

## The ICC Handbook of Cereals, Flour, Dough & Product Testing: Methods and Applications

**Description:** This volume is a comprehensive introduction to the techniques and information required for the testing and analysis of cereals throughout the entire grain chain, from breeding through harvesting and storage to processing and the manufacture of cereal-based food products. The book describes testing protocols in detail, offering many practical pointers for testing in fields, food plants, and in stores. It shows how data from the tests are acquired, interpreted, and linked to a range of global testing standards. The book covers wheat, barley, sorghum and other non-wheat cereals and a wide range of baked products, including breads, extruded products, and animal feeds. A final section introduces the entire spectrum of analytical devices for grain analysis from all major international equipment manufacturers.

This is a practical and comprehensive reference designed for specialists responsible for ensuring the safety of, and adding value to, cereals, including cereal scientists, technologists, and producers.

Key Words include: Baking, Cereals, Wheat, Maize, Barley, Flours, Grain Chain, Testing, Milling, Bread. Organic. Spelt. Animal Feeds. Malted Wheat. Fermented Products. Pastries. Pasta. Food Extrusion.

Features:

- Required testing for the safety and quality of cereal-based foods
- Explains test methods for each step of the grain chain
- Covers a wide range of foods, baked products and animal feeds
- Shows best testing practices and new protocols

**Contents:** Acknowledgments

### 1. Introduction

STANLEY P. CAUVAIN and LINDA S. YOUNG

- The International Association for Cereal Science and Technology (ICC)
- The Reliability of Measurements
- Further Information on Testing and Standards
- References

### 2. The Application of Testing Methods in Cereals Breeding Programs

L. O'BRIEN and R. L. CRACKNELL

- Introduction
- Breeding Behaviour and Its Influence on Application of Testing Methods
- Factors Influencing Application of Testing Methods
- Importance of Experimental Design
- General Requirements of Early Generation Cereal Testing Methods
- Converting Grain to Flour, Wholemeal or Grits
- Tests on Flour and Wholemeal
- Wheat
- Barley
- Testing for Malting Quality
- Maize (Corn)
- Useful Web Sites
- References

### 3. Testing Cereals in the Field and at the Store and Its Relevance to End-Product Performance

R. H. WILLIAMS, S. C. W. HOOK and G. J. JELLIS

- Introduction
- Sulphur
- Nitrogen
- Orange Wheat Blossom Midge
- Fusarium Mycotoxins
- Amylase/Germination Testing
- Moisture Determination
- Storage Insects and Mites
- Mycotoxin Testing (Out-Loading)
- Grain Condition Post Harvest (In-Store)
- Conclusion
- References

#### 4. Using Cereal Testing at Mill Intake

STANLEY P. CAUVAIN

- Introduction
- Grains Testing at Intake
- Testing Single Grain Varieties
- Testing Agreed Specifications
- The Test Milling of Grains
- Organic, Spelt and Other Ancient Grains
- Durum Wheat
- Conclusion
- References

#### 5. Applications of Testing Methods in Flour Mills

STANLEY P. CAUVAIN

- Introduction
- An Outline of Grain Milling Processes
- Testing Wheat Flour Milling Stocks During Production
- Checking the Final Flour
- Testing Wholemeal Wheat Flours
- The Modification of Wheat Flour
- Monitoring Additions to and Fortification of Wheat Flours
- Analyzing Animal Feeds
- Malted Wheat and Barley Products for Foods
- References

#### 6. The Relevance of Testing to the Manufacture of Bread and Fermented Products

STANLEY P. CAUVAIN

- Introduction
- A Synopsis of Breadmaking Processes
- Dough Processing from Divider to Prover
- Expansion in the Prover and Structure Setting in the Oven
- The Relationship Between Flour Properties and Bread Quality
- Testing Rye Flours
- Test Baking
- Bread Flour Specifications
- Assessing Bread and Fermented Product Quality
- References

#### 7. The Relevance of Testing to the Manufacture of Biscuits (Cookies), Cakes and Pastries

STANLEY P. CAUVAIN

- Introduction
- A Synopsis of Biscuit (Cookie) Making Processes
- The Relationship Between Flour Properties and Biscuit (Cookie) Quality
- Biscuit (Cookie) Flour Specifications
- Assessing Biscuit (Cookie) Quality
- A Synopsis of Cake Making Processes
- The Relationship Between Flour Properties and Cake Quality
- Cake Flour Specifications
- Assessing Cake Quality
- A Synopsis of Pastry Making Processes
- The Relationship Between Flour Properties and Pastry Quality
- Pastry Flour Specifications
- Assessing Pastry Quality
- Test Baking for Biscuits, Cookies, Cakes and Pastries
- References

## 8. Cereal Testing in the Manufacture of Extruded Products

ROBIN C.E. GUY

- Manufacture of Foods Using Extrusion Cooking Technologies
- Raw Materials Used to Manufacture Extruded Products
- Chemical Analysis
- Physical Analysis of Raw Materials
- The Assessment of Products
- Physical Methods for Assessing Products
- Chemical Analysis
- Physical Texture Analysis
- Sensory Analysis
- References

## 9. Applications for Non-Wheat Testing Methods

JOHN R.N. TAYLOR and K. GYEBI DUODU

- Introduction
- Maize
- Sorghum
- Millets
- Rice
- Oats
- References
- Useful General References

## 10. Testing for Food Safety

ROLAND ERNEST POMS

- Introduction
- Use of Mycotoxin Analyses
- Acoustic Testing for the Most Important Mycotoxins in Grain
- Rapid Testing for Food Safety in Cereals and Flour: Gluten and Food Allergens
- Methods of Analysis for Pesticide Residues in Cereal Grains
- Testing for Acrylamide
- GMO Testing Methods: Analytical Approaches, Method Validation and Sampling Strategy

## 11. Testing for Animal Feed Production

EVA MARIA BINDER, PETRA HUBMAYER and GEORG MITTERER

- Introduction
- Testing for Microbiological Contaminants in Animal Feed
- Agricultural and Other Chemicals

- Mycotoxins
- Conclusion
- References

## 12. An Overview of ICC Cereals Testing Methods

- Introduction
- ICC Standard Methods

## 13. Cereals Testing Equipment

- Introduction
- Brabender® GmbH & Co.KG
- CHOPIN Technologies®
- Elementar Analysensysteme GmbH
- FOSS Analytical AB
- Newport Scientific—A Part of the Perten Instruments Group
- Perten Instruments AB
- Sadkiewicz® Instruments
- Stable Micro Systems
- Megazyme
- R-Biopharm AG

Index

Ordering:

Order Online - <http://www.researchandmarkets.com/reports/836131/>

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,  
Guinness Centre,  
Taylors Lane,  
Dublin 8,  
Ireland.

## Fax Order Form

To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit

<http://www.researchandmarkets.com/contact/>

## Order Information

Please verify that the product information is correct.

Product Name: The ICC Handbook of Cereals, Flour, Dough & Product Testing: Methods and Applications  
Web Address: <http://www.researchandmarkets.com/reports/836131/>  
Office Code: OC8DIPJSUROWRS

## Product Format

Please select the product format and quantity you require:

**Quantity**  
Hard Copy (Hard Back):  EUR 133 + EUR 25 Shipping/Handling

\* Shipping/Handling is only charged once per order.

## Contact Information

Please enter all the information below in **BLOCK CAPITALS**

Title: Mr  Mrs  Dr  Miss  Ms  Prof

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

Email Address: \* \_\_\_\_\_

Job Title: \_\_\_\_\_

Organisation: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Postal / Zip Code: \_\_\_\_\_

Country: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

\* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)

**Payment Information**

Please indicate the payment method you would like to use by selecting the appropriate box.

- Pay by credit card:
  - American Express
  - Diners Club
  - Master Card
  - Visa

Cardholder's Name \_\_\_\_\_

Cardholder's Signature \_\_\_\_\_

Expiry Date \_\_\_\_\_ | \_\_\_\_\_

Card Number \_\_\_\_\_

CVV Number \_\_\_\_\_

Issue Date \_\_\_\_\_ | \_\_\_\_\_

(for Diners Club only)

- Pay by check:

Please post the check, accompanied by this form, to:

Research and Markets,  
Guinness Center,  
Taylors Lane,  
Dublin 8,  
Ireland.

- Pay by wire transfer:

Please transfer funds to:

Account number	833 130 83
Sort code	98-53-30
Swift code	ULSBIE2D
IBAN number	IE78ULSB98533083313083
Bank Address	Ulster Bank, 27-35 Main Street, Blackrock, Co. Dublin, Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: \_\_\_\_\_

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at <http://www.researchandmarkets.com/info/terms.asp>

**Please fax this form to:**  
**(646) 607-1907 or (646) 964-6609 - From USA**  
**+353-1-481-1716 or +353-1-653-1571 - From Rest of World**