

Passive Solar Drying of Loquat (*Eriobotrya japonica*) Fruit Slices

ABSTRACT

A passive solar dryer was used to study the drying options of loquat fruit slices (*Eriobotrya Japonica*), El-Sukary variety. The experimental work was carried out during May 2009 at El-Banger district, which located at the west of Alexandria, Alexandria, Egypt. The unpeeled loquat fruits were cut into flat slab to the required thicknesses that were 3, 5, and 7 mm depending on each required experiments. The moisture loss rates from loquat slices (3, 5 and 7 mm) were about 0.25, 0.32 and 0.42 g/hr, respectively. The results appeared that the solar intensity, drying temperature and sample thicknesses were the major variables affecting the drying rate. For evaluating the solar collector efficiency, the heat balance of solar collector was applied. The maximum result of solar collector efficiency was about 52%.

Keywords: passive, solar drying, loquat fruit, efficiency, chimney, drying chamber.
