



SDI Review Form 1.6

Journal Name:	Asian Journal of Advances in Agricultural Research
Manuscript Number:	Ms_AJAAR_52333
Title of the Manuscript:	DEVELOPMENT OF AN AUTOMATED SOLAR POWERED HOT-AIR SUPPLEMENTED DRYER
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p>	<p>Follow the steps below:</p> <p>1. INTRODUCTION In the introduction, you need to increase the number of researchers who have worked on solar dryers (that's not enough). You have not clearly said what differentiates your solar dryer from others found in literature.</p> <p>Nomenclature You must insert the nomenclature in your document. It is in the nomenclature section that you must define all the parameters used in the article. For example, on line [105], you forgot to set the "Mw" parameter</p> <p>2. MATERIALS AND METHODS</p> <p>2.1 Description of configuration of solar dryer used In this part, you must proceed to the description of the solar dryer by giving its various components. In addition, you must return the lines from [67] to [103] in this section. Figures 2 and 3 must also be found in this part.</p> <p>2.2 Modelization</p> <p>2.2.1 Design calculation for automated hot-air supplemented solar dryer. M_w (kg) is calculated using the following equation according to [7].</p> <p>2.2.2 Final relative humidity or equilibrium relative humidity ERH (%) is calculated using sorption isotherms equation given as given by [8] $a_w = 1 - \exp[-\exp(0.914 + 0.5639 \ln M)] \quad (2)$</p> <p>2.2.3 Quantity of air needed for drying Using a psychometric chat and taking input air temperature of 26 °C (dry bulb) and a relative humidity of 72 %, the psychometric gives a humidity ratio of 0.015 kg (H₂O/dry air). Hence 14.54 kg will require 2147.7 volume of air to effect drying. The volume flow rate of air V_a (m³/h) is calculated according to equation 4:</p>	



	<p>2.2.4 Angle of tilt of the solar collector/air heater</p> <p>According to [13, 14] the angle of tilt (β) of a solar collector is</p> $\beta = 10^\circ + lat\phi \quad (10)$ <p>.....</p> <p>2.2.5 Insolation of the collector surface area</p> <p>Insolation = $I_c = H_T = H \times R$ (11) H = Average daily solar radiation on horizontal surface = 465.9 W/m² [16] R = ratio of solar energy on tilted surface to that on the horizontal surface. $R = \frac{I_s}{H} \quad (12)$ <p>.....</p> <p>2.2.6 Total Solar Collector Area/Dimension</p> <p>Using the formula according to [12] </p> <p>2.2.7 Area of Collector</p> $A_c = \frac{M_a \times C_p \times (T_o - T_a)}{0.5 \times I_c} \quad (14)$ <p>.....</p> <p>2.2.8 Determination of the base insulation thickness for the collector</p> $FM_a C_p (T_o - T_i) = \frac{A_c K_a (T_o - T_a)}{t_b} \quad (15)$ <p>.....</p> <p style="color: red;">So right down to the last point:</p> <p>2.2.25 Battery bank calculation</p> <p>Number of days' backup power required (average 24 hours' period) = 2 days Amp-hour storage (raw capacity needed) 160.5072 Amp-Hrs Depth of discharge (Assume 50%) 0.5 fraction </p> <p style="color: red;">NB:</p> <p>You do not have to do any intermediate calculations in the modeling section. For example on line [120], ERH = 881. All calculations must be done in Section 3 titled Results. You should not mix methods used and results in Section 2. So lines from [339] to [363] should be found in part 3 titled Results and Analysis.</p> <p>3. RESULTS AND ANALYSIS</p> <p>3.1 First test done (You can give another name to this subtitle)</p> <p>We must return the lines from [339] to [363] in this part</p> </p>	
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	<p>3.2 Machine testing 3.2.1 Variation of Drying Parameters with Weather Condition at no-load </p> <p>3.2.2 Variation of Drying Parameters with Weather Condition at load. </p> <p>4. Conclusion </p> <p>Why did not you talk about the economic cost of the solar dryer in the article? Is the dryer accessible to the public?</p>	
<p>Minor REVISION comments</p>		
<p>Optional/General comments</p>	<p>What is the method used? Present your results followed by their comments.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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