

# Is spring burning a viable management tool for species-rich grasslands?

## Abstract

Semi-natural grasslands are species-rich and also one of the most threatened biotopes in Europe. The area of these grasslands has declined and grassland vegetation is threatened as a result of lack of management and land use change. Appropriate management is therefore required to maintain the conservation values and high species richness of semi-natural grasslands. Traditional management, that is, grazing or annual mowing is expensive, which motivates evaluation of alternative cheaper methods of management. Burning is less costly therefore I evaluated burning along with the conventional methods. The study addressed the main question: is burning an option to mowing and grazing? I searched the literature for available studies suitable for metaanalysis, but located only detailed reports from a series of eleven Swedish long-term field trials. In addition, I collected data in the only one of these trials still running. To facilitate metaanalysis, I used different indicator systems of classification of grassland plants then calculating the odds for a random record being an indicator after one, eight, fourteen, twenty-eight and thirty-nine spring burns. The results show an increasing proportion of grassland indicators of good management in the mowed and grazed plots compared with the burnt plots, indicating a general negative effect of burning on grassland plants compared with mowing and grazing. The study demonstrates that burning might not be an efficient management method to maintain vegetation diversity in semi-natural grasslands.

Keywords: burning, grazing, indicators, management, mowing, semi-natural grasslands.