

## Yield and Sward Composition Responses of Natural Grasslands to Treatments Meeting Sustainability

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**Abstract :** An outstanding part of the animal products are based on the grasslands, due to the fact that the grassland ecosystems can be found all over the globe. In places where economical and successful crop production cannot be managed, the grassland based animal husbandry can be an efficient way of food production. In addition, these ecosystems have an important role in carbon sequestration, and with their rich flora &ndash; and fauna connected to it &ndash; in conservation of biodiversity. The protection of nature, and the sustainable agriculture is getting more and more attention in the European Union, but, looking at the consumers&rsquo; needs, the production of healthy food cannot be neglected either. Because of these facts, the effects of two specific composts - which are officially authorized in organic farming, in Agri-environment Schemes and Natura 2000 programs &ndash; on grass yields and sward compositions were investigated in a field trial. The investigation took place in Hungary, on a natural grassland based on solonetz soil. Three rates of compost (10 t/ha, 20 t/ha, 30 t/ha) were tested on 3 m X 10 m experimental plots. Every treatment had four replications and both type of compost had four-four control plots too, this way 32 experimental plots were included in the investigations. The yield of the pasture was harvested two-times (in May and in September) and before cutting the plots, measurements on botanical compositions were made. Samples for laboratory analysis were also taken. Dry matter yield of pasture showed positive responses to the rates of composts. The increase in dry matter yield was partly due to some positive changes in sward composition. It means that the proportions of grass species with higher yield potential increased in ground cover of the sward without depressing out valuable native species of diverse natural grasslands. The research results indicate that the use of organic compost can be an efficient way to increase grass yields in a sustainable way.

**Keywords :** compost application, dry matter yield, native grassland, sward composition

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