



**RESEARCH ARTICLE :**

## Study on inter-granular temperature and grain moisture changes during deep bed drying of high moisture paddy

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**SUMMARY :** Grain moisture and temperature changes during drying of high moisture paddy in pilot scale deep bed drying bin was studied. Drying trial was conducted at inlet air temperature: 40°C and air flow rate: 0.4 m<sup>3</sup> s<sup>-1</sup> m<sup>-2</sup> in 90 cm deep cylindrical drying bin. Varying ambient temperature caused the fluctuation of bed temperatures in bottom, middle and top layer of the bin. High values of air relative humidities in drying bin were observed throughout the drying trial. Moisture differential between bottom and top layer was 5% at end of drying experiment. Paddy in bottom layer dried faster than middle and top layer of the bin. These findings are important in view point of formulating the operating strategies for blower, selection of air flow rate and depth of grains in drying bed to achieve the uniform drying in deep bed dryer.

**KEY WORDS :**

High moisture paddy,  
Drying bin, Deep bed,  
Temperature,  
Moisture

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