Title: Changes in species composition of meadow vegetation patches dominated by Calamagrostis epigejos in response to mowing and biomass removal : [poster]

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Changes in species composition of meadow vegetation patches dominated by *Calamagrostis epigejos* in response to mowing and biomass removal

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In recent decades, a lot of species-rich meadows became abandoned. The long-term lack of frequent mowing caused changes in species composition and habitat conditions of meadow habitats. It is often observed that the abandoned meadow habitats become dominated by *Calamagrostis epigejos*.

It has been shown that communities dominated by *Calamagrostis epigejos* are characterized by low levels of species richness and floristic diversity. Its dominance reduces the number of species typical of meadow and grassland habitats as it prevents the species encroachment and spread in community. This grass effectively competes with other grass species, particularly when the substrate has a high concentration of nitrogen. It spreads very quickly, and threatens the biodiversity of grasslands and meadows. There are reports that an effective method of limiting the *C. epigeios* expansion is mowing at least twice a year. However, this method proved to be the least effective in terms of increasing species richness.

In order to find out about changes in vegetation patches of formerly species-rich meadows overgrown by *Calamagrostis epigeios* caused by mowing and removing the biomass, a set of permanent plots was established. Four types of treatment in five replicates were applied: (*i*) mowing once a year with biomass removal, (*ii*) mowing once a year without biomass removal, (*iii*.) mowing twice a year with biomass removal, (*iv*.) mowing twice a year without biomass removal and five control plots were established. The species composition and species abundance of all the plots was recorded in spring and autumn since 2007.

The aim of this study was to test the response of vegetation patches dominated by *Calamagrostis epigeios* to the following treatments: mowing once and twice a year with and without biomass removal.

The preliminary results showed that all the treatments increased species richness and diversity measures using diversity indexes. However, it is a slow process.