

Do OPV modules and solar heating affect Strawberry growth and quality?

A solar greenhouse with opaque photovoltaic (OPV) modules and a solar combined air source heat pump system was built for strawberry production. The aim of this study was to assess the impact of differences in both temperature and light factors caused by OPV modules and solar heating on strawberry growth and quality in a constructed greenhouse.

Can solar energy improve the quality of Strawberry?

Quality of strawberry was improved by solar energy adjusting temperature and light. Strawberry grew better when the PV modules occupied 25.9% roof of greenhouse. The suitable light range for strawberry under the shade of PV module was obtained. Solar combined air source heat pump provides suitable heating for strawberry. Abstract

Can PV panels improve GH strawberry production?

Installing PV panels is generally able to improve all energy-environmental indices of GH strawberry production, moving it towards higher sustainability. The use of additional equipment and the temperate weather of the studied area are the main factors for lower efficiency of PV/T systems compared with PV systems.

Do shaded PV modules increase Strawberry growth?

Some scholars have studied the effects of PV modules with occupancy rates of 10%, 12.9% and 50%; however, they did not study the growth of strawberries under shaded PV modules.

Which greenhouse is most suitable for strawberry production?

Therefore, the greenhouse with OPV modules shading and solar combined heat pump heating was most suitable for strawberry production. 4. Conclusion

Are strawberry plants able to grow in a solar greenhouse?

Forty-six pots of strawberry plants with good growth were selected and divided into three rows on the solar greenhouse shelves. Among them, strawberry plants No. 1 to No. 26 were used as samples to compare the effects of shaded and unshaded light.



Solar Photovoltaic Panel Strawberry Greenhouse

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