

# Can dry rice be grown under photovoltaic panels



## Overview

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Researchers in Japan have made another attempt to make agrivoltaics on rice fields technically and economically feasible, despite well-known productivity issues when rice is grown below solar modules. They used double-axis tracking, finding potential with careful management of shading and tilt. A rice paddy planted with a dual-axis, sun-tracking system demonstrates PV panels tilted to minimize shading and prioritize rice growth (top) or positioned to prioritize electricity production (bottom). Emerging interest in these systems led us to investigate their influence on rice crops. Various factors affecting rice crop yield, including fertilizer application, temperature, and solar radiation, were directly observed, and measured to evaluate. Various factors affecting rice crop yield, including fertilizer application, temperature, and solar radiation, were directly observed, and measured to evaluate changes associated with the shading rates of photovoltaic systems installed above rice crops.

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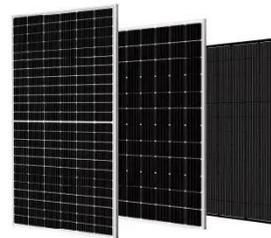
### Solar panels and rice fields thrive together in Japanese

A recent study led by researchers from the University of Tokyo explores a promising solution: integrating solar panels with traditional rice farming in a practice known as agrivoltaics.

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### Agrivoltaics on rice fields, not a lost cause

Researchers in Japan have made another attempt to make agrivoltaics on rice fields technically and economically feasible, despite well-known productivity issues when rice is grown ...



### Impacts of agrivoltaic systems on microclimate, grain yield, and

Our objective was to characterize the microclimate, grain yield, and quality of rice cultivated in an agrivoltaic system in a temperate climate. Field experiments were conducted at a ...

## **Agrivoltaics addresses the needs for both clean electricity production**

A recent study led by researchers from the University of Tokyo explores a promising solution: integrating solar panels with traditional rice farming in a practice known as agrivoltaics.



## **Six-Year Test Field Shows Agrivoltaics Can Be Critical for Rice**

In recent years, researchers from the University of Tokyo in Japan conducted a six-year field experiment using an agrivoltaics system in Chikusei, a city in Eastern Japan. The study focused ...

## **Analysis of the Rice Yield under an Agrivoltaic System: A Case**

Agrivoltaic systems, comprising photovoltaic panels placed over agricultural crops, have recently gained increasing attention. Emerging interest in these systems led us to investigate their ...



## **Japanese Agrivoltaics Pilot Combines Solar Panels and**



## Rice Fields ...

A pioneering study emerging from the University of Tokyo offers a visionary approach to this dilemma by merging solar energy generation with traditional rice cultivation.

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These findings show that yield reductions under AV are likely, but under hot and dry weather conditions, growing conditions can become favorable. Agrivoltaic (AV) systems



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## Growing rice under photovoltaic panels

Various factors affecting rice crop yield, including fertilizer application, temperature, and solar radiation, were directly observed, and measured to evaluate changes associated with the shading rates of ...



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## On-farm agrivoltaic impacts on main crop yield: the roles of shade

Therefore, maintaining crop yield under shading beneath photovoltaic panels is important. Numerous studies have examined the effects of AVSs on yields, predominantly focusing on ...



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