

Sowing *Amomum villosum* under photovoltaic panels

What is *Amomum villosum*?

Amomum Villosum (*A. Villosum*), called Chunsharen in Chinese, is widely used in treating gastrointestinal disease. Its clinical benefits have been confirmed by both *in vitro* and *in vivo* studies. Facing the shortage of wild *A. Villosum*, artificial cultivating and natural fostering have been practiced in recent years.

Does PV shading affect horticulture crop cultivation?

This mini review has reported experimental studies about the effect of PV shading on horticulture crop cultivation and a correlation between the growth parameters and the characteristics of PV installation, in terms of degree of roof coverage has been found.

Does ground mounted PV (open field system) affect crop performance?

It is worth mentioning that compared to PV greenhouse, there are few studies (only 27%) investigated the shading effect of ground mounted PV (open field system) on the crop performance (Fig. 2).

Why are plant species not able to grow under a PV panel?

This result is contrary to this study, mainly due to the different climatic regions; there are unfavorable pedoclimatic conditions under the PV panel, which may hinder the growth of herbaceous plant species. Plant species under PV panels can handle low or high nitrogen and phosphate levels (Uldrijan et al., 2023).

The results showed that *A. villosum* attained vigorous clonal growth under 30% and 60% light, with a higher plant height, number of ramets, stolon length, thicker stems and stolons. 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 ...

Intercropping is widely promoted to sustain soil function, yet evidence for its application in rubber-based agroforestry, particularly with the shade-tolerant herb *Amomum villosum*, is limited. We ...

The alteration of microclimate parameters such as solar radiation, air temperature, humidity and soil temperature under the PV panels was highlighted. Moreover, impact of APV ...

A comparative study on *Amomum villosum* cultivation under tropical wet seasonal rainforest and secondary forest at Xishuangbanna. *Chinese Journal of Applied Ecology*. 2004;15:1318-1322.

This study observed growth responses of selected vegetable crops (okra, eggplant, green spinach, Chinese cabbage, Chinese kale, Brazilian spinach and pennywort) planted in the outskirts ...

The forest-medicinal plant management system has benefited the commercial production of *Amomum villosum*. However, little is known about the influence of different forestlands ...

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

The objective of this mini review is to present and summarize the recent studies on the effect of PV shading on crop cultivation (open field system and greenhouses integrated PV panels), ...

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