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# Performance Evaluation of Modified Solar Still Using Aluminum Foil Sheet as Absorber Cover – A Comparative Study

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## Abstract

Solar desalination is one of the sustainable solutions to produce freshwater from brackish water. Unavailability of drinking water is a major socioeconomic problem in southeastern Algeria that affects a large population. In the face of the problem, local researchers are adopting solar distillation, which appears to be a suitable and inexpensive solution. Improving the productivity of a solar greenhouse still represents the subject of several studies around the world looking for ways to increase the yield of a solar still. The idea behind this paper is to use the aluminum foil sheet as the absorber cover to improve the productivity of a solar still. To obtain the influence of utilizing the aluminum foil sheet as the absorber cover on a yield of a solar still, the conventional still with the black absorber surface and modified solar still with the aluminum foil sheet as the absorber cover were compared at the same climate conditions. The experimental investigation was performed on different days. Experimental work shows that this technique has a negative effect on the productivity of the distiller, which is reduced by 1.5 to 2.5 times compared to the black absorber distiller. Therefore, it is not recommended to use an aluminum cover in regular solar distillation.

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