In experiment 1 the average AWH were 5.5 cm (± 0.50) in AWH group "kurz" and 6.4 cm (± 0.51) in "mittel", in experiment 2 6.0 cm (± 0.91) in AWH group "mittel" and 7.3 cm (± 0.67) in "lang". The cows were divided equally between the two grazing groups in each experiment. One week before the experiments started, the average energy corrected milk yields (ECM) of the cows were 26.5 kg (± 4.10) in experiment 1 (2018) and 26.2 kg (± 6.21) in experiment 2 (2019). The experiments started on 18 April 2018 and 19 April 2019 respectively. The grazing animals were milked twice daily in the milking parlour, after milking they received 0.80 kg of concentrates (1.4 kg DM/per animal and day) and a mineral mixture. The average energy content of the herbage was in a range of 6.4 to 6.6 MJ NEL per kg DM and crude protein content (XP) was 21 to 22%. Between the AWH groups only minor differences in nutrient contents were found within the respective trial and sampling period.

In both experiments significant AWH effects were found on milk yield per cow. The multiple regression analysis of the data of both experiments showed a maximum in the milk yield per cow at an AWH of about 7 cm. With increasing AWH also the net energy intake from pasture increased per cow and day. In contrast, milk yield per hectare and net energy intake per hectare of pasture area decreased significantly with increasing AWH. At the beginning of the grazing period, an ECM yield of 132 kg/ha and day was found at an AWH of 5.5 cm and an ECM yield of 102 kg/ha at an AWH of 7.5 cm. At the end of the experiment, when individual animal and area output was generally at a lower level, the AWH effects on productivity per hectare were less pronounced in absolute terms (-4 kg ECM yield per ha with an AWH increase of 1 cm).

Keywords: dairy cows, organic farming, grazing, continuous stocking, sward height, milk production, efficiency

Zitat (Deutsch):

A. Steinwigger, W. Starz, H. Rohrer, R. Pfister, J. Häusler, G. Huber und C. Fasching (2020): Einfluss der Aufwuchshöhe bei Kurzrasenweide auf die Einzeltier- und Flächenleistung von Milchkühen. Züchtungskunde, 92, (3), 172-191.