

## EVALUATION OF THE IPHT SMALL SCALE CROP DRYER

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Encouragement of rural level farm production, manufacture of value added products from fruits and vegetables and improvement of the quality of products are important to increase the income of the rural farming sector. In order to achieve these objectives, development of low cost dryers to manufacture value added agricultural products at rural level become necessary. A small scale flat bed crop dryer has been introduced by the Institute of Post Harvest Technology (IPHT), Anuradhapura, in view of enhancement of the quality of dehydrated products to improve the rural farm production. Small scale crop dryer is simple both in construction, operation. The construction cost is nearly LKR 25,000. It uses paddy husk as the fuel, for its heat generation. Evaluation of the dryer is important to reduce the drying losses and optimize the utilization. In this study, the dryer was tested for its capacity, optimum operational condition, drying efficiency, constructional cost, processing cost and product quality using 'Ash plantain' as the raw material.

The results showed that the capacity is 3kg of ash plantain per batch. Processing cost per 1kg of ash plantain was LKR 2.73. Under optimum

operational condition, the drying time taken to reduce the moisture of ash plantain from 83.99% to 11.22% (dry basis) was four hours. The consumption of paddy husk per batch was 5kg and average feeding rate of the furnace was 1.25kg of husk/hr. The overall drying efficiency, fuel consumption efficiency and the drying rate of the dryer were 24%, 16% and 18.19%/hr (dry basis) respectively. The quality of the dried product was determined by analyzing dehydration ratio, water activity and sensory evaluation according to the overall results, the dryer better performed for drying of ash plantain. It can be introduced for other crops to domestic level food processors, but with further modifications. The findings of this study will be contributed for further development of an efficient small scale crop dryer.

*Key words:* Drying, Paddy husk, Furnace, Ash plantain