

Solar Powered Automatic Fruit Drying System

Prof. Y.V. Borhade¹, Mr. Pawar Siddesh², Mr. Satpute Akshay³, Mr. Jadhav Pranav⁴, Mr. Pawase Rutik⁵

Professor, Department of Electronics and Telecommunication Engineering¹

Students, Department of Electronics and Telecommunication Engineering^{2,3,4,5}

Amrutvahini polytechnic, Sangamner, Maharashtra, India

Abstract: *Solar Powered Automatic Fruit Drying System is a small-scale fruit drying machine which is useful to dry different types of fruit. To make their usage efficient, they can be dried and preserved so that fruits can be used over a long period. Infrared radiation can be used for grape drying purpose. It is unique process and distinctly different from conventional or natural drying. The natural drying process has many drawbacks, such as requiring more time, large investment on space requirement and infrastructure for drying process, which cannot be afforded by a middleclass farmer. The financial up gradation of a farmer in developed countries is possible by providing him the modern, automatic and low-cost fruit drying unit. This paper describes a controlled environment which is suitable for small scale fruit drying process within a closed chamber, using Microcontroller.*

Keywords: Drying System, Microcontroller, Automation, Temp & Humidity Sensor, Solar Power

REFERENCES

- [1]. Mark Angelo, John Daniel, Sheila Kathryn, "Solar Powered Paddy Grain Humidifier Dryer", IEEE, region 10 conference (TENCON).
- [2]. Mr. Patil Kiran, Ms. Swami Sonam, Ms. Thorat Ashwini, Ms. Mane Pratidnya, "Solar Powered Automatic Fruit Drying System", International Journal of Advanced Research in Electronics and Communication Engineering, volume 5, Issue 3, March 2016\
- [3]. Jyoti Singh, Pankaj Varma, "Fabrication of Hybrid Solar Dryer", International Journal of Scientific and Research Publications, volume 5, Issue 6, June 2015.
- [4]. ing-min Wang and Ming-ta Yang "Design a Small Control Strategy to Implement an Intelligent Energy Safety and Management System", International Journal of Distributed Sensor Networks, Volume 2014, article ID 312392.
- [5]. Anupam Tiwari, "A Review on Solar Drying of Agricultural Produce", Journal of Food Processing and Technology, J Food process techno 2016. [6] "Solar Garden Light", Electronics for You, May 2017.
- [6]. Sun, Q.; Liu, J.; Rong, X.; Zhang, M.; Song, X.; Bie, Z.; Ni, Z. Charging load forecasting of electric vehicle charging station based on support vector regression. In Proceedings of the 2016
- [7]. IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC),
- [8]. Sharma, Colangelo, & Spagna.,1995. Experimental Investigation of Different Solar Dryer suitable for Fruit and Vegetable. Renewable Energy, Vol. 6, No. 4, 413 -424.
- [9]. Cigdem, T., Tiris, M., &Dincer, I., 1996. Experiment on a new small scale solar dryer. Applied Thermal Energy, 119-129.
- [10]. Schirmer, Janjai, S., Esper, A., Smitabhindu, R., &Muhlabauer, W., 1996. Experimental investigation of the performance of the solar tunnel dryer for drying bananas. Renewable Energy, 119-129
- [11]. Hawlader, M., 2003. Solar Drying . Drying Technologies Workshop, 1-12.
- [12]. Hassanain, A., 2009. Simple Solar Drying System for Banana Fruit. World Journal of Agricultural Sciences 5, 446-455.