

BEEF CATTLE IN AGROFORESTRY SYSTEMS

Acorns, wild fruits, winter pasture and more:
Innovation in beef cattle breeding



THE WHAT AND WHY

How you could improve your beef cattle keeping?

One of the difficulties to sustainably maintain livestock based on grasslands is to provide appropriate solution for feeding the animals throughout the year. By the end of the pasture growing season, the nutritional value of the grass is low as a result of the summer drought. Under current climate change conditions, the risk of unpredictable and adverse weather conditions is increasing. Moreover, open mountainous pastures which don't offer protection from cold and wind increase animal stress, decrease animal

health and reduce feeding efficiency of livestock, whilst strengthening the risk of soil erosion. These negative effects can be prevented by planting trees or using already existing woodlots. Acorn, wild fruit (apples, pears), herbs or foliage contribute to the diversity of food supply and thus to animal welfare. In addition trees create nesting places for birds that, according to farmers, reduce nuisance and harmfulness of flies for animals. All these promote the creation of healthy and good quality livestock.



Limousine cattle at Mozsi Ranch (Hungary): acorns are used as a type of alternative forage (a). OIKOS farm (Poland): naturally grown herbal leys, willow leaves and wild fruit deliver nutrients for cattle. (b). Mozsi Ranch, Sellye, Hungary (a), Kawka Studio, Poland (b)

Having rest in the forest (a), Grazing in woodland (b). In both cases, woodlots constitute an important and organic part of the pasture land in order to enhance the various aspects of animal welfare.

Mozsi Ranch, Sellye, Hungary (a), Kawka Studio, Poland (b)



watch video



watch video

HOW IS THE CHALLENGE ADDRESSED

Discover your forest patches and change policy

Farmers need to act creatively when they want to implement agroforestry systems in their land under the current environmental and policy conditions. For instance, the introduction and use of small patches of woodlands/shrublands as a source of feed for animals is usually connected with a reduction in land eligibility by the CAP (see also: AFINET Factsheet no. 20: Agroforestry

practice in agricultural lands). The best resources to research the most suitable farming methods to renew an abandoned area are formal or informal interviews with local elder farmers, land use history documents, and monographs on the local region. Existing opportunities, such as grazing within forests or woodlands may be blocked at policy level, in some cases even prohibited by law.



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HIGHLIGHTS

- Grazing of woody perennial areas is of paramount importance for the purposes of animal welfare.
- When applying for agricultural subsidies and developing agrarian policies, the use of forested or even wooded land might be still a disadvantage.
- Farmers on forested or wooded land need to work more per unit of land, but raising healthy and high quality livestock implies higher profits as well.



Agroforestry systems of Mozsi Ranch (a). Hiding under tasty willow bush at OIKOS Farm (b). Mozsi Ranch, Sellye, Hungary (a), Kawka Studio, Poland (b)

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ADVANTAGES AND DISADVANTAGES

Unpredictable conditions

Grazing diverse pastureland usually results in beef of higher quality than that produced in farming systems where animals are maintained in stables. For the purposes of animal welfare, it is very important that cattle are able to rub themselves against trees, enjoy the shade on hot days, or shelter during windy cold days. This is absolutely necessary if you are to raise good quality livestock. Woody areas on Hungary's Mozsi Ranch are first grazed at the end of summer and beginning of autumn. However, these wooded areas mainly function as the winter pasture, though during long periods of snow cover even these pastures become inaccessible. On this and other grass-fed beef farms, such as OIKOS Farm in Poland, areas are grazed via a rotational system, to maximise efficiency of pasture growth and maintain fodder quality.

Open wooded pastureland offers both nutritious grass and shade. Understorey in more closed-canopy forest patches is often rather shrubby, or weedy, including species like blackberry and hawthorn. Such habitats are also necessary for animal welfare. Cattle can hide in these bushes during the summer to minimize harm from mosquitos and gadflies. These areas also provide wood—a renewable fuel, which can help to cover the price of any thinning required to establish or maintain wood pasture. Grassland, like any land cover type, can be diversified spatially in terms of soil quality. Pastureland is often vulnerable to soil erosion, so practical knowledge about farm soil management, including management of tree-covered areas, is essential.

One of the main disadvantages of including woody vegetation as part of a grassland area is related to payment restrictions associated with agricultural subsidies. These subsidies fail to recognize that wooded pasture areas, far from being neglected, are properly managed grazing plots. Additional difficulties follow from the fact that some current national legislation does not endorse the grazing of woodlots which qualify as forest.

Wood pasture management is more complex than that of treeless pastures, as often grass harvesting cannot be carried out among the trees by large farm machinery, since the trees do not grow at regular intervals. Thus, silvopastoral systems require greater human labour inputs for their management than homogenous, open pastureland. This presents the largest contemporary challenge to wood pasture maintenance, but the resulting diversity produces advantages to livestock welfare quality, and ecosystem services.

FURTHER INFORMATION

Mozsi Ranch, Sellye, Hungary, updated videos and pictures from Mozsi Ranch at their Facebook page:

Silvopasture: Integrating Trees, Forage, and Animals in a Farm Ecosystem Varga & Vityi (2017) Lesson learnt: Wood pastures in Hungary

In Polish:

<https://cookitlean.pl/z-wizyta-u-oikos/>

http://www.drivenaeristastories.com/wp-content/uploads/TS2018_Bracia_ostateczna_mala.mp4

<https://targpietruskowy.pl/project/oikos/>