

A. Steinwigger and L. Gruber (2001): **Influence of organic farming on energy and protein supply of dairy cows – Model calculations on the basis of new legal rules** (in German). Die Bodenkultur 52, (1), 71-83.

Abstract

The regulation (EG) 1804/1999 (1999) standardised the feeding norms on organic farms for all EU member countries. With dairy cattle the restrictions in the feeding of concentrate as well as concentrate components are important. On the basis of model calculations the consequences on the planning of ration and nutrient supply at different milk yield potential and forage ration types and qualities (forage-high quality, forage-low quality; forage + 20 % corn silage-good quality) have been investigated.

In organic farms the quality of forage is of great consequence because the need for expensive concentrate decreases and the maximum of the tolerated concentrate level is reached at a higher milk yield. On an average the milk yield decreases by about 1000 kg per lactation if the energy concentration of forage decreases by 0.5 MJ NEL/kg DM. With an energy concentration of forage of 5.8 MJ NEL/kg DM a milk yield of about 7.500 kg can be achieved without exceeding the tolerated maximum of energy under supply (-1300 MJ NEL). The supply of utilisable protein (nXP) is dependent on the energy intake. A high energy supply guarantees the supply of utilisable protein up to 6.600 – 6.800 kg milk yield. In this case the feeding of protein rich concentrate is most important to cover up the N-requirements in the rumen. The nXP requirements can be met up to a milk yield between 7.500 and 8.000 kg, without exceeding the tolerated maximum of nXP under supply. With increasing milk yield the importance of slowly degradable protein concentrate components with a high energy content increases.

Keywords: organic farming, dairy cows, nutrient supply, limits in milk yield

Zitat (Deutsch):

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