

Research Highlights

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Carbon offsets

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Scientists have long known that nitrogen pollution from sources such as fertilizer can reduce plant diversity. Now researchers have discovered that an increase in atmospheric carbon dioxide could counter this effect.

In a ten-year field experiment, Peter Reich at the University of Minnesota, Saint Paul, monitored the response of 48 open-air perennial grasslands, planted with 16 different species, to combinations of ambient and elevated soil nitrogen and atmospheric carbon dioxide concentrations. Over a decade, plant diversity in grasslands with high nitrogen levels decreased by 16 per cent with ambient CO₂, but only by 8 per cent when both nitrogen and CO₂ levels were high. The altered nitrogen and carbon dioxide regimes had significant, interactive effects on plant diversity within two years.



The results suggest that predicting the response of biodiversity to atmospheric changes may be challenging at the local level.

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