

FoodPicture



....from picture to quality

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Overview

- **Description of the FoodPicture method**
- 2. Results from measurements on coded wheat and carrot samples**
 - 3. Validation results**
 - 4. Conclusions**

Validation of the FoodPicture method

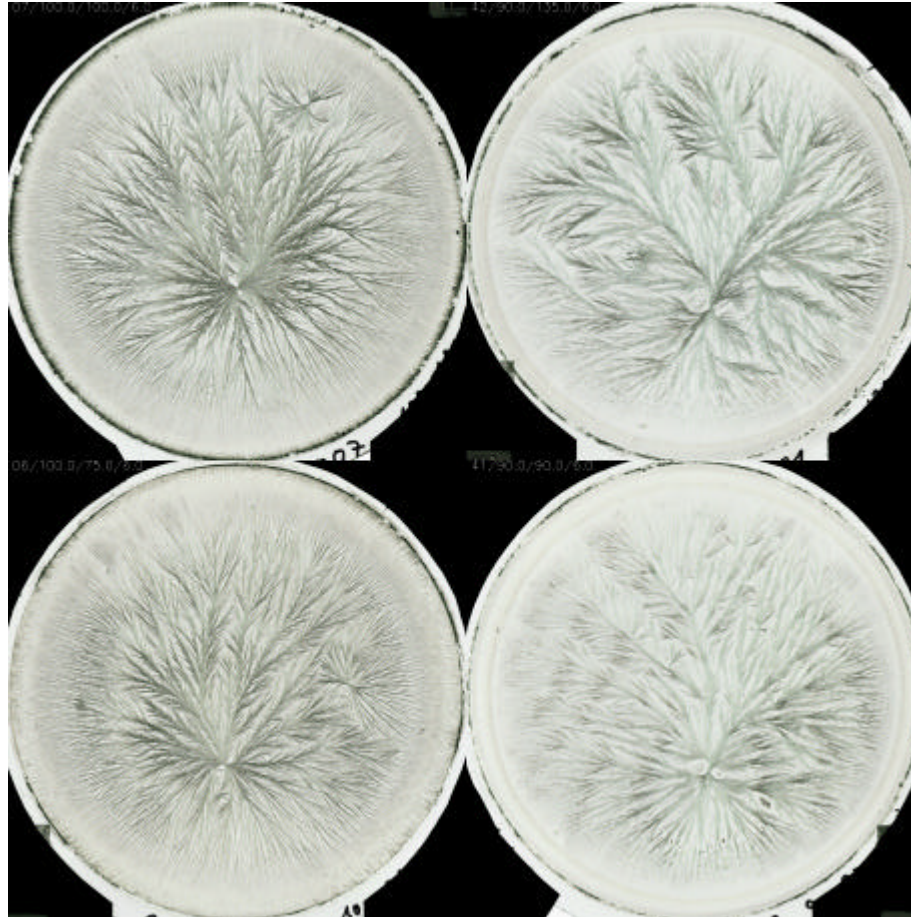
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2. Description of the FoodPicture method

Carrot

100mg substance
100mg CuCl₂

100mg substance
75mg CuCl₂



Wheat

90mg substance
135mg CuCl₂

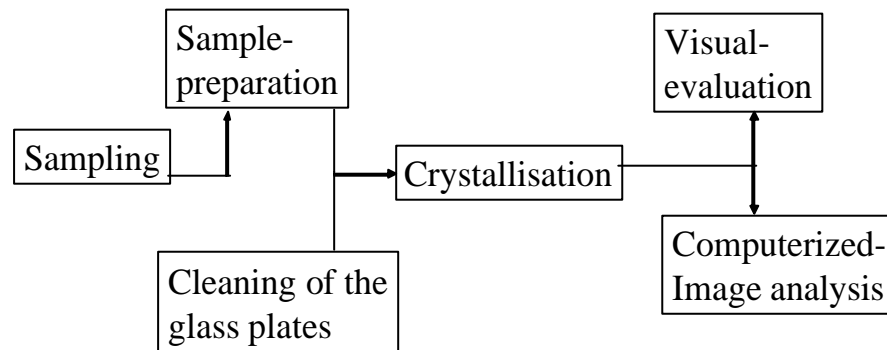
90mg substance
90mg CuCl₂

Validation of the FoodPicture method

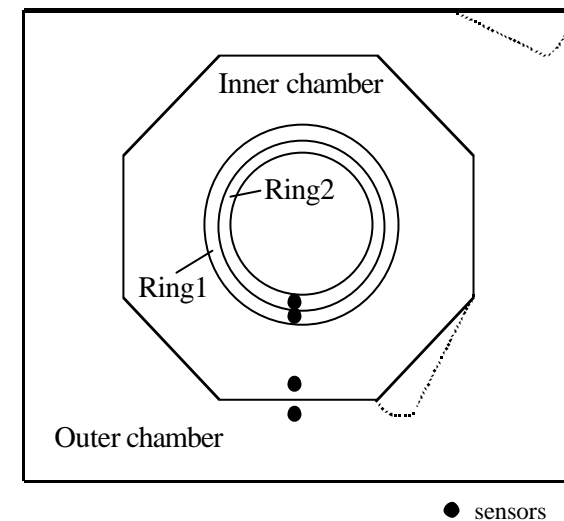
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2. Description of the FoodPicture method

Procedure



Crystallisation chamber



2. Description of the FoodPicture method

Evaluation: different approaches

Methodological approach for the evaluation of the patterns

Visual evaluation

Description according to morphological criteria

**(method adapted from ISO 11035:1994 and
developed in the triangle)**

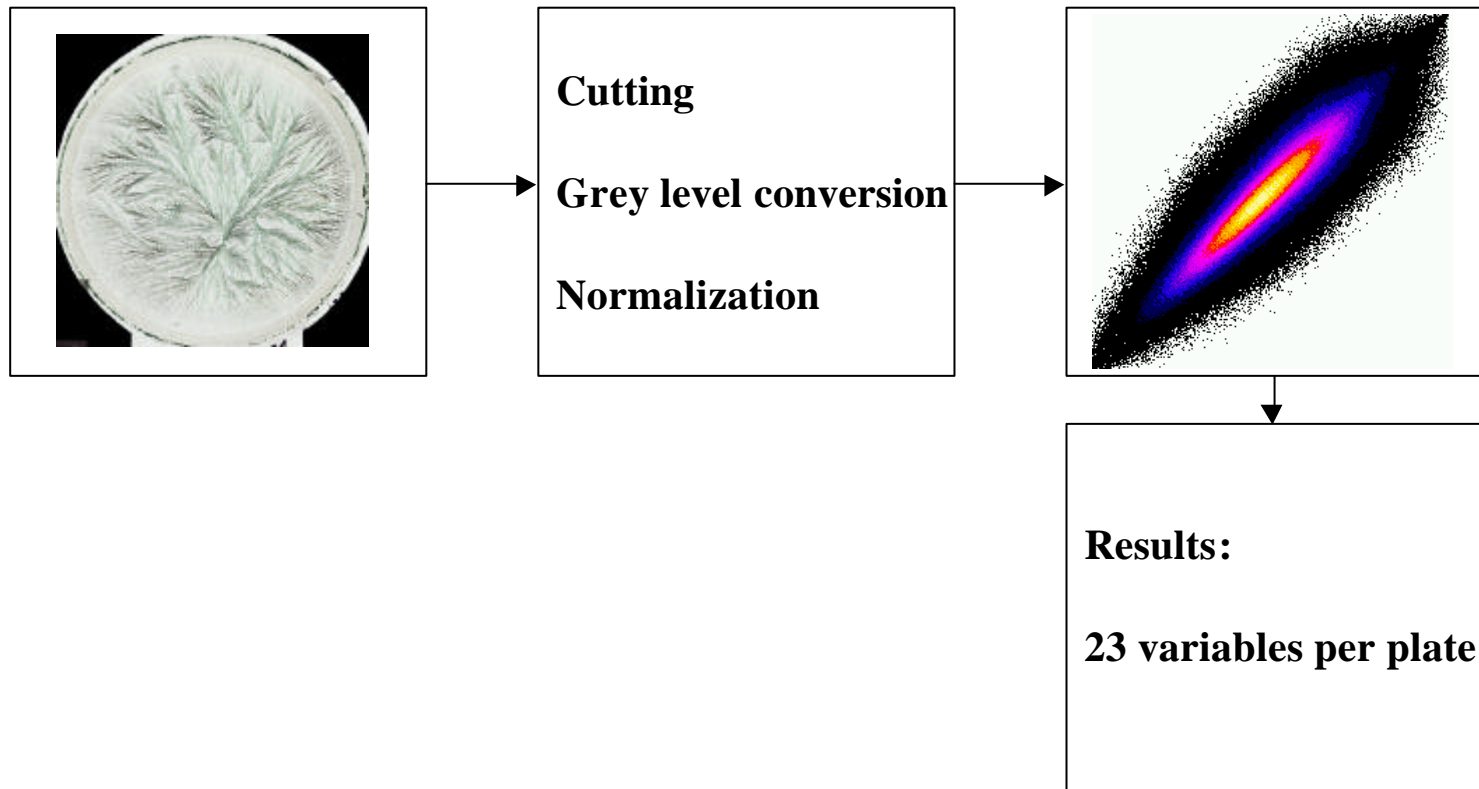
Computer based image analysis

Texture analysis (grey level distribution and GLCM)

Structure analysis

2. Description of the FoodPicture method

Evaluation: texture analysis

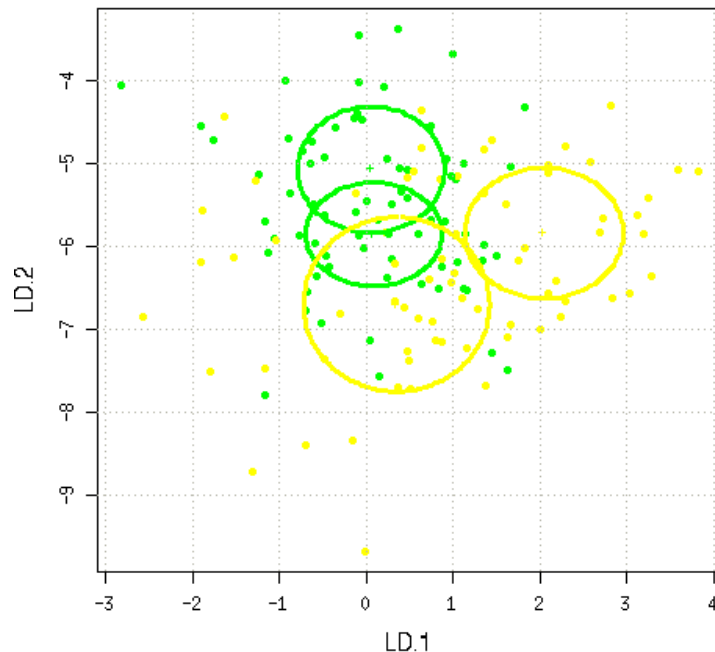


Validation of the FoodPicture method

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3. Results from measurements on coded samples

Carrots: Different varieties, harvest 2003, measurements fall 2003



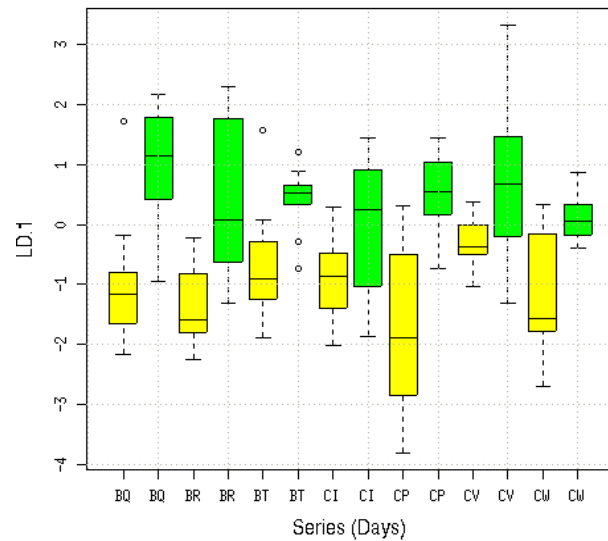
**LD2 against LD1 for all
4 FIBL-samples harvest 2003**

**(after decoding: yellow = hybrids,
green = open pollinating)**

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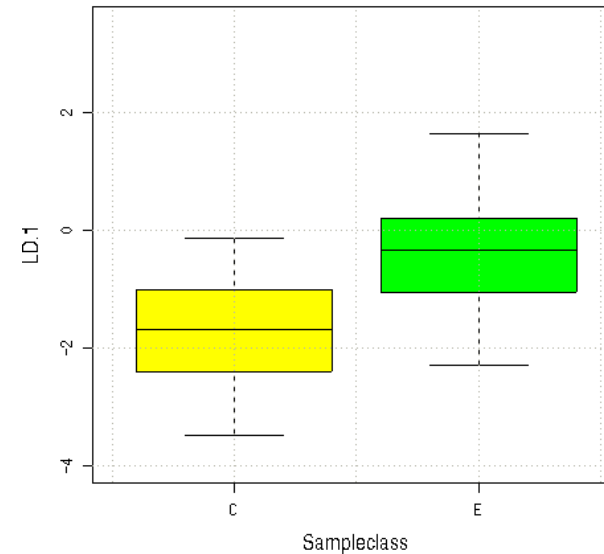
4. Validation results

Renroducihity and Reneatability I



Wheat DOC samples from harvest 2002
measured with 2 chambers parallel
on coded samples on 7 days

LD1-value for wheat (conventional = yellow and organic = green)



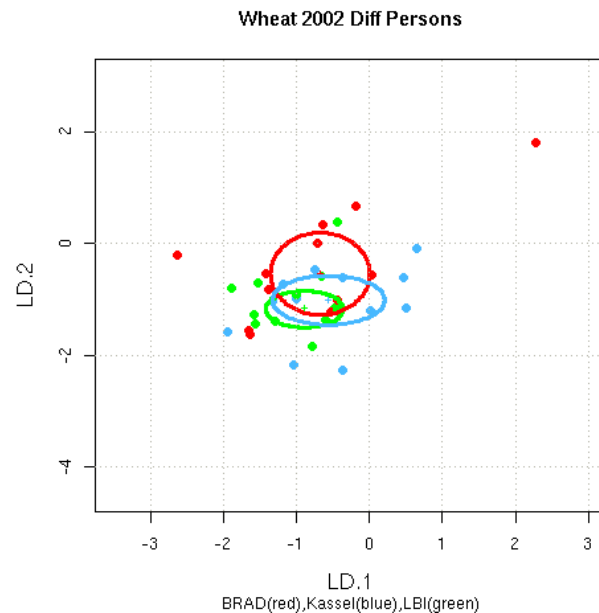
Wheat DOC samples from harvest 2002
measured with repeated sample preparation (6)
and repeated crystallisation (6) in 2 chambers

Validation of the FoodPicture method

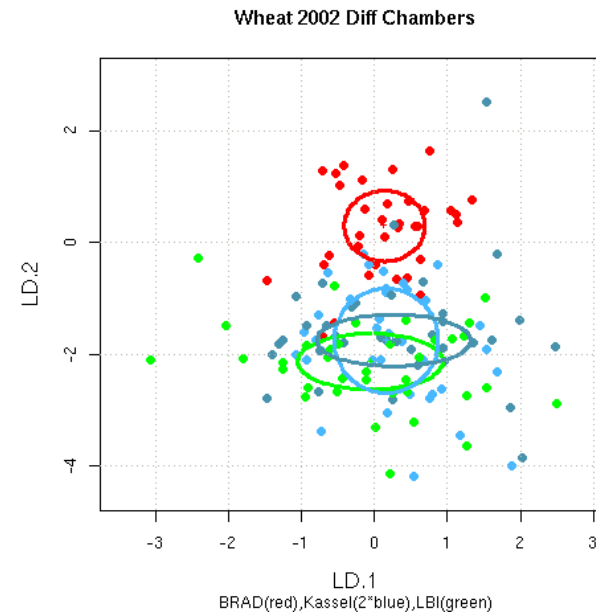
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4. Validation results

Reproducibility and Repeatability II



LD1-value for 1 wheat sample (2002)
3 different people, trained, in 1 chamber
in Kassel (Ks = blue, LBI = green, BRAD = red)



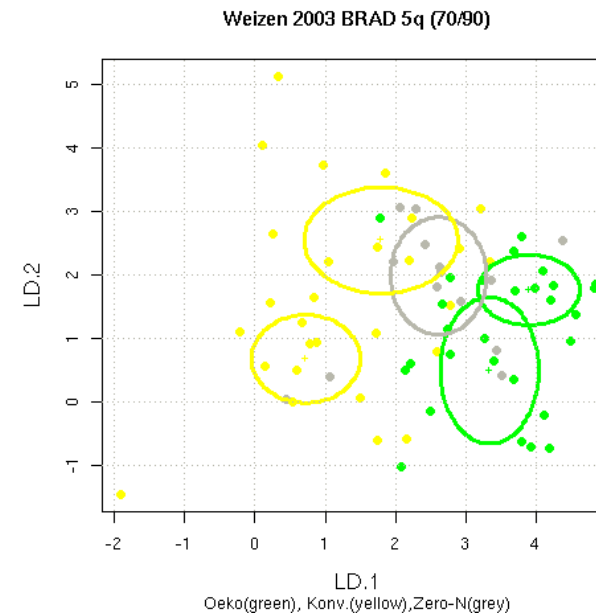
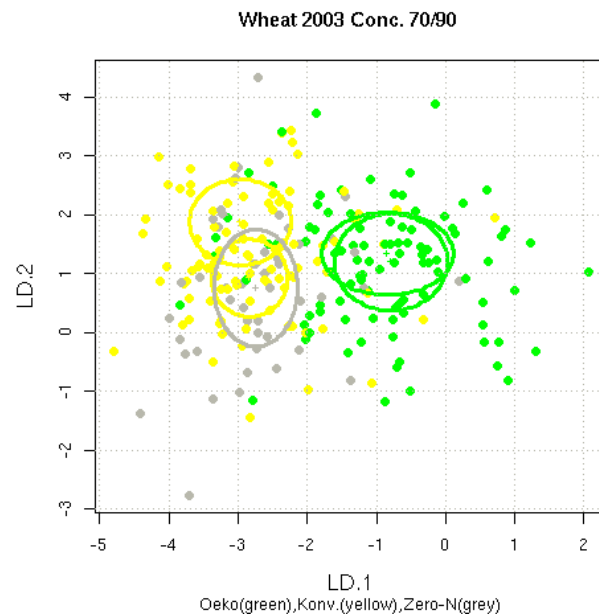
LD1 value for 1 wheat sample (2002)
4 chambers in 3 laboratories, 3 different
people

Validation of the FoodPicture method

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4. Validation results

Reproducibility and Repeatability III



LD2 against LD1 , 5 DOC samples (2003)

measured in 2 chambers in Kassel

measured in Denmark (BRAD)

Grey = control, yellow = conventional, green = organic

5. Conclusions

- **The FoodPicture method including texture analysis can be documented as a laboratory procedure**
- **The 5 wheat DOC-samples can be grouped in control, conventional and organic in a 2 year repetition**
- **The 4 variety carrot-samples can be grouped in hybrid versus open pollinating**
- **The FoodPicture method can be validated according to ISO 17025**

Validation of the FoodPicture method

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Acknowledgements

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Thank you for your attention