

## **Abstract**

This analysis of the drying process is based on experiments and simulations of the influence of temperature in the fluidised-bed dryer, moisture content and tempering period on head-rice yield, and operating time. A mathematical model incorporating the head-rice yield equation for predictions of the moisture content and the grain temperature in each drying stage and the final head-rice yield, is in good agreement with experimental data. The moisture content after first-stage drying and tempering have a dominant effect on head-rice yield and operating time in reducing high-moisture contents to a safe level. The simulation results recommend that the allowable temperature should be not higher than 150 °C for the first stage and the moisture content after first-stage drying should be not lower than 22.5% dry basis, with subsequent tempering for at least 25 min.