Title	Non-destructive measurement of moisture pattern using MRI in a wheat kernel during drying
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Abstract

Three-dimensional (3D) spin-echo magnetic resonance imaging (MRI) was used to study the moisture pattern in single wheat kernels during drying. Drying was performed at temperatures of 40 and 50°C using heated N_2 gas with a velocity of 0.23 m/s. Individual wheat kernels of 20-64% wet mass basis moisture content were dried to study the moisture movement inside the kernel during drying. MR images were recorded at equal time intervals and moisture patterns were analyzed from the MR images of wheat kernels. Analysis of the images revealed that moisture loss from the seed parts differed significantly during drying. Influence of grain parts on the moisture distribution was also studied using mechanically scarified kernels and germ-cut kernels.