Electronic Based Solar Dryer

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doi: https://doi.org/10.21467/proceedings.118.29

ABSTRACT

Drought of fruits and vegetables is a promising food processing technology that increases shelf life of products for almost a year. It is a value of process that can save the losses of seasonal agriculture products. The Solar dryers can be used to carry food dehydration without on electricity. India is most of agriculture-dependent country. Fruits and vegetables are an basically part of human diet providing micronutrients, vitamins, enzymes, and minerals. Most fruits and vegetables it content moisture and water activity. This makes it is vulnerable to bug and other spoilages due to biochemical reactional, such as enzymatic activity, respiration, and senescence. Then, preventive measures are taken to lower water activity; drying or dehydration is we such one method. Drying is a process of mostly used removal of water from the food to in biochemical processes and microbial growth. Drying increases the service life of the product, so that it can be available during off season

Keywords: Soar Panel Aurdino UNO Temperature Sensor, Humidity Sensor, LDR

1 Introduction

Our project "Electronics Based Solar Dryer System for Agriculture Good's" where we will try to reduce wastage of time as well as maintain quality. The solar dryer used to dry plants, seeds, fruits, meat, wood, and other agricultural products as a means of preservation in most part of India because of solar illuminate. yet, for large-scale production the restritations of open-air drying are well known. To overcome the restritations of sun-drying, solar drying technique is used in our project. solar energy which is widely available source of renewable energy but in different setup.

It is special process and definite different from conventional or natural drying. The natural drying process has many disadvantages, such as requiring more time, large investment on space requirement and infrastructure for drying process, which cannot be afforded by a middle-class farmer. The financial up stage of a farmer in developed countries is possible by providing him the modern, automatic and low-cost fruit drying unit. This reports controlled environment which is suitable for small scale fruit drying process with a closed assembly room, using Microcontroller (89s52). To start with, the unseeable light is used to internally heat the fruit to remove the water content within the fruit. Then the air is straw inside the chamber to maintain the humidity below a specified level and exhaust the humid air out of the chamber. Microcontroller is used to heating, the air and give time indicates & maintain constant throughout the particular close area. After the completion of the drying process a buzzer is activated for the duration of ten seconds to indicate into the drying process. A text message is also sent to the farmer through GSM to intimate go. The expectation by consuming less time compare to standard drying process. Solar panel is used to control to all panal.

Proceedings DOI: 10.21467/proceedings.118; Series: AIJR Proceedings; ISSN: 2582-3922; ISBN: 978-81-947843-6-4

2 Literature Survey

Solar Power Automatic Fruit Drying System it is small-scale fruit drying system we can used. Solar dryer useful to dry different types of fruit. To make their usage efficient, they can be dried and undefiled so that fruits can be used over a long period. conserve fruits by drying is an important.

3 System overview

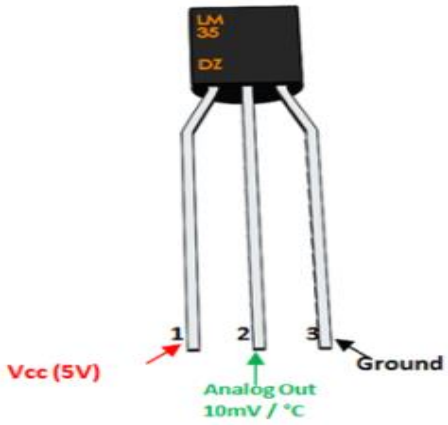
To overcome the limitation of sun drying, solar drying technique came in to alive. Solar drying also make use of solar energy which is widely available source of renewable energy but in a different setup. The objective of a dryer is to supply the product with more heat than is available under depend climate condition. hot air can hold more moisture than cold air, so the amount required depends on the temperature to which it is heated in the collector.

3.1 Solar Panel

A solar dryer is an application of solar energy we used extremely in the food and use agricultural area is main function of project. In method sun heat used as the direct source for drying food items and clothes in certain parts.

Solar dryers require a definite investment for the set-up of the appliances, but no expenditures for the fuel. which facilitates most of humidity from crops are inside a drying chamber. Ventilation is constant rate defined air outlet and inlets off the dryer unit, small solar ventilators or temperature difference, either due to exposition or vertical length. In direct sun driers can food is put in boxes with a crystalline lid system.

3.2 LM 35



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Series: AIJR Proceedings
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The LM35 series are accuracy joined circuit its temperature sensors, which can output voltage is linearly proportional to the kelvin temperature are show in fig. The LM35 is main advantage over linear temperature device can sense and measure to the temperature at particular area.

3.3 Humidity Sensor

A humidity sensor senses, measure of the humidity in the air. It is measures both moisture and air temperature are main function. Relative humidity is the ratio of actual moisture in the air to the highest stage of moisture that can be held at that air temperature. Convert humidity in to electric form. The purpose of ADC 0808 for 5 voltages is 20mV.

3.4 16x2 LCD Display

Liquid Crystal Display screen is an electronic display module an its applications. A 16x2 LCD display is basically used in various devices and circuits. A 16x2 LCD screen will be show display 16 characters per line and there are 2 such part.

4 Conclusion

Solar drying unit it gives better performance in terms of drying low rate compared to other conventional method. it is better as compared to conventional method of quality fruit dryer. As solar panel is used for it do not produced pollution. Also, the maintenance cost is less.

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