Entry No. IRRC-0101

Category	: International Rice Research Conference
Select Theme	: Disruptive technologies and innovations
Endorsement email	:
Keyword 1	: Knowledge intensive agriculture
Keyword 2	: Innovation systems
Keyword 3	: Precision agriculture
Title of Entry	: Study and Determination of Optimal Fluidized-bed Drying Conditions for Indica Paddy Rice Variety of IR50404
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: “Two-stage drying” with fluidized-bed drying in the first stage and continued by normally final drying stage at 42-43oC to reduce moisture content (MC) of paddy rice to 14%wb before milling has been known as a good method to reduce post-harvest losses and drying cost. Aim of this study was to determine optimal drying conditions in the first stage to minimize broken rate for the Indica long grain rice variety IR50404. The paddy rice was harvested at MC of 30%wb from the Mekong delta in September 2016. 64 paddy samples of 800g were cleaned and taken out randomly before drying. The first stage drying was carried out with 3 independent controlled factors at 5 levels being drying air temperature (50-80oC), drying air velocity (2.5-5.5m.s-1) and drying time (1.5-4.5 mins) using a fluidized-bed drying apparatus of 800g.batch-1. Then, all the samples including the controls were dried at 42oC in an oven to a final MC of 14%wb. The samples were milled for determination of broken rates. Results indicated that optimal drying conditions were 65oC, 4 m.s-1 and 3 mins. Under these conditions; MC of the paddy after drying was 21%wb and broken rate was 12% compared with the control of 10.5% of the paddy sample weight. Read Less»

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