



News

Diverse landscapes are more productive and adapt better to climate change

Ecosystems with high biodiversity are more productive and stable towards annual fluctuations in environmental conditions than those with a low diversity of species. They also adapt better to climate-driven environmental changes. The dramatic, worldwide loss of biodiversity is one of today's greatest environmental problems. The loss of species diversity affects important ecosystems on which humans depend. Previous research predominantly addressed short-term effects of biodiversity in small experimental plots planted with few randomly selected plant species. These studies have shown that species-poor plant assemblages function less well and produce less biomass than species rich systems. Researchers participating in the University Research Priority Programme "Global Change and Biodiversity" of the University of Zurich now demonstrate similar positive effects of biodiversity in real-world ecosystems in which mechanisms different from the ones in artificial experimental plots are at play. The satellite data analysed by the scientists revealed that the annual growing period increased in length throughout the last 16 years, an effect that can be explained by climate warming. The prolongation in growing season was considerably larger in more biodiverse landscapes. These relations were robust and remained important even when a range of other drivers such as temperature, rainfall, solar irradiation, topography...[Read more...](#)

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Source: <https://www.sciencedaily.com/>

Could switchgrass help China's air quality?

"China's poor air quality is caused by a combination of coal burning and particulates from soil erosion. The Loess Plateau is the major source of erosion in China, and air quality there is just terrible. If erosion in the Loess Plateau can be improved, air quality will improve," says D.K. Lee, an agronomist in the Department of Crop Sciences at the University of Illinois. Although the region has been farmed for millennia, much of China's Loess Plateau could be described as a barren moonscape: dry, dusty, and prone to erosion. In a massive soil conservation effort, the Chinese government is creating incentives for farmers to plant sustainable and erosion-reducing cropping systems, including orchards, forests, and perennial grasses. Researchers from U of I are recommending switch grass. "When we're looking at revegetation, ideally we're planting something that can bring in revenue for farmers. Switchgrass produces a lot of biomass that can be harvested and burned as a cleaner source of energy," Lee says...[Read more...](#)

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The entrepreneurs turning carbon dioxide into fuels

In an industrial greenhouse about 30 km from Zurich, plump aubergines and juicy cherry tomatoes are ripening to perfection. Growing Mediterranean crops in Switzerland would traditionally be energy intensive but these vegetables are very nearly carbon-neutral. The facility, designed by Zurich-based start-up Clime works, pumps the gas into greenhouses to boost the plants' photosynthesis and increase their yield, it hopes, by up to 20%. Clime works says it will extract around 900 tonnes of CO₂ a year from the air. The company's end game is not plumper tomatoes but something far more ambitious – proving that carbon dioxide can be recycled from the atmosphere and turned into something useful. If this installation is a success, Clime works wants to sell its concentrated carbon dioxide to companies producing carbon-neutral hydrocarbon fuels. With concentrations of CO₂ at their highest in the last 400,000 years, the world needs to remove the greenhouse gas from the atmosphere – as well as cut emissions – if we are to avoid catastrophic climate change....[Read more...](#)

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Source: <https://www.theguardian.com/>

Using excess funds to plant trees is the 'no-brainer' solution to farm water pollution

A coalition of 26 national environmental organizations is calling for a new plan that would "dramatically reduce farm water pollution" by allowing farmers to plant native woodlands along rivers and streams. The proposal follows the Government's latest review of the Nitrates Action Plan which recommends that farmers need to fence off their cattle from water sources from January 2021. The Environmental Pillar argues that this should happen sooner and funding should also be made available for the planting of trees along waterways to act as a natural buffer. "Our native trees have a fantastic ability to absorb this pollution and convert it to carbon, and do not require fertilizers or pesticides unlike current commercial non-native tree plantations," according to The Environmental Pillar. According to Environmental Pillar, this approach would have the immediate benefit of improving water quality, creating new habitat, and storing carbon as well as ensuring we comply with various EU directives....[Read more...](#)

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