

## Rubber mats in walking alleys: Effects on the life cycle assessment of dairy cows

Soft rubber mats in walking alleys support both hoof health and dairy cow activity, thus resulting in greater productivity. From an ecological perspective, the question arises: Does the positive environmental impact resulting from higher efficiency (more milk at the same level of emissions) offset the amount of resources required to produce rubber mats? A life cycle assessment carried out by BOKU Vienna (University of Natural Resources and Life Sciences) provides interesting results.



### Lame cows are not efficient

An important factor that influences the productivity of dairy cows is hoof health. It is known that lameness, along with ketosis and mastitis, increases dairy cattle husbandry emissions. The question as yet unanswered is: To what extent can certain measures to improve animal health help to reduce dairy cattle husbandry emissions?

### Effects of rubber mats on hoof health

In contrast to concrete, soft walking alley flooring is flexible. It thus reduces the risk of hoof lesions and lameness (Chapinal et al., 2013; Haufe et al., 2009). At the same time, the greater sure-footedness improves estrus and comfort behavior as well as the activity of dairy cows in general (Platz et al., 2008). Active cows feed more often and have a higher feed intake (Bach et al., 2007), which in turn results in healthier hooves and thus more milk (Ouweltjes et al., 2009).

### Comparison of the life cycle assessment with and without rubber mats

By means of a life cycle assessment, BOKU (University of Natural Resources and Life Sciences in Vienna) compared emissions before and after the installation of rubber mats in the walking alleys of Austrian dairy farms. The result: Rubber mats in the walking area can be considered positive not only in terms of animal welfare but also from an environmental perspective. Although there are “environmental costs” associated with implementing the mats. They can be largely offset by the simultaneous improvement in animal welfare, which has an emission-reducing effect.

Source: Herzog et al., 2020: Welfare intervention and environmental impacts of milk production – cradle-to-farm-gate effects of implementing rubber mats in Austrian dairy farms

