Soybeans don t grow under solar power lamps

Overview

Soybeans lose as much as 13% of their productivity because they can't adjust quickly enough to changes in light intensity that are standard in crop fields, says Yu Wang, a postdoctoral researcher at the University of Illinois. There's an international research project called RIPE, short for Realizing Increased Photosynthetic Efficiency. The effort, sponsored by big names like the Bill & Melinda Gates Foundation, most recently has developed a new mathematical computer model to understand how much yield is lost as soybeans. In 2024, the Golden Harvest Agronomy in Action research team implemented trials in both corn and soybeans at Malta, IL, Slater, IA, and Waterloo, NE, to evaluate the efect solar radiation intensity has on yield. Journal of Plant Nutrition and Fertilizers, 2024, 30 (3): 505-514. When intercropping with maize (Zea mays L.

Soybeans don t grow under solar power lamps

Photosynthetic Acclimation of Shade-Grown Soybean Seedlings to a ...

However, the changes in soybean photosynthesis under such light alternations in relay intercropping are poorly understood. This study compared the photosynthetic acclimation of two soybean varieties with ...

Soybean photosynthesis and crop yield are improved by

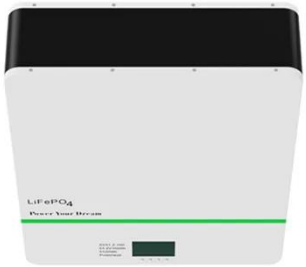
To test whether a yield increase could be achieved in a major agronomical crop, we introduced the VPZ construct into soybean [Glycine max (Gm)]. In terms of total global production, ...

Differential Photosynthetic Acclimation to Fluctuating Light Reveals

To investigate photosynthetic acclimation to such FL conditions, we compared the shade-tolerant cultivar ND12 and the shade-sensitive cultivar GX7. Plants were grown under either constant ...

Phosphorus deficiency limits photosynthetic induction response to light

Phosphorus deficiency mainly limits the response of stomatal conductance of soybean leaves to light induction under strip compound planting, resulting in a decrease in photosynthetic efficiency and yield.



Soybeans and other crops are hurting for light, but this research

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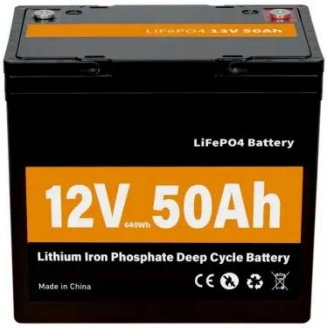
EFFECTS OF SOLAR RADIATION INTENSITY ON CORN AND ...

The main objective was not to quantify changes in yield potential based on specific levels of solar radiation but rather to understand which growth stages in corn and soybeans are most impacted by ...

Delayed photosynthesis



response causes carbon assimilation ...

Correlation analyses revealed that the decline in carbon assimilation under FL primarily stemmed from two factors: the slow recovery of stomatal conductance upon transition to high light ...

Maximizing Soybean Production: From Solar to Grain

The efficiency with which soybeans convert sunlight into useful energy is influenced by several factors, including plant architecture, the angle of light interception, and environmental ...

(PDF) Delayed photosynthesis response causes carbon assimilation

Increased planting density enhanced the light fluctuation frequency and reduced the duration of daily high light, as well as the light-saturated photosynthetic rate, biomass, and yield per

Effects of Solar Radiation Intensity on Corn and Soybean Yield

Manipulating light intensity using reflective mylar tended to have a minimal or negative effect on yield in both corn and soybeans. Any benefits from increased light in the lower canopy were likely negated ...

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