# [***Sichuan Agricultural University Reports Findings in Science (Arbuscular mycorrhizae mitigate negative impacts of soil biodiversity loss on grassland productivity)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:69N3-8PY1-DY7R-R2Y4-00000-00&context=1516831)

Ecology Daily News

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**Body**

2023 NOV 16 (NewsRx) -- By a News Reporter-Staff News Editor at Ecology Daily News -- New research on Science is the subject of a report. According to news reporting originating from Sichuan, People's Republic of China, by NewsRx correspondents, research stated, "Grassland degradation decreases ecosystem productivity and diminishes soil ***biodiversity***, leading to the ***loss*** of beneficial microorganisms. Arbuscular mycorrhizal fungi (AMF) play a critical role in ecosystem functioning, being a key link between plant and microbial communities, soil, and vegetation."

Our news editors obtained a quote from the research from Sichuan Agricultural University, "Here, we evaluated the potential of increasing the productivity of degraded grassland by AMF inoculation. A gradient of soil ***biodiversity***: complete sterilization, low, moderate, and high ***biodiversity*** was established using the dilution-to-extinction approach. Grassland microcosms under greenhouse conditions were inoculated with three AMF taxa in an increasing diversity: no AMF, single AMF taxa, and all three AMF taxa together. The ***loss*** of soil ***biodiversity*** decreased plant community productivity, primarily due to reduced biomass of legumes and non-N-fixing forbs. AMF inoculation raised plant community productivity by 190%, mainly attributed to the greater biomass of legumes and non-N-fixing forbs. This positive effect of AMF inoculation was particularly pronounced on soils with low ***biodiversity***, where soil mutualists were absent. The biomass of grasses remained independent of AMF inoculation. This differential responsiveness to mycorrhiza was mainly due to the distinctive plant traits of each plant functional group. Inoculating with a single AMF was more beneficial for plant biomass production than inoculation with multiple AMF under lower levels of soil ***biodiversity***, probably due to high functional redundancy among AMF taxa."

According to the news editors, the research concluded: "AMF inoculation reduced the adverse impact of soil degradation and ***biodiversity*** ***loss*** on plant biomass and vegetation development, highlighting the key roles and importance of AMF for grassland restoration."

This research has been peer-reviewed.

For more information on this research see: Arbuscular mycorrhizae mitigate negative impacts of soil ***biodiversity*** ***loss*** on grassland productivity. Journal of Environmental Management, 2023:119509. Journal of Environmental Management can be contacted at: Academic Press Ltd- Elsevier Science Ltd, 24-28 Oval Rd, London NW1 7DX, England. (Elsevier - www.elsevier.com; Journal of Environmental Management - www.journals.elsevier.com/journal-of-environmental-management/)

The news editors report that additional information may be obtained by contacting Jiqiong Zhou, Dept. of Grassland Science, College of Grassland Science & Technology, Sichuan Agricultural University, No.211 Huimin Road, Wenjiang District, Chengdu, Sichuan, People's Republic of China. Additional authors for this research include Yingying Su, Xiangjun Li, Yakov Kuzyakov, Pengsen Wang, Jinchao Gong, Xuxu Li, Lin Liu, Xinquan Zhang, Congyu Ma, Xiao Ma, Ting Huang, Yanfu Bai and Feida Sun.

Publisher contact information for the Journal of Environmental Management is: Academic Press Ltd- Elsevier Science Ltd, 24-28 Oval Rd, London NW1 7DX, England.

Keywords for this news article include: Sichuan, People's Republic of China, Asia, ***Biodiversity***, Ecology, Science.

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