



Book Review

Wheat Gluten Protein Analysis

P.R. Shewry, G.L. Lookhart (Eds.); American Association of Cereal Chemists, 2003, vii + 198pp, ISBN 1-891127-32-2, \$129.00

Wheat is one of the major cereal crops, alongside maize and rice, which dominate world agriculture and is widely used in food processing as a raw material. It is the properties of the gluten protein conferring viscoelastic properties in doughs and in turn allowing a wide range of foods to be produced such as pasta, bread, noodles and others. A great deal of scientific literature has been derived over many years, on the analysis and properties of wheat gluten proteins. Much of this emphasises the differences between the functional properties that arise between the grain samples. *Wheat gluten proteins* delivers a number of protocols for the analysis of wheat and gluten proteins.

The book begins with an introduction providing an account of the classification, structures and properties of wheat gluten proteins in relation to their biological and functional properties. It includes information on gliadins and glutenins, polymorphism and genetics of wheat gluten proteins and implications in analysis. Chapter 2 covers numerous fractionation techniques while chapter 3 focuses on the various electrophoresis techniques of wheat gluten

proteins including MS-SDS-PAGE, A-PAGE, two dimensional electrophoresis and western blotting. The HPLC of gluten monomeric proteins is covered in chapter 4. The use of high performance capillary electrophoresis is detailed in chapter 5 while the following chapter covers size-exclusion chromatography and field flow fractionation of wheat proteins. Chapter 7 looks at amino acid and protein sequence analysis and the subject of chapter 8 is spectroscopic analysis of gluten protein structure: circular dichroism and infra-red. The final chapter 9 looks at small scale quality measurements such as mixograph, farinograph, extension and quality tests.

Wheat gluten protein analysis is of value to established cereal chemists and those generally interested in the field of wheat protein chemistry. The end of each chapter presents concise references. This volume aims to provide a number of protocols and procedures to numerous methods already tried and tested in the authors' laboratories.

Jamie Mistry

John F. Kennedy*

Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Birmingham B15 2SQ, UK

* Corresponding author.