

Application Data

Examining ingredient effects

Description

A wide range of ingredients offer “positive benefits” for product quality when added to flour. You can obtain objective information on the effects of individual ingredients and combinations which may be used to design composite improvers.

Data

C-Cell measures up to 48 different parameters and different combinations of these will provide the data required to quantify the improvements expected with different formulations.

Depending on the specific ingredients added product improvement can normally be quantified by as few as 5 - 8 parameters, for example:

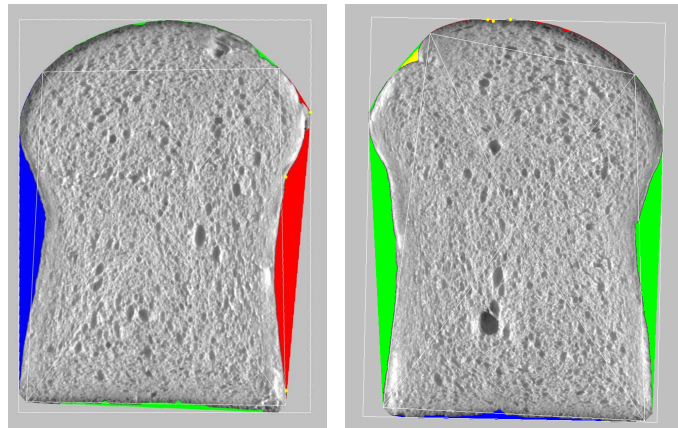
Slice Area	Number of cells
Height	Cell diameter
Brightness	Cell wall thickness
Concavity	

Images

The processed images provide valuable visual information about the quality parameters

Example of comparison of two IMPROVER FORMULATIONS

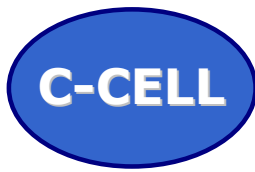
Shape: This type of image shows a view of the slice with particular shape features shown in colour. Concavities in the sides of the slice are shown in blue for the bottom, green for the sides and red for the top. Where oven spring is detected, this is shown in yellow. The points used for measuring the slice height are marked as yellow points on the top edge. High points are identified at either side of the top edge and the lowest point between them is also marked.



Slice Area (mm²)
Maximum height (mm)
Side wall concavity
(left and right) (%)

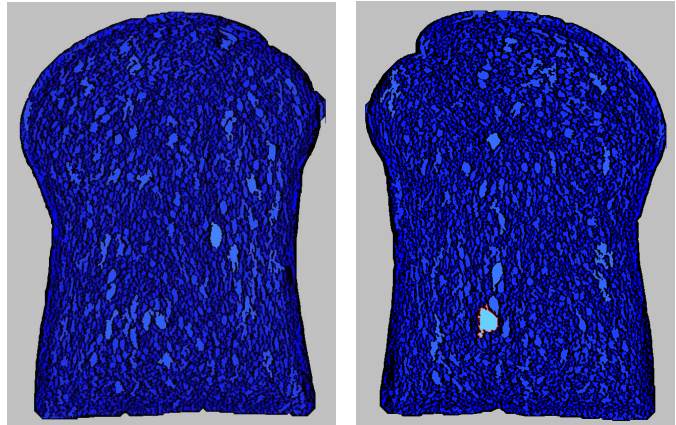
7800
111.8
7.9

7966
113.3
6.92



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Cell Image: This demonstrates the variation in cell sizes and locates any anomalies (holes) or features. The individual cells within the product slice are identified and colour coded according to its prominence. Small cells are coloured in dark blue and larger ones are shown in lighter shades of blue, green and yellow. Cells large enough to be classified as holes are outlined in red. This provides an excellent overview of cells and features.

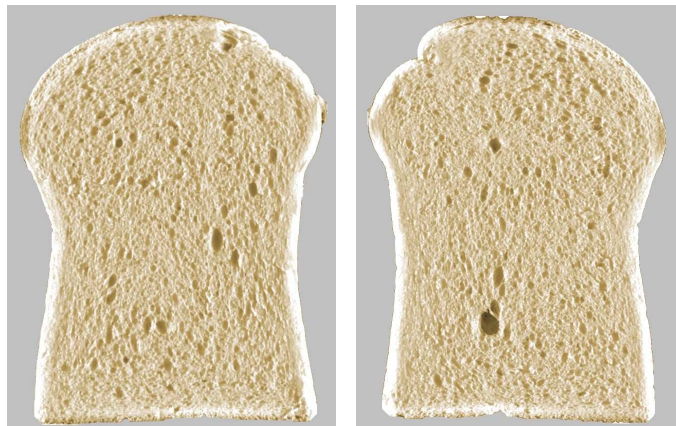


Number of cells
Average cell diameter (mm)
Average cell wall thickness (mm)

6475
1.50
0.39

7063
1.40
0.39

Slice brightness: Brightness is an indication of light reflectance by a product slice in a similar manner to that seen by a human observer. The brightness value will be lower for products with a darker crumb and for products with larger diameter or deeper cells.



Slice brightness

160.5

168.7

More information is available from:

CALIBRE CONTROL INTERNATIONAL LTD

5/6 ASHER COURT, LYNCastle WAY, APPLETON, WARRINGTON WA4 4ST, UK

T:+44 1925 860401 F:+44 1925 860402 E-mail: info@calibrecontrol.com

www.calibrecontrol.com

www.c-cell.info

