

Abstract

Extensively used meadows make an important contribution to the promotion of biodiversity in Switzerland. However, extensive use alone does not automatically lead to a high plant species diversity. The present study is the start of a project that has since 2018 been investigating whether the plant species diversity on seven extensively used meadows in the Swiss valley and hill zones can be increased by the following treatments: moderate manure application, lime application, over seeding, moderate manure application plus lime application, moderate manure application plus over seeding. The aim of the project is being able to make recommendations so that meadows which have not been fertilized for a long time and which were formerly species-rich can once again increase the diversity of plant species and also maintain it, so that they reach quality level II according to the Eco-Quality Ordinance.

The meadows investigated in the project were visited and examined for the first time in the summer of 2018 before the first cut. The species diversity was determined with the method of Klapp, yield and nutritional value analyses were carried out and soil samples were examined. In autumn 2018 a moderate manure application and "Ricocalk" (lime) were applied. In spring 2019 an overseeding with the mixture "Salvia" was carried out. Recordings with the method of Klapp, yield surveys and nutrient analyses were carried out again in 2019 and 2020 prior to the first cut. Soil samples were taken again in autumn 2019.

The results show that species diversity has not yet been influenced by any of the treatments, except for a slight tendency towards more QII species (groups) in the methods with over seeding. The yield in the treatments with manure was slightly higher in the first year after manure application (2019). It decreased again in 2020 after no manure application took place in autumn 2019. The nutritional values of the fodder were not affected by any of the methods. Based on the soil analyses, it is not yet possible to draw any conclusions about the effect of a treatment either. It is therefore not yet possible to make recommendations for practical use. Should a treatment prove to be positive for plant species diversity in the course of the project, the currently very tight guidelines for the management of extensive and low-intensity meadows in the direct payment regulation would have to be adapted. Certain adjustments in agricultural policy 2022+ could already be a step in the right direction. Namely that meadows should generally be managed more in accordance with their potential and that farms should receive financial support if they take advantage of extension services to promote biodiversity.