Slumping-rolling behavior and experimental study of lower and upper angles of repose of wheat seeds in rotary drums

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In this study, a new method is introduced to determine the angle of repose of the agricultural products. It is based on the motion of the materials in a rotary drum. There are different forms of the motion of the materials in rotary drum. Among the various modes of the motion, the slumping and rolling mode have been frequently investigated due to their importance in industrial operations, for example in rotary kilns. In this study the lower and upper angles of repose of wheat seeds was experimentally investigated in rotating drums at the slumping and rolling modes
The tests were conducted at different level of rotational speedand moisture content to determine the lower and upper angles of repose of the wheat seeds.
There was a significant correlation between the upper and lower angle of repose with all the two independent variables.