

## **Abstract**

Insect biodiversity of hay meadows seemingly decreased during the last fifty years due to the land abandonment and radical intensification of agriculture. In contrast to the traditional mowing regime and techniques, nowadays farmers are able to harvest hay from large areas of grasslands with modern machine mowing in a very short time period. This results in a uniform vegetation structure with low food resources for the vast majority of insect species bound to the hay meadows. In order to contradict these trends the European agro-environmental schemes were established. In the Czech Republic these schemes determine specific time and a homogenous regime of mowing. In this thesis we present the results of the study of the effect of uncut grass strips as a compensation measure to promote biodiversity on commercial hay meadows. Pitfall traps, yellow pan traps, window traps and individual transects walks were used for monitoring diversity and biomass of intercepted insects and arachnids on 21 sites located in the Český ráj region. The statistical analyses show a (i) significant positive effect of uncut strips on insect biomass and species richness on the treatment sites (Multidimensional analysis (RDA) showed (iv) a positive significant effect of uncut strips on species composition for all studied insect taxa. Overall, the sites with uncut strips were more diverse in species richness and had more insect biomass even in the first year of the study, thus this modification of the mowing regime is a good solution for supporting the insect in production hay meadows.

**Keywords:** Mowing, Strips, Biomass, Insect, Hay meadows