Cessation of traditional management reduces the diversity of steppe-like grasslands in Romania through litter accumulation

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Abstract

In Romania, extended dry grasslands still exist that are outstanding in diversity and conservation status compared to European standards. Land-use change is one of the greatest threats to biodiversity and conservation of these grasslands. Litter accumulation was proved to have a prime role in governing community processes in dry grassland following abandonment by affecting the regeneration from seed of constituent species. Accumulated litter reduces bare soil surface and lowers light availability below adequate levels for seedling emergence and thus decreases microsite quantity and quality. Besides these mainly negative physical effects experienced during an experimental series, it was found that there can be a chemical pressure on germinating seeds as well, since plant leaves of one of the most common dominant species in abandoned sites (*Stipa pulcherrima*) contains allelopathic substances with documented inhibiting effect on different processes related to regeneration by seeds of co-occurring grassland species. Because of the mainly negative effects of litter on seed germination, re-introduction of a management regime which comprises litter removal, e.g. mowing or grazing, can restore the plant diversity and open vegetation structure of the dry steppe-like grasslands in Romania, and probably elsewhere.