

Effectiveness the drying time and kinetic of seaweed kappaphycus alvarezii var. tambalang in green v-roof hybrid solar drier

Abstract

The solar drying experiment of seaweed using Green V-Roof Hybrid Solar Drier (GVRHSD) was conducted in Semporna, Sabah under the metrological condition in Malaysia. Drying of sample seaweed in GVRHSD reduced the moisture content from about 90.50% to 38% in 4 days at average solar radiation of about 600W/m² and mass flow rate about 0.05 kg/s. The drying kinetics were fitted with ten published exponential model thin layer drying models. The models were fitted using the coefficient of determination (R²), and root mean square error (RMSE). The modeling of models using raw data be tested with the possible of exponential drying method. The result showed that the model from modified Page was found to the best model for describe the drying behavior. The R² and RSME values for the best model was 0.9989 and 0.0497 respectively.