

A review of solar drying technology for agricultural produce

ABSTRACT

Agriculture contributes to large export earnings for many countries and provides food all over the world. However, most agricultural products need some post-harvest processing, such as drying, to extend their shelf life while still maintaining their respective nutrient quality. One popular post-harvest processing method is drying using solar energy. It is a type of renewable energy that is abundant and free. Conventional dryers use grid electricity and can be expensive to operate. Consequently, there is a growing need for cost-effective solar-powered agricultural dryers that is reasonable for smaller-scale farmers. Although current solar dryers are still not on par with modern electricity-powered dryers, solar dryers have lower running costs and are sustainable and able to generate electricity. They can also be used practically anywhere with abundant solar energy. As numerous solar drying technologies have been proposed over the past decade, it is necessary to assess the current state of solar drying technology in the agricultural sector to identify current advancements and potential research gaps. In this paper, a review of existing solar dryers mechanism and the state of the art of solar drying technology research for agricultural products is presented.