

Title A Comparison of Dryer Types used for Tea Drying
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Abstract

The objective of this work was to determine how various types of tea dryer would perform with different levels of inputs. Three dryer types were commonly found in practice, two others are not generally used and one type is unknown in practice. Simulation models for each type were constructed from a thin-layer drying model. The information gained from the simulations showed which type of dryer was more efficient at heat and air utilization. Graphs of the moisture content of the product discharged from the dryer show which variables need to be controlled most tightly in practice, and which variables might be successfully manipulated by a control system. This study has implications not only for the control of various dryer types, but for the physical design of the dryers. The multi-stage fluid bed dryer with re-circulation is found to have the best combination of characteristics, and is the type increasingly used in industry.