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Special Issue Reprint

Multifunctionality of Grassland Soils

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Grasslands are a unique ecosystem which occupy more than a quarter of the land surface of the Earth, providing numerous ecosystem services including forage provision, nutrient cycling, carbon sequestration, water filtration, biodiversity, and wildlife habitats. In terms of their origins, permanent grasslands have been established for agricultural purposes in areas that would otherwise be occupied by forests. Consequently, the soils on which they have been created are also diverse and have different textures and physical, chemical, and biological properties. Beyond these permanent grasslands, temporary ley grasslands are a vital part of crop rotation exerting a positive influence on soil ecosystem services. Healthy soils, as a non-renewable source, are key to ensuring grassland ecosystem services. Climate change and management, such as the intensity of fertilization, overgrazing, or abandonment, are two major factors that affect soil properties and consequently grassland ecosystem services. This Reprint is focused on studies and analyses of the impact of grassland management and climate change on the chemical, physical, and biological properties of soils. The Reprint points out the variability of soil properties and focuses on better understanding nutrient cycles to increase their productivity with the help of sustainable management. Additionally, it highlights the role of grasslands in dealing with climate change and other environmental risks. Increasing attention is also dedicated to new, less explored areas, such as the role of grassland soil microbiomes and their contribution to the provision of ecosystem services.



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