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A comprehensive procedure for performance evaluation of solar food dryers

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Abstract

Solar food dryers are available in a range of size and design and are used for drying various food products. Testing a dryer is necessary to evaluate its absolute and comparative performance with other dryers and the test results provide relevant information for the designer as well as the user. Literature reviews on existing testing procedures reveal that a comprehensive procedure for evaluating the performance of solar food dryers is not available. Therefore, selection of dryers for a particular application is largely a decision based on what is available and the types of dryers currently used widely. This paper presents a detailed review of parameters generally used in testing and evaluation of different types of solar food dryers. The inadequacies of the parameters generally reported are highlighted and additional parameters have been suggested. Based on this review, a procedure has been proposed, giving the methodology, test conditions and a sample evaluation sheet. This would assist in an unambiguous evaluation of solar dryer performance and facilitate comparing different solar food dryers. © 2002 Elsevier Science Ltd. All rights reserved.
