Towards Sustainable Agriculture th rough Solar drying Technologies

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Abstract

Alternative sustainable technologies can help farmers to improve their well-being through higher agricultural productivity. Among different operations in the agro industry, post harvest operations play a major role in every produce. One of the major concerns in post harvest processes is losses due to various practices especially in the perishable food sector which is around 40% in Sri Lanka. One of major operation is drying of agro/food materials before consumption. Presently open sun drying or dryers fired with imported oil are in use. There are several concerns about these methods due to accumulation of impurities and contribution to global warming as well. One of the alternative methods is to use solar energy for this operation. It can be utilized efficiently and effectively as a renewable energy source to preserve the food products during drying process.

Different products can be dried using a solar drier with appropriate design parameters. Solar driers eliminates the dust and dirt, prevent destroying of the heat-sensitive vitamins by UV rays, can achieve uniform drying conditions with design modifications, vaporizing the volatile compounds of the products and does not contribute to the green house gas emission.

National and international market demand for the solar dried food products can be generated and farmers have opportunity to get more attractive income from their products. It makes a significant contribution to reducing poverty and improving rural livelihood will achieve sustainability, by building the capacity of the farmers and their communities.

Keywords: Solar Energy, Sustainability, Post Harvest Losses, Poverty Reduction