

## Determination of bread crumb porosity using statistical analysis of surface pattern

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Porosity is one of the most important parameters of bread crumb. The standard procedure for determination of this property is time consuming and requires special sample preparation. The objective of the presented work was to develop objective and reliable methods suitable for determining characteristics of the bread crumb with respect to the porosity. Pictures of 0.11 mm/pixel resolution were acquired with a Hitachi HV-C20 3CCD camera using both diffusive illumination and light transmission. First order and derivative statistical parameters were compared. Relationship was determined between extracted visual information and porosity. In case of light transmission, slice width strongly influenced the results, therefore correction was necessary. The measured results show that these methods might be suitable for measuring porosity characteristics of bread crumb.