

# Drying Of Vanilla Pods Using A Greenhouse Effect Solar Dryer

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## Abstract

This paper describes the basic design of the GHE solar dryer and evaluates the performance of the dryer when used to dry vanilla pods. From laboratory test results it was indicated that the average drying time for vanilla pods was between 49 to 53, 5 hrs, for the case of heating augmentation using coal briquette stoves. The total amount of coal briquettes used to produce drying air temperature between 33 C to 65 C and RH of about 34% during day time was 61 kg equivalent to 6.1 kW heating rate and the average electric energy usage of 36.5 kWh, respectively. Quality test results indicated that the dried products were of grade IA of the export quality standard with vaniline content of 2.36%.

**Keywords:** Solar energy; green-house-effect; vanilla pods; coal briquette stove; break even analysis