

## A Performance Study of a Solar Heating System on the Microclimate of an Agricultural Greenhouse

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**Abstract :** This study focuses on a solar system designed to heat an agricultural greenhouse. This solar system is based on the heating of a transfer fluid that circulates inside the greenhouse through a solar copper coil integrated into the roof of the greenhouse. The thermal energy stored during the day will be released during the night to improve the microclimate of the greenhouse. This system was tested in a small agricultural greenhouse in order to ameliorate the different operational parameters. The climatic and agronomic results obtained with this system are significant in comparison with a greenhouse with no heating system.

**Keywords :** solar system, agricultural greenhouse, heating, storage, drying

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