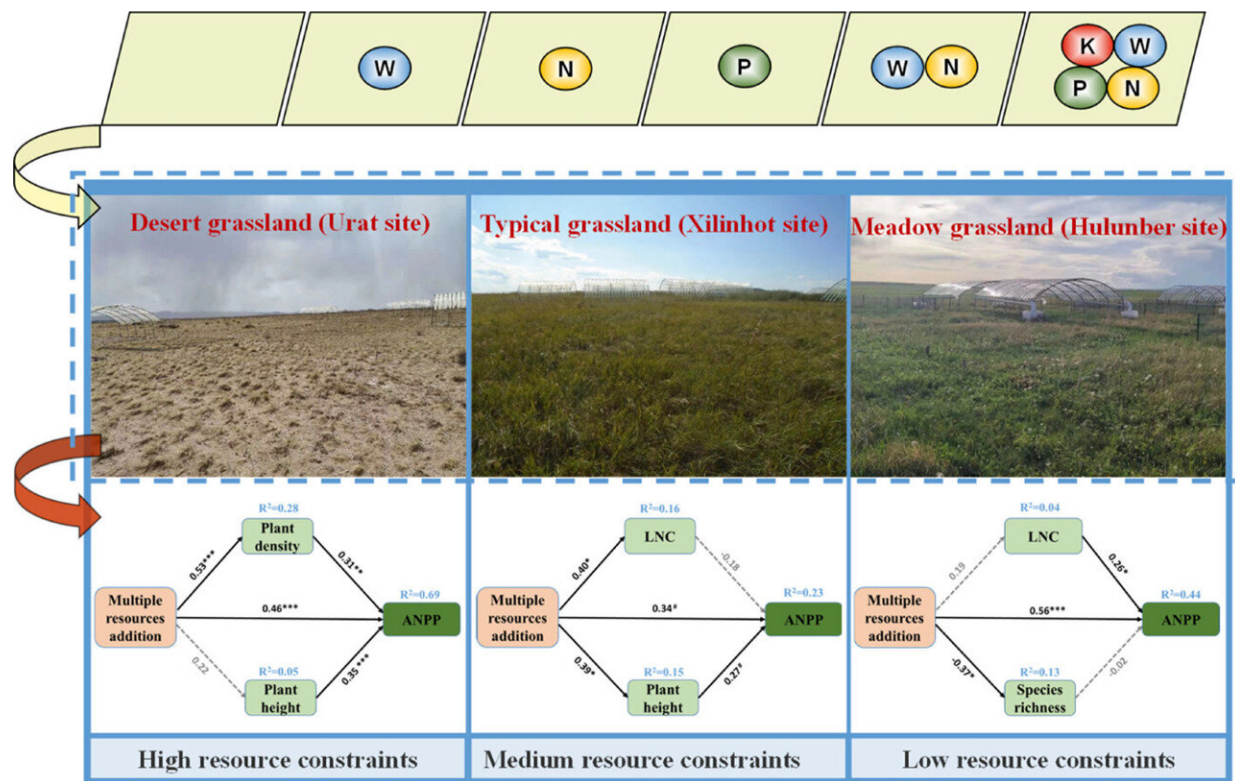


The relationship between grassland biodiversity and productivity under influence of multiple-resource addition

November 3 2022, by Li Yuan



Graphical abstract. Credit: *Science of The Total Environment* (2022). DOI: 10.1016/j.scitotenv.2022.159367

Changes in nutrient depositions induced by anthropogenic activities and precipitation affect the structure and function of grassland ecosystems as

well as the stability of the ecosystem.

Therefore, exploring the effects of multiple resource additions on [grassland](#) biodiversity, productivity, and biodiversity-productivity relationship is helpful for the scientific management of grassland ecosystem and the improvement of grassland ecosystem services.

Recently, researchers from the Northwest Institute of Eco-Environment and Resources of the Chinese Academy of Sciences have revealed the mechanisms and paths by which multi-resource addition and multifaceted biodiversity affect productivity of different grassland along a resource gradient in northern China.

Related results were published in *Science of The Total Environment* on Oct. 17.

The researchers found that with the number of added resources, [species richness](#) increased at the high resource constraint site, unchanged at the medium resource constraint site, and decreased at the low resource constraint site.

Additionally, multi-resource addition made some community weighted mean of functional traits shift from resource conservation type into resource acquisition type across the three grassland sites.

The results showed that the effects of multiple resource addition on the relationship between grassland biodiversity and productivity depended on site resource constraint conditions.

The study provides new insights into the debate over resource-biodiversity-[productivity](#) relationship, as well as a theoretical basis for managing grassland with different resource conditions.

More information: Xinxin Guo et al, Effects of multi-resource addition on grassland plant productivity and biodiversity along a resource gradient, *Science of The Total Environment* (2022). [DOI: 10.1016/j.scitotenv.2022.159367](https://doi.org/10.1016/j.scitotenv.2022.159367)

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