## **Contents**

	Preface iii
	Section I Introduction
	Technology is one aspect of today that is truly fresh and burning with new tunes and story turns. So there is and can be content in technology—new tunes we've never heard before because they've never been possible before. (Francis Ford Coppola)
Chapter 1	The Commercial Significance of Oil Content Analysis: The Position of Official Methods
	Richard C. Cantrill
Section	on II Primary Reference Methods for Crude Fat Determination
	Science and technology multiply around us. To an increasing extent they dictate the languages in which we speak and think. Either we use those languages, or we remain mute. (J.G. Ballard)
Chapter 2	Soxtec: Its Principles and Applications Shirley Anderson
Chapter 3	Accelerated Solvent Extraction  Devanand Luthria, Dutt Vinjamoori, Kirk Noel, and John Ezzell
Chapter 4	Evaluation of the Rapid, High-Temperature Extraction of Feeds, Foods, and Oilseeds by the ANKOM <sup>X720</sup> Fat Analyzer to Determine Crude Fat Content
Chapter 5	Applications
	Tracy Doane-Weideman and Phillip B. Liescheskii 69

Section III Comparative Evaluation of Primary Reference Methods and Issues Related to Oil Analysis

The higher we soar on the wings of science, the worse our feet seem to get entangled in the wires. (Anonymous)

vi Contents

Chapter 6	Oil Content Analysis: Myths and Reality         V.J. Barthet and J.K. Daun
Chapter 7	Effect of Moisture Content, Grinding, and Extraction Technologies on Assays of Crude Fat Devanand L. Luthria, Kirk Noel, and Dutt Vinjamoori
	Section IV Secondary Methods for Crude Fat Analysis
	Science may be described as the art of systematic oversimplification. (Karl Popper)
Chapter 8	The Rapid Determination of Fat and Moisture in Foods by Microwave Drying and NMR Analysis  Bobbie McManus and Michelle Horn
Chapter 9	Simple Methods for Total Oil Content by Benchtop NMR P.H. Krygsman, A.E. Barrett, W. Burk, and H.W. Todt 152
Chapter 10	Internet-Enabled Near-Infrared Analysis of Oilseeds Ching-Hui Tseng, Kangming Ma, and Nan Wang
	Section V Emerging Technologies
Chapter 11	Invention breeds inventions. (Anonymous)  High-Resolution Nuclear Magnetic Resonance and Near Infrared Determination of Soybean Oil, Protein, and Amino Acid Residues in Soybean Seeds I.C. Baianu, T. You, D.M. Costescu, P.R. Lozano, V. Prisecaru, and R.L. Nelson
Chapter 12	Near Infrared Microspectroscopy, Fluorescence Microspectroscopy, Infrared Chemical Imaging and High-Resolution Nuclear Magnetic Resonance Analysis of Soybean Seeds, Somatic Embryos and Single Cells I.C. Baianu, D. Costescu, T. You, P.R. Lozano, N.E. Hofmann, and S.S. Korban
	Index 274