

Do photovoltaic panels affect soil microbial communities?

Although the influence of PV panels on soil conditions and plant biomass is acknowledged, their effects on the assembly processes and co-occurrence networks of soil microbial communities remain understudied. Clarifying this influence is crucial for understanding the effects of photovoltaic panels on soil ecosystem functions.

Do PV panels improve fungi and bacterial networks?

Conversely, for fungi, vulnerability escalated from 0.0046 in control soils to 0.013 in down soils and significantly higher to 0.028 in mid soils. These results suggest that PV panels decreased the stability of bacterial networks while improving the stability of fungal networks.

Do photovoltaic panels affect bacterial and fungal networks?

The results revealed that PV panels have a divergent impact on the complexity of bacterial and fungal networks. Specially, we found that the establishment of photovoltaic power stations increased the number of nodes and edges in the soil bacterial network, especially in mid soils (Figure 5A).

Do soil bacterial and fungal networks respond to PV panels?

We found distinct properties in soil bacterial and fungal networks, exhibiting diverse responses to the installation of PV panels. As we expected, fungal networks exhibited greater resistance to the disturbances caused by PV panels compared to bacterial networks.

In general, bacteria dominated the surface of the panels during the spring/summer period, whereas fungi were more abundant in autumn and winter, very likely linked to the moisture levels during the ...

In this study, we first explored the effects of PV panels on soil properties. Then, using amplicon sequencing, we analyzed the impact of PV panels on soil microbial diversity and function, ...

In this study, Illumina high-throughput sequencing technology was used to investigate the effects of PV panel arrangement on grassland plant species diversity and soil microbial diversity.

The optimal packing and planning of distributed rooftop PV systems can be considered as two coupled problems: 1) optimal PV packing that optimizes the PV panels ...

Large-scale deployment of photovoltaic (PV) farms alters the surrounding microclimate. Microclimate changes and engineering buildings have caused significant changes in vegetation, ...

In this study, a variety of qPCR-based methods have been developed to quantify the microbial load of fungi, bacteria and phototrophs on PV panels. These protocols were evaluated by ...

While the effects of photovoltaic panels on soil moisture content and plant biomass in arid ecosystems have

been recognized, little is known about their influence on soil microbial communities.

PV panels produce shade, thereby affecting the development, growth, and productivity of cultivated mushrooms because low light intensity and lack of solar radiation ...

In this study, plant-soil-microbial systems in shady and non-shady gaps of PV panels in a solar park in Northern China were investigated. The shading caused by the PV panels significantly ...

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