

Plant diversity alleviates the effects of flooding on crops

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In grasslands, growing plants in higher diversity fields may help alleviate the negative impacts of flooding. This finding may extend to how we grow important food crops.

In a long-term biodiversity experiment in central Germany, researchers found that single plant species (monocultures) were less able to cope with flooding compared with species grown in mixtures totalling 16 species. Grasses stood out as a strong group, unaffected by flooding whether grown alone or in mixtures, while legumes (important nitrogen-fixing plants) were severely affected. The soil beneath species grown in high diversity mixtures was more porous than below monocultures, allowing water to drain faster and maintaining [higher levels](#) of oxygen.

"Our finding that biodiversity is a tool that can be used to improve individual plant resilience during a flood is very exciting," said Dr. Alexandra Wright, lead author of the *New Phytologist* study. "It extends important plant physiological research on flood resistant plant traits. It also grows on a long body of community ecology research that emphasizes the importance of biodiversity for buffering against the negative effects of climate change."

More information: Alexandra J. Wright et al. Plants are less negatively affected by flooding when growing in species-rich plant communities, *New Phytologist* (2016). [DOI: 10.1111/nph.14185](https://doi.org/10.1111/nph.14185)

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