

عنوان مقاله:

Milk Heating Using a Solar Cooker Coupled with Point-Focus Fresnel Lens

محل انتشار:

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خلاصه مقاله:

Today, concerns regarding global warming resulting from fossil fuel usage and the depletion of these resources have led individuals to consider alternative, clean energy sources. Renewable energies such as solar energy are non-polluting, inexhaustible resources, serving as an excellent alternative to fossil fuels. Solar concentrate sunlight, directing it towards the solar oven. Utilizing renewable energy for cooking not only saves time and money but also ensures safety and security. The aim of this research is to construct and assess a solar oven equipped with a point Fresnel lens. The evaluations were conducted over a three-day period in March ۲۰۲۳. The maximum total thermal efficiency obtained for heating the milk for three days with different radiation intensity, wind speed and ambient temperature tested was ۴۵%, ۷۲.۷% and ۹۰%, respectively. The findings indicated that the solar oven could raise the .milk temperature to ۸۰ within one hour. The maximum attainable performance of this system was ۹۰%

کلمات کلیدی:

Solar Concentrator, Energy storage, Fresnel lens, Thermal efficiency

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